PCB CLEANUP PLAN

Former Coachella Substation
Vine Avenue and 9th Street
Coachella, California

Prepared for:

United States Environmental Protection Agency, Region IX
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On behalf of:

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CERTIFICATION PURSUANT TO 40 CFR 761.61(a) (3) (i) (E):

I certify that all sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the cleanup site are on file at the location designated in the certification and are available for EPA inspection. Persons using alternate methods for chemical extraction and chemical analysis for site characterization must include in the certificate a statement that such a method will be used and that a comparison study which meets or exceeds the requirements of Subpart Q of this part, and for which records are on file, has been completed prior to verification sampling."

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

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1.0 INTRODUCTION

Soil containing polychlorinated biphenyls (PCBs) at concentrations greater than 50 milligrams per kilogram (mg/kg) was identified at the former Coachella Substation during an audit of the former substation in July 2015 by Apex Companies, LLC (Apex).

The audit was performed as a partial condition of a Consent Agreement and Final Order (CAFO) dated February 11, 2015 issued to the Imperial Irrigation District (IID) by the United States Environmental Protection Agency (USEPA). The CAFO was executed under the authority of the Toxic Substance Control Act (TSCA) of 1976, which regulates PCBs in the United States.

Notification of the discovery of PCBs was made to the USEPA on July 28, 2015. The discovery of PCBs in soil at the former Coachella Substation triggers a requirement in the CAFO to prepare a PCB Cleanup Plan within 30 days of completion of the audit report. An extension to submit the required Cleanup Plan was granted by the USEPA on October 13, 2015.

This PCB Cleanup Plan demonstrates that the site characterization is complete and that the data is of sufficient quality and quantity to move forward with cleanup.

1.1 SITE LOCATION AND DESCRIPTION

The former Coachella substation is approximately 0.30-acre and is located on the northwest corner of Vine Avenue and 9th Street, just west of Highway 111 in the city of Coachella, California. The site is situated in a suburban setting with single family homes to the north and west and businesses 240 feet to the east on 9th Avenue. The Coachella Gas Turbine Generating Station operated by the IID is located to the southeast of the site (across 9th street). The site is surrounded by single family dwellings on the southwest and north sides and an adjacent vacant parcel to the northeast (**Figure 1 and Figure 2**).

All equipment associated with the former substation was previously removed from the site. The central portion of the site is uneven, apparently the result of soil disturbance during removal of the foundations while decommissioning of the substation. The entire soil surface was visible during the site visit.

The perimeter of the site is surrounded by a chain-link fence. No visual evidence of spills, stained or discolored soil was observed during our site reconnaissance. The north and east borders of the site are relatively level in elevation with the respective adjacent properties. The south and west borders of the site are approximately two to three feet higher in elevation than the adjacent concrete walkway. Apex observed evidence of runoff and sediment transport from the site along the southwest and southeast borders.

1.2 PURPOSE OF THIS CLEANUP PLAN

The purpose of this Cleanup Plan is to comply with the requirement of Section 43 (e) (iii) (a-e) of the CAFO and to describe the proposed method of remediating the site to unrestricted use. This plan describes the planned extent and methods of remedial excavation and the sample collection and analysis procedures to verify the removal of soil containing more than 230 micrograms per kilogram (µg/kg) total PCBs. It is IID's

goal to obtain USEPA concurrence for unrestricted use of the site following the completion of the remedial activities proposed in this Cleanup Plan.

2.0 SUMMARY OF SITE ASSESSMENT

2.1 INITIAL SITE VISIT

Apex conducted a visual inspection of the site on July 16, 2015 to observe current site conditions, adjacent and neighboring properties, accessibility, and evidence of staining or discoloration of soil. Following the initial site inspection, soil sample locations were marked out at the site.

Soil sample locations were based on the former location of electrical equipment onsite including circuit breakers, voltage regulators, and transformers. Drawings obtained from the IID showing the former layout of the site were reviewed, and the footprints of the former oil-filled equipment transferred to a site plan prepared by Apex. In addition to the soil samples adjacent to the former equipment, additional sample locations were identified on other portions of the site. The footprint of the former equipment was marked on the ground using white marking paint and colored irrigation marking flags. Soil sample locations were marked around the former equipment locations.

2.2 INITIAL SOIL SAMPLING ACTIVITIES

Apex mobilized to the site on July 17, 2015 to conduct the initial soil sampling. Soil samples were collected from the surface only (one to three inches below the soil surface) at locations associated with former equipment locations. Soil samples were placed in 4-ounce glass jars provided by the laboratory. All soil samples were labeled with the sample identification number, beginning with an alphabetic code for the site - “CO” was used to identify samples for the Coachella Substation. Samples were labeled with the boring/sample number, followed by the depth. The time of the sample collection was also recorded on the sample jar.

Of the 89 surface soil samples analyzed, 46 samples were above the laboratory reporting limits of 50 and 51 µg/kg. The concentration of PCBs in 29 of the soil samples were above the USEPA Regional Screening Level (RSL) of 230 µg/kg.

Total PCB concentrations detected above the laboratory reporting limit in the surface samples (including duplicates) ranged from 52 µg/kg to 27,000 µg/kg, with an average concentration of 2,817 µg/kg. The total PCB concentrations reported consisted of Aroclor-1248, -1254, and -1260. No other PCB isomers were reported in any of the samples analyzed.

2.3 SUPPLEMENTAL INVESTIGATION

Following a review of the data from the initial soil sampling activities, a supplemental site investigation was proposed to and approved by the USEPA. The proposed sampling activities were described in the Sampling and Analysis Plan (SAP) submitted to the USEPA on October 26, 2015.

Following approval from the USEPA, Apex mobilized to the site on November 2, 2015 to perform the supplemental investigation. A total of 48 borings to a depth of 5 feet were drilled using a hand auger.
Of the 48 hand auger borings, 23 were located where surface samples (previously collected in July 2015) exceeded 230 µg/kg total PCBs. Samples were collected from these borings at a depth of 1, 2, 3, 4, and 5 feet below ground surface (bgs) with the 3 foot sample submitted for analysis. The remaining 25 borings were in new locations to further assess the lateral and vertical extent of PCBs in soil. Samples were collected from the surface and at a depth of 1, 2, 3, 4, and 5 feet bgs at each new boring location. The surface sample and 3 foot samples were submitted for analysis. Based on the results of the 3 foot samples, additional analysis was requested on 11 of the 5 foot samples.

Soil samples were placed in 4-ounce glass jars provided by the laboratory. Before and after collecting each sample, the hand auger was washed and rinsed prior to use in each boring and between each sample. The decontamination procedure consisted of using a three-step process: 1) a solution of non-phosphate detergent and tap water; 2) a tap water rinse; and, 3) a final tap water rinse. The decontamination water was placed in a labeled 32-gallon drum and is stored onsite pending disposal. A sample of the decontamination water exhibited a total PCB concentration of 10.8 micrograms per liter.

Samples were labeled with the boring/sample number, followed by the depth. A zero (“0”) was used to denote the surface sample. The time of the sample collection was also recorded on the sample jar.

Quality Assurance/Quality Control (QA/QC) samples were collected during the sampling activities, including field blanks and field duplicate samples.

Field blanks were prepared by filling a 4-ounce glass sample jar with commercially produced sand purchased at a local home improvement store. The field blank was labeled with the code “FB” following the site identification code. One field blank was analyzed for PCBs along with the soil samples.

Duplicate soil samples were collected and analyzed as part of the QA/QC sample program. The contents of the hand auger bucket were dispensed into a food-grade plastic bag and homogenized. The soil was dispensed as a split sample into two 4-ounce glass jars. All duplicate samples were labeled with the suffix “DUP” to identify the sample. All duplicate samples were also analyzed for PCBs.

All QA/QC samples were recorded on a chain of custody form and placed in a chilled cooler on ice with the other samples and shipped overnight by FedEx to Eurofins Calscience.

2.4 SUMMARY OF SOIL SAMPLE RESULTS

From the two investigations performed at this site, a total of 197 soil samples (including duplicates) collected from 104 sample locations (boring numbers 96, 98, 100, 102, 104, 106, 108, 110, and 112 were omitted) were analyzed for PCBs. All of the total PCB concentrations reported consist of Aroclor-1248, Aroclor-1254, and Aroclor-1260. All sample results from this and the previous sampling event are tabulated in **Table 1.**

2.4.1 Surface Samples

A total of 127 surface samples were collected from the hand auger borings (including duplicates). The reported concentrations of total PCBs detected above the laboratory reporting limit ranged from 52 µg/kg to 27,000 µg/kg.

Of the 127 surface samples collected, 52 samples exhibited total PCB concentrations of 230 µg/kg or higher. A total of 75 samples at the surface exhibited PCBs less than 230 µg/kg; 51 of these were less than the laboratory reporting limit.

The sample results for the surface samples are shown on **Figure 3A.**

2.4.2 Two Foot Samples

Of the 13 samples analyzed from 2 feet, three samples exhibited total PCB concentrations greater than 230 µg/kg. These include CO-068 (390 µg/kg), CO-084 (820 µg/kg), and CO-088 (400 µg/kg).

The sample results for the two foot samples are shown on **Figure 3B**.

2.4.3 Three Foot Samples

A total of 59 samples were analyzed from the three foot depth. The reported total concentrations of PCBs detected above the laboratory reporting limit ranged from 51 µg/kg to 1,406,400 µg/kg.

Of the 59 samples collected at 3 feet, 14 samples exhibited total PCB concentrations of 230 µg/kg or higher. A total of 45 samples collected at 3 feet exhibited PCBs less than 230 µg/kg; 32 of these were less than the laboratory reporting limit.

The sample results for the three foot samples are shown on **Figure 3C**.

2.4.4 Five Foot Samples

Of the 11 samples collected from 5 feet, five samples exhibited total PCB concentrations greater than 230 µg/kg. These include CO-001 (7,750 µg/kg), CO-005 (5,900 µg/kg), CO-007 (50,500 µg/kg), CO-043 (430 µg/kg), and CO-105 (460 µg/kg).

The sample results for the five foot samples are shown on **Figure 3D.**

2.4.5 Samples from Outside the Fenced Perimeter

Six soil samples were collected (at the surface) outside the fence line along Vine Avenue and 9th Street in the planter strip behind the city sidewalk.

None of the six samples collected between the sidewalk and the curb exhibited PCBs above the laboratory reporting limit of 50 µg/kg.

The sample results for the perimeter samples are shown on **Figure 3A.**

2.4.6 QA/QC Samples

Two field blanks were analyzed for PCBs, one for each field event. None of the field blanks analyzed exhibited total PCB concentrations at or above the laboratory reporting limit of 50 µg/kg. Results of the field blanks are shown in **Table 1.**

A total of 35 duplicate soil samples were collected from the surface and 3 foot sample depths. The results of the duplicate samples are included on **Table 1** and are shown separately in **Table 2.**

The laboratory reports for the QA/QC samples are in **Appendix A**.

2.5 CONCLUSIONS

The lateral and vertical extent of PCBs in soil exceeding 230 µg/kg in soil has been adequately assessed for remedial excavation. The data gaps that exist will be managed by over excavation both laterally and vertically to be verified by confirmation sampling in the field.

3.0 CLEANUP PLAN

The USEPA RSL for total PCBs in soil at a residential site is 230 µg/kg. Apex proposes to remediate the site by excavating soil containing PCBs in excess of 230 µg/kg and transporting it offsite to a licensed landfill for disposal. Clean soil will be imported to the site and placed as compacted fill to restore the site to rough finish grade.

3.1 PERMITS AND PLAN

All necessary permits or approvals will be obtained prior to the implementation of excavation.

A grading permit is required by the City of Coachella. The grading permit application requires the following:

- A Grading Plan. The site has been surveyed by a licensed surveyor to prepare a topographic base. Apex will use the topographic base to prepare the grading plan depicting the proposed final grade of the site.
- A PM10 Plan to manage dust according to the South Coast Air Quality Management District's (SCAQMD) Coachella Valley Dust Management Plan. Apex's PM10 plan will be prepared by an individual possessing a PM10 certification issued by the SCAQMD.
- Traffic Control Plan. Apex proposes the partial closure of 9th Street between Highway 111 and Vine Avenue to permit the loading and tarping of trucks. 9th Street will also be used to stage trucks waiting to be loaded. Trucks will not enter the site to be loaded to avoid trackout of contaminated soil.

3.2 COMPLIANCE WITH ENDANGERED SPECIES ACT

Apex retained the BLUE Consulting Group (BLUE) to evaluate the site for compliance with the Endangered Species Act. BLUE concluded that because of the historic developed nature of the property and proposed project footprint, no designated Critical Habitat, special status plant and/or wildlife species were detected or are expected to occur within the project area. A letter from USFWS dated August 10, 2015 presenting a list of threatened and endangered species, species proposed for listing, and designated critical habitats present or potentially present in or around the area of the site is referenced in BLUE's full report in **Appendix B.**

3.3 PUBLIC NOTIFICATION

Public notification of the planned remedial excavation is not required under TSCA. Public notification of road closures may be required for the traffic control plan.

3.4 HEALTH AND SAFETY PLAN

Field work performed in accordance with this Cleanup Plan is subject to adherence to compliance with the project-specific Health and Safety Plan (HASP). A site-specific HASP will be prepared for the site in accordance with current health and safety standards as specified by federal and California Occupational Safety and Health Administration (OSHA). The provisions of the HASP are mandatory for all personnel at

the site (Apex and subcontractors). All onsite personnel will be required to read and sign the HASP prior to starting the remedial excavation activities.

Apex will review the HASP with all project staff prior to mobilizing to perform the field sampling. A health and safety tailgate meeting will be conducted by Apex each day of field activity to review major elements of the HASP and site hazards prior to beginning work. The tailgate meetings will be documented by completion of a Health and Safety Tailgate form, including in the HASP.

3.5 STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Although a SWPPP is not required for this project, best management practices (BMPs) will be implemented to prevent runoff from the site from entering storm water drains in adjacent streets. Depending on weather conditions at the time of remedial excavation activities, the following BMPs will be implemented as appropriate:

- Control of runoff from stockpiled soil by covering each pile with plastic sheeting and surrounding the stockpile with silt fencing and/or filter roll barriers;
- Temporary perimeter controls with silt fencing and/or filter roll barriers;
- Protection of storm drain inlets with filter fabric and sand/gravel bag barriers.
- Shaker plates will be placed on bare soil inside the gate on the west side of the site.

The removal, transportation and disposal will be performed in accordance with applicable federal, state, and local laws, regulations and ordinances.

3.6 SITE PREPARATION AND SECURITY MEASURES

Prior to equipment mobilization for the proposed remedial excavation, site preparation activities may include site inspections, boundary staking, sampling, demarcation of hot spots, improvement of access roads, and fencing installation.

3.7 DELINEATION OF EXCAVATION AREAS

Apex will delineate the planned remedial excavation areas before commencing the remedial excavation activities. The areas to be excavated will be marked (as the exclusion zones) in the field using stakes with ribbon and/or high visibility paint. The depths of each excavation will be marked on the stakes. Areas to remain undisturbed will be clearly delineated.

3.8 UTILITY CLEARANCE

In accordance with State law, 48-hour notification of Underground Service Alert (USA) will be made prior to initiating remedial soil excavation activities.

3.9 REMEDIAL EXCAVATION

The excavation of PCB-impacted soil will be performed with an excavator. A front end loader will also be used to move soil to the loading area and load trucks. The planned excavation depths range between 2

and 7 feet and are depicted on **Figure 4.** Apex estimates up to 700 tons of contaminated soil requiring offsite disposal will be generated from the excavation.

Construction activities involving the use of electric, diesel fuel, or gasoline-powered machine or other power equipment will be limited to between the hours of 6:00 a.m. and 5:00 p.m., Monday through Saturday.

Confirmation soil samples will be collected from the bottom and perimeter of the excavations. Additional excavation and confirmation sampling will be performed where PCBs are detected at concentrations exceeding 230 µg/kg.

Water spray will be utilized to suppress and control fugitive dust from migrating onto other properties. No excavation, soil stockpiling or soil loading will be performed during periods of high winds or if these activities generate visible airborne dust. Dust controls are described in Section 3.14.

3.10 SOIL LOADING, STAGING AND STORAGE OPERATIONS

Soil will be excavated and directly loaded into trucks whenever possible. Stockpiling and soil staging will be necessary if a sufficient number of trucks are not available on a given day and the soil must be stockpiled as the excavation proceeds.

A traffic control plan is required by the City of Coachella. The shoulder of 9th Street will be closed to permit loading and tarping of trucks. Traffic control equipment including cones and delineators will separate traffic from the waiting trucks.

Trucks awaiting loading will be staged along the south side of 9th Street, west of Vine Avenue. Trucks will be loaded through the gate on the south side of the site. The loading areas will be underlain by 6-mil plastic sheeting ballasted with gravel bags. Trucks will be brushed of any loose soil before they are permitted to leave the loading area. Once loaded, the trucks will turn right (north) along Vine Avenue and will secure the load and be issued a manifest.

If soil staging is necessary, the process will be monitored to ensure that dust is not created in accordance with best practices, grading permit requirements, and the Coachella Valley PM10 Plan. As soil is excavated, it will be temporarily stored at staging areas onsite until trucks are available. At the designated staging areas, the excavated soil will placed on plastic sheeting and covered with plastic sheeting to minimize potential run-off and dust generation when not being actively managed. The perimeter of the covered stockpiles will be bermed with straw wattles to minimize potential run-off in the event of precipitation.

3.11 WASTE SEGREGATION

There is one sample point onsite exhibiting total PCBs in excess of 50 mg/kg. This area will be excavated separately to segregate the TSCA-regulated soil. Apex estimates that less than 6 tons of TSCA-regulated soil will be transported under hazardous waste manifest to U.S. Ecology's facility in Beatty Nevada.

All other soil containing PCBs at concentrations less than 50 mg/kg is considered non-hazardous and will be transported to a licensed landfill facility in south Yuma County, Arizona.

3.12 DECONTAMINATION AREA

Entry to contaminated areas will be limited to only authorized personnel and equipment to avoid unnecessary exposure and transfer of contaminants. Trucks that are used for transporting excavated soil for offsite disposal will not require decontamination because they will not be allowed onsite. Equipment will be decontaminated in a designated area before leaving the site.

Following completion of the excavation activities, the excavator and loader will be dry-decontaminated with brooms, brushes, and/or towels on top of plastic sheeting at the designated decontamination area onsite. Clean bulky equipment will be stored on plastic sheeting in uncontaminated areas. Cleaned small equipment will be stored in plastic bags. Materials to be stored more than a few hours will also be covered. Water used for decontamination purposes will be added to the soil stockpiles for offsite disposal.

3.13 EXCAVATION PLAN

The planned extent of excavation and depths are depicted on **Figure 4.** The excavations will generate up to 450 yd^3 of PCB-impacted soil. Additional excavation may be necessary depending on the results of the confirmation sampling.

3.14 DUST CONTROL PLAN AND AIR MONITORING

Apex will implement appropriate procedures to control the generation of airborne dust during soil removal activities. Apex will be required to adhere to the PM10 plan required by the grading permit. Such procedures will include (but will not be limited to) the following:

- Suppressing dust during the removal activities with the use of water. Apex will control dust generation by spraying water prior to daily work activities, continuously during excavation/loading activities (as necessary to maintain concentrations below action levels), and at truck staging locations. Watering equipment will be continuously available to provide proper dust control.
- Stockpiles will be moistened and covered with 6-mil plastic sheeting ballasted with gravel bags.
- The truck loading areas will be underlain by 6-mil plastic sheeting ballasted with gravel bags. Trucks will be brushed of any loose soil before they are permitted to leave the loading area.
- The Site Safety Officer (SSO) will monitor onsite meteorological instrumentation and coordinate with offsite instrumentation to identify conditions that require cessation of work. All removal activities will cease in the event high wind conditions cause visible dust emissions.

Air monitoring will be performed during the site activities when contaminated or potentially contaminated materials are being disturbed or handled. The Apex SSO responsibilities will include:

- Monitoring dust levels upwind and downwind and within the exclusion zone. Instruments such as the TSI 8530 DustTrak II Aerosol Monitor (capable of measuring aerosol concentrations from 0.001 to 150 milligrams per cubic meter [mg/m^3]).

The site SSO and Project Manager will have the authority to stop work in the event that onsite activities generate dust levels that exceed the site action levels. Onsite work will cease during high wind conditions where visible dust is generated. The SSO will monitor onsite meteorological instrumentation and coordinate with offsite instrumentation to identify these conditions.

- Assure that all real-time aerosol monitors are properly calibrated and in good working condition. Real-time, data logging aerosol monitors will be used, when required, to measure dust levels. Real-time information will be posted daily, and discussed with site workers.
- Coordinate general site safety activities including all daily hazard communication, safety practices and procedure briefings.
- Oversight of personal decontamination practices.
- General site safety leadership, support and recordkeeping activities.

A site-specific risk-based action level of dust in air based on a PCB concentration in the soil is calculated as follows:

$Cda = RfCd \times 1 \times 10^9 / Cca$

Where:

Cda = concentration of dust in air (µg/m^3)
RfCd = Derived inhalation reference concentration (mg/m^3)
Cca = PCB concentration in soil (mg/kg)
1×10^9 = Unit conversion factor (µg/kg)

No inhalation RfC is published and so must be derived (RfCd) from the oral reference dose:

$RfCd = RfDo \times BW / IR$

Where:

RfDo = Oral reference dose (2×10^{-5} mg/kg-day)
BW = Body weight (15 kg) (body weight used to develop soil RSLs)
IR = Inhalation rate (10 m^3/day)

To calculate the concentration of PCBs in soil at the site, Apex used the 95% Upper Confidence Limit (UCL) of all soil samples (less the lower concentration of duplicate pairs of samples) exhibiting concentrations of PCBs above 230 µg/kg. A 95% Chebyshev UCL of 134.3 mg/kg is obtained using PROUCL 5.0.

Using the formula above results in a dust action level of 0.22 mg/m^3. Apex also calculated the 95% Chebyshev UCL by excluding one data point (CO-007-3; 1,406,400 ug/kg). The resulting 95% UCL of 9.5

mg/kg results in a calculated dust action level of 3.17 mg/m^3. It is Apex's opinion that this action level is appropriate for use during remedial excavation. The data point that was excluded exceeds the next highest concentration by 1,355,900 ug/kg and is a clear outlier. The soil sample data show that this one point is isolated and will be excavated and segregated separately from the rest of the soil.

Apex will monitor dust levels upwind of the exclusion zone, within the exclusion zone and at one location downwind of the removal action activities. Dust monitoring will be performed each day that removal activities are conducted. The SSO will record readings at least once per hour during dust-generating activities.

3.15 CONFIRMATION SAMPLING

Once excavated to the planned depth, confirmation soil samples will be collected from 0 to 6 inches below the bottom of the excavations at an approximate frequency of one per 100 square feet. Confirmation samples will also be collected from every 10 linear feet of the sidewalls of the excavations to confirm the lateral removal of soil containing PCBs above 230 µg/kg. Approximately 80 confirmation samples in total will be collected.

The confirmation samples will be collected from a freshly exposed soil directly into laboratory-provided sampling jars, properly labeled, and placed in a chilled cooler for transport to the laboratory under chain-of-custody protocol. The samples will be analyzed for PCBs following USEPA Test Method 8082/3540C using a rush turnaround. The Soxhlet extraction Method (EPA 3540C) requires an 18 hour extraction period before analysis which will delay receipt of confirmation results by three days after collection.

Additional excavation and confirmation sampling will be performed where PCBs are detected above 230 µg/kg in the confirmation samples. Backfill and site restoration will not proceed until confirmation sample results indicate that cleanup goal has been achieved.

3.16 OFFSITE DISPOSAL

The waste material will be profiled in advance and landfill approval will be received before excavated materials are hauled offsite. Based on the previous analytical results, the soil excavated from the site will be handled, transported and disposed of at one of two facilities discussed below based on the concentration of PCBs.

Soil containing PCBs in excess of 50 mg/kg (estimated at approximately 6 tons) is regulated under TSCA and will be transported under a hazardous waste manifest to U.S. Ecology's facility in Beatty, Nevada. The facility is licensed to treat and dispose of Resource Conservation and Recovery Act (RCRA) and TSCA waste, non-hazardous industrial wastes, and low-activity radioactive material.

The remainder of the soil will be transported under non-hazardous waste manifests to the South Yuma County Landfill, 19536 S. Ave 1E Yuma, Arizona, Phone (928) 341-9300. This facility is operated by the Yuma County Department of Public Works.

3.17 BORROW SOURCE EVALUATION, BACKFILL AND SITE RESTORATION

A source of imported fill has not yet been identified. Imported fill material will be appropriately tested before being placed at the site in conformance with the recommendations in DTSC's 2001 *Information Advisory Clean Imported Fill Material*.

If the analytical data indicate that the source of import soil is not acceptable, Apex will locate an alternate source of imported fill.

The excavations will be backfilled with clean fill material imported from an offsite source. Soil remaining in areas unexcavated onsite will be reworked by excavating it to a depth of two feet and placing it in the excavation as backfill material. At the completion of the backfilling activities, the entire site will have at least two foot of clean fill at the surface.

Backfilling will proceed in approximate one-foot lifts with compaction between successive lifts to near the pre-existing grade. The compaction of the backfill will be tested and certified by a licensed Soil Engineer. The site will be graded to prevent runoff and will be stabilized with rock as required by the PM10 plan and the City of Coachella grading requirements.

3.18 PCB CLEANUP REPORT

At the conclusion of the remedial excavation, Apex will prepare a closure report documenting the removal and disposal of the PCB contaminated soil. All results of confirmation sampling will be tabulated and shown on a figure. Hazardous and Nonhazardous Waste Manifests will also be included.

As required by the CAFO, the PCB Cleanup Report will be submitted to the USEPA within 120 days following the approval of this PCB Cleanup Plan.

The CAFO does not specify that the USEPA must review and comment on the PCB Cleanup Plan or provide a schedule, IID requests that the USEPA provide written concurrence with the PCB Cleanup Report and its suitability for unrestricted use.

4.0 LABORATORY PROCEDURES

4.1 SAMPLING PROGRAM

To provide for quality control of the analytical results, the following measures will be taken:

- all samples will be analyzed by a laboratory certified by the California Environmental Laboratory Accreditation Program (ELAP);
- the laboratory will be certified in the analytical method requested; and
- the laboratory will follow industry standard Quality Assurance (QA) and Quality Control (QC) methods.

Apex will subcontract laboratory analysis to Eurofins Calscience Environmental Laboratories, Inc.

4.2 ANALYTES AND PRACTICAL QUANTITATION METHODS

The quantification methods and minimum reporting limits for each of these PCB isomers are presented in **Table 4-1**, below.

TABLE 4-1
PCB QUANTIFICATION METHODS AND REPORTING LIMITS

Chemical	CAS	Method	MDL	RL	Unit
Total PCB Aroclors	TOTAL	EPA 8082	14	50	µg/kg
Aroclor-1016	12674-11-2	EPA 8082	14	50	µg/kg
Aroclor-1221	11104-28-2	EPA 8082	13	50	µg/kg
Aroclor-1232	11141-16-5	EPA 8082	11	50	µg/kg
Aroclor-1242	53469-21-9	EPA 8082	12	50	µg/kg
Aroclor-1248	12672-29-6	EPA 8082	14	50	µg/kg
Aroclor-1254	11097-69-1	EPA 8082	12	50	µg/kg
Aroclor-1260	11096-82-5	EPA 8082	11	50	µg/kg

All soil samples will be analyzed using EPA Method 3540C (Soxhlet Extraction Method) for sample extraction. The extract will be analyzed for PCBs using EPA Method 8082. If required, EPA Method 3665A (modified) will be used to clean up sample extracts. This method uses concentrated sulfuric acid.

The Standard Operating Procedures for EPA Method 8082 for Eurofins Calscience are in **Appendix C**.

4.3 LABORATORY QA/QC SAMPLES

Laboratory QC samples will be analyzed as part of standard laboratory practice. The laboratory monitors the precision and accuracy of the results of its analytical procedures through analysis of QC samples. In part, laboratory QC samples consist of matrix spike / matrix spike duplicate (MS/MSD) samples. The term "matrix" refers to the use of actual media (soil) collected in the field. Laboratory QC samples are an aliquot (subset) of the field sample. They are not a separate sample, but a special designation of an existing sample.

5.0 REFERENCES

Apex Companies, LLC, 2015. PCB Audit Report - Former Old Mecca, Coachella, and Oakley Substations, Coachella and Imperial Valleys, California. September 18, 2015.

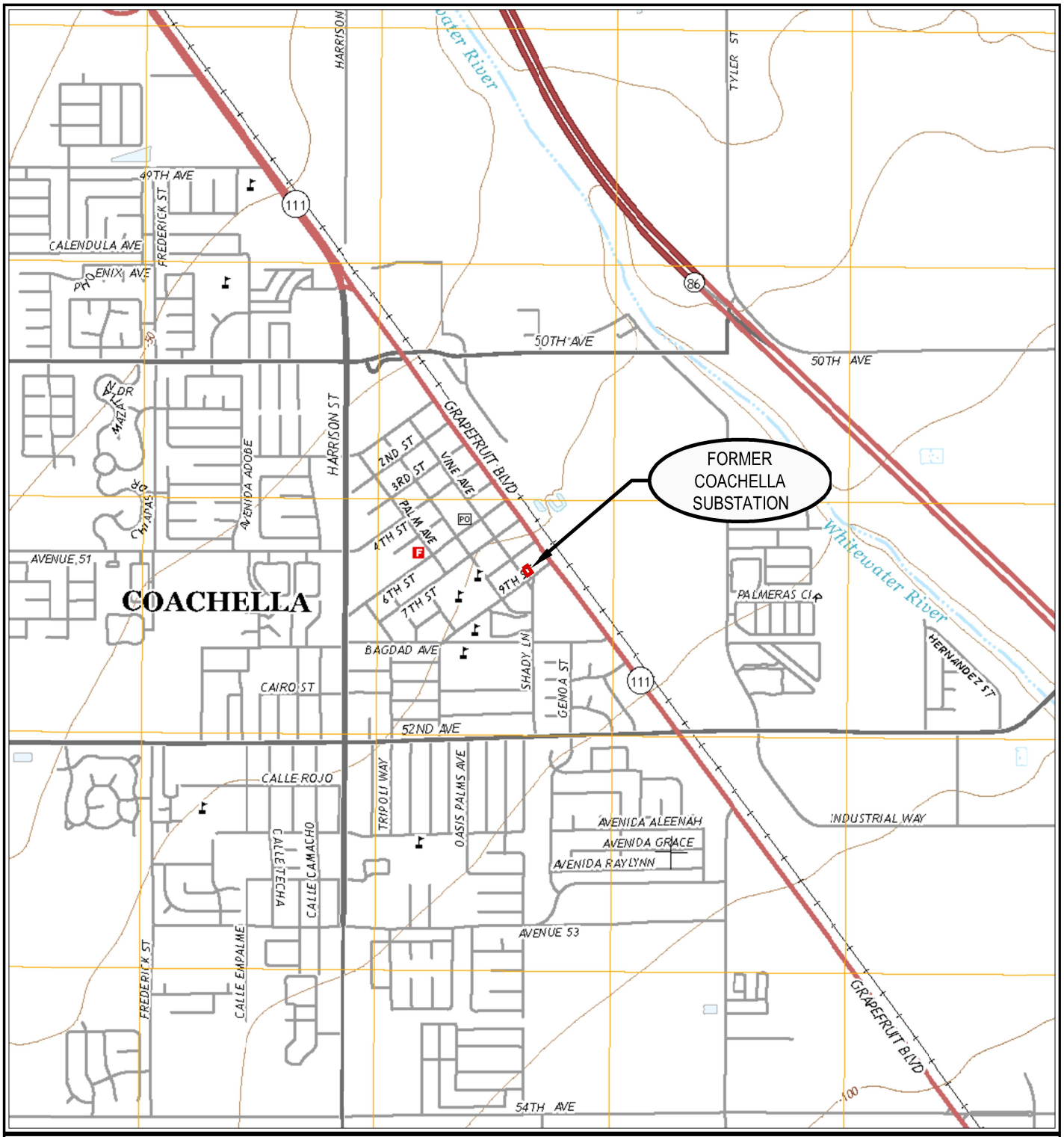
Apex Companies, LLC, 2015. Sampling and Analysis Plan - Former Coachella Substation, Coachella, California. October 26, 2015.

Apex Companies, LLC, 2015. Memorandum to Ms. Sara Ziff, USEPA. Supplemental Investigation Former Coachella Substation Imperial Irrigation District. November 27, 2015.

USEPA, 2015a. Consent Agreement And Final Order Pursuant to 40 C.F.R. Sections 22.13 and 22.18. Docket No. TSCA -09-2015-02. February 11, 2015.

USEPA, 2015b. Regional Screening Levels, http://www.epa.gov/region9/superfund/prg/. November 2015.

FIGURES



QUADRANGLE LOCATION

Scale 1:24000

0 1/2 1 MILE

1000 0 1000 2000 3000 FEET

(SOURCE OF MAP IS USGS 7.5 MINUTE QUADRANGLE MAP, INDIO (2015), CALIFORNIA)

CHECK BY	RK
DRAWN BY	OS
DATE	10–21–15
SCALE	AS SHOWN
CAD NO.	3601023.01N2
PRJ NO.	3601023.001

SITE LOCATION MAP

FORMER COACHELLA SUBSTATION
IMPERIAL IRRIGATION DISTRICT
COACHELLA, CALIFORNIA

APEX

FIGURE

1

SCALE IN FEET

0 65 130 260

CHK BY	RK
DWN BY	OS
DATE	10–21–15
SCALE	AS SHOWN
CAD NO.	3601023.01M
PRJ NO.	3601023.001

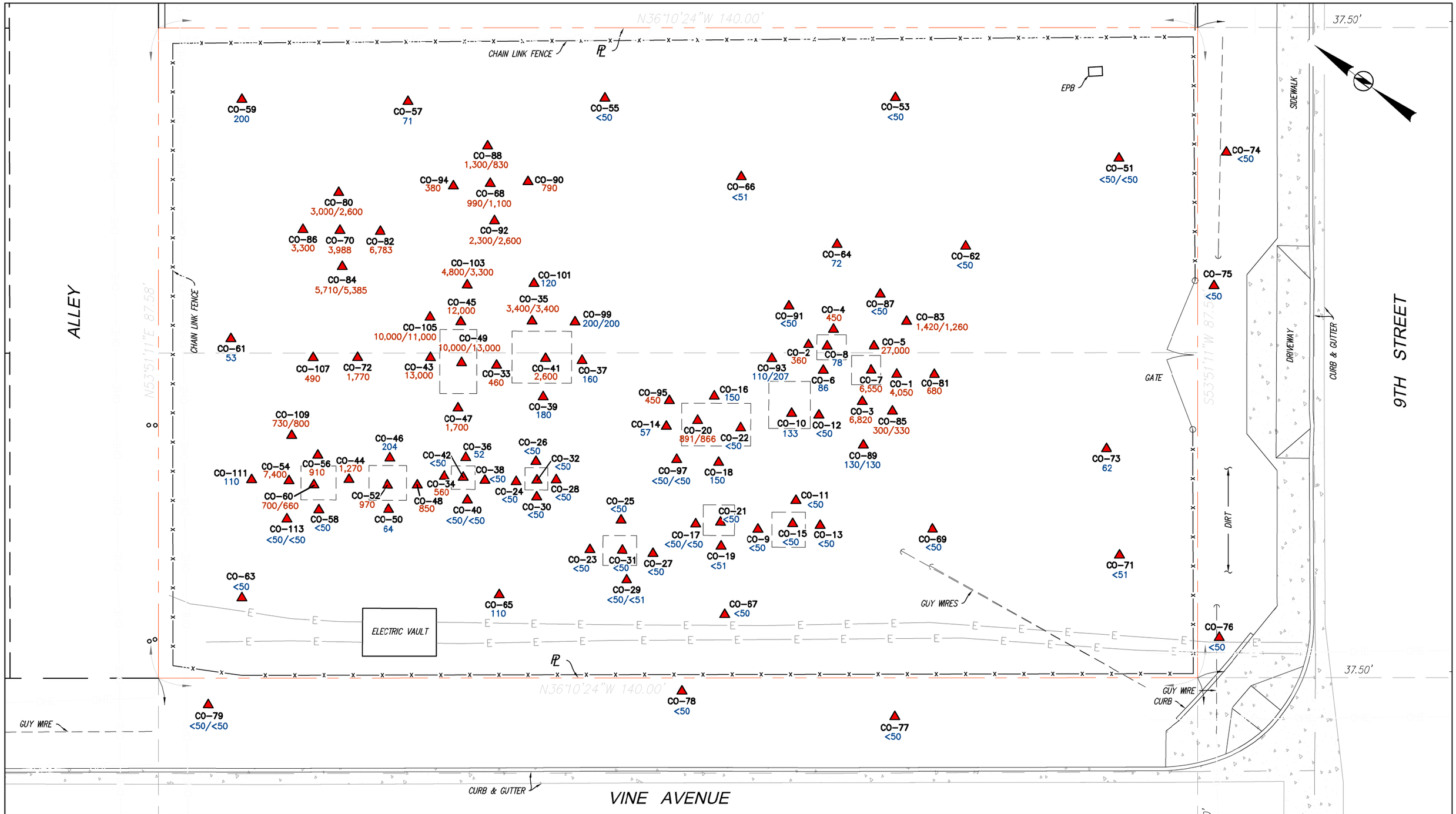
SITE PLAN

FORMER COACHELLA SUBSTATION
IMPERIAL IRRIGATION DISTRICT
9th STREET AND VINE AVENUE
COACHELLA, CALIFORNIA

APEX

FIGURE

2



LEGEND

CO-01 ▲ SOIL SAMPLE LOCATION

1,420 PCB CONCENTRATIONS EXCEEDING 230 ug/kg SHOWN IN RED

ALL UNITS ARE MICROGRAMS PER KILOGRAM (ug/kg)

SCALE IN FEET

0 6 12 24

CHECK BY	PG
DRAWN BY	OS
DATE	11-17-15
SCALE	AS SHOWN
CAD NO.	3601023.01R[1]
PRJ NO.	3601023.001

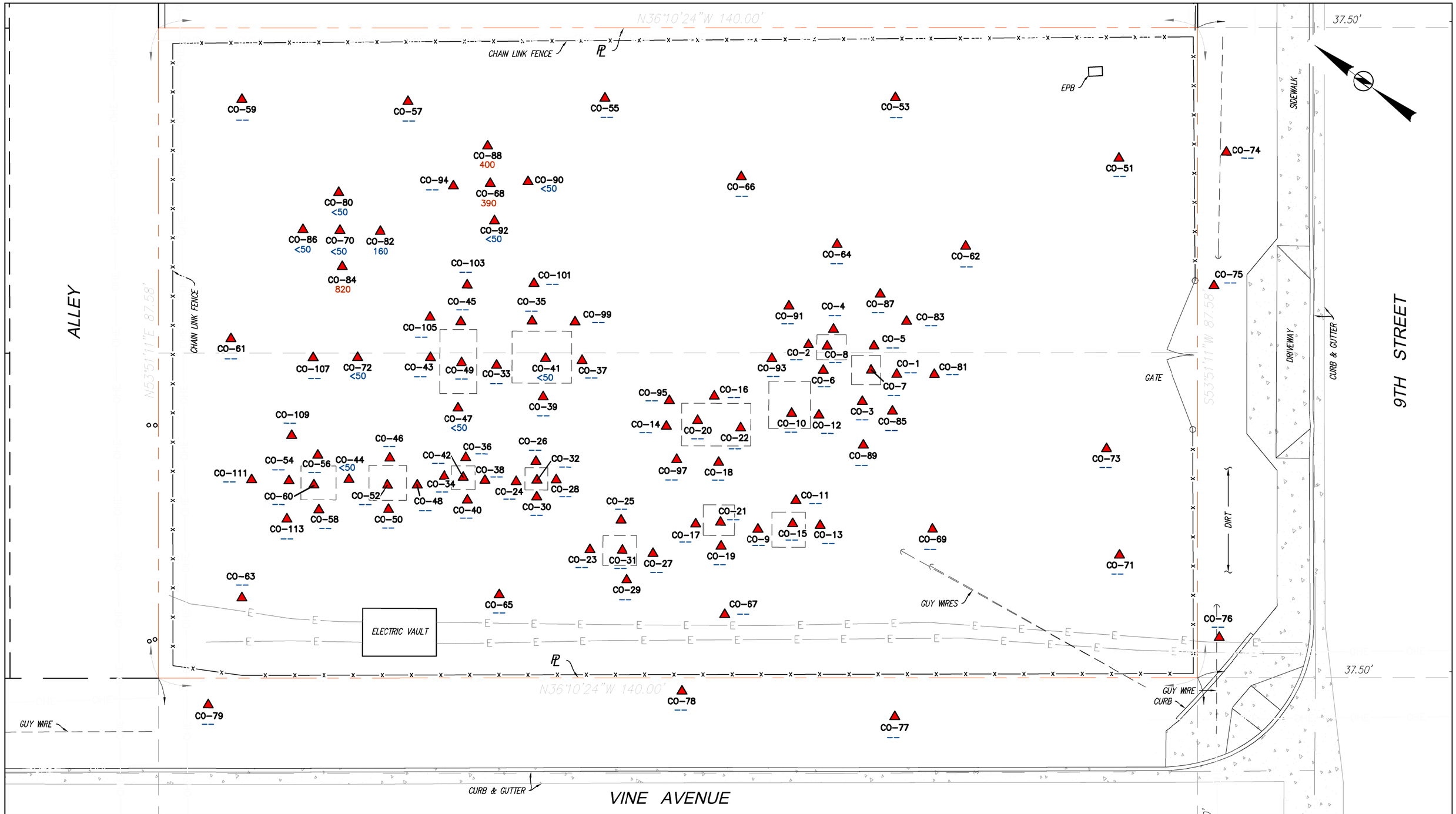
SOIL SAMPLE RESULTS – SURFACE

FORMER COACHELLA SUBSTATION
IMPERIAL IRRIGATION DISTRICT
9th STREET AND VINE AVENUE
COACHELLA, CALIFORNIA

APEX

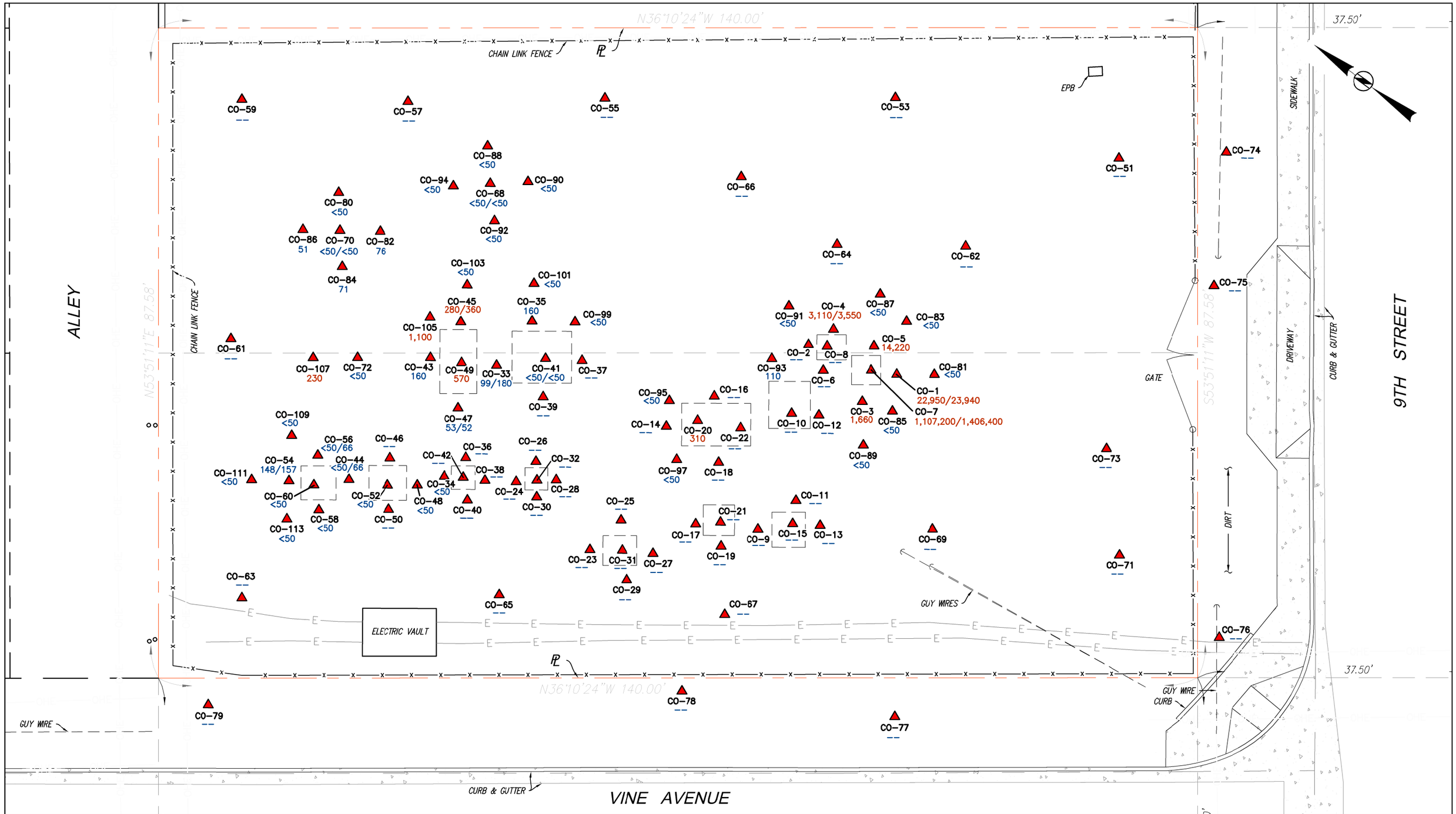
FIGURE

3A



LEGEND				
CO-01 ▲	SOIL SAMPLE LOCATION	SCALE IN FEET: 0 6 12 24	CHECK BY PG	SOIL SAMPLE RESULTS – 2 FEET
1,420	PCB CONCENTRATIONS EXCEEDING 230 ug/kg SHOWN IN RED		DRAWN BY OS	FORMER COACHELLA SUBSTATION
--	NOT ANALYZED		DATE 12-21-15	IMPERIAL IRRIGATION DISTRICT
ALL UNITS ARE MICROGRAMS PER KILOGRAM (ug/kg)			SCALE AS SHOWN	9th STREET AND VINE AVENUE
			CAD NO. 3601023.01R[4]	COACHELLA, CALIFORNIA
			PRJ NO. 3601023.001	APEX

FIGURE 3B



LEGEND

CO-01 ▲ SOIL SAMPLE LOCATION

1,420 PCB CONCENTRATIONS EXCEEDING 230 ug/kg SHOWN IN RED

-- NOT ANALYZED

ALL UNITS ARE MICROGRAMS PER KILOGRAM (ug/kg)

SCALE IN FEET

0 6 12 24

CHECK BY	PG
DRAWN BY	OS
DATE	12-1-15
SCALE	AS SHOWN
CAD NO.	3601023.01R[2]
PRJ NO.	3601023.001

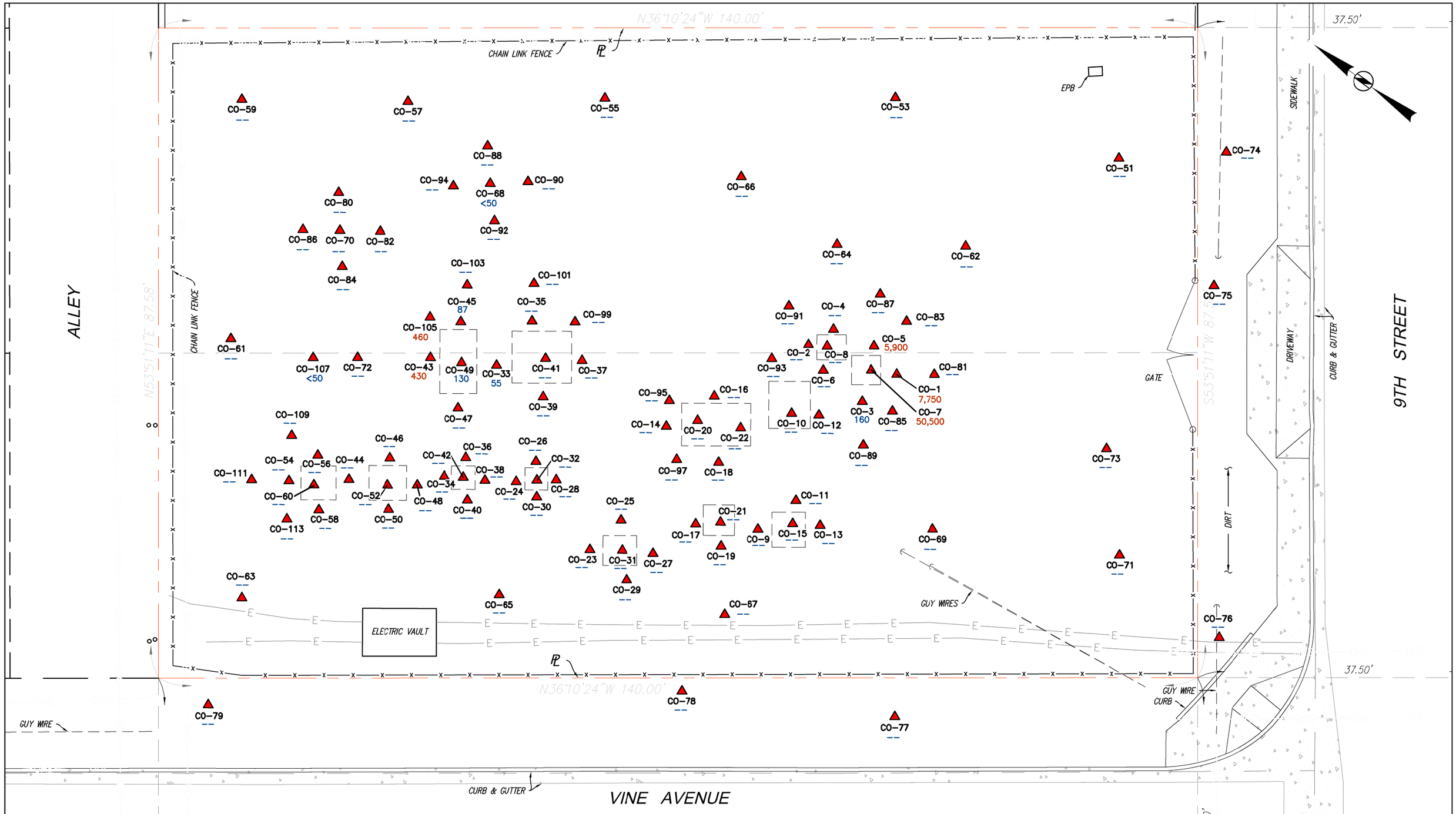
SOIL SAMPLE RESULTS – 3 FEET

FORMER COACHELLA SUBSTATION
IMPERIAL IRRIGATION DISTRICT
9th STREET AND VINE AVENUE
COACHELLA, CALIFORNIA

APEX

FIGURE

3C



LEGEND

CO-01 ▲ SOIL SAMPLE LOCATION

1,420 PCB CONCENTRATIONS EXCEEDING 230 ug/kg SHOWN IN RED

-- NOT ANALYZED

ALL UNITS ARE MICROGRAMS PER KILOGRAM (ug/kg)

SCALE IN FEET

0 6 12 24

CHECK BY	PG
DRAWN BY	OS
DATE	11-17-15
SCALE	AS SHOWN
CAD NO.	3601023.01R[3]
PRJ NO.	3601023.001

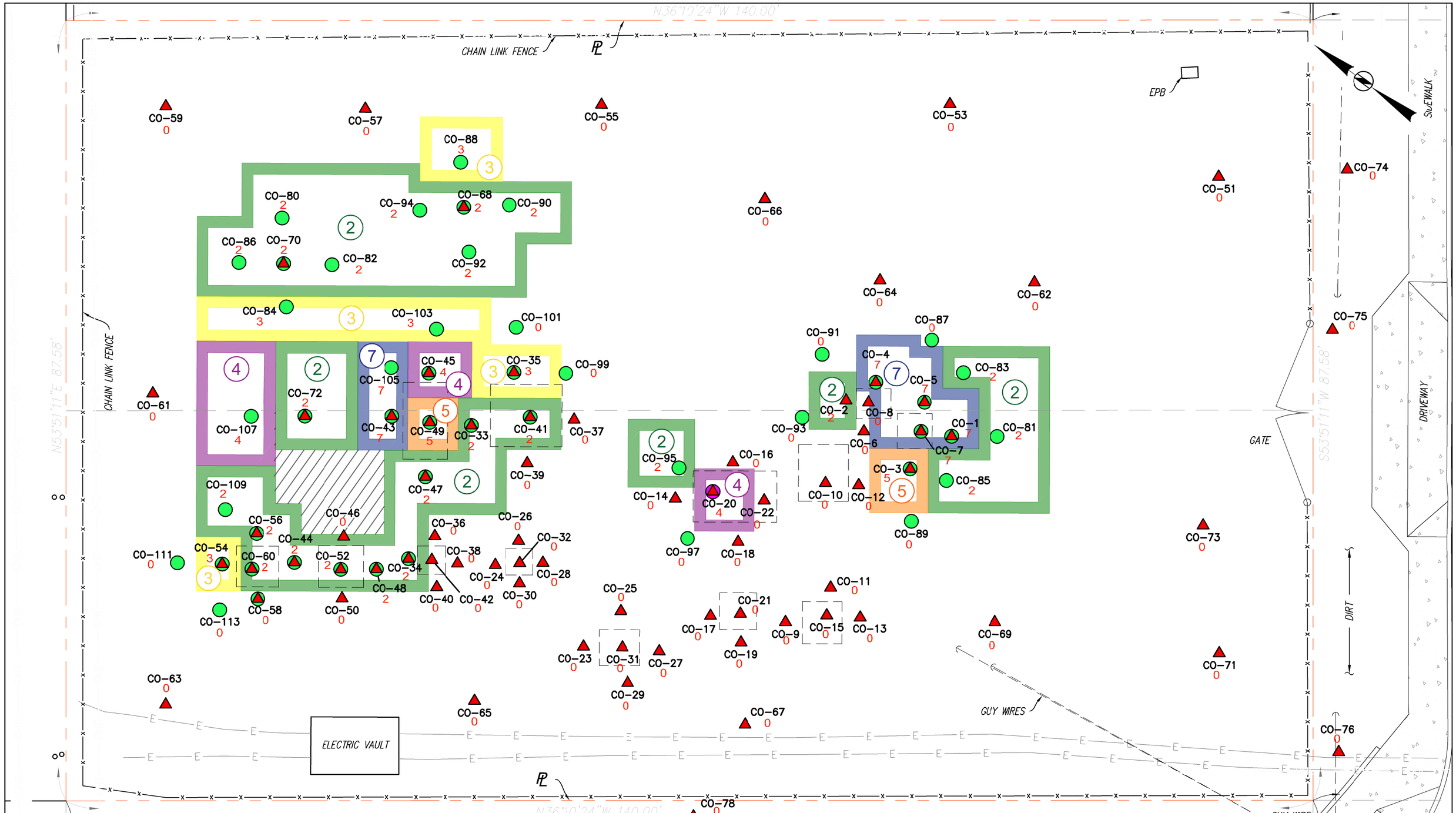
SOIL SAMPLE RESULTS – 5 FEET

FORMER COACHELLA SUBSTATION
IMPERIAL IRRIGATION DISTRICT
9th STREET AND VINE AVENUE
COACHELLA, CALIFORNIA

APEX

FIGURE

3D



LEGEND

CO-01 ▲ SURFACE SAMPLE LOCATION – JULY 2015

● HAND AUGER BORING TO 4 FEET

● HAND AUGER BORING TO 5 FEET

(5) PROPOSED DEPTH OF EXCAVATION (FT.)

- 2 FOOT EXCAVATION AREA
- 3 FOOT EXCAVATION AREA
- 4 FOOT EXCAVATION AREA
- 5 FOOT EXCAVATION AREA
- 7 FOOT EXCAVATION AREA
- NO EXCAVATION

CHECK BY	NN
DRAWN BY	OS
DATE	1–8–16
SCALE	AS SHOWN
CAD NO.	3601023.01Q[5]
PRJ NO.	3601023.001

PROPOSED EXTENT AND DEPTH OF EXCAVATION

FORMER COACHELLA SUBSTATION
IMPERIAL IRRIGATION DISTRICT
9th STREET AND VINE AVENUE
COACHELLA, CALIFORNIA

APEX

FIGURE 4

TABLES

Table 1

Soil Sample Results - PCBs
Former Coachella Substation
Coachella, California
July and November 2015

		PCBs								
Sample ID	**Date**	**Aroclor-1016**	**Aroclor-1221**	**Aroclor-1232**	**Aroclor-1242**	**Aroclor-1248**	**Aroclor-1254**	**Aroclor-1260**	**Aroclor-1262**	**Total**
CO-001-0	7/16/2015	<51	<51	<51	<51	**3,900**	<51	**150**	<51	**4,050**
CO-001-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-001-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-001-3	11/2/2015	<250	<250	<250	<250	**22,000**	<250	**950**	<250	**22,950**
CO-001-3 DUP	11/2/2015	<250	<250	<250	<250	**23,000**	<250	**940**	<250	**23,940**
CO-001-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-001-5	11/2/2015	<50	<50	<50	<50	**7,600**	<50	**150**	<50	**7,750**
CO-002-0	7/16/2015	<50	<50	<50	<50	**360**	<50	<50	<50	**360**
CO-003-0	7/16/2015	<50	<50	<50	<50	**6,600**	<50	**220**	<50	**6,820**
CO-003-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-003-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-003-3	11/2/2015	<250	<250	<250	<250	**1,300**	<250	**360**	<250	**1,660**
CO-003-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-003-5	11/2/2015	<50	<50	<50	<50	**160**	<50	<50	<50	**160**
CO-004-0	7/16/2015	<50	<50	<50	<50	**450**	<50	<50	<50	**450**
CO-004-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-004-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-004-3	11/2/2015	<50	<50	<50	<50	**2,800**	<50	**310**	<50	**3,110**
CO-004-3 DUP	11/2/2015	<50	<50	<50	<50	**3,200**	<50	**350**	<50	**3,550**
CO-005-0	7/16/2015	<50	<50	<50	<50	**27,000**	<50	<50	<50	**27,000**
CO-005-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-005-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-005-3	11/2/2015	<50	<50	<50	<50	**14,000**	<50	**220**	<50	**14,220**
CO-005-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-005-5	11/2/2015	<50	<50	<50	<50	**5,900**	<50	<50	<50	**5,900**
CO-006-0	7/16/2015	<50	<50	<50	<50	**86**	<50	<50	<50	**86**
CO-007-0	7/16/2015	<51	<51	<51	<51	**6,400**	<51	**150**	<51	**6,550**
CO-007-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-007-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-007-3	11/2/2015	<5,000	<5,000	<5,000	<5,000	**1,100,000**	<5,000	**7,200**	<5,000	**1,107,200**
CO-007-3 DUP	11/2/2015	<5,000	<5,000	<5,000	<5,000	**1,400,000**	<5,000	**6,400**	<5,000	**1,406,400**
CO-007-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-007-5	11/2/2015	<500	<500	<500	<500	**49,000**	<500	**1,500**	<500	**50,500**
CO-008-0	7/16/2015	<50	<50	<50	<50	**78**	<50	<50	<50	**78**
CO-009-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50

Table 1

Soil Sample Results - PCBs
Former Coachella Substation
Coachella, California
July and November 2015

		PCBs								
Sample ID	**Date**	**Aroclor-1016**	**Aroclor-1221**	**Aroclor-1232**	**Aroclor-1242**	**Aroclor-1248**	**Aroclor-1254**	**Aroclor-1260**	**Aroclor-1262**	**Total**
CO-010-0	7/16/2015	<50	<50	<50	<50	**68**	**65**	<50	<50	**133**
CO-011-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-012-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-013-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-014-0	7/16/2015	<50	<50	<50	<50	<50	**57**	<50	<50	**57**
CO-015-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-016-0	7/16/2015	<51	<51	<51	<51	**150**	<51	<51	<51	**150**
CO-017-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-017-0 DUP	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-018-0	7/16/2015	<50	<50	<50	<50	**150**	<50	<50	<50	**150**
CO-019-0	7/16/2015	<51	<51	<51	<51	<51	<51	<51	<51	<51
CO-020-0	7/16/2015	<51	<51	<51	<51	**840**	<51	**51**	<51	**891**
CO-020-0 DUP	7/16/2015	<50	<50	<50	<50	**810**	<50	**56**	<50	**866**
CO-020-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-020-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-020-3	11/2/2015	<50	<50	<50	<50	**310**	<50	<50	<50	**310**
CO-020-4	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-020-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-021-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-022-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-023-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-024-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-025-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-026-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-027-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-028-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-029-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-029-0 DUP	7/16/2015	<51	<51	<51	<51	<51	<51	<51	<51	<51
CO-030-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-031-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-032-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-033-0	7/16/2015	<50	<50	<50	<50	<50	**460**	<50	<50	**460**
CO-033-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-033-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-033-3	11/2/2015	<50	<50	<50	<50	<50	**99**	<50	<50	**99**
CO-033-3 DUP	11/2/2015	<50	<50	<50	<50	<50	**180**	<50	<50	**180**
CO-033-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-033-5	11/2/2015	<50	<50	<50	<50	<50	**55**	<50	<50	**55**

Table 1

Soil Sample Results - PCBs
Former Coachella Substation
Coachella, California
July and November 2015

		PCBs								
Sample ID	**Date**	**Aroclor-1016**	**Aroclor-1221**	**Aroclor-1232**	**Aroclor-1242**	**Aroclor-1248**	**Aroclor-1254**	**Aroclor-1260**	**Aroclor-1262**	**Total**
CO-034-0	7/16/2015	<50	<50	<50	<50	<50	**410**	**150**	<50	**560**
CO-034-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-034-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-034-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-034-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-034-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-035-0	7/16/2015	<50	<50	<50	<50	<50	**3,400**	<50	<50	**3,400**
CO-035-0 DUP	7/16/2015	<50	<50	<50	<50	<50	**3,400**	<50	<50	**3,400**
CO-035-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-035-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-035-3	11/2/2015	<50	<50	<50	<50	<50	**160**	<50	<50	**160**
CO-035-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-035-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-036-0	7/16/2015	<50	<50	<50	<50	<50	**52**	<50	<50	**52**
CO-037-0	7/16/2015	<50	<50	<50	<50	<50	**160**	<50	<50	**160**
CO-038-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-039-0	7/16/2015	<50	<50	<50	<50	<50	**180**	<50	<50	**180**
CO-040-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-040-0 DUP	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-041-0	7/16/2015	<51	<51	<51	<51	<51	**2,600**	<51	<51	**2,600**
CO-041-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-041-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-041-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-041-3 DUP	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-041-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-041-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-042-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-043-0	7/16/2015	<50	<50	<50	<50	<50	**13,000**	<50	<50	**13,000**
CO-043-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-043-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-043-3	11/2/2015	<50	<50	<50	<50	<50	**160**	<50	<50	**160**
CO-043-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-043-5	11/2/2015	<50	<50	<50	<50	<50	**430**	<50	<50	**430**
CO-044-0	7/16/2015	<50	<50	<50	<50	**210**	**890**	**170**	<50	**1,270**
CO-044-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-044-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-044-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-044-3 DUP	11/2/2015	<50	<50	<50	<50	<50	**66**	<50	<50	**66**

Table 1

Soil Sample Results - PCBs
Former Coachella Substation
Coachella, California
July and November 2015

		PCBs								
Sample ID	**Date**	**Aroclor-1016**	**Aroclor-1221**	**Aroclor-1232**	**Aroclor-1242**	**Aroclor-1248**	**Aroclor-1254**	**Aroclor-1260**	**Aroclor-1262**	**Total**
CO-044-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-044-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-045-0	7/16/2015	<50	<50	<50	<50	<50	**12,000**	<50	<50	**12,000**
CO-045-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-045-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-045-3	11/2/2015	<50	<50	<50	<50	<50	**280**	<50	<50	**280**
CO-045-3 DUP	11/2/2015	<50	<50	<50	<50	<50	**360**	<50	<50	**360**
CO-045-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-045-5	11/2/2015	<50	<50	<50	<50	<50	**87**	<50	<50	**87**
CO-046-0	7/16/2015	<50	<50	<50	<50	<50	**140**	**64**	<50	**204**
CO-047-0	7/16/2015	<50	<50	<50	<50	<50	**1,700**	<50	<50	**1,700**
CO-047-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-047-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-047-3	11/2/2015	<50	<50	<50	<50	<50	**53**	<50	<50	**53**
CO-047-3 DUP	11/2/2015	<50	<50	<50	<50	<50	**52**	<50	<50	**52**
CO-047-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-047-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-048-0	7/16/2015	<50	<50	<50	<50	**200**	**540**	**110**	<50	**850**
CO-048-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-048-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-048-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-048-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-048-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-049-0	7/16/2015	<51	<51	<51	<51	<51	**10,000**	<51	<51	**10,000**
CO-049-0 DUP	7/16/2015	<50	<50	<50	<50	<50	**13,000**	<50	<50	**13,000**
CO-049-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-049-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-049-3	11/2/2015	<50	<50	<50	<50	<50	**570**	<50	<50	**570**
CO-049-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-049-5	11/2/2015	<50	<50	<50	<50	<50	**130**	<50	<50	**130**
CO-050-0	7/16/2015	<50	<50	<50	<50	<50	**64**	<50	<50	**64**
CO-051-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-051-0 DUP	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-052-0	7/16/2015	<50	<50	<50	<50	<50	**750**	**220**	<50	**970**
CO-052-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-052-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-052-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-052-4	11/2/2015	--	--	--	--	--	--	--	--	--

Table 1

Soil Sample Results - PCBs
Former Coachella Substation
Coachella, California
July and November 2015

		PCBs								
Sample ID	**Date**	**Aroclor-1016**	**Aroclor-1221**	**Aroclor-1232**	**Aroclor-1242**	**Aroclor-1248**	**Aroclor-1254**	**Aroclor-1260**	**Aroclor-1262**	**Total**
CO-052-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-053-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-054-0	7/16/2015	<50	<50	<50	<50	<50	**2,800**	**4,600**	<50	**7,400**
CO-054-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-054-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-054-3	11/2/2015	<50	<50	<50	<50	<50	**71**	**77**	<50	**148**
CO-054-3 DUP	11/2/2015	<50	<50	<50	<50	<50	**75**	**82**	<50	**157**
CO-054-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-054-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-055-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-056-0	7/16/2015	<50	<50	<50	<50	<50	**910**	<50	<50	**910**
CO-056-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-056-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-056-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-056-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-056-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-057-0	7/16/2015	<50	<50	<50	<50	<50	<50	**71**	<50	**71**
CO-058-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-059-0	7/16/2015	<50	<50	<50	<50	<50	**200**	<50	<50	**200**
CO-060-0	7/16/2015	<51	<51	<51	<51	**120**	**580**	<51	<51	**700**
CO-060-0 DUP	7/16/2015	<50	<50	<50	<50	**110**	**550**	<50	<50	**660**
CO-060-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-060-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-060-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-060-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-060-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-061-0	7/16/2015	<50	<50	<50	<50	<50	<50	**53**	<50	**53**
CO-062-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-063-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-064-0	7/16/2015	<50	<50	<50	<50	<50	**72**	<50	<50	**72**
CO-065-0	7/16/2015	<50	<50	<50	<50	<50	**110**	<50	<50	**110**
CO-066-0	7/16/2015	<51	<51	<51	<51	<51	<51	<51	<51	<51
CO-067-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-068-0	7/16/2015	<50	<50	<50	<50	<50	**990**	<50	<50	**990**
CO-068-0 DUP	7/16/2015	<50	<50	<50	<50	<50	**1,100**	<50	<50	**1,100**
CO-068-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-068-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-068-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50

Table 1

Soil Sample Results - PCBs
Former Coachella Substation
Coachella, California
July and November 2015

		PCBs								
Sample ID	**Date**	**Aroclor-1016**	**Aroclor-1221**	**Aroclor-1232**	**Aroclor-1242**	**Aroclor-1248**	**Aroclor-1254**	**Aroclor-1260**	**Aroclor-1262**	**Total**
CO-068-3 DUP	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-068-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-068-5	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-069-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-070-0	7/16/2015	<50	<50	<50	<50	**88**	<50	**3,900**	<50	**3,988**
CO-070-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-070-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-070-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-070-3 DUP	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-070-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-070-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-071-0	7/16/2015	<51	<51	<51	<51	<51	<51	<51	<51	<51
CO-072-0	7/16/2015	<51	<51	<51	<51	**370**	**1,400**	<51	<51	**1,770**
CO-072-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-072-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-072-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-072-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-072-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-073-0	7/16/2015	<50	<50	<50	<50	<50	<50	**62**	<50	**62**
CO-074-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-075-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-076-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-077-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-078-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-079-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-079-0 DUP	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-080-0	11/2/2015	<50	<50	<50	<50	<50	<50	**3,000**	<50	**3,000**
CO-080-0 DUP	11/2/2015	<50	<50	<50	<50	<50	<50	**2,600**	<50	**2,600**
CO-080-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-080-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-080-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-080-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-080-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-081-0	11/2/2015	<50	<50	<50	<50	**470**	<50	**210**	<50	**680**
CO-081-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-081-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-081-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-081-4	11/2/2015	--	--	--	--	--	--	--	--	--

Table 1

Soil Sample Results - PCBs
Former Coachella Substation
Coachella, California
July and November 2015

		PCBs								
Sample ID	**Date**	**Aroclor-1016**	**Aroclor-1221**	**Aroclor-1232**	**Aroclor-1242**	**Aroclor-1248**	**Aroclor-1254**	**Aroclor-1260**	**Aroclor-1262**	**Total**
CO-081-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-082-0	11/2/2015	<50	<50	<50	<50	**83**	<50	**6,700**	<50	**6,783**
CO-082-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-082-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-082-3	11/2/2015	<50	<50	<50	<50	<50	<50	**76**	<50	**76**
CO-082-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-082-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-083-0	11/2/2015	<50	<50	<50	<50	**420**	**380**	**620**	<50	**1,420**
CO-083-0 DUP	11/2/2015	<50	<50	<50	<50	**410**	**310**	**540**	<50	**1,260**
CO-083-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-083-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-083-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-083-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-083-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-084-0	11/2/2015	<50	<50	<50	<50	**110**	<50	**5,600**	<50	**5,710**
CO-084-0 DUP	11/2/2015	<50	<50	<50	<50	**85**	<50	**5,300**	<50	**5,385**
CO-084-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-084-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-084-3	11/2/2015	<50	<50	<50	<50	<50	<50	**71**	<50	**71**
CO-084-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-084-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-085-0	11/2/2015	<50	<50	<50	<50	**300**	<50	<50	<50	**300**
CO-085-0 DUP	11/2/2015	<50	<50	<50	<50	**330**	<50	<50	<50	**330**
CO-085-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-085-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-085-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-085-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-085-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-086-0	11/2/2015	<50	<50	<50	<50	<50	<50	**3,300**	<50	**3,300**
CO-086-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-086-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-086-3	11/2/2015	<50	<50	<50	<50	<50	<50	**51**	<50	**51**
CO-086-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-086-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-087-0	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-087-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-087-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-087-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50

Table 1

Soil Sample Results - PCBs
Former Coachella Substation
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		PCBs								
Sample ID	**Date**	**Aroclor-1016**	**Aroclor-1221**	**Aroclor-1232**	**Aroclor-1242**	**Aroclor-1248**	**Aroclor-1254**	**Aroclor-1260**	**Aroclor-1262**	**Total**
CO-087-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-087-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-088-0	11/2/2015	<50	<50	<50	<50	<50	**1,300**	<50	<50	**1,300**
CO-088-0 DUP	11/2/2015	<50	<50	<50	<50	<50	**830**	<50	<50	**830**
CO-088-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-088-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-088-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-088-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-088-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-089-0	11/2/2015	<50	<50	<50	<50	**130**	<50	<50	<50	**130**
CO-089-0 DUP	11/2/2015	<50	<50	<50	<50	**130**	<50	<50	<50	**130**
CO-089-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-089-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-089-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-089-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-089-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-090-0	11/2/2015	<50	<50	<50	<50	<50	**790**	<50	<50	**790**
CO-090-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-090-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-090-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-090-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-090-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-091-0	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-091-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-091-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-091-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-091-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-091-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-092-0	11/2/2015	<50	<50	<50	<50	<50	**2,300**	<50	<50	**2,300**
CO-092-0 DUP	11/2/2015	<50	<50	<50	<50	<50	**2,600**	<50	<50	**2,600**
CO-092-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-092-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-092-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-092-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-092-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-093-0	11/2/2015	<50	<50	<50	<50	**110**	<50	<50	<50	**110**
CO-093-0 DUP	11/2/2015	<50	<50	<50	<50	**140**	**67**	<50	<50	**207**
CO-093-1	11/2/2015	--	--	--	--	--	--	--	--	--

Table 1

Soil Sample Results - PCBs
Former Coachella Substation
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		PCBs								
Sample ID	**Date**	**Aroclor-1016**	**Aroclor-1221**	**Aroclor-1232**	**Aroclor-1242**	**Aroclor-1248**	**Aroclor-1254**	**Aroclor-1260**	**Aroclor-1262**	**Total**
CO-093-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-093-3	11/2/2015	<50	<50	<50	<50	**110**	<50	<50	<50	**110**
CO-093-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-093-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-094-0	11/2/2015	<50	<50	<50	<50	<50	**380**	<50	<50	**380**
CO-094-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-094-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-094-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-094-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-094-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-095-0	11/2/2015	<50	<50	<50	<50	**310**	**140**	<50	<50	**450**
CO-095-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-095-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-095-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-095-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-095-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-097-0	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-097-0 DUP	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-097-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-097-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-097-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-097-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-097-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-099-0	11/2/2015	<50	<50	<50	<50	<50	**200**	<50	<50	**200**
CO-099-0 DUP	11/2/2015	<50	<50	<50	<50	<50	**200**	<50	<50	**200**
CO-099-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-099-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-099-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-099-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-099-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-101-0	11/2/2015	<50	<50	<50	<50	<50	**120**	<50	<50	**120**
CO-101-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-101-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-101-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-101-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-101-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-103-0	11/2/2015	<500	<500	<500	<500	<500	**4,800**	<500	<500	**4,800**
CO-103-0 DUP	11/2/2015	<500	<500	<500	<500	<500	**3,300**	<500	<500	**3,300**

Table 1

Soil Sample Results - PCBs
Former Coachella Substation
Coachella, California
July and November 2015

		PCBs								
Sample ID	**Date**	**Aroclor-1016**	**Aroclor-1221**	**Aroclor-1232**	**Aroclor-1242**	**Aroclor-1248**	**Aroclor-1254**	**Aroclor-1260**	**Aroclor-1262**	**Total**
CO-103-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-103-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-103-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-103-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-103-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-105-0	11/2/2015	<2,500	<2,500	<2,500	<2,500	<2,500	**10,000**	<2,500	<2,500	**10,000**
CO-105-0 DUP	11/2/2015	<2,500	<2,500	<2,500	<2,500	<2,500	**11,000**	<2,500	<2,500	**11,000**
CO-105-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-105-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-105-3	11/2/2015	<250	<250	<250	<250	<250	**1,100**	<250	<250	**1,100**
CO-105-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-105-5	11/2/2015	<50	<50	<50	<50	<50	**460**	<50	<50	**460**
CO-107-0	11/2/2015	<50	<50	<50	<50	<50	**490**	<50	<50	**490**
CO-107-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-107-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-107-3	11/2/2015	<50	<50	<50	<50	<50	**230**	<50	<50	**230**
CO-107-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-107-5	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-109-0	11/2/2015	<50	<50	<50	<50	<50	**730**	<50	<50	**730**
CO-109-0 DUP	11/2/2015	<50	<50	<50	<50	<50	**800**	<50	<50	**800**
CO-109-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-109-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-109-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-109-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-109-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-111-0	11/2/2015	<50	<50	<50	<50	<50	**110**	<50	<50	**110**
CO-111-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-111-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-111-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-111-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-111-5	11/2/2015	--	--	--	--	--	--	--	--	--
CO-113-0	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-113-0 DUP	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-113-1	11/2/2015	--	--	--	--	--	--	--	--	--
CO-113-2	11/2/2015	--	--	--	--	--	--	--	--	--
CO-113-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-113-4	11/2/2015	--	--	--	--	--	--	--	--	--
CO-113-5	11/2/2015	--	--	--	--	--	--	--	--	--

Table 1

Soil Sample Results - PCBs
Former Coachella Substation
Coachella, California
July and November 2015

		PCBs								
Sample ID	**Date**	**Aroclor-1016**	**Aroclor-1221**	**Aroclor-1232**	**Aroclor-1242**	**Aroclor-1248**	**Aroclor-1254**	**Aroclor-1260**	**Aroclor-1262**	**Total**
CO-FB-1	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50
CO-FB-1	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50

Notes:

All units are micrograms per kilogram

<50 = Not detected at or above the indicated reporting limit

Values that exceed United States Environmental Protection Agency Regional Screening Level of 230 µg/kg are **bold red**.

-- = Not analyzed

Sample ID numbers 96, 98, 100, 102, 104, 106, 108, 110, and 112 were not used

Table 2

QA/QC Sample Analysis - Duplicates
Former Coachella Substation
Coachella, California
July and November, 2015

		PCBs										
Sample ID	**Date**	**Aroclor-1016**	**Aroclor-1221**	**Aroclor-1232**	**Aroclor-1242**	**Aroclor-1248**	**Aroclor-1254**	**Aroclor-1260**	**Aroclor-1262**	**Total**	**Difference**	**RPD**
CO-001-3	11/2/2015	<250	<250	<250	<250	**22,000**	<250	**950**	<250	**22,950**	-990	4
CO-001-3 DUP	11/2/2015	<250	<250	<250	<250	**23,000**	<250	**940**	<250	**23,940**		
CO-004-3	11/2/2015	<50	<50	<50	<50	**2,800**	<50	**310**	<50	**3,110**	-440	13
CO-004-3 DUP	11/2/2015	<50	<50	<50	<50	**3,200**	<50	**350**	<50	**3,550**		
CO-007-3	11/2/2015	<5,000	<5,000	<5,000	<5,000	**1,100,000**	<5,000	**7,200**	<5,000	**1,107,200**	-299,200	24
CO-007-3 DUP	11/2/2015	<5,000	<5,000	<5,000	<5,000	**1,400,000**	<5,000	**6,400**	<5,000	**1,406,400**		
CO-017-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0
CO-017-0 DUP	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50		
CO-020-0	7/16/2015	<51	<51	<51	<51	**840**	<51	**51**	<51	**891**	25	3
CO-020-0 DUP	7/16/2015	<50	<50	<50	<50	**810**	<50	**56**	<50	**866**		
CO-029-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0
CO-029-0 DUP	7/16/2015	<51	<51	<51	<51	<51	<51	<51	<51	<51		
CO-033-3	11/2/2015	<50	<50	<50	<50	<50	**99**	<50	<50	**99**	-81	58
CO-033-3 DUP	11/2/2015	<50	<50	<50	<50	<50	**180**	<50	<50	**180**		
CO-035-0	7/16/2015	<50	<50	<50	<50	<50	**3,400**	<50	<50	**3,400**	0	0
CO-035-0 DUP	7/16/2015	<50	<50	<50	<50	<50	**3,400**	<50	<50	**3,400**		
CO-040-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0
CO-040-DUP	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50		
CO-041-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0
CO-041-3 DUP	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50		
CO-044-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50	66	200
CO-044-3 DUP	11/2/2015	<50	<50	<50	<50	<50	**66**	<50	<50	**66**		
CO-045-3	11/2/2015	<50	<50	<50	<50	<50	**280**	<50	<50	**280**	-80	25
CO-045-3 DUP	11/2/2015	<50	<50	<50	<50	<50	**360**	<50	<50	**360**		
CO-047-3	11/2/2015	<50	<50	<50	<50	<50	**53**	<50	<50	**53**	1	2
CO-047-3 DUP	11/2/2015	<50	<50	<50	<50	<50	**52**	<50	<50	**52**		
CO-049-0	7/16/2015	<51	<51	<51	<51	<51	**10,000**	<51	<51	**10,000**	-3,000	26
CO-049-0 DUP	7/16/2015	<50	<50	<50	<50	<50	**13,000**	<50	<50	**13,000**		
CO-051-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0
CO-051-0 DUP	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50		
CO-054-3	11/2/2015	<50	<50	<50	<50	<50	**71**	**77**	<50	**148**	-9	6
CO-054-3 DUP	11/2/2015	<50	<50	<50	<50	<50	**75**	**82**	<50	**157**		
CO-060-0	7/16/2015	<51	<51	<51	<51	**120**	**580**	<51	<51	**700**	40	6
CO-060-0 DUP	7/16/2015	<50	<50	<50	<50	**110**	**550**	<50	<50	**660**		
CO-068-0	7/16/2015	<50	<50	<50	<50	<50	**990**	<50	<50	**990**	-110	11
CO-068-0 DUP	7/16/2015	<50	<50	<50	<50	<50	**1,100**	<50	<50	**1,100**		
CO-068-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0
CO-068-3 DUP	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50		
CO-070-3	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0
CO-070-3 DUP	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50		

Table 2

QA/QC Sample Analysis - Duplicates
Former Coachella Substation
Coachella, California
July and November, 2015

		PCBs										
Sample ID	**Date**	**Aroclor-1016**	**Aroclor-1221**	**Aroclor-1232**	**Aroclor-1242**	**Aroclor-1248**	**Aroclor-1254**	**Aroclor-1260**	**Aroclor-1262**	**Total**	**Difference**	**RPD**
CO-079-0	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0
CO-079-0 DUP	7/16/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50		
CO-080-0	11/2/2015	<50	<50	<50	<50	<50	<50	**3,000**	<50	**3,000**	400	14
CO-080-0 DUP	11/2/2015	<50	<50	<50	<50	<50	<50	**2,600**	<50	**2,600**		
CO-083-0	11/2/2015	<50	<50	<50	<50	**420**	**380**	**620**	<50	**1,420**	160	12
CO-083-0 DUP	11/2/2015	<50	<50	<50	<50	**410**	**310**	**540**	<50	**1,260**		
CO-084-0	11/2/2015	<50	<50	<50	<50	**110**	<50	**5,600**	<50	**5,710**	325	6
CO-084-0 DUP	11/2/2015	<50	<50	<50	<50	**85**	<50	**5,300**	<50	**5,385**		
CO-085-0	11/2/2015	<50	<50	<50	<50	**300**	<50	<50	<50	**300**	-30	10
CO-085-0 DUP	11/2/2015	<50	<50	<50	<50	**330**	<50	<50	<50	**330**		
CO-088-0	11/2/2015	<50	<50	<50	<50	<50	**1,300**	<50	<50	**1,300**	470	44
CO-088-0 DUP	11/2/2015	<50	<50	<50	<50	<50	**830**	<50	<50	**830**		
CO-089-0	11/2/2015	<50	<50	<50	<50	**130**	<50	<50	<50	**130**	0	0
CO-089-0 DUP	11/2/2015	<50	<50	<50	<50	**130**	<50	<50	<50	**130**		
CO-092-0	11/2/2015	<50	<50	<50	<50	<50	**2,300**	<50	<50	**2,300**	-300	12
CO-092-0 DUP	11/2/2015	<50	<50	<50	<50	<50	**2,600**	<50	<50	**2,600**		
CO-093-0	11/2/2015	<50	<50	<50	<50	**110**	<50	<50	<50	**110**	-97	61
CO-093-0 DUP	11/2/2015	<50	<50	<50	<50	**140**	**67**	<50	<50	**207**		
CO-097-0	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0
CO-097-0 DUP	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50		
CO-099-0	11/2/2015	<50	<50	<50	<50	<50	**200**	<50	<50	**200**	0	0
CO-099-0 DUP	11/2/2015	<50	<50	<50	<50	<50	**200**	<50	<50	**200**		
CO-103-0	11/2/2015	<500	<500	<500	<500	<500	**4,800**	<500	<500	**4,800**	1,500	37
CO-103-0 DUP	11/2/2015	<500	<500	<500	<500	<500	**3,300**	<500	<500	**3,300**		
CO-105-0	11/2/2015	<2,500	<2,500	<2,500	<2,500	<2,500	**10,000**	<2,500	<2,500	**10,000**	-1,000	10
CO-105-0 DUP	11/2/2015	<2,500	<2,500	<2,500	<2,500	<2,500	**11,000**	<2,500	<2,500	**11,000**		
CO-109-0	11/2/2015	<50	<50	<50	<50	<50	**730**	<50	<50	**730**	-70	9
CO-109-0 DUP	11/2/2015	<50	<50	<50	<50	<50	**800**	<50	<50	**800**		
CO-113-0	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0
CO-113-0 DUP	11/2/2015	<50	<50	<50	<50	<50	<50	<50	<50	<50		

Notes:
All units are micrograms per kilogram
<50 = Not detected at or above the indicated reporting limit
Values that exceed United States Environmental Protection Agency Regional Screening Level of 230µg/kg are **bold red**.
RPD = Relative percent difference

APPENDIXES

APPENDIX A

LABORATORY REPORTS – SOIL SAMPLES

JULY AND NOVEMBER 2015

APEX

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WORK ORDER NUMBER: 15-07-1141

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Apex Companies, LLC

Client Project Name: Imperial Irrigation District - Coachella

Attention: Ron Kofron
10675 Sorrento Valley Road, Suite 203
San Diego, CA 92121-1617

Approved for release on 07/24/2015 by:
Kristin Beckley
Project Manager

ResultLink

Email your PM

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

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Work Order Number: 15-07-1141

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Work Order Narrative

Work Order: 15-07-1141 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 07/17/15. They were assigned to Work Order 15-07-1141.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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Sample Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order:	15-07-1141
		Project Name:	Imperial Irrigation District - Coachella
		PO Number:	
		Date/Time Received:	07/17/15 15:15
		Number of Containers:	47
Attn:	Ron Kofron		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
CO-2-0	15-07-1141-1	07/16/15 06:55	1	Solid
CO-4-0	15-07-1141-2	07/16/15 06:56	1	Solid
CO-6-0	15-07-1141-3	07/16/15 06:57	1	Solid
CO-8-0	15-07-1141-4	07/16/15 06:59	1	Solid
CO-10-0	15-07-1141-5	07/16/15 07:01	1	Solid
CO-12-0	15-07-1141-6	07/16/15 07:03	1	Solid
CO-14-0	15-07-1141-7	07/16/15 07:06	1	Solid
CO-16-0	15-07-1141-8	07/16/15 07:08	1	Solid
CO-18-0	15-07-1141-9	07/16/15 07:09	1	Solid
CO-20-0	15-07-1141-10	07/16/15 07:10	1	Solid
CO-20-0-DUP	15-07-1141-11	07/16/15 07:10	1	Solid
CO-22-0	15-07-1141-12	07/16/15 07:13	1	Solid
CO-24-0	15-07-1141-13	07/16/15 07:17	1	Solid
CO-26-0	15-07-1141-14	07/16/15 07:18	1	Solid
CO-28-0	15-07-1141-15	07/16/15 07:20	1	Solid
CO-30-0	15-07-1141-16	07/16/15 07:21	1	Solid
CO-32-0	15-07-1141-17	07/16/15 07:22	1	Solid
CO-34-0	15-07-1141-18	07/16/15 07:26	1	Solid
CO-36-0	15-07-1141-19	07/16/15 07:27	1	Solid
CO-38-0	15-07-1141-20	07/16/15 07:28	1	Solid
CO-40-0	15-07-1141-21	07/16/15 07:29	1	Solid
CO-40-0-DUP	15-07-1141-22	07/16/15 07:29	1	Solid
CO-42-0	15-07-1141-23	07/16/15 07:31	1	Solid
CO-44-0	15-07-1141-24	07/16/15 07:41	1	Solid
CO-46-0	15-07-1141-25	07/16/15 07:42	1	Solid
CO-48-0	15-07-1141-26	07/16/15 07:43	1	Solid
CO-50-0	15-07-1141-27	07/16/15 07:44	1	Solid
CO-52-0	15-07-1141-28	07/16/15 07:45	1	Solid
CO-54-0	15-07-1141-29	07/16/15 07:46	1	Solid
CO-56-0	15-07-1141-30	07/16/15 07:47	1	Solid
CO-58-0	15-07-1141-31	07/16/15 07:48	1	Solid
CO-60-0	15-07-1141-32	07/16/15 07:49	1	Solid
CO-60-0-DUP	15-07-1141-33	07/16/15 07:49	1	Solid
CO-62-0	15-07-1141-34	07/16/15 08:58	1	Solid
CO-64-0	15-07-1141-35	07/16/15 09:00	1	Solid
CO-66-0	15-07-1141-36	07/16/15 09:01	1	Solid
CO-68-0	15-07-1141-37	07/16/15 09:03	1	Solid
CO-68-0-DUP	15-07-1141-38	07/16/15 09:03	1	Solid
CO-70-0	15-07-1141-39	07/16/15 09:05	1	Solid
CO-72-0	15-07-1141-40	07/16/15 09:07	1	Solid
CO-74-0	15-07-1141-41	07/16/15 09:09	1	Solid
CO-76-0	15-07-1141-42	07/16/15 09:11	1	Solid

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Sample Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order:	15-07-1141
		Project Name:	Imperial Irrigation District - Coachella
		PO Number:	
		Date/Time Received:	07/17/15 15:15
		Number of Containers:	47
Attn:	Ron Kofron		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
CO-78-0	15-07-1141-43	07/16/15 09:12	1	Solid
CO-79-0	15-07-1141-44	07/16/15 09:20	1	Solid
CO-79-0-DUP	15-07-1141-45	07/16/15 09:20	1	Solid
CO-77-0	15-07-1141-46	07/16/15 09:22	1	Solid
CO-75-0	15-07-1141-47	07/16/15 09:24	1	Solid

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Detections Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order: Project Name: Received:	15-07-1141 Imperial Irrigation District - Coachella 07/17/15
Attn:	Ron Kofron		

Client SampleID / Analyte	Result	Qualifiers	RL	Units	Method	Extraction
CO-2-0 (15-07-1141-1)						
Aroclor-1248	360		50	ug/kg	EPA 8082	EPA 3540C
CO-4-0 (15-07-1141-2)						
Aroclor-1248	450		50	ug/kg	EPA 8082	EPA 3540C
CO-6-0 (15-07-1141-3)						
Aroclor-1248	86		50	ug/kg	EPA 8082	EPA 3540C
CO-8-0 (15-07-1141-4)						
Aroclor-1248	78		50	ug/kg	EPA 8082	EPA 3540C
CO-10-0 (15-07-1141-5)						
Aroclor-1248	68		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1254	65		50	ug/kg	EPA 8082	EPA 3540C
CO-14-0 (15-07-1141-7)						
Aroclor-1254	57		50	ug/kg	EPA 8082	EPA 3540C
CO-16-0 (15-07-1141-8)						
Aroclor-1248	150		51	ug/kg	EPA 8082	EPA 3540C
CO-18-0 (15-07-1141-9)						
Aroclor-1248	150		50	ug/kg	EPA 8082	EPA 3540C
CO-20-0 (15-07-1141-10)						
Aroclor-1248	840		51	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	51		51	ug/kg	EPA 8082	EPA 3540C
CO-20-0-DUP (15-07-1141-11)						
Aroclor-1248	810		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	56		50	ug/kg	EPA 8082	EPA 3540C
CO-34-0 (15-07-1141-18)						
Aroclor-1254	410		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	150		50	ug/kg	EPA 8082	EPA 3540C
CO-36-0 (15-07-1141-19)						
Aroclor-1254	52		50	ug/kg	EPA 8082	EPA 3540C
CO-44-0 (15-07-1141-24)						
Aroclor-1248	210		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1254	890		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	170		50	ug/kg	EPA 8082	EPA 3540C
CO-46-0 (15-07-1141-25)						
Aroclor-1254	140		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	64		50	ug/kg	EPA 8082	EPA 3540C
CO-48-0 (15-07-1141-26)						
Aroclor-1248	200		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1254	540		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	110		50	ug/kg	EPA 8082	EPA 3540C

* MDL is shown

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Detections Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order: Project Name: Received:	15-07-1141 Imperial Irrigation District - Coachella 07/17/15
Attn:	Ron Kofron		

Client SampleID / Analyte	Result	Qualifiers	RL	Units	Method	Extraction
CO-50-0 (15-07-1141-27)						
Aroclor-1254	64		50	ug/kg	EPA 8082	EPA 3540C
CO-52-0 (15-07-1141-28)						
Aroclor-1254	750		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	220		50	ug/kg	EPA 8082	EPA 3540C
CO-54-0 (15-07-1141-29)						
Aroclor-1254	2800		250	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	4600		250	ug/kg	EPA 8082	EPA 3540C
CO-56-0 (15-07-1141-30)						
Aroclor-1254	910		50	ug/kg	EPA 8082	EPA 3540C
CO-60-0 (15-07-1141-32)						
Aroclor-1248	120		51	ug/kg	EPA 8082	EPA 3540C
Aroclor-1254	580		51	ug/kg	EPA 8082	EPA 3540C
CO-60-0-DUP (15-07-1141-33)						
Aroclor-1248	110		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1254	550		50	ug/kg	EPA 8082	EPA 3540C
CO-64-0 (15-07-1141-35)						
Aroclor-1254	72		50	ug/kg	EPA 8082	EPA 3540C
CO-68-0 (15-07-1141-37)						
Aroclor-1254	990		50	ug/kg	EPA 8082	EPA 3540C
CO-68-0-DUP (15-07-1141-38)						
Aroclor-1254	1100		250	ug/kg	EPA 8082	EPA 3540C
CO-70-0 (15-07-1141-39)						
Aroclor-1248	88		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	3900		250	ug/kg	EPA 8082	EPA 3540C
CO-72-0 (15-07-1141-40)						
Aroclor-1248	370		51	ug/kg	EPA 8082	EPA 3540C
Aroclor-1254	1400		250	ug/kg	EPA 8082	EPA 3540C

Subcontracted analyses, if any, are not included in this summary.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 1 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-2-0	**15-07-1141-1-A**	**07/16/15 06:55**	**Solid**	**GC 31**	**07/18/15**	**07/20/15 21:29**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	360	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	168	24-168	
2,4,5,6-Tetrachloro-m-Xylene	87	25-145	

CO-4-0	**15-07-1141-2-A**	**07/16/15 06:56**	**Solid**	**GC 31**	**07/18/15**	**07/20/15 21:48**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	450	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	102	24-168	
2,4,5,6-Tetrachloro-m-Xylene	100	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 2 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-6-0	**15-07-1141-3-A**	**07/16/15 06:57**	**Solid**	**GC 31**	**07/18/15**	**07/20/15 22:07**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	86	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	90	24-168	
2,4,5,6-Tetrachloro-m-Xylene	95	25-145	

CO-8-0	**15-07-1141-4-A**	**07/16/15 06:59**	**Solid**	**GC 31**	**07/18/15**	**07/20/15 22:26**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	78	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	90	24-168	
2,4,5,6-Tetrachloro-m-Xylene	102	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 3 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-10-0	**15-07-1141-5-A**	**07/16/15 07:01**	**Solid**	**GC 31**	**07/18/15**	**07/20/15 22:45**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	68	50	1.00	
Aroclor-1254	65	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	87	24-168	
2,4,5,6-Tetrachloro-m-Xylene	97	25-145	

CO-12-0	**15-07-1141-6-A**	**07/16/15 07:03**	**Solid**	**GC 31**	**07/18/15**	**07/20/15 23:04**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	92	24-168	
2,4,5,6-Tetrachloro-m-Xylene	100	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 4 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-14-0	**15-07-1141-7-A**	**07/16/15 07:06**	**Solid**	**GC 31**	**07/18/15**	**07/20/15 23:24**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	57	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	86	24-168	
2,4,5,6-Tetrachloro-m-Xylene	80	25-145	

CO-16-0	**15-07-1141-8-A**	**07/16/15 07:08**	**Solid**	**GC 31**	**07/18/15**	**07/20/15 23:43**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	51	1.00	
Aroclor-1221	ND	51	1.00	
Aroclor-1232	ND	51	1.00	
Aroclor-1242	ND	51	1.00	
Aroclor-1248	150	51	1.00	
Aroclor-1254	ND	51	1.00	
Aroclor-1260	ND	51	1.00	
Aroclor-1262	ND	51	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	84	24-168	
2,4,5,6-Tetrachloro-m-Xylene	91	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 5 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-18-0	**15-07-1141-9-A**	**07/16/15 07:09**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 00:02**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	150	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	93	24-168	
2,4,5,6-Tetrachloro-m-Xylene	105	25-145	

CO-20-0	**15-07-1141-10-A**	**07/16/15 07:10**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 00:21**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	51	1.00	
Aroclor-1221	ND	51	1.00	
Aroclor-1232	ND	51	1.00	
Aroclor-1242	ND	51	1.00	
Aroclor-1248	840	51	1.00	
Aroclor-1254	ND	51	1.00	
Aroclor-1260	51	51	1.00	
Aroclor-1262	ND	51	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	80	24-168	
2,4,5,6-Tetrachloro-m-Xylene	91	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 6 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-20-0-DUP	**15-07-1141-11-A**	**07/16/15 07:10**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 00:40**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	810	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	56	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	83	24-168	
2,4,5,6-Tetrachloro-m-Xylene	90	25-145	

CO-22-0	**15-07-1141-12-A**	**07/16/15 07:13**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 00:59**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	83	24-168	
2,4,5,6-Tetrachloro-m-Xylene	88	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 7 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-24-0	**15-07-1141-13-A**	**07/16/15 07:17**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 01:18**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	83	24-168	
2,4,5,6-Tetrachloro-m-Xylene	96	25-145	

CO-26-0	**15-07-1141-14-A**	**07/16/15 07:18**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 01:37**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	81	24-168	
2,4,5,6-Tetrachloro-m-Xylene	89	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 8 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-28-0	**15-07-1141-15-A**	**07/16/15 07:20**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 01:56**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	81	24-168	
2,4,5,6-Tetrachloro-m-Xylene	95	25-145	

CO-30-0	**15-07-1141-16-A**	**07/16/15 07:21**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 02:15**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	87	24-168	
2,4,5,6-Tetrachloro-m-Xylene	98	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 9 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-32-0	**15-07-1141-17-A**	**07/16/15 07:22**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 02:34**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	84	24-168	
2,4,5,6-Tetrachloro-m-Xylene	96	25-145	

CO-34-0	**15-07-1141-18-A**	**07/16/15 07:26**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 02:53**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	410	50	1.00	
Aroclor-1260	150	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	87	24-168	
2,4,5,6-Tetrachloro-m-Xylene	95	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 10 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-36-0	**15-07-1141-19-A**	**07/16/15 07:27**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 03:12**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	52	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	88	24-168	
2,4,5,6-Tetrachloro-m-Xylene	99	25-145	

CO-38-0	**15-07-1141-20-A**	**07/16/15 07:28**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 03:31**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	83	24-168	
2,4,5,6-Tetrachloro-m-Xylene	90	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 11 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-40-0	**15-07-1141-21-A**	**07/16/15 07:29**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 04:09**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	85	24-168	
2,4,5,6-Tetrachloro-m-Xylene	94	25-145	

CO-40-0-DUP	**15-07-1141-22-A**	**07/16/15 07:29**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 04:28**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	86	24-168	
2,4,5,6-Tetrachloro-m-Xylene	94	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 12 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-42-0	**15-07-1141-23-A**	**07/16/15 07:31**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 04:47**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	82	24-168	
2,4,5,6-Tetrachloro-m-Xylene	87	25-145	

CO-44-0	**15-07-1141-24-A**	**07/16/15 07:41**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 05:06**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	210	50	1.00	
Aroclor-1254	890	50	1.00	
Aroclor-1260	170	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	87	24-168	
2,4,5,6-Tetrachloro-m-Xylene	89	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 13 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-46-0	**15-07-1141-25-A**	**07/16/15 07:42**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 05:25**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	140	50	1.00	
Aroclor-1260	64	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	81	24-168	
2,4,5,6-Tetrachloro-m-Xylene	93	25-145	

CO-48-0	**15-07-1141-26-A**	**07/16/15 07:43**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 05:45**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	200	50	1.00	
Aroclor-1254	540	50	1.00	
Aroclor-1260	110	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	80	24-168	
2,4,5,6-Tetrachloro-m-Xylene	91	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 14 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-50-0	**15-07-1141-27-A**	**07/16/15 07:44**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 06:04**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	64	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	82	24-168	
2,4,5,6-Tetrachloro-m-Xylene	93	25-145	

CO-52-0	**15-07-1141-28-A**	**07/16/15 07:45**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 06:23**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	750	50	1.00	
Aroclor-1260	220	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	80	24-168	
2,4,5,6-Tetrachloro-m-Xylene	94	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 15 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-54-0	**15-07-1141-29-A**	**07/16/15 07:46**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 06:42**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	86	24-168	
2,4,5,6-Tetrachloro-m-Xylene	85	25-145	

CO-54-0	**15-07-1141-29-A**	**07/16/15 07:46**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 13:22**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1254	2800	250	5.00	
Aroclor-1260	4600	250	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	97	24-168	
2,4,5,6-Tetrachloro-m-Xylene	102	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 16 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-56-0	**15-07-1141-30-A**	**07/16/15 07:47**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 07:01**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	910	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	84	24-168	
2,4,5,6-Tetrachloro-m-Xylene	90	25-145	

CO-58-0	**15-07-1141-31-A**	**07/16/15 07:48**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 07:20**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	88	24-168	
2,4,5,6-Tetrachloro-m-Xylene	98	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-60-0	**15-07-1141-32-A**	**07/16/15 07:49**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 07:39**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	51	1.00	
Aroclor-1221	ND	51	1.00	
Aroclor-1232	ND	51	1.00	
Aroclor-1242	ND	51	1.00	
Aroclor-1248	120	51	1.00	
Aroclor-1254	580	51	1.00	
Aroclor-1260	ND	51	1.00	
Aroclor-1262	ND	51	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	87	24-168	
2,4,5,6-Tetrachloro-m-Xylene	91	25-145	

CO-60-0-DUP	**15-07-1141-33-A**	**07/16/15 07:49**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 07:58**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	110	50	1.00	
Aroclor-1254	550	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	83	24-168	
2,4,5,6-Tetrachloro-m-Xylene	95	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 18 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-62-0	**15-07-1141-34-A**	**07/16/15 08:58**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 08:17**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	85	24-168	
2,4,5,6-Tetrachloro-m-Xylene	106	25-145	

CO-64-0	**15-07-1141-35-A**	**07/16/15 09:00**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 08:36**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	72	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	87	24-168	
2,4,5,6-Tetrachloro-m-Xylene	87	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 19 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-66-0	**15-07-1141-36-A**	**07/16/15 09:01**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 08:55**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	51	1.00	
Aroclor-1221	ND	51	1.00	
Aroclor-1232	ND	51	1.00	
Aroclor-1242	ND	51	1.00	
Aroclor-1248	ND	51	1.00	
Aroclor-1254	ND	51	1.00	
Aroclor-1260	ND	51	1.00	
Aroclor-1262	ND	51	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	92	24-168	
2,4,5,6-Tetrachloro-m-Xylene	102	25-145	

CO-68-0	**15-07-1141-37-A**	**07/16/15 09:03**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 09:14**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	990	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	84	24-168	
2,4,5,6-Tetrachloro-m-Xylene	95	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 20 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-68-0-DUP	**15-07-1141-38-A**	**07/16/15 09:03**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 09:33**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	84	24-168	
2,4,5,6-Tetrachloro-m-Xylene	94	25-145	

CO-68-0-DUP	**15-07-1141-38-A**	**07/16/15 09:03**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 13:41**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1254	1100	250	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	88	24-168	
2,4,5,6-Tetrachloro-m-Xylene	110	25-145	

CO-70-0	**15-07-1141-39-A**	**07/16/15 09:05**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 09:52**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	88	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	89	24-168	
2,4,5,6-Tetrachloro-m-Xylene	73	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 21 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-70-0	**15-07-1141-39-A**	**07/16/15 09:05**	**Solid**	**GC 31**	**07/18/15**	**07/22/15 09:44**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1260	3900	250	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	78	24-168	
2,4,5,6-Tetrachloro-m-Xylene	74	25-145	

CO-72-0	**15-07-1141-40-A**	**07/16/15 09:07**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 10:11**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	51	1.00	
Aroclor-1221	ND	51	1.00	
Aroclor-1232	ND	51	1.00	
Aroclor-1242	ND	51	1.00	
Aroclor-1248	370	51	1.00	
Aroclor-1260	ND	51	1.00	
Aroclor-1262	ND	51	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	85	24-168	
2,4,5,6-Tetrachloro-m-Xylene	91	25-145	

CO-72-0	**15-07-1141-40-A**	**07/16/15 09:07**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 14:00**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1254	1400	250	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	77	24-168	
2,4,5,6-Tetrachloro-m-Xylene	98	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 22 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-74-0	**15-07-1141-41-A**	**07/16/15 09:09**	**Solid**	**GC 31**	**07/17/15**	**07/21/15 10:49**	**150717L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	91	24-168	
2,4,5,6-Tetrachloro-m-Xylene	94	25-145	

CO-76-0	**15-07-1141-42-A**	**07/16/15 09:11**	**Solid**	**GC 31**	**07/17/15**	**07/21/15 11:09**	**150717L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	87	24-168	
2,4,5,6-Tetrachloro-m-Xylene	95	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 23 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-78-0	**15-07-1141-43-A**	**07/16/15 09:12**	**Solid**	**GC 31**	**07/17/15**	**07/21/15 11:28**	**150717L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	87	24-168	
2,4,5,6-Tetrachloro-m-Xylene	122	25-145	

CO-79-0	**15-07-1141-44-A**	**07/16/15 09:20**	**Solid**	**GC 31**	**07/17/15**	**07/21/15 11:47**	**150717L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	84	24-168	
2,4,5,6-Tetrachloro-m-Xylene	94	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 24 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-79-0-DUP	**15-07-1141-45-A**	**07/16/15 09:20**	**Solid**	**GC 31**	**07/17/15**	**07/21/15 12:06**	**150717L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	84	24-168	
2,4,5,6-Tetrachloro-m-Xylene	89	25-145	

CO-77-0	**15-07-1141-46-A**	**07/16/15 09:22**	**Solid**	**GC 31**	**07/17/15**	**07/21/15 12:25**	**150717L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	83	24-168	
2,4,5,6-Tetrachloro-m-Xylene	85	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 25 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-75-0	**15-07-1141-47-A**	**07/16/15 09:24**	**Solid**	**GC 31**	**07/17/15**	**07/21/15 12:44**	**150717L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	81	24-168	
2,4,5,6-Tetrachloro-m-Xylene	94	25-145	

Method Blank	**099-12-535-3328**	**N/A**	**Solid**	**GC 31**	**07/17/15**	**07/18/15 21:52**	**150717L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	108	24-168	
2,4,5,6-Tetrachloro-m-Xylene	107	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 26 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-535-3329**	**N/A**	**Solid**	**GC 31**	**07/18/15**	**07/20/15 16:05**	**150718L01**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	80	24-168	
2,4,5,6-Tetrachloro-m-Xylene	101	25-145	

Method Blank	**099-12-535-3330**	**N/A**	**Solid**	**GC 31**	**07/18/15**	**07/20/15 18:18**	**150718L02**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	87	24-168	
2,4,5,6-Tetrachloro-m-Xylene	99	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Imperial Irrigation District - Coachella			Page 1 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
CO-78-0	**Sample**	**Solid**	**GC 31**	**07/17/15**	**07/21/15 11:28**	**150717S18**
CO-78-0	**Matrix Spike**	**Solid**	**GC 31**	**07/17/15**	**07/20/15 19:16**	**150717S18**
CO-78-0	**Matrix Spike Duplicate**	**Solid**	**GC 31**	**07/17/15**	**07/20/15 19:35**	**150717S18**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	112.9	113	143.2	143	50-135	24	0-20	3,4
Aroclor-1260	ND	100.0	119.8	120	124.5	124	50-135	4	0-20	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Imperial Irrigation District - Coachella			Page 2 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
CO-6-0	**Sample**	**Solid**	**GC 31**	**07/18/15**	**07/20/15 22:07**	**150718S01**
CO-6-0	**Matrix Spike**	**Solid**	**GC 31**	**07/18/15**	**07/20/15 18:38**	**150718S01**
CO-6-0	**Matrix Spike Duplicate**	**Solid**	**GC 31**	**07/18/15**	**07/20/15 18:57**	**150718S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	146.2	146	166.8	167	50-135	13	0-20	3
Aroclor-1260	ND	100.0	113.6	114	119.6	120	50-135	5	0-20	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Imperial Irrigation District - Coachella			Page 3 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
CO-70-0	**Sample**	**Solid**	**GC 31**	**07/18/15**	**07/21/15 09:52**	**150718S02**
CO-70-0	**Matrix Spike**	**Solid**	**GC 31**	**07/18/15**	**07/20/15 19:54**	**150718S02**
CO-70-0	**Matrix Spike Duplicate**	**Solid**	**GC 31**	**07/18/15**	**07/20/15 20:13**	**150718S02**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	212.2	212	246.1	246	50-135	15	0-20	3
Aroclor-1260	3881	100.0	6161	2280	5540	1659	50-135	11	0-20	3

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Imperial Irrigation District - Coachella			Page 1 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-3328	**LCS**	**Solid**	**GC 31**	**07/17/15**	**07/18/15 21:33**	**150717L18**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	104.3	104	50-135	
Aroclor-1260	100.0	111.7	112	50-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Imperial Irrigation District - Coachella			Page 2 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-3329	**LCS**	**Solid**	**GC 31**	**07/18/15**	**07/20/15 15:46**	**150718L01**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	89.12	89	50-135	
Aroclor-1260	100.0	83.87	84	50-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1141
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Imperial Irrigation District - Coachella			Page 3 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-3330	**LCS**	**Solid**	**GC 31**	**07/18/15**	**07/20/15 17:59**	**150718L02**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	86.35	86	50-135	
Aroclor-1260	100.0	99.98	100	50-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Glossary of Terms and Qualifiers

Work Order: 15-07-1141 Page 1 of 1

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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CHAIN-OF-CUSTODY RECORD

DATE: 7.16.15
PAGE: 1 OF 5

WO NO. / LAB USE ONLY: **15-07-1141**

LABORATORY CLIENT: APEX COMPANIES
ADDRESS: 10675 SORRENTO VALLEY RD STE 203
CITY: SAN DIEGO STATE: CA ZIP: 92121
TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NO.: IID - COACHELLA
P.O. NO.: 3601023-001
PROJECT CONTACT: RON KOFRON
LAB CONTACT OR QUOTE NO.:
GLOBAL ID:
LOG CODE:
SAMPLER(S): (PRINT) T. SWANSON

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ STANDARD

EDD:
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ____	BTEX / MTBE ☐ 8260 ☐ ____	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6				
1	CO-2-0	7.16.15	0655	SOIL	1														1							
2	CO-4-0	7.16.15	0656	SOIL	1														1							
3	CO-6-0	7.16.15	0657	SOIL	1														1							
4	CO-8-0	7.16.15	0659	SOIL	1														1							
5	CO-10-0	7.16.15	0701	SOIL	1														1							
6	CO-12-0	7.16.15	0703	SOIL	1														1							
7	CO-14-0	7.16.15	0706	SOIL	1														1							
8	CO-16-0	7.16.15	0708	SOIL	1														1							
9	CO-18-0	7.16.15	0709	SOIL	1														1							
10	CO-20-0	7.16.15	0710	SOIL	1														1							

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	Chao Hao	7.17.15	1230
Chao Hao	[signature]	7/17/15	1515

2014-07-01 Revision

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CHAIN-OF-CUSTODY RECORD

WO NO. / LAB USE ONLY: 07-1140114

DATE: 7.16.15
PAGE: 2 OF 5

LABORATORY CLIENT: APEX COMPANIES
ADDRESS:
CITY: STATE: ZIP:
TEL: E-MAIL:

CLIENT PROJECT NAME / NO.: IID - COACHELLA
P.O. NO.: 3601023-001
PROJECT CONTACT:
LAB CONTACT OR QUOTE NO.:
GLOBAL ID: LOG CODE:
SAMPLER(S): (PRINT) T. SWANSON

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ STANDARD

EDD:
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ____	BTEX / MTBE ☐ 8260 ☐ ____	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6				
11	CO-20-ODUP	7.16.15	0710	SOIL	1														1							
12	CO-22-0	7.16.15	0713	SOIL	1														1							
13	CO-24-0	7.16.15	0717	SOIL	1														1							
14	CO-26-0	7.16.15	0718	SOIL	1														1							
15	CO-28-0	7.16.15	0720	SOIL	1														1							
16	CO-30-0	7.16.15	0721	SOIL	1														1							
17	CO-32-0	7.16.15	0722	SOIL	1														1							
18	CO-34-0	7.16.15	0726	SOIL	1														1							
19	CO-36-0	7.16.15	0727	SOIL	1														1							
20	CO-38-0	7.16.15	0728	SOIL	1														1							

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	Chao Hai	7.17.15	1230
Chao Hai	[signature]	7/17/15	1515

2014-07-01 Revision

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CHAIN-OF-CUSTODY RECORD

WO NO. / LAB USE ONLY: 07-1140IH

DATE: 7.16.15

PAGE: 3 OF 5

LABORATORY CLIENT: APEX COMPANIES

ADDRESS:

CITY: STATE: ZIP:

TEL: E-MAIL:

CLIENT PROJECT NAME / NO.: IID - COACHELLA

P.O. NO.: 3601023-001

PROJECT CONTACT:

LAB CONTACT OR QUOTE NO.:

GLOBAL ID: LOG CODE:

SAMPLER(S): (PRINT)

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ STANDARD

EDD:
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ____	BTEX / MTBE ☐ 8260 ☐ ____	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6				
21	CO-40-0	7.16.15	0729	SOIL	1														1							
22	CO-40-ODUP	7.16.15	~~0730~~ 0729	SOIL	1														1							
23	CO-42-0	7.16.15	0731	SOIL	1														1							
24	CO-44-0	7.16.15	0741	SOIL	1														1							
25	CO-46-0	7.16.15	0742	SOIL	1														1							
26	CO-48-0	7.16.15	0743	SOIL	1														1							
27	CO-50-0	7.16.15	0744	SOIL	1														1							
28	CO-52-0	7.16.15	0745	SOIL	1														1							
29	CO-54-0	7.16.15	0746	SOIL	1														1							
30	CO-56-0	7.16.15	0747	SOIL	1														1							

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	Chao Hsu	7.17.15	1230
Chao Hsu	[signature]	7/17/15	1515

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CHAIN-OF-CUSTODY RECORD

DATE: 7·16·15
PAGE: 4 OF 5

WO NO. / LAB USE ONLY: 07-1140148

LABORATORY CLIENT: APEX COMPANIES
ADDRESS:
CITY: STATE: ZIP:
TEL: E-MAIL:

CLIENT PROJECT NAME / NO.: IID - COACHELLA
P.O. NO.: 3601023-001
PROJECT CONTACT:
LAB CONTACT OR QUOTE NO.:
GLOBAL ID: LOG CODE:
SAMPLER(S): (PRINT) T. SWANSON

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ STANDARD

EDD:
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES
Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ___	BTEX / MTBE ☐ 8260 ☐ ___	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6				
31	CO-58-0	7.16.15	0748	SOIL	1														1							
32	CO-60-0	7.16.15	0749	SOIL	1														1							
33	CO-60-0DUP	7.16.15	0749	SOIL	1														1							
34	CO-62-0	7.16.15	0858	SOIL	1														1							
35	CO-64-0	7.16.15	0900	SOIL	1														1							
36	CO-66-0	7.16.15	0901	SOIL	1														1							
37	CO-68-0	7.16.15	0903	SOIL	1														1							
38	CO-68-DUP	7.16.15	0903	SOIL	1														1							
39	CO-70-0	7.16.15	0905	SOIL	1														1							
40	CO-72-0	7.16.15	0907	SOIL	1														1							

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	[signature]	7.7.15	1230
[signature]	[signature]	7/17/15	1515

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CHAIN-OF-CUSTODY RECORD

WO NO. / LAB USE ONLY: 07-1140110

DATE: 7.16.15

PAGE: 5 OF 5

LABORATORY CLIENT: APEX COMPANIES

ADDRESS:

CITY: STATE: ZIP:

TEL: E-MAIL:

CLIENT PROJECT NAME / NO.: IID - COACHELLA

P.O. NO.: 3601023-001

PROJECT CONTACT:

LAB CONTACT OR QUOTE NO.:

GLOBAL ID: LOG CODE:

SAMPLER(S): (PRINT) T. SWANSON

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ STANDARD

EDD:
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH	BTEX / MTBE ☐ 8260 ☐	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6				
41	CO-74-0	7.16.15	0909	SOIL	1														1							
42	CO-76-0	7.16.15	0911	SOIL	1														1							
43	CO-78-0	7.16.15	0912	SOIL	1														1							
44	CO-79-0	7.16.15	0920	SOIL	1														1							
45	CO-79-0 DUP	7.16.15	0920	SOIL	1														1							
46	CO-77-0	7.16.15	0922	SOIL	1														1							
47	CO-75-0	7.16.15	0924	SOIL	1														1							

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	[signature]	7.17.15	1230
[signature]	[signature]	7/17/15	1515

2014-07-01 Revision

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WORK ORDER NUMBER: 15-07- 11401

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: APEX

DATE: 07 / 17 / 2015

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC5 (CF:-0.2°C); Temperature (w/o CF): 3.3 °C (w/ CF): 3.1 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 810

CUSTODY SEAL:

Cooler	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 810
Sample(s)	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 1013

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOAh ☐ VOAna$_2$ ☐ 100PJ ☐ 100PJna$_2$ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☐ 125PB

☐ 125PBznna ☐ 250AGB ☐ 250CGB ☐ 250CGBs ☐ 250PB ☐ 250PBn ☐ 500AGB ☐ 500AGJ ☐ 500AGJs

☐ 500PB ☐ 1AGB ☐ 1AGBna$_2$ ☐ 1AGBs ☐ 1PB ☐ 1PBna ☐ _____ ☐ _____ ☐ _____ ☐ _____

Solid: ☑ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (_____) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **znna** = $Zn(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1013

Reviewed by: [signature]

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WORK ORDER NUMBER: 15-07-1144

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Apex Companies, LLC

Client Project Name: Imperial Irrigation District - Coachella

Attention: Ron Kofron
10675 Sorrento Valley Road, Suite 203
San Diego, CA 92121-1617

Approved for release on 07/28/2015 by:
Kristin Beckley
Project Manager

ResultLink

Email your PM

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

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Client Project Name: Imperial Irrigation District - Coachella
Work Order Number: 15-07-1144

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Work Order Narrative

Work Order: 15-07-1144 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 07/17/15. They were assigned to Work Order 15-07-1144.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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Sample Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order:	15-07-1144
		Project Name:	Imperial Irrigation District - Coachella
		PO Number:	
		Date/Time Received:	07/17/15 15:15
		Number of Containers:	43
Attn:	Ron Kofron		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
CO-FB-1	15-07-1144-1	07/16/15 05:57	1	Solid
CO-01-0	15-07-1144-2	07/16/15 06:54	1	Solid
CO-03-0	15-07-1144-3	07/16/15 06:57	1	Solid
CO-05-0	15-07-1144-4	07/16/15 06:57	1	Solid
CO-07-0	15-07-1144-5	07/16/15 07:00	1	Solid
CO-09-0	15-07-1144-6	07/16/15 07:07	1	Solid
CO-11-0	15-07-1144-7	07/16/15 07:08	1	Solid
CO-13-0	15-07-1144-8	07/16/15 07:09	1	Solid
CO-15-0	15-07-1144-9	07/16/15 07:10	1	Solid
CO-17-0	15-07-1144-10	07/16/15 07:15	1	Solid
CO-17-0-DUP	15-07-1144-11	07/16/15 07:15	1	Solid
CO-19-0	15-07-1144-12	07/16/15 07:16	1	Solid
CO-21-0	15-07-1144-13	07/16/15 07:17	1	Solid
CO-23-0	15-07-1144-14	07/16/15 07:28	1	Solid
CO-25-0	15-07-1144-15	07/16/15 07:29	1	Solid
CO-27-0	15-07-1144-16	07/16/15 07:34	1	Solid
CO-29-0-DUP	15-07-1144-17	07/16/15 07:31	1	Solid
CO-29-0	15-07-1144-18	07/16/15 07:31	1	Solid
CO-31-0	15-07-1144-19	07/16/15 07:35	1	Solid
CO-33-0	15-07-1144-20	07/16/15 07:46	1	Solid
CO-35-0	15-07-1144-21	07/16/15 07:49	1	Solid
CO-35-0-DUP	15-07-1144-22	07/16/15 07:49	1	Solid
CO-37-0	15-07-1144-23	07/16/15 07:50	1	Solid
CO-39-0	15-07-1144-24	07/16/15 07:51	1	Solid
CO-41-0	15-07-1144-25	07/16/15 07:52	1	Solid
CO-43-0	15-07-1144-26	07/16/15 08:00	1	Solid
CO-45-0	15-07-1144-27	07/16/15 08:01	1	Solid
CO-47-0	15-07-1144-28	07/16/15 08:02	1	Solid
CO-49-0	15-07-1144-29	07/16/15 08:05	1	Solid
CO-49-0-DUP	15-07-1144-30	07/16/15 08:05	1	Solid
CO-51-0	15-07-1144-31	07/16/15 09:05	1	Solid
CO-51-0-DUP	15-07-1144-32	07/16/15 09:05	1	Solid
CO-53-0	15-07-1144-33	07/16/15 09:07	1	Solid
CO-55-0	15-07-1144-34	07/16/15 09:09	1	Solid
CO-57-0	15-07-1144-35	07/16/15 09:10	1	Solid
CO-59-0	15-07-1144-36	07/16/15 09:12	1	Solid
CO-61-0	15-07-1144-37	07/16/15 09:14	1	Solid
CO-63-0	15-07-1144-38	07/16/15 09:15	1	Solid
CO-65-0	15-07-1144-39	07/16/15 09:18	1	Solid
CO-67-0	15-07-1144-40	07/16/15 09:23	1	Solid
CO-69-0	15-07-1144-41	07/16/15 09:25	1	Solid
CO-71-0	15-07-1144-42	07/16/15 09:26	1	Solid

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Sample Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order:	15-07-1144
		Project Name:	Imperial Irrigation District - Coachella
		PO Number:	
		Date/Time Received:	07/17/15 15:15
		Number of Containers:	43
Attn:	Ron Kofron		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
CO-73-0	15-07-1144-43	07/16/15 09:27	1	Solid

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Detections Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order: Project Name: Received:	15-07-1144 Imperial Irrigation District - Coachella 07/17/15
Attn:	Ron Kofron		

Client SampleID / Analyte	Result	Qualifiers	RL	Units	Method	Extraction
CO-01-0 (15-07-1144-2)						
Aroclor-1248	3900		250	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	150		51	ug/kg	EPA 8082	EPA 3540C
CO-03-0 (15-07-1144-3)						
Aroclor-1248	6600		500	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	220		50	ug/kg	EPA 8082	EPA 3540C
CO-05-0 (15-07-1144-4)						
Aroclor-1248	27000		5000	ug/kg	EPA 8082	EPA 3540C
CO-07-0 (15-07-1144-5)						
Aroclor-1248	6400		510	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	150		51	ug/kg	EPA 8082	EPA 3540C
CO-33-0 (15-07-1144-20)						
Aroclor-1254	460		50	ug/kg	EPA 8082	EPA 3540C
CO-35-0 (15-07-1144-21)						
Aroclor-1254	3400		500	ug/kg	EPA 8082	EPA 3540C
CO-35-0-DUP (15-07-1144-22)						
Aroclor-1254	3400		500	ug/kg	EPA 8082	EPA 3540C
CO-37-0 (15-07-1144-23)						
Aroclor-1254	160		50	ug/kg	EPA 8082	EPA 3540C
CO-39-0 (15-07-1144-24)						
Aroclor-1254	180		50	ug/kg	EPA 8082	EPA 3540C
CO-41-0 (15-07-1144-25)						
Aroclor-1254	2600		510	ug/kg	EPA 8082	EPA 3540C
CO-43-0 (15-07-1144-26)						
Aroclor-1254	13000		5000	ug/kg	EPA 8082	EPA 3540C
CO-45-0 (15-07-1144-27)						
Aroclor-1254	12000		5000	ug/kg	EPA 8082	EPA 3540C
CO-47-0 (15-07-1144-28)						
Aroclor-1254	1700		500	ug/kg	EPA 8082	EPA 3540C
CO-49-0 (15-07-1144-29)						
Aroclor-1254	10000		5100	ug/kg	EPA 8082	EPA 3540C
CO-49-0-DUP (15-07-1144-30)						
Aroclor-1254	13000		5000	ug/kg	EPA 8082	EPA 3540C
CO-57-0 (15-07-1144-35)						
Aroclor-1260	71		50	ug/kg	EPA 8082	EPA 3540C
CO-59-0 (15-07-1144-36)						
Aroclor-1254	200		50	ug/kg	EPA 8082	EPA 3540C
CO-61-0 (15-07-1144-37)						
Aroclor-1260	53		50	ug/kg	EPA 8082	EPA 3540C

* MDL is shown

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Detections Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order: Project Name: Received:	15-07-1144 Imperial Irrigation District - Coachella 07/17/15
Attn:	Ron Kofron		

Client SampleID Analyte	Result	Qualifiers	RL	Units	Method	Extraction
CO-65-0 (15-07-1144-39)						
Aroclor-1254	110		50	ug/kg	EPA 8082	EPA 3540C
CO-73-0 (15-07-1144-43)						
Aroclor-1260	62		50	ug/kg	EPA 8082	EPA 3540C

Subcontracted analyses, if any, are not included in this summary.

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* MDL is shown

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 1 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-FB-1	**15-07-1144-1-A**	**07/16/15 05:57**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 05:05**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	102	24-168	
2,4,5,6-Tetrachloro-m-Xylene	87	25-145	

CO-01-0	**15-07-1144-2-A**	**07/16/15 06:54**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 05:24**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	51	1.00	
Aroclor-1221	ND	51	1.00	
Aroclor-1232	ND	51	1.00	
Aroclor-1242	ND	51	1.00	
Aroclor-1254	ND	51	1.00	
Aroclor-1260	150	51	1.00	
Aroclor-1262	ND	51	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	113	24-168	
2,4,5,6-Tetrachloro-m-Xylene	100	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 2 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-01-0	**15-07-1144-2-A**	**07/16/15 06:54**	**Solid**	**GC 31**	**07/21/15**	**07/27/15 22:34**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1248	3900	250	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	99	24-168	
2,4,5,6-Tetrachloro-m-Xylene	97	25-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-03-0	**15-07-1144-3-A**	**07/16/15 06:57**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 05:43**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	220	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	122	24-168	
2,4,5,6-Tetrachloro-m-Xylene	103	25-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-03-0	**15-07-1144-3-A**	**07/16/15 06:57**	**Solid**	**GC 31**	**07/21/15**	**07/28/15 10:58**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1248	6600	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	90	24-168	
2,4,5,6-Tetrachloro-m-Xylene	94	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 3 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-05-0	**15-07-1144-4-A**	**07/16/15 06:57**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 06:02**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	122	24-168	
2,4,5,6-Tetrachloro-m-Xylene	97	25-145	

CO-05-0	**15-07-1144-4-A**	**07/16/15 06:57**	**Solid**	**GC 31**	**07/21/15**	**07/27/15 23:12**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1248	27000	5000	100	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	132	24-168	
2,4,5,6-Tetrachloro-m-Xylene	111	25-145	

CO-07-0	**15-07-1144-5-A**	**07/16/15 07:00**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 06:21**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	51	1.00	
Aroclor-1221	ND	51	1.00	
Aroclor-1232	ND	51	1.00	
Aroclor-1242	ND	51	1.00	
Aroclor-1254	ND	51	1.00	
Aroclor-1260	150	51	1.00	
Aroclor-1262	ND	51	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	115	24-168	
2,4,5,6-Tetrachloro-m-Xylene	101	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 4 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-07-0	**15-07-1144-5-A**	**07/16/15 07:00**	**Solid**	**GC 31**	**07/21/15**	**07/28/15 11:17**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1248	6400	510	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	77	24-168	
2,4,5,6-Tetrachloro-m-Xylene	84	25-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-09-0	**15-07-1144-6-A**	**07/16/15 07:07**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 06:40**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	110	24-168	
2,4,5,6-Tetrachloro-m-Xylene	97	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 5 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-11-0	**15-07-1144-7-A**	**07/16/15 07:08**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 06:59**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	113	24-168	
2,4,5,6-Tetrachloro-m-Xylene	92	25-145	

CO-13-0	**15-07-1144-8-A**	**07/16/15 07:09**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 07:18**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	112	24-168	
2,4,5,6-Tetrachloro-m-Xylene	98	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 6 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-15-0	**15-07-1144-9-A**	**07/16/15 07:10**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 07:37**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	117	24-168	
2,4,5,6-Tetrachloro-m-Xylene	104	25-145	

CO-17-0	**15-07-1144-10-A**	**07/16/15 07:15**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 07:56**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	114	24-168	
2,4,5,6-Tetrachloro-m-Xylene	105	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 7 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-17-0-DUP	**15-07-1144-11-A**	**07/16/15 07:15**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 08:15**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	101	24-168	
2,4,5,6-Tetrachloro-m-Xylene	93	25-145	

CO-19-0	**15-07-1144-12-A**	**07/16/15 07:16**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 08:34**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	51	1.00	
Aroclor-1221	ND	51	1.00	
Aroclor-1232	ND	51	1.00	
Aroclor-1242	ND	51	1.00	
Aroclor-1248	ND	51	1.00	
Aroclor-1254	ND	51	1.00	
Aroclor-1260	ND	51	1.00	
Aroclor-1262	ND	51	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	98	24-168	
2,4,5,6-Tetrachloro-m-Xylene	89	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 8 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-21-0	**15-07-1144-13-A**	**07/16/15 07:17**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 08:53**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	98	24-168	
2,4,5,6-Tetrachloro-m-Xylene	89	25-145	

CO-23-0	**15-07-1144-14-A**	**07/16/15 07:28**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 09:12**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	99	24-168	
2,4,5,6-Tetrachloro-m-Xylene	89	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 9 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-25-0	**15-07-1144-15-A**	**07/16/15 07:29**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 09:32**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	102	24-168	
2,4,5,6-Tetrachloro-m-Xylene	95	25-145	

CO-27-0	**15-07-1144-16-A**	**07/16/15 07:34**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 09:51**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	106	24-168	
2,4,5,6-Tetrachloro-m-Xylene	94	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 10 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-29-0-DUP	**15-07-1144-17-A**	**07/16/15 07:31**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 10:10**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	51	1.00	
Aroclor-1221	ND	51	1.00	
Aroclor-1232	ND	51	1.00	
Aroclor-1242	ND	51	1.00	
Aroclor-1248	ND	51	1.00	
Aroclor-1254	ND	51	1.00	
Aroclor-1260	ND	51	1.00	
Aroclor-1262	ND	51	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	83	24-168	
2,4,5,6-Tetrachloro-m-Xylene	49	25-145	

CO-29-0	**15-07-1144-18-A**	**07/16/15 07:31**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 10:29**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	97	24-168	
2,4,5,6-Tetrachloro-m-Xylene	82	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 11 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-31-0	**15-07-1144-19-A**	**07/16/15 07:35**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 10:48**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	91	24-168	
2,4,5,6-Tetrachloro-m-Xylene	84	25-145	

CO-33-0	**15-07-1144-20-A**	**07/16/15 07:46**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 11:07**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	460	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	88	24-168	
2,4,5,6-Tetrachloro-m-Xylene	82	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 12 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-35-0	**15-07-1144-21-A**	**07/16/15 07:49**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 11:45**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	98	24-168	
2,4,5,6-Tetrachloro-m-Xylene	82	25-145	

CO-35-0	**15-07-1144-21-A**	**07/16/15 07:49**	**Solid**	**GC 31**	**07/21/15**	**07/27/15 23:50**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1254	3400	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	112	24-168	
2,4,5,6-Tetrachloro-m-Xylene	87	25-145	

CO-35-0-DUP	**15-07-1144-22-A**	**07/16/15 07:49**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 12:04**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	104	24-168	
2,4,5,6-Tetrachloro-m-Xylene	92	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 13 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-35-0-DUP	**15-07-1144-22-A**	**07/16/15 07:49**	**Solid**	**GC 31**	**07/21/15**	**07/28/15 00:28**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1254	3400	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	112	24-168	
2,4,5,6-Tetrachloro-m-Xylene	97	25-145	

CO-37-0	**15-07-1144-23-A**	**07/16/15 07:50**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 12:23**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	160	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	102	24-168	
2,4,5,6-Tetrachloro-m-Xylene	93	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 14 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-39-0	**15-07-1144-24-A**	**07/16/15 07:51**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 12:42**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	180	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	107	24-168	
2,4,5,6-Tetrachloro-m-Xylene	87	25-145	

CO-41-0	**15-07-1144-25-A**	**07/16/15 07:52**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 13:01**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	51	1.00	
Aroclor-1221	ND	51	1.00	
Aroclor-1232	ND	51	1.00	
Aroclor-1242	ND	51	1.00	
Aroclor-1248	ND	51	1.00	
Aroclor-1260	ND	51	1.00	
Aroclor-1262	ND	51	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	99	24-168	
2,4,5,6-Tetrachloro-m-Xylene	88	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-41-0	**15-07-1144-25-A**	**07/16/15 07:52**	**Solid**	**GC 31**	**07/21/15**	**07/28/15 00:47**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1254	2600	510	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	145	24-168	
2,4,5,6-Tetrachloro-m-Xylene	120	25-145	

CO-43-0	**15-07-1144-26-A**	**07/16/15 08:00**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 13:21**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	104	24-168	
2,4,5,6-Tetrachloro-m-Xylene	88	25-145	

CO-43-0	**15-07-1144-26-A**	**07/16/15 08:00**	**Solid**	**GC 31**	**07/21/15**	**07/28/15 01:06**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1254	13000	5000	100	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	114	24-168	
2,4,5,6-Tetrachloro-m-Xylene	91	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 16 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-45-0	**15-07-1144-27-A**	**07/16/15 08:01**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 13:40**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	102	24-168	
2,4,5,6-Tetrachloro-m-Xylene	85	25-145	

CO-45-0	**15-07-1144-27-A**	**07/16/15 08:01**	**Solid**	**GC 31**	**07/21/15**	**07/28/15 01:25**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1254	12000	5000	100	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	157	24-168	
2,4,5,6-Tetrachloro-m-Xylene	89	25-145	

CO-47-0	**15-07-1144-28-A**	**07/16/15 08:02**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 13:59**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	110	24-168	
2,4,5,6-Tetrachloro-m-Xylene	88	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 17 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-47-0	**15-07-1144-28-A**	**07/16/15 08:02**	**Solid**	**GC 31**	**07/21/15**	**07/28/15 01:45**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1254	1700	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	133	24-168	
2,4,5,6-Tetrachloro-m-Xylene	113	25-145	

CO-49-0	**15-07-1144-29-A**	**07/16/15 08:05**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 14:18**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	51	1.00	
Aroclor-1221	ND	51	1.00	
Aroclor-1232	ND	51	1.00	
Aroclor-1242	ND	51	1.00	
Aroclor-1248	ND	51	1.00	
Aroclor-1260	ND	51	1.00	
Aroclor-1262	ND	51	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	102	24-168	
2,4,5,6-Tetrachloro-m-Xylene	83	25-145	

CO-49-0	**15-07-1144-29-A**	**07/16/15 08:05**	**Solid**	**GC 31**	**07/21/15**	**07/28/15 02:04**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1254	10000	5100	100	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	184	24-168	1,2,7
2,4,5,6-Tetrachloro-m-Xylene	88	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-49-0-DUP	**15-07-1144-30-A**	**07/16/15 08:05**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 14:37**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	112	24-168	
2,4,5,6-Tetrachloro-m-Xylene	96	25-145	

CO-49-0-DUP	**15-07-1144-30-A**	**07/16/15 08:05**	**Solid**	**GC 31**	**07/21/15**	**07/28/15 02:23**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1254	13000	5000	100	

CO-51-0	**15-07-1144-31-A**	**07/16/15 09:05**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 14:56**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	109	24-168	
2,4,5,6-Tetrachloro-m-Xylene	83	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-51-0-DUP	**15-07-1144-32-A**	**07/16/15 09:05**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 15:15**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	106	24-168	
2,4,5,6-Tetrachloro-m-Xylene	92	25-145	

CO-53-0	**15-07-1144-33-A**	**07/16/15 09:07**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 15:34**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	109	24-168	
2,4,5,6-Tetrachloro-m-Xylene	96	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-55-0	**15-07-1144-34-A**	**07/16/15 09:09**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 15:53**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	102	24-168	
2,4,5,6-Tetrachloro-m-Xylene	91	25-145	

CO-57-0	**15-07-1144-35-A**	**07/16/15 09:10**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 16:12**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	71	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	105	24-168	
2,4,5,6-Tetrachloro-m-Xylene	89	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 21 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-59-0	**15-07-1144-36-A**	**07/16/15 09:12**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 16:31**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	200	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	98	24-168	
2,4,5,6-Tetrachloro-m-Xylene	88	25-145	

CO-61-0	**15-07-1144-37-A**	**07/16/15 09:14**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 16:50**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	53	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	101	24-168	
2,4,5,6-Tetrachloro-m-Xylene	92	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 22 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-63-0	**15-07-1144-38-A**	**07/16/15 09:15**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 17:09**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	102	24-168	
2,4,5,6-Tetrachloro-m-Xylene	95	25-145	

CO-65-0	**15-07-1144-39-A**	**07/16/15 09:18**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 17:48**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	110	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	103	24-168	
2,4,5,6-Tetrachloro-m-Xylene	93	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 23 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-67-0	**15-07-1144-40-A**	**07/16/15 09:23**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 18:07**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	108	24-168	
2,4,5,6-Tetrachloro-m-Xylene	94	25-145	

CO-69-0	**15-07-1144-41-A**	**07/16/15 09:25**	**Solid**	**GC 31**	**07/17/15**	**07/26/15 18:26**	**150717L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	123	24-168	
2,4,5,6-Tetrachloro-m-Xylene	108	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 24 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-71-0	**15-07-1144-42-A**	**07/16/15 09:26**	**Solid**	**GC 31**	**07/17/15**	**07/26/15 18:45**	**150717L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	51	1.00	
Aroclor-1221	ND	51	1.00	
Aroclor-1232	ND	51	1.00	
Aroclor-1242	ND	51	1.00	
Aroclor-1248	ND	51	1.00	
Aroclor-1254	ND	51	1.00	
Aroclor-1260	ND	51	1.00	
Aroclor-1262	ND	51	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	125	24-168	
2,4,5,6-Tetrachloro-m-Xylene	111	25-145	

CO-73-0	**15-07-1144-43-A**	**07/16/15 09:27**	**Solid**	**GC 31**	**07/17/15**	**07/26/15 19:04**	**150717L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	62	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	131	24-168	
2,4,5,6-Tetrachloro-m-Xylene	113	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 25 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-535-3328**	**N/A**	**Solid**	**GC 31**	**07/17/15**	**07/18/15 21:52**	**150717L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	108	24-168	
2,4,5,6-Tetrachloro-m-Xylene	107	25-145	

Method Blank	**099-12-535-3340**	**N/A**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 02:33**	**150721L16**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	112	24-168	
2,4,5,6-Tetrachloro-m-Xylene	109	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Imperial Irrigation District - Coachella			Page 26 of 26

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-535-3341**	**N/A**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 03:11**	**150721L17**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	107	24-168	
2,4,5,6-Tetrachloro-m-Xylene	104	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
15-07-1141-43	**Sample**	**Solid**	**GC 31**	**07/17/15**	**07/21/15 11:28**	**150717S18**
15-07-1141-43	**Matrix Spike**	**Solid**	**GC 31**	**07/17/15**	**07/20/15 19:16**	**150717S18**
15-07-1141-43	**Matrix Spike Duplicate**	**Solid**	**GC 31**	**07/17/15**	**07/20/15 19:35**	**150717S18**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	112.9	113	143.2	143	50-135	24	0-20	3,4
Aroclor-1260	ND	100.0	119.8	120	124.5	124	50-135	4	0-20	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Imperial Irrigation District - Coachella			Page 2 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
CO-FB-1	**Sample**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 05:05**	**150721S16**
CO-FB-1	**Matrix Spike**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 03:30**	**150721S16**
CO-FB-1	**Matrix Spike Duplicate**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 03:49**	**150721S16**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	87.58	88	122.3	122	50-135	33	0-20	4
Aroclor-1260	ND	100.0	85.64	86	104.1	104	50-135	19	0-20	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Imperial Irrigation District - Coachella			Page 3 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
CO-49-0-DUP	**Sample**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 14:37**	**150721S17**
CO-49-0-DUP	**Matrix Spike**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 04:08**	**150721S17**
CO-49-0-DUP	**Matrix Spike Duplicate**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 04:27**	**150721S17**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	406.7	407	359.3	359	50-135	12	0-20	3
Aroclor-1260	ND	100.0	4767	4767	4152	4152	50-135	14	0-20	3

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Imperial Irrigation District - Coachella			Page 1 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-3328	**LCS**	**Solid**	**GC 31**	**07/17/15**	**07/18/15 21:33**	**150717L18**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	104.3	104	50-135	
Aroclor-1260	100.0	111.7	112	50-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Imperial Irrigation District - Coachella			Page 2 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-3340	**LCS**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 02:14**	**150721L16**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	80.38	80	50-135	
Aroclor-1260	100.0	85.66	86	50-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Apex Companies, LLC		Date Received:	07/17/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-07-1144
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Imperial Irrigation District - Coachella			Page 3 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-3341	**LCS**	**Solid**	**GC 31**	**07/21/15**	**07/26/15 02:52**	**150721L17**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	99.28	99	50-135	
Aroclor-1260	100.0	95.22	95	50-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Glossary of Terms and Qualifiers

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Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

CHAIN-OF-CUSTODY RECORD

DATE: 7/16/15
PAGE: 1 OF 5

WO NO. / LAB USE ONLY: **15-07-1144**

LABORATORY CLIENT: APEX COMPANIES LLC
ADDRESS: 10675 SORRENTO VALLEY ROAD
CITY: SAN DIEGO STATE: CA ZIP: 92121
TEL:
E-MAIL: RKOFRON@APEXCOS.COM

CLIENT PROJECT NAME / NO.: III - COACHELLA
P.O. NO.: 3601023-001
PROJECT CONTACT: KOFRON
LAB CONTACT OR QUOTE NO.:
GLOBAL ID:
LOG CODE:
SAMPLER(S): (PRINT) KOFRON

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ STANDARD

EDD:
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	TPH(g) ☐ GRO	TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ___	BTEX / MTBE ☐ 8260 ☐ ___	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 218.6			
1	CO-FB-1	7/16/15	0957	SOLID	1														X						
2	CO-01-0		0654																						
3	CO-03-0		0657																						
4	CO-05-0		0657																						
5	CO-07-0		0700																						
6	CO-09-0		0701																						
7	CO-11-0		0708																						
8	CO-13-0		0709																						
9	CO-15-0		0710																						
10	CO-17-0		0715																						

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
	Chao Hai	7/16/15	1220
Chao Hai		7/17/15	1515

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CHAIN-OF-CUSTODY RECORD

DATE: 7/16/15
PAGE: 2 OF 5

WO NO. / LAB USE ONLY: 07-1144

LABORATORY CLIENT: APEX COMPANIES, LLC
ADDRESS:
CITY: STATE: ZIP:
TEL: E-MAIL:

CLIENT PROJECT NAME / NO.: IID - COACHELLA
P.O. NO.: 3601023-001
PROJECT CONTACT: KOFRON
LAB CONTACT OR QUOTE NO.:
GLOBAL ID: LOG CODE:
SAMPLER(S): (PRINT) KOFRON

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ STANDARD

EDD:
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ___	BTEX / MTBE ☐ 8260 ☐ ___	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6				HOLD
11	CO-19-0-DUP	7/16/15	0715	SOLID	1														X							
12	CO-19-0		0716																							
13	CO-21-0		0717																							
14	CO-23-0		0728																							
15	CO-25-0		0729																							
16	CO-27-0		0734																							
17	CO-29-0-DUP		0731																							
18	CO-29-0		0731																							
19	CO-31-0		0735																							
20	CO-33-0		0746																							

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	Chao Hue	7/16/15	1220
Chao Hue	[signature]	7/17/15	1515

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CHAIN-OF-CUSTODY RECORD

DATE: 7/16/15
PAGE: 3 OF 5

WO NO. / LAB USE ONLY: 07-1144

LABORATORY CLIENT: APEX
ADDRESS:
CITY: STATE: ZIP:
TEL: E-MAIL:

CLIENT PROJECT NAME / NO.: IID-COACHELLA
P.O. NO.: 3601023-001
PROJECT CONTACT: KOFRON
LAB CONTACT OR QUOTE NO.:
GLOBAL ID: LOG CODE:
SAMPLER(S): (PRINT) KOFRON

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ STANDARD

EDD:
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ___	BTEX / MTBE ☐ 8260 ☐ ___	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6			
21	CO-35-0	7/16/15	0749	SOLID	1														X						
22	CO-35-0-DUP		0749																						
23	CO-37-0		0750																						
24	CO-39-0		0751																						
25	CO-41-0		0752																						
26	CO-43-0		0800																						
27	CO-45-0		0801																						
28	CO-47-0		0802																						
29	CO-49-0		0805																						
30	CO-49-0-DUP		0805																						

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	Chao Hui	7/16/15	1220
Chao Hui	[signature]	7/17/15	1515

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CHAIN-OF-CUSTODY RECORD

DATE: 7/16/15
PAGE: 4 OF 5

WO NO. / LAB USE ONLY: 07 1144

LABORATORY CLIENT: APEX COMPANIES LLC
ADDRESS:
CITY: STATE: ZIP:
TEL: E-MAIL:

CLIENT PROJECT NAME / NO.: IID - COACHELLA
P.O. NO.: 3601023-001
PROJECT CONTACT: KOFRON
LAB CONTACT OR QUOTE NO.:
GLOBAL ID: LOG CODE: SAMPLER(S): (PRINT)

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ STANDARD

EDD:
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ____	BTEX / MTBE ☐ 8260 ☐ ____	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6				
31	CO-51-0	7/16/15	0905	SOLID	1														X							
32	CO-51-0-DUP	↓	0905	↓	↓														↓							
33	CO-53-0		0907																							
34	CO-55-0		0909																							
35	CO-57-0		0910																							
36	CO-59-0		0912																							
37	CO-61-0		0914																							
38	CO-63-0		0915																							
39	CO-65-0		0918																							
40	CO-67-0		0923																							

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	Chao Hui	7/16/15	1220
Chao Hui	[signature]	7/17/15	1515

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CHAIN-OF-CUSTODY RECORD

DATE: 7/16/15
PAGE: 5 OF 5

WO NO. / LAB USE ONLY: 07-1144

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ADDRESS:
CITY: STATE: ZIP:
TEL: E-MAIL:

CLIENT PROJECT NAME / NO.: IID-COACHELLA
P.O. NO.: 3601023-001
PROJECT CONTACT: KOFRON
LAB CONTACT OR QUOTE NO.:
GLOBAL ID: LOG CODE:
SAMPLER(S): (PRINT) KOFRON

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

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LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ___	BTEX / MTBE ☐ 8260 ☐ ___	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6				
41	CO-69-0	7/16/15	0925	SOLID	1																					
42	CO-71-0		0926																							
43	CO-73-0		0927																							
	~~CO-75-0~~																									
	~~CO-77-0~~																									
	~~CO-79-0~~																									
	CO-79-0-DUP																									

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	Chao Hsu	7/16/15	1220
Chao Hsu	[signature]	7/17/15	1515

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WORK ORDER NUMBER: 15-07- 1144

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: APEX

DATE: 07 / 17 / 2015

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC5 (CF:-0.2°C); Temperature (w/o CF): 3.4 °C (w/ CF): 3.2 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 810

CUSTODY SEAL:

Cooler	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 810
Sample(s)	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 1013

SAMPLE CONDITION:

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

Solid: ☑ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (_____) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☑ 2ozCGJ

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **znna** = $Zn(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1013

Reviewed by: [illegible]

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Supplemental Report 1

Additional requested analyses have been added to the original report.

WORK ORDER NUMBER: 15-11-0097

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Apex Companies, LLC

Client Project Name: Former Coachella Substation

Attention: Ron Kofron
10675 Sorrento Valley Road, Suite 203
San Diego, CA 92121-1617

Approved for release on 11/16/2015 by:
Don Burley
Project Manager

ResultLink

Email your PM

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

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Client Project Name: Former Coachella Substation
Work Order Number: 15-11-0097

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Work Order Narrative

Work Order: 15-11-0097 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 11/03/15. They were assigned to Work Order 15-11-0097.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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Sample Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order:	15-11-0097
		Project Name:	Former Coachella Substation
		PO Number:	
		Date/Time Received:	11/03/15 10:00
		Number of Containers:	292
Attn:	Ron Kofron		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
CO-FB-1	15-11-0097-1	11/02/15 08:00	1	Solid
CO-01-1	15-11-0097-2	11/02/15 08:13	1	Solid
CO-01-2	15-11-0097-3	11/02/15 08:15	1	Solid
CO-01-3	15-11-0097-4	11/02/15 08:17	1	Solid
CO-01-3 DUP	15-11-0097-5	11/02/15 08:17	1	Solid
CO-01-4	15-11-0097-6	11/02/15 08:19	1	Solid
CO-01-5	15-11-0097-7	11/02/15 08:20	1	Solid
CO-03-1	15-11-0097-8	11/02/15 08:21	1	Solid
CO-03-2	15-11-0097-9	11/02/15 08:24	1	Solid
CO-03-3	15-11-0097-10	11/02/15 08:25	1	Solid
CO-03-4	15-11-0097-11	11/02/15 08:27	1	Solid
CO-03-5	15-11-0097-12	11/02/15 08:30	1	Solid
CO-05-1	15-11-0097-13	11/02/15 08:32	1	Solid
CO-05-2	15-11-0097-14	11/02/15 08:33	1	Solid
CO-05-3	15-11-0097-15	11/02/15 08:35	1	Solid
CO-05-4	15-11-0097-16	11/02/15 08:37	1	Solid
CO-05-5	15-11-0097-17	11/02/15 08:39	1	Solid
CO-07-1	15-11-0097-18	11/02/15 08:40	1	Solid
CO-07-2	15-11-0097-19	11/02/15 08:41	1	Solid
CO-07-3	15-11-0097-20	11/02/15 08:43	1	Solid
CO-07-3 DUP	15-11-0097-21	11/02/15 08:43	1	Solid
CO-07-4	15-11-0097-22	11/02/15 08:46	1	Solid
CO-07-5	15-11-0097-23	11/02/15 08:47	1	Solid
CO-33-1	15-11-0097-24	11/02/15 09:06	1	Solid
CO-33-2	15-11-0097-25	11/02/15 09:08	1	Solid
CO-33-3	15-11-0097-26	11/02/15 09:12	1	Solid
CO-33-3 DUP	15-11-0097-27	11/02/15 09:12	1	Solid
CO-33-4	15-11-0097-28	11/02/15 09:14	1	Solid
CO-33-5	15-11-0097-29	11/02/15 09:16	1	Solid
CO-35-1	15-11-0097-30	11/02/15 09:18	1	Solid
CO-35-2	15-11-0097-31	11/02/15 09:20	1	Solid
CO-35-3	15-11-0097-32	11/02/15 09:22	1	Solid
CO-35-4	15-11-0097-33	11/02/15 09:24	1	Solid
CO-35-5	15-11-0097-34	11/02/15 09:26	1	Solid
CO-41-1	15-11-0097-35	11/02/15 09:28	1	Solid
CO-41-2	15-11-0097-36	11/02/15 09:30	1	Solid
CO-41-3	15-11-0097-37	11/02/15 09:32	1	Solid
CO-41-3 DUP	15-11-0097-38	11/02/15 09:32	1	Solid
CO-41-4	15-11-0097-39	11/02/15 09:33	1	Solid
CO-41-5	15-11-0097-40	11/02/15 09:35	1	Solid
CO-43-1	15-11-0097-41	11/02/15 09:48	1	Solid
CO-43-2	15-11-0097-42	11/02/15 09:50	1	Solid

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Sample Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order:	15-11-0097
		Project Name:	Former Coachella Substation
		PO Number:	
		Date/Time Received:	11/03/15 10:00
		Number of Containers:	292
Attn:	Ron Kofron		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
CO-43-3	15-11-0097-43	11/02/15 09:51	1	Solid
CO-43-4	15-11-0097-44	11/02/15 09:53	1	Solid
CO-43-5	15-11-0097-45	11/02/15 09:55	1	Solid
CO-45-1	15-11-0097-46	11/02/15 09:57	1	Solid
CO-45-2	15-11-0097-47	11/02/15 10:00	1	Solid
CO-45-3	15-11-0097-48	11/02/15 10:02	1	Solid
CO-45-3 DUP	15-11-0097-49	11/02/15 10:02	1	Solid
CO-45-4	15-11-0097-50	11/02/15 10:04	1	Solid
CO-45-5	15-11-0097-51	11/02/15 10:05	1	Solid
CO-47-1	15-11-0097-52	11/02/15 10:07	1	Solid
CO-47-2	15-11-0097-53	11/02/15 10:09	1	Solid
CO-47-3	15-11-0097-54	11/02/15 10:11	1	Solid
CO-47-3 DUP	15-11-0097-55	11/02/15 10:11	1	Solid
CO-47-4	15-11-0097-56	11/02/15 10:13	1	Solid
CO-47-5	15-11-0097-57	11/02/15 10:14	1	Solid
CO-49-1	15-11-0097-58	11/02/15 10:16	1	Solid
CO-49-2	15-11-0097-59	11/02/15 10:17	1	Solid
CO-49-3	15-11-0097-60	11/02/15 10:19	1	Solid
CO-49-4	15-11-0097-61	11/02/15 10:20	1	Solid
CO-49-5	15-11-0097-62	11/02/15 10:22	1	Solid
CO-081-0	15-11-0097-63	11/02/15 11:03	1	Solid
CO-081-1	15-11-0097-64	11/02/15 11:04	1	Solid
CO-081-2	15-11-0097-65	11/02/15 11:06	1	Solid
CO-081-3	15-11-0097-66	11/02/15 11:08	1	Solid
CO-081-4	15-11-0097-67	11/02/15 11:11	1	Solid
CO-081-5	15-11-0097-68	11/02/15 11:14	1	Solid
CO-083-0	15-11-0097-69	11/02/15 11:15	1	Solid
CO-083-0 DUP	15-11-0097-70	11/02/15 11:15	1	Solid
CO-083-1	15-11-0097-71	11/02/15 11:16	1	Solid
CO-083-2	15-11-0097-72	11/02/15 11:18	1	Solid
CO-083-3	15-11-0097-73	11/02/15 11:20	1	Solid
CO-083-4	15-11-0097-74	11/02/15 11:23	1	Solid
CO-083-5	15-11-0097-75	11/02/15 11:25	1	Solid
CO-085-0	15-11-0097-76	11/02/15 11:26	1	Solid
CO-085-0 DUP	15-11-0097-77	11/02/15 11:26	1	Solid
CO-085-1	15-11-0097-78	11/02/15 11:28	1	Solid
CO-085-2	15-11-0097-79	11/02/15 11:30	1	Solid
CO-085-3	15-11-0097-80	11/02/15 11:31	1	Solid
CO-085-4	15-11-0097-81	11/02/15 11:33	1	Solid
CO-085-5	15-11-0097-82	11/02/15 11:35	1	Solid
CO-087-0	15-11-0097-83	11/02/15 11:36	1	Solid
CO-087-1	15-11-0097-84	11/02/15 11:38	1	Solid

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Sample Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order:	15-11-0097
		Project Name:	Former Coachella Substation
		PO Number:	
		Date/Time Received:	11/03/15 10:00
		Number of Containers:	292
Attn:	Ron Kofron		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
CO-087-2	15-11-0097-85	11/02/15 11:40	1	Solid
CO-087-3	15-11-0097-86	11/02/15 12:00	1	Solid
CO-087-4	15-11-0097-87	11/02/15 12:02	1	Solid
CO-087-5	15-11-0097-88	11/02/15 12:05	1	Solid
CO-089-0	15-11-0097-89	11/02/15 12:06	1	Solid
CO-089-0 DUP	15-11-0097-90	11/02/15 12:06	1	Solid
CO-089-1	15-11-0097-91	11/02/15 12:08	1	Solid
CO-089-2	15-11-0097-92	11/02/15 12:10	1	Solid
CO-089-3	15-11-0097-93	11/02/15 12:14	1	Solid
CO-089-4	15-11-0097-94	11/02/15 12:20	1	Solid
CO-089-5	15-11-0097-95	11/02/15 12:27	1	Solid
CO-091-0	15-11-0097-96	11/02/15 13:00	1	Solid
CO-091-1	15-11-0097-97	11/02/15 13:03	1	Solid
CO-091-2	15-11-0097-98	11/02/15 13:05	1	Solid
CO-091-3	15-11-0097-99	11/02/15 13:07	1	Solid
CO-091-4	15-11-0097-100	11/02/15 13:09	1	Solid
CO-091-5	15-11-0097-101	11/02/15 13:11	1	Solid
CO-093-0	15-11-0097-102	11/02/15 13:12	1	Solid
CO-093-0 DUP	15-11-0097-103	11/02/15 13:12	1	Solid
CO-093-1	15-11-0097-104	11/02/15 13:14	1	Solid
CO-093-2	15-11-0097-105	11/02/15 13:19	1	Solid
CO-093-3	15-11-0097-106	11/02/15 13:22	1	Solid
CO-095-0	15-11-0097-107	11/02/15 13:45	1	Solid
CO-095-1	15-11-0097-108	11/02/15 13:48	1	Solid
CO-095-2	15-11-0097-109	11/02/15 13:50	1	Solid
CO-095-3	15-11-0097-110	11/02/15 13:52	1	Solid
CO-095-4	15-11-0097-111	11/02/15 13:54	1	Solid
CO-095-5	15-11-0097-112	11/02/15 13:57	1	Solid
CO-097-0	15-11-0097-113	11/02/15 14:00	1	Solid
CO-097-0 DUP	15-11-0097-114	11/02/15 14:00	1	Solid
CO-097-1	15-11-0097-115	11/02/15 14:01	1	Solid
CO-097-2	15-11-0097-116	11/02/15 14:02	1	Solid
CO-097-3	15-11-0097-117	11/02/15 14:04	1	Solid
CO-097-4	15-11-0097-118	11/02/15 14:05	1	Solid
CO-097-5	15-11-0097-119	11/02/15 14:07	1	Solid
CO-099-0	15-11-0097-120	11/02/15 14:08	1	Solid
CO-099-0 DUP	15-11-0097-121	11/02/15 14:08	1	Solid
CO-099-1	15-11-0097-122	11/02/15 14:23	1	Solid
CO-099-2	15-11-0097-123	11/02/15 14:25	1	Solid
CO-099-3	15-11-0097-124	11/02/15 14:27	1	Solid
CO-099-4	15-11-0097-125	11/02/15 14:28	1	Solid
CO-099-5	15-11-0097-126	11/02/15 14:29	1	Solid

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Sample Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order:	15-11-0097
		Project Name:	Former Coachella Substation
		PO Number:	
		Date/Time Received:	11/03/15 10:00
		Number of Containers:	292
Attn:	Ron Kofron		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
CO-101-0	15-11-0097-127	11/02/15 14:30	1	Solid
CO-101-1	15-11-0097-128	11/02/15 14:31	1	Solid
CO-101-2	15-11-0097-129	11/02/15 14:32	1	Solid
CO-101-3	15-11-0097-130	11/02/15 14:34	1	Solid
CO-101-4	15-11-0097-131	11/02/15 14:35	1	Solid
CO-101-5	15-11-0097-132	11/02/15 14:36	1	Solid
CO-103-0	15-11-0097-133	11/02/15 14:37	1	Solid
CO-103-0 DUP	15-11-0097-134	11/02/15 14:37	1	Solid
CO-103-1	15-11-0097-135	11/02/15 14:38	1	Solid
CO-103-2	15-11-0097-136	11/02/15 14:40	1	Solid
CO-103-3	15-11-0097-137	11/02/15 14:41	1	Solid
CO-103-4	15-11-0097-138	11/02/15 14:42	1	Solid
CO-103-5	15-11-0097-139	11/02/15 14:44	1	Solid
CO-105-0	15-11-0097-140	11/02/15 14:50	1	Solid
CO-105-0 DUP	15-11-0097-141	11/02/15 14:50	1	Solid
CO-105-1	15-11-0097-142	11/02/15 14:56	1	Solid
CO-105-2	15-11-0097-143	11/02/15 14:59	1	Solid
CO-105-3	15-11-0097-144	11/02/15 15:00	1	Solid
CO-105-4	15-11-0097-145	11/02/15 15:02	1	Solid
CO-105-5	15-11-0097-146	11/02/15 15:04	1	Solid
CO-107-0	15-11-0097-147	11/02/15 15:05	1	Solid
CO-107-1	15-11-0097-148	11/02/15 15:06	1	Solid
CO-107-2	15-11-0097-149	11/02/15 15:08	1	Solid
CO-107-3	15-11-0097-150	11/02/15 15:10	1	Solid
CO-107-4	15-11-0097-151	11/02/15 15:12	1	Solid
CO-107-5	15-11-0097-152	11/02/15 15:13	1	Solid
CO-109-0	15-11-0097-153	11/02/15 15:15	1	Solid
CO-109-0 DUP	15-11-0097-154	11/02/15 15:15	1	Solid
CO-109-1	15-11-0097-155	11/02/15 15:16	1	Solid
CO-109-2	15-11-0097-156	11/02/15 15:20	1	Solid
CO-109-3	15-11-0097-157	11/02/15 15:22	1	Solid
CO-109-4	15-11-0097-158	11/02/15 15:24	1	Solid
CO-109-5	15-11-0097-159	11/02/15 15:25	1	Solid
CO-111-0	15-11-0097-160	11/02/15 15:26	1	Solid
CO-111-1	15-11-0097-161	11/02/15 15:35	1	Solid
CO-111-2	15-11-0097-162	11/02/15 15:37	1	Solid
CO-111-3	15-11-0097-163	11/02/15 15:39	1	Solid
CO-111-4	15-11-0097-164	11/02/15 15:41	1	Solid
CO-111-5	15-11-0097-165	11/02/15 15:43	1	Solid
CO-113-0	15-11-0097-166	11/02/15 15:44	1	Solid
CO-113-0 DUP	15-11-0097-167	11/02/15 15:44	1	Solid
CO-113-1	15-11-0097-168	11/02/15 15:45	1	Solid

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Sample Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order:	15-11-0097
		Project Name:	Former Coachella Substation
		PO Number:	
		Date/Time Received:	11/03/15 10:00
		Number of Containers:	292
Attn:	Ron Kofron		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
CO-113-2	15-11-0097-169	11/02/15 15:48	1	Solid
CO-113-3	15-11-0097-170	11/02/15 15:50	1	Solid
CO-113-4	15-11-0097-171	11/02/15 15:51	1	Solid
CO-113-5	15-11-0097-172	11/02/15 15:53	1	Solid
CO-IDW	15-11-0097-173	11/02/15 16:00	1	Aqueous
CO-02-1	15-11-0097-174	11/02/15 08:15	1	Solid
CO-02-2	15-11-0097-175	11/02/15 08:17	1	Solid
CO-02-3	15-11-0097-176	11/02/15 08:20	1	Solid
CO-02-4	15-11-0097-177	11/02/15 08:23	1	Solid
CO-02-5	15-11-0097-178	11/02/15 08:28	1	Solid
CO-04-1	15-11-0097-179	11/02/15 08:32	1	Solid
CO-04-2	15-11-0097-180	11/02/15 08:35	1	Solid
CO-04-3	15-11-0097-181	11/02/15 08:52	1	Solid
CO-04-3-DUP	15-11-0097-182	11/02/15 08:52	1	Solid
CO-20-1	15-11-0097-183	11/02/15 09:06	1	Solid
CO-20-2	15-11-0097-184	11/02/15 09:09	1	Solid
CO-20-3	15-11-0097-185	11/02/15 09:15	1	Solid
CO-20-4	15-11-0097-186	11/02/15 09:20	1	Solid
CO-34-1	15-11-0097-187	11/02/15 09:32	1	Solid
CO-34-2	15-11-0097-188	11/02/15 09:34	1	Solid
CO-34-3	15-11-0097-189	11/02/15 09:38	1	Solid
CO-34-4	15-11-0097-190	11/02/15 09:41	1	Solid
CO-34-5	15-11-0097-191	11/02/15 09:43	1	Solid
CO-44-1	15-11-0097-192	11/02/15 09:54	1	Solid
CO-44-2	15-11-0097-193	11/02/15 10:01	1	Solid
CO-44-3	15-11-0097-194	11/02/15 10:06	1	Solid
CO-44-3-DUP	15-11-0097-195	11/02/15 10:06	1	Solid
CO-44-4	15-11-0097-196	11/02/15 10:07	1	Solid
CO-44-5	15-11-0097-197	11/02/15 10:09	1	Solid
CO-48-1	15-11-0097-198	11/02/15 10:12	1	Solid
CO-48-2	15-11-0097-199	11/02/15 10:13	1	Solid
CO-48-3	15-11-0097-200	11/02/15 10:15	1	Solid
CO-48-4	15-11-0097-201	11/02/15 10:17	1	Solid
CO-48-5	15-11-0097-202	11/02/15 10:19	1	Solid
CO-52-1	15-11-0097-203	11/02/15 10:22	1	Solid
CO-52-2	15-11-0097-204	11/02/15 10:24	1	Solid
CO-52-3	15-11-0097-205	11/02/15 10:25	1	Solid
CO-52-4	15-11-0097-206	11/02/15 10:27	1	Solid
CO-52-5	15-11-0097-207	11/02/15 10:29	1	Solid
CO-54-1	15-11-0097-208	11/02/15 10:52	1	Solid
CO-54-2	15-11-0097-209	11/02/15 11:00	1	Solid
CO-54-3	15-11-0097-210	11/02/15 11:02	1	Solid

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Sample Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order:	15-11-0097
		Project Name:	Former Coachella Substation
		PO Number:	
		Date/Time Received:	11/03/15 10:00
		Number of Containers:	292
Attn:	Ron Kofron		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
CO-54-3-DUP	15-11-0097-211	11/02/15 11:02	1	Solid
CO-54-4	15-11-0097-212	11/02/15 11:03	1	Solid
CO-54-5	15-11-0097-213	11/02/15 11:04	1	Solid
CO-056-1	15-11-0097-214	11/02/15 11:08	1	Solid
CO-056-2	15-11-0097-215	11/02/15 11:10	1	Solid
CO-056-3	15-11-0097-216	11/02/15 11:14	1	Solid
CO-056-4	15-11-0097-217	11/02/15 11:16	1	Solid
CO-056-5	15-11-0097-218	11/02/15 11:18	1	Solid
CO-068-1	15-11-0097-219	11/02/15 11:22	1	Solid
CO-068-2	15-11-0097-220	11/02/15 11:24	1	Solid
CO-068-3	15-11-0097-221	11/02/15 11:26	1	Solid
CO-068-3-DUP	15-11-0097-222	11/02/15 11:26	1	Solid
CO-068-4	15-11-0097-223	11/02/15 11:32	1	Solid
CO-068-5	15-11-0097-224	11/02/15 11:36	1	Solid
CO-060-1	15-11-0097-225	11/02/15 12:03	1	Solid
CO-060-2	15-11-0097-226	11/02/15 12:05	1	Solid
CO-060-3	15-11-0097-227	11/02/15 12:08	1	Solid
CO-060-4	15-11-0097-228	11/02/15 12:14	1	Solid
CO-060-5	15-11-0097-229	11/02/15 12:16	1	Solid
CO-070-1	15-11-0097-230	11/02/15 12:19	1	Solid
CO-070-2	15-11-0097-231	11/02/15 12:22	1	Solid
CO-070-3	15-11-0097-232	11/02/15 12:24	1	Solid
CO-070-3-DUP	15-11-0097-233	11/02/15 12:24	1	Solid
CO-070-4	15-11-0097-234	11/02/15 12:27	1	Solid
CO-070-5	15-11-0097-235	11/02/15 12:29	1	Solid
CO-072-1	15-11-0097-236	11/02/15 13:05	1	Solid
CO-072-2	15-11-0097-237	11/02/15 13:09	1	Solid
CO-072-3	15-11-0097-238	11/02/15 13:11	1	Solid
CO-072-4	15-11-0097-239	11/02/15 13:16	1	Solid
CO-072-5	15-11-0097-240	11/02/15 13:18	1	Solid
CO-080-0	15-11-0097-241	11/02/15 13:19	1	Solid
CO-080-0-DUP	15-11-0097-242	11/02/15 13:19	1	Solid
CO-080-1	15-11-0097-243	11/02/15 13:20	1	Solid
CO-080-2	15-11-0097-244	11/02/15 13:22	1	Solid
CO-080-3	15-11-0097-245	11/02/15 13:25	1	Solid
CO-080-4	15-11-0097-246	11/02/15 13:30	1	Solid
CO-080-5	15-11-0097-247	11/02/15 13:32	1	Solid
CO-082-0	15-11-0097-248	11/02/15 13:33	1	Solid
CO-082-1	15-11-0097-249	11/02/15 13:37	1	Solid
CO-082-2	15-11-0097-250	11/02/15 13:39	1	Solid
CO-082-3	15-11-0097-251	11/02/15 13:42	1	Solid
CO-082-4	15-11-0097-252	11/02/15 13:46	1	Solid

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Sample Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order:	15-11-0097
		Project Name:	Former Coachella Substation
		PO Number:	
		Date/Time Received:	11/03/15 10:00
		Number of Containers:	292
Attn:	Ron Kofron		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
CO-082-5	15-11-0097-253	11/02/15 13:49	1	Solid
CO-084-0	15-11-0097-254	11/02/15 14:03	1	Solid
CO-084-0-DUP	15-11-0097-255	11/02/15 14:03	1	Solid
CO-084-1	15-11-0097-256	11/02/15 14:06	1	Solid
CO-084-2	15-11-0097-257	11/02/15 14:10	1	Solid
CO-084-3	15-11-0097-258	11/02/15 14:13	1	Solid
CO-084-4	15-11-0097-259	11/02/15 14:15	1	Solid
CO-084-5	15-11-0097-260	11/02/15 14:18	1	Solid
CO-086-0	15-11-0097-261	11/02/15 14:19	1	Solid
CO-086-1	15-11-0097-262	11/02/15 14:21	1	Solid
CO-086-2	15-11-0097-263	11/02/15 14:24	1	Solid
CO-086-3	15-11-0097-264	11/02/15 14:28	1	Solid
CO-086-4	15-11-0097-265	11/02/15 14:29	1	Solid
CO-086-5	15-11-0097-266	11/02/15 14:32	1	Solid
CO-088-0	15-11-0097-267	11/02/15 14:39	1	Solid
CO-088-0-DUP	15-11-0097-268	11/02/15 14:39	1	Solid
CO-088-1	15-11-0097-269	11/02/15 14:42	1	Solid
CO-088-2	15-11-0097-270	11/02/15 14:50	1	Solid
CO-088-3	15-11-0097-271	11/02/15 14:53	1	Solid
CO-088-4	15-11-0097-272	11/02/15 14:56	1	Solid
CO-088-5	15-11-0097-273	11/02/15 14:59	1	Solid
CO-090-0	15-11-0097-274	11/02/15 15:02	1	Solid
CO-090-1	15-11-0097-275	11/02/15 15:12	1	Solid
CO-090-2	15-11-0097-276	11/02/15 15:15	1	Solid
CO-090-3	15-11-0097-277	11/02/15 15:17	1	Solid
CO-090-4	15-11-0097-278	11/02/15 15:18	1	Solid
CO-090-5	15-11-0097-279	11/02/15 15:22	1	Solid
CO-092-0	15-11-0097-280	11/02/15 15:23	1	Solid
CO-092-0-DUP	15-11-0097-281	11/02/15 15:23	1	Solid
CO-092-1	15-11-0097-282	11/02/15 15:26	1	Solid
CO-092-2	15-11-0097-283	11/02/15 15:28	1	Solid
CO-092-3	15-11-0097-284	11/02/15 15:30	1	Solid
CO-092-4	15-11-0097-285	11/02/15 15:32	1	Solid
CO-092-5	15-11-0097-286	11/02/15 15:33	1	Solid
CO-094-0	15-11-0097-287	11/02/15 15:34	1	Solid
CO-094-1	15-11-0097-288	11/02/15 15:36	1	Solid
CO-094-2	15-11-0097-289	11/02/15 15:39	1	Solid
CO-094-3	15-11-0097-290	11/02/15 15:41	1	Solid
CO-094-4	15-11-0097-291	11/02/15 15:42	1	Solid
CO-094-5	15-11-0097-292	11/02/15 15:44	1	Solid

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Detections Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order: Project Name: Received:	15-11-0097 Former Coachella Substation 11/03/15
Attn:	Ron Kofron		

Client SampleID / Analyte	Result	Qualifiers	RL	Units	Method	Extraction
CO-01-3 (15-11-0097-4)						
Aroclor-1248	22000		2500	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	950		250	ug/kg	EPA 8082	EPA 3540C
CO-01-3 DUP (15-11-0097-5)						
Aroclor-1248	23000		2500	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	940		250	ug/kg	EPA 8082	EPA 3540C
CO-01-5 (15-11-0097-7)						
Aroclor-1248	7600		500	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	150		50	ug/kg	EPA 8082	EPA 3540C
CO-03-3 (15-11-0097-10)						
Aroclor-1248	1300		250	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	360		250	ug/kg	EPA 8082	EPA 3540C
CO-03-5 (15-11-0097-12)						
Aroclor-1248	160		50	ug/kg	EPA 8082	EPA 3540C
CO-05-3 (15-11-0097-15)						
Aroclor-1248	14000		5000	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	220		50	ug/kg	EPA 8082	EPA 3540C
CO-05-5 (15-11-0097-17)						
Aroclor-1248	5900		500	ug/kg	EPA 8082	EPA 3540C
CO-07-3 (15-11-0097-20)						
Aroclor-1248	1100000		250000	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	7200		5000	ug/kg	EPA 8082	EPA 3540C
CO-07-3 DUP (15-11-0097-21)						
Aroclor-1248	1400000		250000	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	6400		5000	ug/kg	EPA 8082	EPA 3540C
CO-07-5 (15-11-0097-23)						
Aroclor-1248	49000		5000	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	1500		500	ug/kg	EPA 8082	EPA 3540C
CO-33-3 (15-11-0097-26)						
Aroclor-1254	99		50	ug/kg	EPA 8082	EPA 3540C
CO-33-3 DUP (15-11-0097-27)						
Aroclor-1254	180		50	ug/kg	EPA 8082	EPA 3540C
CO-33-5 (15-11-0097-29)						
Aroclor-1254	55		50	ug/kg	EPA 8082	EPA 3540C
CO-35-3 (15-11-0097-32)						
Aroclor-1254	160		50	ug/kg	EPA 8082	EPA 3540C
CO-43-3 (15-11-0097-43)						
Aroclor-1254	550		50	ug/kg	EPA 8082	EPA 3540C

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Detections Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order: Project Name: Received:	15-11-0097 Former Coachella Substation 11/03/15
Attn:	Ron Kofron		

Client SampleID / Analyte	Result	Qualifiers	RL	Units	Method	Extraction
CO-43-5 (15-11-0097-45)						
Aroclor-1254	430		50	ug/kg	EPA 8082	EPA 3540C
CO-45-3 (15-11-0097-48)						
Aroclor-1254	280		50	ug/kg	EPA 8082	EPA 3540C
CO-45-3 DUP (15-11-0097-49)						
Aroclor-1254	360		50	ug/kg	EPA 8082	EPA 3540C
CO-45-5 (15-11-0097-51)						
Aroclor-1254	87		50	ug/kg	EPA 8082	EPA 3540C
CO-47-3 (15-11-0097-54)						
Aroclor-1254	53		50	ug/kg	EPA 8082	EPA 3540C
CO-47-3 DUP (15-11-0097-55)						
Aroclor-1254	52		50	ug/kg	EPA 8082	EPA 3540C
CO-49-3 (15-11-0097-60)						
Aroclor-1254	570		50	ug/kg	EPA 8082	EPA 3540C
CO-49-5 (15-11-0097-62)						
Aroclor-1254	130		50	ug/kg	EPA 8082	EPA 3540C
CO-081-0 (15-11-0097-63)						
Aroclor-1248	470		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	210		50	ug/kg	EPA 8082	EPA 3540C
CO-083-0 (15-11-0097-69)						
Aroclor-1248	420		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1254	380		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	620		50	ug/kg	EPA 8082	EPA 3540C
CO-083-0 DUP (15-11-0097-70)						
Aroclor-1248	410		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1254	310		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	540		50	ug/kg	EPA 8082	EPA 3540C
CO-085-0 (15-11-0097-76)						
Aroclor-1248	300		50	ug/kg	EPA 8082	EPA 3540C
CO-085-0 DUP (15-11-0097-77)						
Aroclor-1248	330		50	ug/kg	EPA 8082	EPA 3540C
CO-089-0 (15-11-0097-89)						
Aroclor-1248	130		50	ug/kg	EPA 8082	EPA 3540C
CO-089-0 DUP (15-11-0097-90)						
Aroclor-1248	130		50	ug/kg	EPA 8082	EPA 3540C
CO-093-0 (15-11-0097-102)						
Aroclor-1248	110		50	ug/kg	EPA 8082	EPA 3540C

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Detections Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order: Project Name: Received:	15-11-0097 Former Coachella Substation 11/03/15
Attn:	Ron Kofron		

Client SampleID / Analyte	Result	Qualifiers	RL	Units	Method	Extraction
CO-093-0 DUP (15-11-0097-103)						
Aroclor-1248	140		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1254	67		50	ug/kg	EPA 8082	EPA 3540C
CO-093-3 (15-11-0097-106)						
Aroclor-1248	110		50	ug/kg	EPA 8082	EPA 3540C
CO-095-0 (15-11-0097-107)						
Aroclor-1248	310		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1254	140		50	ug/kg	EPA 8082	EPA 3540C
CO-099-0 (15-11-0097-120)						
Aroclor-1254	200		50	ug/kg	EPA 8082	EPA 3540C
CO-099-0 DUP (15-11-0097-121)						
Aroclor-1254	200		50	ug/kg	EPA 8082	EPA 3540C
CO-101-0 (15-11-0097-127)						
Aroclor-1254	120		50	ug/kg	EPA 8082	EPA 3540C
CO-103-0 (15-11-0097-133)						
Aroclor-1254	4800		500	ug/kg	EPA 8082	EPA 3540C
CO-103-0 DUP (15-11-0097-134)						
Aroclor-1254	3300		500	ug/kg	EPA 8082	EPA 3540C
CO-105-0 (15-11-0097-140)						
Aroclor-1254	10000		2500	ug/kg	EPA 8082	EPA 3540C
CO-105-0 DUP (15-11-0097-141)						
Aroclor-1254	11000		2500	ug/kg	EPA 8082	EPA 3540C
CO-105-3 (15-11-0097-144)						
Aroclor-1254	1100		250	ug/kg	EPA 8082	EPA 3540C
CO-105-5 (15-11-0097-146)						
Aroclor-1254	460		50	ug/kg	EPA 8082	EPA 3540C
CO-107-0 (15-11-0097-147)						
Aroclor-1254	490		50	ug/kg	EPA 8082	EPA 3540C
CO-107-3 (15-11-0097-150)						
Aroclor-1254	230		50	ug/kg	EPA 8082	EPA 3540C
CO-109-0 (15-11-0097-153)						
Aroclor-1254	730		50	ug/kg	EPA 8082	EPA 3540C
CO-109-0 DUP (15-11-0097-154)						
Aroclor-1254	800		50	ug/kg	EPA 8082	EPA 3540C
CO-111-0 (15-11-0097-160)						
Aroclor-1254	110		50	ug/kg	EPA 8082	EPA 3540C
CO-IDW (15-11-0097-173)						
Aroclor-1248	8.5		0.95	ug/L	EPA 8082	EPA 3510C
Aroclor-1254	2.3		0.95	ug/L	EPA 8082	EPA 3510C

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Detections Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order: Project Name: Received:	15-11-0097 Former Coachella Substation 11/03/15
Attn:	Ron Kofron		Page 4 of 5

Client SampleID Analyte	Result	Qualifiers	RL	Units	Method	Extraction
CO-04-3 (15-11-0097-181)						
Aroclor-1248	2800		500	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	310		50	ug/kg	EPA 8082	EPA 3540C
CO-04-3-DUP (15-11-0097-182)						
Aroclor-1248	3200		500	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	350		50	ug/kg	EPA 8082	EPA 3540C
CO-20-3 (15-11-0097-185)						
Aroclor-1248	310		50	ug/kg	EPA 8082	EPA 3540C
CO-44-3-DUP (15-11-0097-195)						
Aroclor-1254	66		50	ug/kg	EPA 8082	EPA 3540C
CO-54-3 (15-11-0097-210)						
Aroclor-1254	71		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	77		50	ug/kg	EPA 8082	EPA 3540C
CO-54-3-DUP (15-11-0097-211)						
Aroclor-1254	75		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	82		50	ug/kg	EPA 8082	EPA 3540C
CO-068-3 (15-11-0097-221)						
Aroclor-1254	230		50	ug/kg	EPA 8082	EPA 3540C
CO-068-3-DUP (15-11-0097-222)						
Aroclor-1254	240		50	ug/kg	EPA 8082	EPA 3540C
CO-080-0 (15-11-0097-241)						
Aroclor-1260	3000		500	ug/kg	EPA 8082	EPA 3540C
CO-080-0-DUP (15-11-0097-242)						
Aroclor-1260	2600		500	ug/kg	EPA 8082	EPA 3540C
CO-082-0 (15-11-0097-248)						
Aroclor-1248	83		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	6700		2500	ug/kg	EPA 8082	EPA 3540C
CO-082-3 (15-11-0097-251)						
Aroclor-1260	76		50	ug/kg	EPA 8082	EPA 3540C
CO-084-0 (15-11-0097-254)						
Aroclor-1248	110		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	5600		500	ug/kg	EPA 8082	EPA 3540C
CO-084-0-DUP (15-11-0097-255)						
Aroclor-1248	85		50	ug/kg	EPA 8082	EPA 3540C
Aroclor-1260	5300		500	ug/kg	EPA 8082	EPA 3540C
CO-084-3 (15-11-0097-258)						
Aroclor-1260	71		50	ug/kg	EPA 8082	EPA 3540C
CO-086-0 (15-11-0097-261)						
Aroclor-1260	3300		500	ug/kg	EPA 8082	EPA 3540C

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Detections Summary

Client:	Apex Companies, LLC 10675 Sorrento Valley Road, Suite 203 San Diego, CA 92121-1617	Work Order: Project Name: Received:	15-11-0097 Former Coachella Substation 11/03/15
Attn:	Ron Kofron		

Client SampleID / Analyte	Result	Qualifiers	RL	Units	Method	Extraction
CO-086-3 (15-11-0097-264)						
Aroclor-1260	51		50	ug/kg	EPA 8082	EPA 3540C
CO-088-0 (15-11-0097-267)						
Aroclor-1254	1300		500	ug/kg	EPA 8082	EPA 3540C
CO-088-0-DUP (15-11-0097-268)						
Aroclor-1254	830		50	ug/kg	EPA 8082	EPA 3540C
CO-090-0 (15-11-0097-274)						
Aroclor-1254	790		50	ug/kg	EPA 8082	EPA 3540C
CO-092-0 (15-11-0097-280)						
Aroclor-1254	2300		500	ug/kg	EPA 8082	EPA 3540C
CO-092-0-DUP (15-11-0097-281)						
Aroclor-1254	2600		500	ug/kg	EPA 8082	EPA 3540C
CO-094-0 (15-11-0097-287)						
Aroclor-1254	380		50	ug/kg	EPA 8082	EPA 3540C

Subcontracted analyses, if any, are not included in this summary.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 1 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-FB-1	**15-11-0097-1-A**	**11/02/15 08:00**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 16:49**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	93	24-168	
2,4,5,6-Tetrachloro-m-Xylene	105	25-145	

CO-01-3	**15-11-0097-4-A**	**11/02/15 08:17**	**Solid**	**GC 66**	**11/03/15**	**11/09/15 10:28**	**151103L18**

Comment(s): - The reporting limit is elevated resulting from matrix interference.

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	250	5.00	
Aroclor-1221	ND	250	5.00	
Aroclor-1232	ND	250	5.00	
Aroclor-1242	ND	250	5.00	
Aroclor-1254	ND	250	5.00	
Aroclor-1260	950	250	5.00	
Aroclor-1262	ND	250	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	129	24-168	
2,4,5,6-Tetrachloro-m-Xylene	119	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 2 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-01-3	**15-11-0097-4-A**	**11/02/15 08:17**	**Solid**	**GC 66**	**11/03/15**	**11/09/15 09:53**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1248	22000	2500	50.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	148	24-168	
2,4,5,6-Tetrachloro-m-Xylene	144	25-145	

CO-01-3 DUP	**15-11-0097-5-A**	**11/02/15 08:17**	**Solid**	**GC 66**	**11/03/15**	**11/09/15 10:46**	**151103L18**

Comment(s): - The reporting limit is elevated resulting from matrix interference.

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	250	5.00	
Aroclor-1221	ND	250	5.00	
Aroclor-1232	ND	250	5.00	
Aroclor-1242	ND	250	5.00	
Aroclor-1254	ND	250	5.00	
Aroclor-1260	940	250	5.00	
Aroclor-1262	ND	250	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	131	24-168	
2,4,5,6-Tetrachloro-m-Xylene	120	25-145	

CO-01-3 DUP	**15-11-0097-5-A**	**11/02/15 08:17**	**Solid**	**GC 66**	**11/03/15**	**11/09/15 10:11**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1248	23000	2500	50.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	148	24-168	
2,4,5,6-Tetrachloro-m-Xylene	143	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 3 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-01-5	**15-11-0097-7-A**	**11/02/15 08:20**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 07:02**	**151110L08**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	150	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	107	24-168	
2,4,5,6-Tetrachloro-m-Xylene	102	25-145	

CO-01-5	**15-11-0097-7-A**	**11/02/15 08:20**	**Solid**	**GC 58**	**11/10/15**	**11/14/15 00:52**	**151110L08**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1248	7600	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	110	24-168	
2,4,5,6-Tetrachloro-m-Xylene	98	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 4 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-03-3	**15-11-0097-10-A**	**11/02/15 08:25**	**Solid**	**GC 31**	**11/03/15**	**11/06/15 00:26**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	250	5.00	
Aroclor-1221	ND	250	5.00	
Aroclor-1232	ND	250	5.00	
Aroclor-1242	ND	250	5.00	
Aroclor-1248	1300	250	5.00	
Aroclor-1254	ND	250	5.00	
Aroclor-1260	360	250	5.00	
Aroclor-1262	ND	250	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	110	24-168	
2,4,5,6-Tetrachloro-m-Xylene	112	25-145	

CO-03-5	**15-11-0097-12-A**	**11/02/15 08:30**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 07:20**	**151110L08**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	160	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	99	24-168	
2,4,5,6-Tetrachloro-m-Xylene	96	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 5 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-05-3	**15-11-0097-15-A**	**11/02/15 08:35**	**Solid**	**GC 31**	**11/03/15**	**11/06/15 03:36**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	220	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	120	24-168	
2,4,5,6-Tetrachloro-m-Xylene	113	25-145	

CO-05-3	**15-11-0097-15-A**	**11/02/15 08:35**	**Solid**	**GC 31**	**11/03/15**	**11/06/15 01:42**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1248	14000	5000	100	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	148	24-168	
2,4,5,6-Tetrachloro-m-Xylene	137	25-145	

CO-05-5	**15-11-0097-17-A**	**11/02/15 08:39**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 07:38**	**151110L08**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	100	24-168	
2,4,5,6-Tetrachloro-m-Xylene	96	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 6 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-05-5	**15-11-0097-17-A**	**11/02/15 08:39**	**Solid**	**GC 58**	**11/10/15**	**11/14/15 01:10**	**151110L08**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1248	5900	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	131	24-168	
2,4,5,6-Tetrachloro-m-Xylene	115	25-145	

CO-07-3	15-11-0097-20-A	11/02/15 08:43	Solid	GC 66	11/03/15	11/07/15 09:25	151103L18

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	5000	100	
Aroclor-1221	ND	5000	100	
Aroclor-1232	ND	5000	100	
Aroclor-1242	ND	5000	100	
Aroclor-1254	ND	5000	100	
Aroclor-1260	7200	5000	100	
Aroclor-1262	ND	5000	100	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	276	24-168	1,2,7
2,4,5,6-Tetrachloro-m-Xylene	159	25-145	1,2,7

CO-07-3	15-11-0097-20-A	11/02/15 08:43	Solid	GC 66	11/03/15	11/07/15 07:38	151103L18

Parameter	Result	RL	DF	Qualifiers
Aroclor-1248	1100000	250000	5000	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	50	24-168	
2,4,5,6-Tetrachloro-m-Xylene	400	25-145	1,2,7

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 7 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-07-3 DUP	**15-11-0097-21-A**	**11/02/15 08:43**	**Solid**	**GC 66**	**11/03/15**	**11/07/15 09:43**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	5000	100	
Aroclor-1221	ND	5000	100	
Aroclor-1232	ND	5000	100	
Aroclor-1242	ND	5000	100	
Aroclor-1254	ND	5000	100	
Aroclor-1260	6400	5000	100	
Aroclor-1262	ND	5000	100	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	248	24-168	1,2,7
2,4,5,6-Tetrachloro-m-Xylene	153	25-145	1,2,7

CO-07-3 DUP	**15-11-0097-21-A**	**11/02/15 08:43**	**Solid**	**GC 66**	**11/03/15**	**11/07/15 07:56**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1248	1400000	250000	5000	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	700	24-168	1,2,7
2,4,5,6-Tetrachloro-m-Xylene	200	25-145	1,2,7

CO-07-5	**15-11-0097-23-A**	**11/02/15 08:47**	**Solid**	**GC 58**	**11/10/15**	**11/14/15 00:35**	**151110L22**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	500	10.0	
Aroclor-1221	ND	500	10.0	
Aroclor-1232	ND	500	10.0	
Aroclor-1242	ND	500	10.0	
Aroclor-1254	ND	500	10.0	
Aroclor-1260	1500	500	10.0	
Aroclor-1262	ND	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	142	24-168	
2,4,5,6-Tetrachloro-m-Xylene	122	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 8 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-07-5	**15-11-0097-23-A**	**11/02/15 08:47**	**Solid**	**GC 58**	**11/10/15**	**11/14/15 00:17**	**151110L22**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1248	49000	5000	100	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	129	24-168	
2,4,5,6-Tetrachloro-m-Xylene	128	25-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-33-3	**15-11-0097-26-A**	**11/02/15 09:12**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 17:08**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	99	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	106	24-168	
2,4,5,6-Tetrachloro-m-Xylene	113	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 9 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-33-3 DUP	**15-11-0097-27-A**	**11/02/15 09:12**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 17:28**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	180	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	114	24-168	
2,4,5,6-Tetrachloro-m-Xylene	117	25-145	

CO-33-5	**15-11-0097-29-A**	**11/02/15 09:16**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 07:56**	**151110L08**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	55	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	100	24-168	
2,4,5,6-Tetrachloro-m-Xylene	98	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 10 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-35-3	**15-11-0097-32-A**	**11/02/15 09:22**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 17:47**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	160	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	109	24-168	
2,4,5,6-Tetrachloro-m-Xylene	113	25-145	

CO-41-3	**15-11-0097-37-A**	**11/02/15 09:32**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 18:06**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	115	24-168	
2,4,5,6-Tetrachloro-m-Xylene	114	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 11 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-41-3 DUP	**15-11-0097-38-A**	**11/02/15 09:32**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 18:24**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	101	24-168	
2,4,5,6-Tetrachloro-m-Xylene	112	25-145	

CO-43-3	**15-11-0097-43-A**	**11/02/15 09:51**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 18:44**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	550	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	111	24-168	
2,4,5,6-Tetrachloro-m-Xylene	108	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 12 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-43-5	**15-11-0097-45-A**	**11/02/15 09:55**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 08:14**	**151110L08**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	430	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	97	24-168	
2,4,5,6-Tetrachloro-m-Xylene	98	25-145	

CO-45-3	**15-11-0097-48-A**	**11/02/15 10:02**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 19:03**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	280	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	102	24-168	
2,4,5,6-Tetrachloro-m-Xylene	108	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 13 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-45-3 DUP	**15-11-0097-49-A**	**11/02/15 10:02**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 21:54**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	360	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	100	24-168	
2,4,5,6-Tetrachloro-m-Xylene	108	25-145	

CO-45-5	**15-11-0097-51-A**	**11/02/15 10:05**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 08:32**	**151110L08**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	87	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	97	24-168	
2,4,5,6-Tetrachloro-m-Xylene	98	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 14 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-47-3	**15-11-0097-54-A**	**11/02/15 10:11**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 22:13**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	53	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	107	24-168	
2,4,5,6-Tetrachloro-m-Xylene	113	25-145	

CO-47-3 DUP	**15-11-0097-55-A**	**11/02/15 10:11**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 22:32**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	52	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	106	24-168	
2,4,5,6-Tetrachloro-m-Xylene	108	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 15 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-49-3	**15-11-0097-60-A**	**11/02/15 10:19**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 22:51**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	570	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	108	24-168	
2,4,5,6-Tetrachloro-m-Xylene	111	25-145	

CO-49-5	**15-11-0097-62-A**	**11/02/15 10:22**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 08:50**	**151110L08**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	130	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	100	24-168	
2,4,5,6-Tetrachloro-m-Xylene	99	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 16 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-081-0	**15-11-0097-63-A**	**11/02/15 11:03**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 23:10**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	470	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	210	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	119	24-168	
2,4,5,6-Tetrachloro-m-Xylene	116	25-145	

CO-081-3	**15-11-0097-66-A**	**11/02/15 11:08**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 23:29**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	108	24-168	
2,4,5,6-Tetrachloro-m-Xylene	113	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 17 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-083-0	**15-11-0097-69-A**	**11/02/15 11:15**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 07:17**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	420	50	1.00	
Aroclor-1254	380	50	1.00	
Aroclor-1260	620	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	122	24-168	
2,4,5,6-Tetrachloro-m-Xylene	106	25-145	

CO-083-0 DUP	**15-11-0097-70-A**	**11/02/15 11:15**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 07:36**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	410	50	1.00	
Aroclor-1254	310	50	1.00	
Aroclor-1260	540	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	115	24-168	
2,4,5,6-Tetrachloro-m-Xylene	104	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 18 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-083-3	**15-11-0097-73-A**	**11/02/15 11:20**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 12:05**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	109	24-168	
2,4,5,6-Tetrachloro-m-Xylene	110	25-145	

CO-085-0	**15-11-0097-76-A**	**11/02/15 11:26**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 07:55**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	300	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	110	24-168	
2,4,5,6-Tetrachloro-m-Xylene	108	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 19 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-085-0 DUP	**15-11-0097-77-A**	**11/02/15 11:26**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 08:14**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	330	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	105	24-168	
2,4,5,6-Tetrachloro-m-Xylene	110	25-145	

CO-085-3	**15-11-0097-80-A**	**11/02/15 11:31**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 08:33**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	110	24-168	
2,4,5,6-Tetrachloro-m-Xylene	112	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 20 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-087-0	**15-11-0097-83-A**	**11/02/15 11:36**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 11:46**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	100	24-168	
2,4,5,6-Tetrachloro-m-Xylene	102	25-145	

CO-087-3	**15-11-0097-86-A**	**11/02/15 12:00**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 09:11**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	107	24-168	
2,4,5,6-Tetrachloro-m-Xylene	109	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 21 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-089-0	**15-11-0097-89-A**	**11/02/15 12:06**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 09:30**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	130	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	105	24-168	
2,4,5,6-Tetrachloro-m-Xylene	105	25-145	

CO-089-0 DUP	**15-11-0097-90-A**	**11/02/15 12:06**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 09:49**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	130	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	107	24-168	
2,4,5,6-Tetrachloro-m-Xylene	108	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 22 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-089-3	**15-11-0097-93-A**	**11/02/15 12:14**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 10:08**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	110	24-168	
2,4,5,6-Tetrachloro-m-Xylene	113	25-145	

CO-091-0	**15-11-0097-96-A**	**11/02/15 13:00**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 10:27**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	111	24-168	
2,4,5,6-Tetrachloro-m-Xylene	112	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 23 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-091-3	**15-11-0097-99-A**	**11/02/15 13:07**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 10:46**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	117	24-168	
2,4,5,6-Tetrachloro-m-Xylene	116	25-145	

CO-093-0	**15-11-0097-102-A**	**11/02/15 13:12**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 11:05**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	110	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	113	24-168	
2,4,5,6-Tetrachloro-m-Xylene	111	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 24 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-093-0 DUP	**15-11-0097-103-A**	**11/02/15 13:12**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 11:24**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	140	50	1.00	
Aroclor-1254	67	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	116	24-168	
2,4,5,6-Tetrachloro-m-Xylene	116	25-145	

CO-093-3	**15-11-0097-106-A**	**11/02/15 13:22**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 12:24**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	110	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	105	24-168	
2,4,5,6-Tetrachloro-m-Xylene	106	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 25 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-095-0	**15-11-0097-107-A**	**11/02/15 13:45**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 14:55**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	310	50	1.00	
Aroclor-1254	140	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	89	24-168	
2,4,5,6-Tetrachloro-m-Xylene	90	25-145	

CO-095-3	**15-11-0097-110-A**	**11/02/15 13:52**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 15:14**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	86	24-168	
2,4,5,6-Tetrachloro-m-Xylene	93	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 26 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-097-0	**15-11-0097-113-A**	**11/02/15 14:00**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 15:33**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	90	24-168	
2,4,5,6-Tetrachloro-m-Xylene	93	25-145	

CO-097-0 DUP	**15-11-0097-114-A**	**11/02/15 14:00**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 15:52**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	84	24-168	
2,4,5,6-Tetrachloro-m-Xylene	92	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 27 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-097-3	**15-11-0097-117-A**	**11/02/15 14:04**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 09:32**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	89	24-168	
2,4,5,6-Tetrachloro-m-Xylene	84	25-145	

CO-099-0	**15-11-0097-120-A**	**11/02/15 14:08**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 09:50**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	200	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	94	24-168	
2,4,5,6-Tetrachloro-m-Xylene	95	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 28 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-099-0 DUP	**15-11-0097-121-A**	**11/02/15 14:08**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 10:08**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	200	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	97	24-168	
2,4,5,6-Tetrachloro-m-Xylene	105	25-145	

CO-099-3	**15-11-0097-124-A**	**11/02/15 14:27**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 10:26**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	99	24-168	
2,4,5,6-Tetrachloro-m-Xylene	106	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 29 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-101-0	**15-11-0097-127-A**	**11/02/15 14:30**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 10:44**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	120	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	98	24-168	
2,4,5,6-Tetrachloro-m-Xylene	101	25-145	

CO-101-3	**15-11-0097-130-A**	**11/02/15 14:34**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 11:01**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	94	24-168	
2,4,5,6-Tetrachloro-m-Xylene	99	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 30 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-103-0	**15-11-0097-133-A**	**11/02/15 14:37**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 05:51**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	500	10.0	
Aroclor-1221	ND	500	10.0	
Aroclor-1232	ND	500	10.0	
Aroclor-1242	ND	500	10.0	
Aroclor-1248	ND	500	10.0	
Aroclor-1254	4800	500	10.0	
Aroclor-1260	ND	500	10.0	
Aroclor-1262	ND	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	114	24-168	
2,4,5,6-Tetrachloro-m-Xylene	111	25-145	

CO-103-0 DUP	**15-11-0097-134-A**	**11/02/15 14:37**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 06:09**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	500	10.0	
Aroclor-1221	ND	500	10.0	
Aroclor-1232	ND	500	10.0	
Aroclor-1242	ND	500	10.0	
Aroclor-1248	ND	500	10.0	
Aroclor-1254	3300	500	10.0	
Aroclor-1260	ND	500	10.0	
Aroclor-1262	ND	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	90	24-168	
2,4,5,6-Tetrachloro-m-Xylene	88	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 31 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-103-3	**15-11-0097-137-A**	**11/02/15 14:41**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 11:55**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	95	24-168	
2,4,5,6-Tetrachloro-m-Xylene	102	25-145	

CO-105-0	**15-11-0097-140-A**	**11/02/15 14:50**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 06:27**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	2500	50.0	
Aroclor-1221	ND	2500	50.0	
Aroclor-1232	ND	2500	50.0	
Aroclor-1242	ND	2500	50.0	
Aroclor-1248	ND	2500	50.0	
Aroclor-1254	10000	2500	50.0	
Aroclor-1260	ND	2500	50.0	
Aroclor-1262	ND	2500	50.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	98	24-168	
2,4,5,6-Tetrachloro-m-Xylene	90	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 32 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-105-0 DUP	**15-11-0097-141-A**	**11/02/15 14:50**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 06:45**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	2500	50.0	
Aroclor-1221	ND	2500	50.0	
Aroclor-1232	ND	2500	50.0	
Aroclor-1242	ND	2500	50.0	
Aroclor-1248	ND	2500	50.0	
Aroclor-1254	11000	2500	50.0	
Aroclor-1260	ND	2500	50.0	
Aroclor-1262	ND	2500	50.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	98	24-168	
2,4,5,6-Tetrachloro-m-Xylene	93	25-145	

CO-105-3	**15-11-0097-144-A**	**11/02/15 15:00**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 07:03**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	250	5.00	
Aroclor-1221	ND	250	5.00	
Aroclor-1232	ND	250	5.00	
Aroclor-1242	ND	250	5.00	
Aroclor-1248	ND	250	5.00	
Aroclor-1254	1100	250	5.00	
Aroclor-1260	ND	250	5.00	
Aroclor-1262	ND	250	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	93	24-168	
2,4,5,6-Tetrachloro-m-Xylene	95	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 33 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-105-5	**15-11-0097-146-A**	**11/02/15 15:04**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 09:08**	**151110L08**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	460	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	105	24-168	
2,4,5,6-Tetrachloro-m-Xylene	99	25-145	

CO-107-0	**15-11-0097-147-A**	**11/02/15 15:05**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 13:06**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	490	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	96	24-168	
2,4,5,6-Tetrachloro-m-Xylene	90	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 34 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-107-3	**15-11-0097-150-A**	**11/02/15 15:10**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 13:24**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	230	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	95	24-168	
2,4,5,6-Tetrachloro-m-Xylene	96	25-145	

CO-107-5	**15-11-0097-152-A**	**11/02/15 15:13**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 09:26**	**151110L08**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	100	24-168	
2,4,5,6-Tetrachloro-m-Xylene	98	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 35 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-109-0	**15-11-0097-153-A**	**11/02/15 15:15**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 13:42**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	730	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	96	24-168	
2,4,5,6-Tetrachloro-m-Xylene	88	25-145	

CO-109-0 DUP	**15-11-0097-154-A**	**11/02/15 15:15**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 14:00**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	800	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	101	24-168	
2,4,5,6-Tetrachloro-m-Xylene	95	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 36 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-109-3	**15-11-0097-157-A**	**11/02/15 15:22**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 14:18**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	97	24-168	
2,4,5,6-Tetrachloro-m-Xylene	93	25-145	

CO-111-0	**15-11-0097-160-A**	**11/02/15 15:26**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 14:35**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	110	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	99	24-168	
2,4,5,6-Tetrachloro-m-Xylene	92	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 37 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-111-3	**15-11-0097-163-A**	**11/02/15 15:39**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 14:53**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	89	24-168	
2,4,5,6-Tetrachloro-m-Xylene	96	25-145	

CO-113-0	**15-11-0097-166-A**	**11/02/15 15:44**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 15:11**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	95	24-168	
2,4,5,6-Tetrachloro-m-Xylene	102	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 38 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-113-0 DUP	**15-11-0097-167-A**	**11/02/15 15:44**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 16:29**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	100	24-168	
2,4,5,6-Tetrachloro-m-Xylene	94	25-145	

CO-113-3	**15-11-0097-170-A**	**11/02/15 15:50**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 16:47**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	98	24-168	
2,4,5,6-Tetrachloro-m-Xylene	95	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 39 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-04-3	**15-11-0097-181-A**	**11/02/15 08:52**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 17:04**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	310	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	97	24-168	
2,4,5,6-Tetrachloro-m-Xylene	87	25-145	

CO-04-3	**15-11-0097-181-A**	**11/02/15 08:52**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 18:57**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1248	2800	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	68	24-168	
2,4,5,6-Tetrachloro-m-Xylene	78	25-145	

CO-04-3-DUP	**15-11-0097-182-A**	**11/02/15 08:52**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 17:22**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	350	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	101	24-168	
2,4,5,6-Tetrachloro-m-Xylene	93	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 40 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-04-3-DUP	**15-11-0097-182-A**	**11/02/15 08:52**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 19:15**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1248	3200	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	85	24-168	
2,4,5,6-Tetrachloro-m-Xylene	85	25-145	

CO-20-3	**15-11-0097-185-A**	**11/02/15 09:15**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 17:40**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	310	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	100	24-168	
2,4,5,6-Tetrachloro-m-Xylene	92	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 41 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-20-4	**15-11-0097-186-A**	**11/02/15 09:20**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 09:44**	**151110L08**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	104	24-168	
2,4,5,6-Tetrachloro-m-Xylene	100	25-145	

CO-34-3	**15-11-0097-189-A**	**11/02/15 09:38**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 17:58**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	107	24-168	
2,4,5,6-Tetrachloro-m-Xylene	101	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 42 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-44-3	**15-11-0097-194-A**	**11/02/15 10:06**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 18:16**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	97	24-168	
2,4,5,6-Tetrachloro-m-Xylene	90	25-145	

CO-44-3-DUP	**15-11-0097-195-A**	**11/02/15 10:06**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 18:34**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	66	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	100	24-168	
2,4,5,6-Tetrachloro-m-Xylene	94	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 43 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-48-3	**15-11-0097-200-A**	**11/02/15 10:15**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 18:52**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	100	24-168	
2,4,5,6-Tetrachloro-m-Xylene	92	25-145	

CO-52-3	**15-11-0097-205-A**	**11/02/15 10:25**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 19:09**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	99	24-168	
2,4,5,6-Tetrachloro-m-Xylene	93	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 44 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-54-3	**15-11-0097-210-A**	**11/02/15 11:02**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 19:27**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	71	50	1.00	
Aroclor-1260	77	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	104	24-168	
2,4,5,6-Tetrachloro-m-Xylene	96	25-145	

CO-54-3-DUP	**15-11-0097-211-A**	**11/02/15 11:02**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 19:45**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	75	50	1.00	
Aroclor-1260	82	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	99	24-168	
2,4,5,6-Tetrachloro-m-Xylene	92	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 45 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-056-3	**15-11-0097-216-A**	**11/02/15 11:14**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 20:03**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	101	24-168	
2,4,5,6-Tetrachloro-m-Xylene	93	25-145	

CO-068-3	**15-11-0097-221-A**	**11/02/15 11:26**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 20:21**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	230	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	100	24-168	
2,4,5,6-Tetrachloro-m-Xylene	93	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 46 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-068-3-DUP	**15-11-0097-222-A**	**11/02/15 11:26**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 20:38**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	240	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	101	24-168	
2,4,5,6-Tetrachloro-m-Xylene	91	25-145	

CO-068-5	**15-11-0097-224-A**	**11/02/15 11:36**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 10:02**	**151110L08**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	102	24-168	
2,4,5,6-Tetrachloro-m-Xylene	99	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 47 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-060-3	**15-11-0097-227-A**	**11/02/15 12:08**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 20:56**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	99	24-168	
2,4,5,6-Tetrachloro-m-Xylene	102	25-145	

CO-070-3	**15-11-0097-232-A**	**11/02/15 12:24**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 21:14**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	114	24-168	
2,4,5,6-Tetrachloro-m-Xylene	111	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 48 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-070-3-DUP	**15-11-0097-233-A**	**11/02/15 12:24**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 21:32**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	98	24-168	
2,4,5,6-Tetrachloro-m-Xylene	105	25-145	

CO-072-3	**15-11-0097-238-A**	**11/02/15 13:11**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 21:50**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	100	24-168	
2,4,5,6-Tetrachloro-m-Xylene	106	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 49 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-080-0	**15-11-0097-241-A**	**11/02/15 13:19**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 22:08**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	108	24-168	
2,4,5,6-Tetrachloro-m-Xylene	105	25-145	

CO-080-0	**15-11-0097-241-A**	**11/02/15 13:19**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 19:33**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1260	3000	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	87	24-168	
2,4,5,6-Tetrachloro-m-Xylene	86	25-145	

CO-080-0-DUP	**15-11-0097-242-A**	**11/02/15 13:19**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 23:55**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	105	24-168	
2,4,5,6-Tetrachloro-m-Xylene	92	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 50 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-080-0-DUP	**15-11-0097-242-A**	**11/02/15 13:19**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 19:51**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1260	2600	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	122	24-168	
2,4,5,6-Tetrachloro-m-Xylene	116	25-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-080-3	**15-11-0097-245-A**	**11/02/15 13:25**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 00:12**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	99	24-168	
2,4,5,6-Tetrachloro-m-Xylene	91	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 51 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-082-0	**15-11-0097-248-A**	**11/02/15 13:33**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 00:30**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	83	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	95	24-168	
2,4,5,6-Tetrachloro-m-Xylene	83	25-145	

CO-082-0	**15-11-0097-248-A**	**11/02/15 13:33**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 20:09**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1260	6700	2500	50.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	70	24-168	
2,4,5,6-Tetrachloro-m-Xylene	78	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 52 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-082-3	**15-11-0097-251-A**	**11/02/15 13:42**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 00:48**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	76	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	103	24-168	
2,4,5,6-Tetrachloro-m-Xylene	95	25-145	

CO-084-0	**15-11-0097-254-A**	**11/02/15 14:03**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 01:06**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	110	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	104	24-168	
2,4,5,6-Tetrachloro-m-Xylene	87	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 53 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-084-0	**15-11-0097-254-A**	**11/02/15 14:03**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 20:27**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1260	5600	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	77	24-168	
2,4,5,6-Tetrachloro-m-Xylene	82	25-145	

CO-084-0-DUP	**15-11-0097-255-A**	**11/02/15 14:03**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 01:24**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	85	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	104	24-168	
2,4,5,6-Tetrachloro-m-Xylene	92	25-145	

CO-084-0-DUP	**15-11-0097-255-A**	**11/02/15 14:03**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 20:45**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1260	5300	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	101	24-168	
2,4,5,6-Tetrachloro-m-Xylene	96	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 54 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-084-3	**15-11-0097-258-A**	**11/02/15 14:13**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 01:41**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	71	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	105	24-168	
2,4,5,6-Tetrachloro-m-Xylene	108	25-145	

CO-086-0	**15-11-0097-261-A**	**11/02/15 14:19**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 01:59**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	104	24-168	
2,4,5,6-Tetrachloro-m-Xylene	94	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 55 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-086-0	**15-11-0097-261-A**	**11/02/15 14:19**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 21:02**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1260	3300	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	89	24-168	
2,4,5,6-Tetrachloro-m-Xylene	97	25-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-086-3	**15-11-0097-264-A**	**11/02/15 14:28**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 02:17**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	51	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	95	24-168	
2,4,5,6-Tetrachloro-m-Xylene	90	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 56 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-088-0	**15-11-0097-267-A**	**11/02/15 14:39**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 02:35**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	103	24-168	
2,4,5,6-Tetrachloro-m-Xylene	94	25-145	

CO-088-0	**15-11-0097-267-A**	**11/02/15 14:39**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 21:20**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1254	1300	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	91	24-168	
2,4,5,6-Tetrachloro-m-Xylene	98	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 57 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-088-0-DUP	**15-11-0097-268-A**	**11/02/15 14:39**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 02:53**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	830	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	101	24-168	
2,4,5,6-Tetrachloro-m-Xylene	94	25-145	

CO-088-3	**15-11-0097-271-A**	**11/02/15 14:53**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 03:11**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	101	24-168	
2,4,5,6-Tetrachloro-m-Xylene	101	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 58 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-090-0	**15-11-0097-274-A**	**11/02/15 15:02**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 03:28**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	790	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	105	24-168	
2,4,5,6-Tetrachloro-m-Xylene	93	25-145	

CO-090-3	**15-11-0097-277-A**	**11/02/15 15:17**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 03:46**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	92	24-168	
2,4,5,6-Tetrachloro-m-Xylene	90	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 59 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-092-0	**15-11-0097-280-A**	**11/02/15 15:23**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 04:04**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	107	24-168	
2,4,5,6-Tetrachloro-m-Xylene	97	25-145	

CO-092-0	**15-11-0097-280-A**	**11/02/15 15:23**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 21:38**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1254	2300	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	119	24-168	
2,4,5,6-Tetrachloro-m-Xylene	108	25-145	

CO-092-0-DUP	**15-11-0097-281-A**	**11/02/15 15:23**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 04:22**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	120	24-168	
2,4,5,6-Tetrachloro-m-Xylene	109	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 60 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-092-0-DUP	**15-11-0097-281-A**	**11/02/15 15:23**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 21:56**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1254	2600	500	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	114	24-168	
2,4,5,6-Tetrachloro-m-Xylene	112	25-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-092-3	**15-11-0097-284-A**	**11/02/15 15:30**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 04:58**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	101	24-168	
2,4,5,6-Tetrachloro-m-Xylene	106	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 61 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-094-0	**15-11-0097-287-A**	**11/02/15 15:34**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 05:15**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	380	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	103	24-168	
2,4,5,6-Tetrachloro-m-Xylene	108	25-145	

CO-094-3	**15-11-0097-290-A**	**11/02/15 15:41**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 05:33**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	100	24-168	
2,4,5,6-Tetrachloro-m-Xylene	106	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 62 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-535-3479**	**N/A**	**Solid**	**GC 31**	**11/03/15**	**11/04/15 20:30**	**151103L18**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	98	24-168	
2,4,5,6-Tetrachloro-m-Xylene	112	25-145	

Method Blank	**099-12-535-3480**	**N/A**	**Solid**	**GC 31**	**11/03/15**	**11/04/15 21:08**	**151103L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	107	24-168	
2,4,5,6-Tetrachloro-m-Xylene	114	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 63 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-535-3483**	**N/A**	**Solid**	**GC 66**	**11/04/15**	**11/05/15 17:21**	**151104L05**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	93	24-168	
2,4,5,6-Tetrachloro-m-Xylene	109	25-145	

Method Blank	**099-12-535-3484**	**N/A**	**Solid**	**GC 66**	**11/04/15**	**11/05/15 17:57**	**151104L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	93	24-168	
2,4,5,6-Tetrachloro-m-Xylene	109	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 64 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-535-3486**	**N/A**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 23:01**	**151104L07**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	108	24-168	
2,4,5,6-Tetrachloro-m-Xylene	99	25-145	

Method Blank	**099-12-535-3521**	**N/A**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 05:51**	**151110L08**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	109	24-168	
2,4,5,6-Tetrachloro-m-Xylene	110	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
		Units:	ug/kg
Project: Former Coachella Substation			Page 65 of 65

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-535-3520**	**N/A**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 01:57**	**151110L22**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	87	24-168	
2,4,5,6-Tetrachloro-m-Xylene	90	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3510C
		Method:	EPA 8082
		Units:	ug/L
Project: Former Coachella Substation			Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
CO-IDW	**15-11-0097-173-A**	**11/02/15 16:00**	**Aqueous**	**GC 31**	**11/03/15**	**11/04/15 23:03**	**151103L10**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	0.95	1.00	
Aroclor-1221	ND	0.95	1.00	
Aroclor-1232	ND	0.95	1.00	
Aroclor-1242	ND	0.95	1.00	
Aroclor-1248	8.5	0.95	1.00	
Aroclor-1254	2.3	0.95	1.00	
Aroclor-1260	ND	0.95	1.00	
Aroclor-1262	ND	0.95	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	98	50-135	
2,4,5,6-Tetrachloro-m-Xylene	64	50-135	

Method Blank	**099-12-533-1103**	**N/A**	**Aqueous**	**GC 31**	**11/03/15**	**11/03/15 21:51**	**151103L10**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	1.0	1.00	
Aroclor-1221	ND	1.0	1.00	
Aroclor-1232	ND	1.0	1.00	
Aroclor-1242	ND	1.0	1.00	
Aroclor-1248	ND	1.0	1.00	
Aroclor-1254	ND	1.0	1.00	
Aroclor-1260	ND	1.0	1.00	
Aroclor-1262	ND	1.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	82	50-135	
2,4,5,6-Tetrachloro-m-Xylene	104	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Former Coachella Substation			Page 1 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
CO-03-3	**Sample**	**Solid**	**GC 31**	**11/03/15**	**11/06/15 00:26**	**151103S18**
CO-03-3	**Matrix Spike**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 06:39**	**151103S18**
CO-03-3	**Matrix Spike Duplicate**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 06:58**	**151103S18**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	759.3	759	608.1	608	50-135	22	0-20	3,4
Aroclor-1260	355.8	100.0	508.3	152	401.1	45	50-135	24	0-20	3,4

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Former Coachella Substation			Page 2 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
CO-083-3	**Sample**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 12:05**	**151103S19**
CO-083-3	**Matrix Spike**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 16:11**	**151103S19**
CO-083-3	**Matrix Spike Duplicate**	**Solid**	**GC 31**	**11/03/15**	**11/05/15 16:30**	**151103S19**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	98.55	99	96.36	96	50-135	2	0-20	
Aroclor-1260	ND	100.0	95.00	95	101.3	101	50-135	6	0-20	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Former Coachella Substation			Page 3 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
CO-43-5	**Sample**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 08:14**	**151110S08**
CO-43-5	**Matrix Spike**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 06:26**	**151110S08**
CO-43-5	**Matrix Spike Duplicate**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 06:44**	**151110S08**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	102.0	102	98.60	99	50-135	3	0-20	
Aroclor-1260	ND	100.0	410.2	410	427.4	427	50-135	4	0-20	3

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Former Coachella Substation			Page 4 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
CO-07-5	**Sample**	**Solid**	**GC 58**	**11/10/15**	**11/14/15 00:35**	**151110S22**
CO-07-5	**Matrix Spike**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 02:33**	**151110S22**
CO-07-5	**Matrix Spike Duplicate**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 02:51**	**151110S22**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	9325	9325	21720	21722	50-135	80	0-20	3,4
Aroclor-1260	1498	100.0	610.4	0	984.2	0	50-135	47	0-20	3,4

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Former Coachella Substation			Page 5 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
CO-113-0	**Sample**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 15:11**	**151104S05**
CO-113-0	**Matrix Spike**	**Solid**	**GC 66**	**11/04/15**	**11/05/15 18:51**	**151104S05**
CO-113-0	**Matrix Spike Duplicate**	**Solid**	**GC 66**	**11/04/15**	**11/05/15 19:09**	**151104S05**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	104.7	105	120.5	120	50-135	14	0-20	
Aroclor-1260	ND	100.0	96.45	96	106.5	106	50-135	10	0-20	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Former Coachella Substation			Page 6 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
CO-113-0 DUP	**Sample**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 16:29**	**151104S06**
CO-113-0 DUP	**Matrix Spike**	**Solid**	**GC 66**	**11/04/15**	**11/05/15 19:26**	**151104S06**
CO-113-0 DUP	**Matrix Spike Duplicate**	**Solid**	**GC 66**	**11/04/15**	**11/05/15 19:44**	**151104S06**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	128.4	128	118.5	118	50-135	8	0-20	
Aroclor-1260	ND	100.0	108.6	109	110.4	110	50-135	2	0-20	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Former Coachella Substation			Page 7 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
CO-094-0	**Sample**	**Solid**	**GC 66**	**11/04/15**	**11/07/15 05:15**	**151104S07**
CO-094-0	**Matrix Spike**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 23:19**	**151104S07**
CO-094-0	**Matrix Spike Duplicate**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 23:37**	**151104S07**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	113.4	113	120.8	121	50-135	6	0-20	
Aroclor-1260	ND	100.0	269.9	270	257.8	258	50-135	5	0-20	3

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Former Coachella Substation			Page 1 of 8

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-3479	**LCS**	**Solid**	**GC 31**	**11/03/15**	**11/04/15 20:11**	**151103L18**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	110.6	111	50-135	
Aroclor-1260	100.0	112.4	112	50-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Former Coachella Substation			Page 2 of 8

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-3480	**LCS**	**Solid**	**GC 31**	**11/03/15**	**11/04/15 20:49**	**151103L19**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	105.5	105	50-135	
Aroclor-1260	100.0	110.8	111	50-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Former Coachella Substation			Page 3 of 8

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-3521	**LCS**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 06:09**	**151110L08**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	106.7	107	50-135	
Aroclor-1260	100.0	102.1	102	50-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Former Coachella Substation			Page 4 of 8

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-3520	**LCS**	**Solid**	**GC 58**	**11/10/15**	**11/13/15 02:15**	**151110L22**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	104.7	105	50-135	
Aroclor-1260	100.0	95.06	95	50-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Former Coachella Substation			Page 5 of 8

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-3483	**LCS**	**Solid**	**GC 66**	**11/04/15**	**11/05/15 17:03**	**151104L05**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	105.9	106	50-135	
Aroclor-1260	100.0	94.92	95	50-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Former Coachella Substation			Page 6 of 8

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-3484	**LCS**	**Solid**	**GC 66**	**11/04/15**	**11/05/15 17:39**	**151104L06**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	114.2	114	50-135	
Aroclor-1260	100.0	103.0	103	50-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3540C
		Method:	EPA 8082
Project: Former Coachella Substation			Page 7 of 8

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-3486	**LCS**	**Solid**	**GC 66**	**11/04/15**	**11/06/15 22:43**	**151104L07**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	105.1	105	50-135	
Aroclor-1260	100.0	109.1	109	50-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Apex Companies, LLC		Date Received:	11/03/15
10675 Sorrento Valley Road, Suite 203		Work Order:	15-11-0097
San Diego, CA 92121-1617		Preparation:	EPA 3510C
		Method:	EPA 8082
Project: Former Coachella Substation			Page 8 of 8

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-533-1103	**LCS**	**Aqueous**	**GC 31**	**11/03/15**	**11/03/15 22:10**	**151103L10**
099-12-533-1103	**LCSD**	**Aqueous**	**GC 31**	**11/03/15**	**11/03/15 22:29**	**151103L10**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	2.000	2.665	133	2.498	125	50-135	6	0-25	
Aroclor-1260	2.000	1.938	97	1.941	97	50-135	0	0-25	

RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 15-11-0097

Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA 8082	EPA 3510C	944	GC 31	1
EPA 8082	EPA 3540C	669	GC 31	1
EPA 8082	EPA 3540C	669	GC 66	1
EPA 8082	EPA 3540C	944	GC 58	1
EPA 8082	EPA 3540C	960	GC 66	1

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Glossary of Terms and Qualifiers

Work Order: 15-11-0097 Page 1 of 1

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

Return to Contents

Donald Burley

From: Paul Garcia <Paul.Garcia@apexcos.com>
Sent: Tuesday, November 10, 2015 3:51 PM
To: Donald Burley
Cc: Ronald Kofron
Subject: RE: Former Coachella Substation / ECI 15-11-0097

Don,

We also need CO-07-5 analyzed.

Thanks,
Paul

Paul Garcia
Apex Companies, LLC
10675 Sorrento Valley Rd. Suite 203
San Diego, CA 92121
O) 858-558-1120 x1507 M) 760-533-9604

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From: Donald Burley [mailto:DonaldBurley@eurofinsUS.com]
Sent: Monday, November 09, 2015 4:18 PM
To: Paul Garcia <Paul.Garcia@apexcos.com>
Subject: RE: Former Coachella Substation / ECI 15-11-0097

Thank you.

From: Paul Garcia [mailto:Paul.Garcia@apexcos.com]
Sent: Monday, November 09, 2015 3:46 PM
To: Donald Burley
Cc: Ronald Kofron
Subject: RE: Former Coachella Substation / ECI 15-11-0097

Thanks Don, my oversight.

Please analyze sample CO-20-4. CO-04-5 does not exist, please disregard.

-Paul

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Paul Garcia
Apex Companies, LLC
10675 Sorrento Valley Rd. Suite 203
San Diego, CA 92121
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From: Donald Burley [mailto:DonaldBurley@eurofinsUS.com]
Sent: Monday, November 09, 2015 3:41 PM
To: Paul Garcia <Paul.Garcia@apexcos.com>
Cc: Ronald Kofron <RKofron@apexcos.com>
Subject: RE: Former Coachella Substation / ECI 15-11-0097

Paul,

Please review the highlighted below and advise. Relevant COC pages are attached for reference. Thanks.

Don

From: Paul Garcia [mailto:Paul.Garcia@apexcos.com]
Sent: Monday, November 09, 2015 3:28 PM
To: Donald Burley
Cc: Ronald Kofron
Subject: RE: Former Coachella Substation / ECI 15-11-0097

Don,

Please analyze these additional samples for PCB's.

CO-01-5
CO-03-5
CO-04-5 There is no -5 sample; -3 and -3 DUP were analyzed.
CO-05-5
CO-20-5 There is no -5 sample; do you want us to analyze -4?
CO-33-5
CO-43-5
CO-45-5
CO-49-5
CO-068-5
CO-105-5
CO-107-5

Thanks,
Paul

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Paul Garcia
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From: Donald Burley [mailto:DonaldBurley@eurofinsUS.com]
Sent: Monday, November 09, 2015 1:07 PM
To: Ronald Kofron <RKofron@apexcos.com>
Cc: Paul Garcia <Paul.Garcia@apexcos.com>
Subject: Former Coachella Substation / ECI 15-11-0097

Results attached for the first group of samples. Thank you.

Don Burley

Eurofins Calscience, Inc.
7440 Lincoln Way
Garden Grove, CA 92841
USA
Phone: +1 714 895 5494

Email: DonaldBurley@eurofinsUS.com
Website: www.calscience.com

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WO # / LAB USE ONLY: **15-11-0097**

DATE: November 2, 2015

PAGE: 1 OF 30

LABORATORY CLIENT: Apex Companies, LLC

ADDRESS: 10675 Sorrento Valley Road Suite 203

CITY: San Diego STATE: CA ZIP: 92121

TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NUMBER: Former Coachella Substation

P.O. NO.: 3615-A4001-002 Task 01

PROJECT CONTACT: Ron Kofron

SAMPLER(S): (PRINT) Paul Garcia / Nia Nikmanesh

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ✠ STANDARD

☐ COELT EDF GLOBAL ID: LOG CODE:

SPECIAL INSTRUCTIONS:

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1	CD-FB-1	11/2/15	0800	SOIL	1	x													X							
2	CD-01-1	11/2/15	0813	SOIL	1	x													H							X
3	CD-01-2	11/2/15	0815	SOIL	1	x													H							X
4	CD-01-3	11/2/15	0817	SOIL	1	x													X							
5	CD-01-3 DUP	11/2/15	0817	SOIL	1	x													X							
6	CD-01-4	11/2/15	0819	SOIL	1	x													H							X
7	CD-01-5	11/2/15	0820	SOIL	1	x													H							X
8	CD-03-1	11/2/15	0821	SOIL	1	x													H							X
9	CD-03-2	11/2/15	0824	SOIL	1	x													H							X
10	CD-03-3	11/2/15	0825	SOIL	1	x													X							

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LABORATORY CLIENT: Apex Companies, LLC

ADDRESS: 10675 Sorrento Valley Road Suite 203

CITY: San Diego STATE: CA ZIP: 92121

TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NUMBER: Former Coachella Substation

P.O. NO.: 3615-A4001-002 Task 01

PROJECT CONTACT: Ron Kofron

SAMPLER(S): (PRINT) Paul Garcia / Nia Nikmanesh

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
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11	CO-03-4	11/2/15	0827	SOIL	1	x													H							X
12	CO-03-5	11/2/15	0830	SOIL	1	x													H							X
13	CO-05-1	11/2/15	0832	SOIL	1	x													H							X
14	CO-05-2	11/2/15	0833	SOIL	1	x													H							X
15	CO-05-3	11/2/15	0835	SOIL	1	x													X							
16	CO-05-4	11/2/15	0837	SOIL	1	x													H							X
17	CO-05-5	11/2/15	0839	SOIL	1	x													H							X
18	CO-07-1	11/2/15	0840	SOIL	1	x													H							X
19	CO-07-2	11/2/15	0841	SOIL	1	x													H							X
20	CO-07-3	11/2/15	0843	SOIL	1	x													X							

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21	CO-07-3DUP	11/2/15	0843	SOIL	1	x													X							
22	CO-07-4	11/2/15	0846	SOIL	1	x													H							X
23	CO-07-5	11/2/15	0847	SOIL	1	x													H							X
24	CO-33-1	11/2/15	0906	SOIL	1	x													H							X
25	CO-33-2	11/2/15	0908	SOIL	1	x													H							X
26	CO-33-3	11/2/15	0912	SOIL	1	x													X							
27	CO-33-3 DUP	11/2/15	0912	SOIL	1	x													X							
28	CO-33-4	11/2/15	0914	SOIL	1	x													H							X
29	CO-33-5	11/2/15	0916	SOIL	1	x													H							X
30	CO-35-1	11/2/15	0918	SOIL	1	x													H							X

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TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NUMBER: Former Coachella Substation

P.O. NO.: 3615-A4001-002 Task 01

PROJECT CONTACT: Ron Kofron

SAMPLER(S): (PRINT) Paul Garcia / Nia Nikmanesh

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31	CO-35-2	11/2/15	0920	SOIL	1	x													H							X
32	CO-35-3	11/2/15	0922	SOIL	1	x													X							
33	CO-35-4	11/2/15	0924	SOIL	1	x													H							X
34	CO-35-5	11/2/15	0926	SOIL	1	x													H							X
35	CO-41-1	11/2/15	0928	SOIL	1	x													H							X
36	CO-41-2	11/2/15	0930	SOIL	1	x													H							X
37	CO-41-3	11/2/15	0932	SOIL	1	x													X							
38	CO-41-3 DUP	11/2/15	0932	SOIL	1	x													X							
39	CO-41-4	11/2/15	0933	SOIL	1	x													H							X
40	CO-41-5	11/2/15	0935	SOIL	1	x													H							X

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ADDRESS: 10675 Sorrento Valley Road Suite 203

CITY: San Diego STATE: CA ZIP: 92121

TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NUMBER: Former Coachella Substation

P.O. NO.: 3615-A4001-002 Task 01

PROJECT CONTACT: Ron Kofron

SAMPLER(S): (PRINT) Paul Garcia / Nia Nikmanesh

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41	CO-43-1	11/2/15	0948	SOIL	1	x													H							V
42	CO-43-2	11/2/15	0950	SOIL	1	x													H							X
43	CO-43-3	11/2/15	0951	SOIL	1	x													X							
44	CO-43-4	11/2/15	0953	SOIL	1	x													H							X
45	CO-43-5	11/2/15	0955	SOIL	1	x													H							X
46	CO-45-1	11/2/15	0957	SOIL	1	x													H							X
47	CO-45-2	11/2/15	1000	SOIL	1	x													H							X
48	CO-45-3	11/2/15	1002	SOIL	1	x													X							
49	CO-45-3 DUP	11/2/15	1002	SOIL	1	x													X							
50	CO-45-4	11/2/15	1004	SOIL	1	x													H							X

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 11/3/15	Time: 1000
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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REQUESTED ANALYSES

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LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ____	BTEX / MTBE ☐ 8260 ☐ ____	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6				Hold
51	CO-45-5	11/2/15	1005	SOIL	1	x													H							Y
52	CO-47-1	11/2/15	1007	SOIL	1	x													H							X
53	CO-47-2	11/2/15	1009	SOIL	1	x													H							X
54	CO-47-3	11/2/15	1011	SOIL	1	x													X							
55	CO-47-3DUP	11/2/15	1011	SOIL	1	x													X							
56	CO-47-4	11/2/15	1013	SOIL	1	x													H							X
57	CO-47-5	11/2/15	1014	SOIL	1	x													H							X
58	CO-49-1	11/2/15	1016	SOIL	1	x													H							X
59	CO-49-2	11/2/15	1017	SOIL	1	x													H							X
60	CO-49-3	11/2/15	1019	SOIL	1	x													X							

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: **15-11-0097**

DATE: November 2, 2015

PAGE: 7 OF 30

LABORATORY CLIENT: Apex Companies, LLC

ADDRESS: 10675 Sorrento Valley Road Suite 203

CITY: San Diego STATE: CA ZIP: 92121

TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NUMBER: Former Coachella Substation

P.O. NO.: 3615-A4001-002 Task 01

PROJECT CONTACT: Ron Kofron

SAMPLER(S): (PRINT) Paul Garcia / Nia Nikmanesh

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

☐ COELT EDF GLOBAL ID: LOG CODE:

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

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61	CO-49-4	11/2/15	1020	SOIL	1	x													H							X
62	CO-49-5	11/2/15	1022	SOIL	1	x													H							X
63	CO-081-0	11/2/15	1103	SOIL	1	x													X							
64	CO-081-1	11/2/15	1104	SOIL	1	x													H							X
65	CO-081-2	11/2/15	1106	SOIL	1	x													H							X
66	CO-081-3	11/2/15	1108	SOIL	1	x													X							
67	CO-081-4	11/2/15	1111	SOIL	1	x													H							X
68	CO-081-5	11/2/15	1114	SOIL	1	x													H							X
69	CO-083-0	11/2/15	1115	SOIL	1	x													X							
70	CO-083-0 DUP	11/2/15	1115	SOIL	1	x													X							

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WO # / LAB USE ONLY: **15-11-0097**

DATE: November 2, 2015

PAGE: 8 OF 30

LABORATORY CLIENT: Apex Companies, LLC

ADDRESS: 10675 Sorrento Valley Road Suite 203

CITY: San Diego STATE: CA ZIP: 92121

TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NUMBER: Former Coachella Substation

P.O. NO.: 3615-A4001-002 Task 01

PROJECT CONTACT: Ron Kofron

SAMPLER(S): (PRINT) Paul Garcia / Nia Nikmanesh

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
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☐ COELT EDF GLOBAL ID: LOG CODE:

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71	CO-083-1	11/2/15	1116	SOIL	1	x													H							X
72	CO-083-2	11/2/15	1118	SOIL	1	x													H							X
73	CO-083-3	11/2/15	1120	SOIL	1	x													X							
74	CO-083-4	11/2/15	1123	SOIL	1	x													H							X
75	CO-083-5	11/2/15	1125	SOIL	1	x													H							X
76	CO-085-0	11/2/15	1126	SOIL	1	x													X							
77	CO-085-0 DUP	11/2/15	1126	SOIL	1	x													X							
78	CO-085-1	11/2/15	1128	SOIL	1	x													H							X
79	CO-085-2	11/2/15	1130	SOIL	1	x													H							X
80	CO-085-3	11/2/15	1131	SOIL	1	x													X							

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DATE: November 2, 2015

PAGE: 9 OF 30

LABORATORY CLIENT: Apex Companies, LLC

ADDRESS: 10675 Sorrento Valley Road Suite 203

CITY: San Diego STATE: CA ZIP: 92121

TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NUMBER: Former Coachella Substation

P.O. NO.: 3615-A4001-002 Task 01

PROJECT CONTACT: Ron Kofron

SAMPLER(S): (PRINT) Paul Garcia / Nia Nikmanesh

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
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☐ COELT EDF GLOBAL ID: LOG CODE:

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81	CO-085-4	11/2/15	1133	SOIL	1	x													H							X
82	CO-085-5	11/2/15	1135	SOIL	1	x													H							X
83	CO-087-0	11/2/15	1136	SOIL	1	x													X							
84	CO-087-1	11/2/15	1138	SOIL	1	x													H							X
85	CO-087-2	11/2/15	1140	SOIL	1	x													H							X
86	CO-087-3	11/2/15	1200	SOIL	1	x													X							
87	CO-087-4	11/2/15	1202	SOIL	1	x													H							X
88	CO-087-5	11/2/15	1205	SOIL	1	x													H							X
89	CO-089-0	11/2/15	1206	SOIL	1	x													X							
90	CO-089-0 DUP	11/2/15	1206	SOIL	1	x													X							

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DATE: November 2, 2015

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LABORATORY CLIENT: Apex Companies, LLC

ADDRESS: 10675 Sorrento Valley Road Suite 203

CITY: San Diego STATE: CA ZIP: 92121

TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NUMBER: Former Coachella Substation

P.O. NO.: 3615-A4001-002 Task 01

PROJECT CONTACT: Ron Kofron

SAMPLER(S): (PRINT) Paul Garcia / Nia Nikmanesh

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

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☐ COELT EDF GLOBAL ID: LOG CODE:

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91	CO-089-1	11/2/15	1208	SOIL	1	x													H							X
92	CO-089-2	11/2/15	1210	SOIL	1	x													H							X
93	CO-089-3	11/2/15	1214	SOIL	1	x													X							
94	CO-089-4	11/2/15	1220	SOIL	1	x													H							X
95	CO-089-5	11/2/15	1227	SOIL	1	x													H							X
96	CO-091-0	11/2/15	1300	SOIL	1	x													X							
97	CO-091-1	11/2/15	1303	SOIL	1	x													H							X
98	CO-091-2	11/2/15	1305	SOIL	1	x													H							X
99	CO-091-3	11/2/15	1307	SOIL	1	x													X							
100	CO-091-4	11/2/15	1309	SOIL	1	x													H							X

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ADDRESS: 10675 Sorrento Valley Road Suite 203

CITY: San Diego STATE: CA ZIP: 92121

TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NUMBER: Former Coachella Substation

P.O. NO.: 3615-A4001-002 Task 01

PROJECT CONTACT: Ron Kofron

SAMPLER(S): (PRINT) Paul Garcia / Nia Nikmanesh

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101	CO-091-5	11/2/15	1311	SOIL	1	x													H							X
102	CO-093-0	11/2/15	1312	SOIL	1	x													X							
103	CO-093-0 DUP	11/2/15	1312	SOIL	1	x													X							
104	CO-093-1	11/2/15	1314	SOIL	1	x													H							X
105	CO-093-2	11/2/15	1319	SOIL	1	x													H							X
106	CO-093-3	11/2/15	1322	SOIL	1	x													X							
	~~CO-093-4~~	~~11/2/15~~		~~SOIL~~	~~1~~	~~x~~													~~H~~			NN				
	~~CO-093-5~~	~~11/2/15~~		~~SOIL~~	~~1~~	~~x~~													~~H~~			NN				
107	CO-095-0	11/2/15	1345	SOIL	1	x													X							
108	CO-095-1	11/2/15	1348	SOIL	1	x													H							X

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LABORATORY CLIENT: Apex Companies, LLC

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109	CO-095-2	11/2/15	1350	SOIL	1	x													H							X
110	CO-095-3	11/2/15	1352	SOIL	1	x													X							
111	CO-095-4	11/2/15	1354	SOIL	1	x													H							X
112	CO-095-5	11/2/15	1357	SOIL	1	x													H							X
113	CO-097-0	11/2/15	1400	SOIL	1	x													X							
114	CO-097-0DUP	11/2/15	1400	SOIL	1	x													X							
115	CO-097-1	11/2/15	1401	SOIL	1	x													H							X
116	CO-097-2	11/2/15	1402	SOIL	1	x													H							X
117	CO-097-3	11/2/15	1404	SOIL	1	x													X							
118	CO-097-4	11/2/15	1405	SOIL	1	x													H							X

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119	CO-097-5	11/2/15	1407	SOIL	1	x													H							✓
120	CO-099-0	11/2/15	1408	SOIL	1	x													X							
121	CO-099-0Dup	11/2/15	1408	SOIL	1	x													X							
122	CO-099-1	11/2/15	1423	SOIL	1	x													H							X
123	CO-099-2	11/2/15	1425	SOIL	1	x													H							X
124	CO-099-3	11/2/15	1427	SOIL	1	x													X							
125	CO-099-4	11/2/15	1428	SOIL	1	x													H							X
126	CO-099-5	11/2/15	1429	SOIL	1	x													H							X
127	CO-101-0	11/2/15	1430	SOIL	1	x													X							
128	CO-101-1	11/2/15	1431	SOIL	1	x													H							X

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129	CO-101-2	11/2/15	1432	SOIL	1	x													H							X
130	CO-101-3	11/2/15	1434	SOIL	1	x													X							
131	CO-101-4	11/2/15	1435	SOIL	1	x													H							X
132	CO-101-5	11/2/15	1436	SOIL	1	x													H							X
133	CO-103-0	11/2/15	1437	SOIL	1	x													X							
134	CO-103-0 DUP	11/2/15	1437	SOIL	1	x													X							
135	CO-103-1	11/2/15	1438	SOIL	1	x													H							X
136	CO-103-2	11/2/15	1440	SOIL	1	x													H							X
137	CO-103-3	11/2/15	1441	SOIL	1	x													X							
138	CO-103-4	11/2/15	1442	SOIL	1	x													H							X

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: **15-11-0097**

DATE: November 2, 2015

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LABORATORY CLIENT: Apex Companies, LLC

ADDRESS: 10675 Sorrento Valley Road Suite 203

CITY: San Diego STATE: CA ZIP: 92121

TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NUMBER: Former Coachella Substation

P.O. NO.: 3615-A4001-002 Task 01

PROJECT CONTACT: Ron Kofron

SAMPLER(S): (PRINT) Paul Garcia / Nia Nikmanesh

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

☐ COELT EDF GLOBAL ID: LOG CODE:

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ____	BTEX / MTBE ☐ 8260 ☐ ____	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6				Hold
139	CO-103-5	11/2/15	1444	SOIL	1	x													H							Y
140	CO-105-0	11/2/15	1450	SOIL	1	x													X							
141	CO-105-0DUP	11/2/15	1450	SOIL	1	x													X							
142	CO-105-1	11/2/15	1456	SOIL	1	x													H							X
143	CO-105-2	11/2/15	1459	SOIL	1	x													H							X
144	CO-105-3	11/2/15	1500	SOIL	1	x													X							
145	CO-105-4	11/2/15	1502	SOIL	1	x													H							X
146	CO-105-5	11/2/15	1504	SOIL	1	x													H							X
147	CO-107-0	11/2/15	1505	SOIL	1	x													X							
148	CO-107-1	11/2/15	1506	SOIL	1	x													H							X

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: **15-11-0097**

DATE: November 2, 2015

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LABORATORY CLIENT: Apex Companies, LLC

ADDRESS: 10675 Sorrento Valley Road Suite 203

CITY: San Diego STATE: CA ZIP: 92121

TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NUMBER: Former Coachella Substation

P.O. NO.: 3615-A4001-002 Task 01

PROJECT CONTACT: Ron Kofron

SAMPLER(S): (PRINT) Paul Garcia / Nia Nikmanesh

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
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☐ COELT EDF GLOBAL ID: LOG CODE:

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149	CD-107-2	11/2/15	1508	SOIL	1	x													H							X
150	CD-107-3	11/2/15	1510	SOIL	1	x													X							
151	CD-107-4	11/2/15	1512	SOIL	1	x													H							X
152	CD-107-5	11/2/15	1513	SOIL	1	x													H							X
153	CD-109-0	11/2/15	1515	SOIL	1	x													X							
154	CD-109-0DUP	11/2/15	1515	SOIL	1	x													X							
155	CD-109-1	11/2/15	1516	SOIL	1	x													H							X
156	CD-109-2	11/2/15	1520	SOIL	1	x													H							X
157	CD-109-3	11/2/15	1522	SOIL	1	x													X							
158	CD-109-4	11/2/15	1524	SOIL	1	x													H							X

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LABORATORY CLIENT: Apex Companies, LLC

ADDRESS: 10675 Sorrento Valley Road Suite 203

CITY: San Diego STATE: CA ZIP: 92121

TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NUMBER: Former Coachella Substation

P.O. NO.: 3615-A4001-002 Task 01

PROJECT CONTACT: Ron Kofron

SAMPLER(S): (PRINT) Paul Garcia / Nia Nikmanesh

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
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☐ COELT EDF GLOBAL ID: LOG CODE:

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159	CO-109-5	11/2/15	1525	SOIL	1	x													H							✓
160	CO-111-0	11/2/15	1526	SOIL	1	x													X							
161	CO-111-1	11/2/15	1535	SOIL	1	x													H							X
162	CO-111-2	11/2/15	1537	SOIL	1	x													H							X
163	CO-111-3	11/2/15	1539	SOIL	1	x													X							
164	CO-111-4	11/2/15	1541	SOIL	1	x													H							X
165	CO-111-5	11/2/15	1543	SOIL	1	x													H							X
166	CO-113-0	11/2/15	1544	SOIL	1	x													X							
167	CO-113-0DUP	11/2/15	1544	SOIL	1	x													X							
168	CO-113-1	11/2/15	1545	SOIL	1	x													H							X

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WO # / LAB USE ONLY: **15-11-0097**

DATE: November 2, 2015

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LABORATORY CLIENT: Apex Companies, LLC

ADDRESS: 10675 Sorrento Valley Road Suite 203

CITY: San Diego STATE: CA ZIP: 92121

TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NUMBER: Former Coachella Substation

P.O. NO.: 3615-A4001-002 Task 01

PROJECT CONTACT: Ron Kofron

SAMPLER(S): (PRINT) Paul Garcia / Nia Nikmanesh

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
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☐ COELT EDF GLOBAL ID: LOG CODE:

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169	CO-113-2	11/2/15	1548	SOIL	1	x													H							X
170	CO-113-3	11/2/15	1550	SOIL	1	x													X							
171	CO-113-4	11/2/15	1551	SOIL	1	x													H							X
172	CO-113-5	11/2/15	1553	SOIL	1	x													H							X
173	CO-IDW	11/2/15	1600	~~SOIL~~ WATER	1	x													X							
		11/ /15		SOIL	1	x																				
		11/ /15		SOIL	1	x																				
		11/ /15		SOIL	1	x																				
		11/ /15		SOIL	1	x																				
		11/ /15		SOIL	1	x																				

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DATE: November 2, 2015

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LABORATORY CLIENT: Apex Companies, LLC

ADDRESS: 10675 Sorrento Valley Road Suite 203

CITY: San Diego STATE: CA ZIP: 92121

TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

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174	CO-02-1	11/2/15	815	SOIL	1	x													X							X
175	CO-02-2	11/ /15	817	SOIL	1	x																				X
176	CO-02-3	11/ /15	820	SOIL	1	x																	X			X
177	CO-02-4	11/ /15	823	SOIL	1	x																				X
178	CO-02-5	11/ /15	828	SOIL	1	x																				X
179	CO-04-1	11/ /15	832	SOIL	1	x																				X
180	CO-04-2	11/ /15	835	SOIL	1	x																				X
181	CO-04-3	11/ /15	852	SOIL	1	x																	X			
182	CO-04-3-DUP	11/ /15	852	SOIL	1	x																	X			
183	CO-~~04-4~~20-1	11/ /15	906	SOIL	1	x																				X

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LABORATORY CLIENT: Apex Companies, LLC

ADDRESS: 10675 Sorrento Valley Road Suite 203

CITY: San Diego STATE: CA ZIP: 92121

TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

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184	CO-20-2	11/2/15	909	SOIL	1	x																				X
185	CO-20-3	11/2/15	915	SOIL	1	x													X							
186	CO-20-4	11/2/15	920	SOIL	1	x																				X
	~~CO-20-5~~	~~11/ /15~~		~~SOIL~~	~~1~~	~~x~~																				
187	CO-34-1	11/2/15	932	SOIL	1	x																				X
188	CO-34-2	11/2/15	934	SOIL	1	x																				X
189	CO-34-3	11/2/15	938	SOIL	1	x													X							
190	CO-34-4	11/2/15	941	SOIL	1	x																				X
191	CO-34-5	11/2/15	943	SOIL	1	x																				X
192	CO-44-1	11/2/15	954	SOIL	1	x																				X

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193	CO-44-2	11/2/15	1001	SOIL	1	x																				X
194	CO-44-3	11/2/15	1006	SOIL	1	x													X							
195	CO-44-3-DUP	11/2/15	1006	SOIL	1	x													X							
196	CO-44-4	11/2/15	1007	SOIL	1	x																				X
197	CO-44-5	11/2/15	1009	SOIL	1	x																				X
198	CO-48-1	11/2/15	1012	SOIL	1	x																				X
199	CO-48-2	11/2/15	1013	SOIL	1	x																				X
200	CO-48-3	11/2/15	1015	SOIL	1	x													X							
201	CO-48-4	11/2/15	1017	SOIL	1	x																				X
202	CO-48-5	11/2/15	1019	SOIL	1	x																				X

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PAGE: 22 OF 30

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203	CO-52-1	11/2/15	1022	SOIL	1	x																				X
204	CO-52-2	11/2/15	1024	SOIL	1	x																				X
205	CO-52-3	11/2/15	1025	SOIL	1	x													X							
206	CO-52-4	11/2/15	1027	SOIL	1	x																				X
207	CO-52-5	11/2/15	1029	SOIL	1	x																				X
208	CO-54-1	11/2/15	1052	SOIL	1	x																				X
209	CO-54-2	11/2/15	1100	SOIL	1	x																				X
210	CO-54-3	11/2/15	1102	SOIL	1	x													X							
211	CO-54-3-Dup	11/2/15	1102	SOIL	1	x													X							
212	CO-54-4	11/2/15	1103	SOIL	1	x																				X

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: **15-11-0097**

DATE: November 2, 2015

PAGE: 23 OF 30

LABORATORY CLIENT: Apex Companies, LLC

ADDRESS: 10675 Sorrento Valley Road Suite 203

CITY: San Diego STATE: CA ZIP: 92121

TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NUMBER: Former Coachella Substation

P.O. NO.: 3615-A4001-002 Task 01

PROJECT CONTACT: Ron Kofron

SAMPLER(S): (PRINT) Paul Garcia / Nia Nikmanesh

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

☐ COELT EDF GLOBAL ID: LOG CODE:

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ____	BTEX / MTBE ☐ 8260 ☐ ____	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6				Hold
213	CO-54-5	11/2/15	1104	SOIL	1	x																				X
214	CO-056-1	11/2/15	1108	SOIL	1	x																				X
215	CO-056-2	11/2/15	1110	SOIL	1	x																				X
216	CO-056-3	11/2/15	1114	SOIL	1	x													X							
217	CO-056-4	11/2/15	1116	SOIL	1	x																				X
218	CO-056-5	11/2/15	1118	SOIL	1	x																				X
219	CO-068-1	11/2/15	1122	SOIL	1	x																				X
220	CO-068-2	11/2/15	1124	SOIL	1	x																				X
221	CO-068-3	11/2/15	1126	SOIL	1	x													X							
222	CO-068-3-DUP	11/2/15	1126	SOIL	1	x													X							

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DATE: November 2, 2015

PAGE: 24 OF 30

LABORATORY CLIENT: Apex Companies, LLC

ADDRESS: 10675 Sorrento Valley Road Suite 203

CITY: San Diego STATE: CA ZIP: 92121

TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NUMBER: Former Coachella Substation

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PROJECT CONTACT: Ron Kofron

SAMPLER(S): (PRINT) Paul Garcia / Nia Nikmanesh

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223	CO-068-4	11/2/15	1132	SOIL	1	x													X							X
224	CO-068-5	11/2/15	1136	SOIL	1	x													X							X
225	CO-060-1	11/2/15	1203	SOIL	1	x																				X
226	CO-060-2	11/2/15	~~1205~~ 1205	SOIL	1	x																				X
227	CO-060-3	11/2/15	1208	SOIL	1	x													X							
228	CO-060-4	11/2/15	1214	SOIL	1	x																				X
229	CO-060-5	11/2/15	1216	SOIL	1	x																				X
230	CO-070-1	11/2/15	1219	SOIL	1	x																				X
231	CO-070-2	11/2/15	1222	SOIL	1	x																				X
232	CO-070-3	11/2/15	1224	SOIL	1	x													X							

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TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NUMBER: Former Coachella Substation

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233	CO-070-3-Dup	11/2/15	1224	SOIL	1	x													X							
234	CO-070-4	11/2/15	1227	SOIL	1	x																				X
235	CO-070-5	11/2/15	1229	SOIL	1	x																				X
236	CO-072-1	11/2/15	1305	SOIL	1	x																				X
237	CO-072-2	11/2/15	1309	SOIL	1	x																				X
238	CO-072-3	11/2/15	1311	SOIL	1	x													X							
239	CO-072-4	11/2/15	1316	SOIL	1	x																				X
240	CO-072-5	11/2/15	1318	SOIL	1	x																				X
241	CO-080-0	11/2/15	1319	SOIL	1	x													X							
242	CO-080-0-Dup	11/2/15	1319	SOIL	1	x													X							

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PAGE: 26 OF 30

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CITY: San Diego STATE: CA ZIP: 92121

TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

CLIENT PROJECT NAME / NUMBER: Former Coachella Substation

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SAMPLER(S): (PRINT) Paul Garcia / Nia Nikmanesh

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243	CO-080-1	11/2/15	1320	SOIL	1	x																				X
244	CO-080-2	11/2/15	1322	SOIL	1	x																				X
245	CO-080-3	11/2/15	1325	SOIL	1	x													X							
246	CO-080-4	11/2/15	1330	SOIL	1	x																				X
247	CO-080-5	11/2/15	1332	SOIL	1	x																				X
248	CO-082-0	11/2/15	1333	SOIL	1	x													X							
249	CO-082-1	11/2/15	1337	SOIL	1	x																				X
250	CO-082-2	11/2/15	1339	SOIL	1	x.																				X
251	CO-082-3	11/2/15	1342	SOIL	1	x													X							
252	CO-082-4	11/2/15	1346	SOIL	1	x																				X

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LABORATORY CLIENT: Apex Companies, LLC

ADDRESS: 10675 Sorrento Valley Road Suite 203

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TEL: 858-558-1120 E-MAIL: rkofron@apexcos.com

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253	CO-082-5	11/2/15	1349	SOIL	1	x																				X
254	CO-084-0	11/2/15	1403	SOIL	1	x													X							
255	CO-084-0-Dup	11/2/15	1403	SOIL	1	x													X							
256	CO-084-1	11/2/15	1406	SOIL	1	x																				X
257	CO-084-2	11/2/15	1410	SOIL	1	x																				X
258	CO-084-3	11/2/15	1413	SOIL	1	x													X							
259	CO-084-4	11/2/15	1415	SOIL	1	x																				X
260	CO-084-5	11/2/15	1418	SOIL	1	x																				X
261	CO-086-0	11/2/15	1419	SOIL	1	x													X							
262	CO-086-1	11/2/15	1421	SOIL	1	x																				X

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263	CO-086-2	11/2/15	1424	SOIL	1	x																				X
264	CO-086-3	11/2/15	1428	SOIL	1	x													X							
265	CO-086-4	11/2/15	1429	SOIL	1	x																				X
266	CO-086-5	11/2/15	1432	SOIL	1	x																				X
267	CO-088-0	11/2/15	1439	SOIL	1	x													X							
268	CO-088-0-DUP	11/2/15	1439	SOIL	1	x													X							
269	CO-088-1	11/2/15	1442	SOIL	1	x																				X
270	CO-088-2	11/2/15	1450	SOIL	1	x																				X
271	CO-088-3	11/2/15	1453	SOIL	1	x													X							
272	CO-088-4	11/2/15	1456	SOIL	1	x																				X

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273	CO-088-5	11/2/15	1459	SOIL	1	x																				X
274	CO-090-0	11/2/15	1502	SOIL	1	x													X							
275	CO-090-1	11/2/15	1512	SOIL	1	x																				X
276	CO-090-2	11/2/15	1515	SOIL	1	x																				X
277	CO-090-3	11/2/15	1517	SOIL	1	x													X							
278	CO-090-4	11/2/15	1518	SOIL	1	x																				X
279	CO-090-5	11/2/15	1522	SOIL	1	x																				X
280	CO-092-0	11/2/15	1523	SOIL	1	x													X							
281	CO-092-0-Dup	11/2/15	1523	SOIL	1	x													X							
282	CO-092-1	11/2/15	1520	SOIL	1	x																				X

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283	CO-092-2	11/2/15	1528	SOIL	1	x																				
284	CO-092-3	11/2/15	1530	SOIL	1	x													X							
285	CO-092-4	11/2/15	1532	SOIL	1	x																				
286	CO-092-5	11/2/15	1533	SOIL	1	x																				
287	CO-094-0	11/2/15	1534	SOIL	1	x													X							
288	CO-094-1	11/2/15	1536	SOIL	1	x																				
289	CO-094-2	11/2/15	1539	SOIL	1	x																				
290	CO-094-3	11/2/15	1541	SOIL	1	x													X							
291	CO-094-4	11/2/15	1542	SOIL	1	x																				
292	CO-094-5	11/2/15	1544	SOIL	1	x																				

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FedEx 0260 8004 7194 8369
Mstr# 8082 3053 9141 0215

TUE - 03 NOV AA
STANDARD OVERNIGHT

92 APVA

92841
CA-US
SNA

1 of 5

FedEx TRK# 0215 8082 3053 9141
MASTER

TUE - 03 NOV AA
STANDARD OVERNIGHT

92 APVA

0097

92841
CA-US
SNA

FID 630714 02NOV15 PSPA 539C2/3F56/31D0

FedEx Express Package US Airbill

FedEx Tracking Number 8082 3053 9141

Form ID No. 0215

1 From

Date 11/2/15

Sender's Name Nia Nikmanesh Phone 858 444-6107

Company Apex Companies LLC

Address 10675 Sorrento Valley Rd Suite 203 Dept./Floor/Suite/Room

City San Diego State CA ZIP 92121

2 Your Internal Billing Reference 3601023.001

3 To

Recipient's Name SAMPLE CONTROL Phone 714 895-549

Company CALSCIENCE ENVIRONMENTAL LAB

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City GARDEN GROVE State CA ZIP 92841-1427

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FedEx location address REQUIRED. NOT availab FedEx First Overnight.

HOLD Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

4 Express Package Service *To most locations.
NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs. For packages over 150 lbs. use the FedEx Express Freight US Airbill.

Next Business Day

- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [x] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

- [ ] FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

TRK# 0201 7816 3616 0010

TUE - 03 NOV 3:
STANDARD OVERNIGH

92 APVA

92841
CA-US SNA

Dangerous goods ... or placed in a FedEx Express Drop Box.

7 Payment Bill to:

Sender Acct. No. in Section ... Enter FedEx Acct. No. or Credit Card No. below. Obtain recip. Acct. No.

3 of 5

FedEx 0260 8004 7194 8370
Mstr# 8082 3053 9141 0215

TUE - 03 NOV AA
STANDARD OVERNIGHT

92 APVA

92841
CA-US
SNA

4 of 5

FedEx 0260 8004 7194 8380
Mstr# 8082 3053 9141 0215

TUE - 03 NOV AA
STANDARD OVERNIGHT

92 APVA

92841
CA-US
SNA

5 of 5

FedEx 0260 8004 7194 8391
Mstr# 8082 3053 9141 0215

TUE - 03 NOV AA
STANDARD OVERNIGHT

92 APVA

92841
CA-US
SNA

eurofins | Calscience

WORK ORDER NUMBER: 15-11- 0097

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 5

CLIENT: APEX

DATE: 11 / 03 / 2015

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2 (CF:-0.4°C); Temperature (w/o CF): 2.8 °C (w/ CF): 2.4 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 15

CUSTODY SEAL:

Cooler	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 15
Sample(s)	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 603

SAMPLE CONDITION:

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☐	☑	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☑ No relinquished date ☑ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

Solid: ☑ 4ozCGJ ☑ 8ozCGJ (-1) ☐ 16ozCGJ ☐ Sleeve (_____) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **znna** = $Zn(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 603

Reviewed by: 836

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WORK ORDER NUMBER: 15-11- 0097

SAMPLE RECEIPT CHECKLIST

COOLER 2 OF 5

CLIENT: APEX

DATE: 11 / 03 / 2015

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2 (CF:-0.4°C); Temperature (w/o CF): 3.1 °C (w/ CF): 2.7 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 15

CUSTODY SEAL:

Cooler	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 15
Sample(s)	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 603

SAMPLE CONDITION:

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☐	☑	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☑ No relinquished date ☑ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☑	☐	☐
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOAh ☐ VOAna$_2$ ☐ 100PJ ☐ 100PJna$_2$ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☐ 125PB

☐ 125PBznna ☐ 250AGB ☐ 250CGB ☐ 250CGBs ☐ 250PB ☐ 250PBn ☐ 500AGB ☐ 500AGJ ☐ 500AGJs

☐ 500PB ☑ 1AGB ☐ 1AGBna$_2$ ☐ 1AGBs ☐ 1PB ☐ 1PBna ☑ 1AGJ (-17°) ☐ _____ ☐ _____ ☐ _____

Solid: ☑ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (_____) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **znna** = $Zn(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 603

Reviewed by: 836

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WORK ORDER NUMBER: 15-11- 0097

SAMPLE RECEIPT CHECKLIST

COOLER 3 OF 5

CLIENT: APEX

DATE: 11 / 03 / 2015

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2 (CF:-0.4°C); Temperature (w/o CF): 2.9 °C (w/ CF): 2.5 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 15

CUSTODY SEAL:

Cooler	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 15
Sample(s)	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 603

SAMPLE CONDITION:

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☐	☑	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☑ No relinquished date ☑ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☑ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

Solid: ☑ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (_____) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **znna** = $Zn(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 603

Reviewed by: 836

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WORK ORDER NUMBER: 15-11- 0097

SAMPLE RECEIPT CHECKLIST

COOLER 4 OF 5

CLIENT: APEX

DATE: 11 / 03 / 2015

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2 (CF:-0.4°C); Temperature (w/o CF): 2.2 °C (w/ CF): 1.8 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 15

CUSTODY SEAL:

Cooler	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 15
Sample(s)	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 603

SAMPLE CONDITION:

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☐	☑	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☑ No relinquished date ☑ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

Solid: ☑ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (_____) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **znna** = $Zn(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 603

Reviewed by: 836

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WORK ORDER NUMBER: 15-11- 0097

SAMPLE RECEIPT CHECKLIST

COOLER 5 OF 6

CLIENT: APEX

DATE: 11 / 03 / 2015

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2 (CF:-0.4°C); Temperature (w/o CF): 3.4 °C (w/ CF): 3.0 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 15

CUSTODY SEAL:

Cooler	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 15
Sample(s)	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 603

SAMPLE CONDITION:

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☐	☑	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☑ No relinquished date ☑ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

Solid: ☑ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (_____) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **znna** = $Zn(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 603

Reviewed by: 836

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WORK ORDER NUMBER: 15-11- 0097

SAMPLE RECEIPT CHECKLIST

COOLER 6 OF 6

CLIENT: APEX

DATE: 11 / 03 / 2015

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2 (CF:-0.4°C); Temperature (w/o CF): 2.6 °C (w/ CF): 2.2 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 15

CUSTODY SEAL:

Cooler	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 15
Sample(s)	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 603

SAMPLE CONDITION:

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☐	☑	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
(-283, -285, -286, 288-289, 291-292) (page 22-30) ☑ No analysis requested ☑ Not relinquished ☑ No relinquished date ☑ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☑ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

Solid: ☑ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (_____) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **znna** = $Zn(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 603

Reviewed by: SM6

Return to Contents

APPENDIX B

BIOLOGICAL ASSESSMENT LETTER REPORT
FOR THE FORMER COACHELLA SUBSTATION
COACHELLA, CALIFORNIA
BLUE CONSULTING GROUP, INC.

APEX

BLUE CONSULTING GROUP
BIOLOGY ▪ LAND USE & ▪ ENTITLEMENTS

January 7, 2016

Ronald J. Kofron, CEG
Apex Companies, LLC
10675 Sorrento Valley Road
Suite 203
San Diego, California 92121

Subject: Biological Assessment Letter Report for the Former Substation Imperial Irrigation District; Coachella, California - Project #3615-A4001-02 - 02

Mr. Kofron

BLUE Consulting Group (BLUE) is pleased to provide this biological resources evaluation letter report for the subject project, a former Coachella substation. The subject Property, totaling approximately 0.30 acre, is located on the northwest corner of Vine Avenue and 9th Street, just west of Highway 111 in the City of Coachella, California.

SUMMARY

This Biological Evaluation is required for the proposed cleanup of the historically present Coachella substation, located on approximately 0.30 acres located on the northwest corner of Vine Avenue and 9th Street, just west of Highway 111 in the city of Coachella, California. (Figures 1-2).

On January 4, 2016 BLUE Senior Biologist Michael Jefferson completed a site survey. No U.S. Fish and Wildlife Service (USFWS) designated Critical Habitat and no Special Status Species listed as threatened or endangered were observed in the study area or within the proposed project footprint. No U.S. Geological Survey (USGS) blue line stream are located on or adjacent to the site. The vegetation communities within the assessment area include previously developed/disturbed habitat. Due to the historic developed nature of the property and proposed project footprint, no designated Critical Habitat, special status plant and/or wildlife species were detected or are expected to occur within the project area. A letter from USFWS dated December 18, 2015 which lists the current list of list of threatened and endangered species, species proposed for listing, and designated critical habitats present or potentially present in or around the area of the site has been referenced and attached.

INTRODUCTION, LOCATION, AND SETTING

The former Coachella substation is approximately 0.30-acre in size and is located on the northwest corner of Vine Avenue and 9th Street; west of Highway 111 in the city of Coachella, California. The site is situated in a suburban setting with single family homes to the north and west and businesses 240 feet

P.O. BOX 501115 SAN DIEGO, CA 92150 ☎858.391.8145 MIKE@BLUECONSULTING.COM

to the east on 9th Avenue. The Coachella Gas Turbine Generating Station operated by the IID is located to the southeast of the site (across 9th street). The site is surrounded by single family dwellings on the southwest and north sides and an adjacent vacant parcel to the northeast (Property Aerial, Figure 2).

The site is relatively level bare ground, and the entire ground surface is visible. All equipment associated with the former substation was previously removed from the site. The central portion of the site is uneven, apparently the result of soil disturbance during removal of the foundations during decommissioning of the substation. The entire soil surface was visible during the site visit.
The perimeter of the site is surrounded by a chain-link fence. No visual evidence of spills, stained or discolored soil was observed during our site reconnaissance. The north and east borders of the site are relatively level in elevation with the respective adjacent properties. The south and west borders of the site are approximately two to three feet higher in elevation than the adjacent concrete walkway. Evidence of runoff and sediment transport from the site along the southwest and southeast borders was observed.

Soil containing polychlorinated biphenyls (PCBs) at concentrations greater than 230 micrograms per kilogram (µg/kg) was identified at the former Coachella Substation during an audit of the former substation in July 2015. Notification of the discovery of PCBs was made to the USEPA on July 28, 2015. The discovery of PCBs in soil at the former Coachella Substation triggers a requirement in the CAFO to prepare a Cleanup Plan within 30 days of completion of the audit report. An extension of the due date for the Cleanup Plan was requested by the IID and was approved by the USEPA on October 13, 2015. The Cleanup Plan is due to the USEPA by January 16, 2016.

The lateral and vertical extent of PCBs in soil exceeding 230 µg/kg in soil has been adequately assessed for the remedial excavation. There are locations where the soil sample at the bottom of the boring (or the deepest sample analyzed) exhibits a concentration of more than 230 µg/kg.

The samples exhibiting more than 230 µg/kg of total PCBs in soil at 5 feet occur in two areas and are not widely distributed. The data gaps that exist will be managed by over excavation both laterally and vertically and addressed by confirmation sampling. The proposed depths and extent of excavations will be presented in the Cleanup Plan. Apex does not propose collection of additional samples prior to the proposed remedial excavation.

Soils onsite are comprised solely of Coachella fine sandy loam (CsA) with 0% - 2% slopes (websoilsurvey.USDA.gov).

BLUE senior biologist Michael Jefferson conducted the site assessment within the project area on January 4th, 2016. Survey details: 1000-1040; 85% Cloud Cover, 61*F, 5 mph wind.

SPECIES, SUITABLE HABITAT, and CRITICAL HABITAT

A list of vegetation communities found within the Biological Assessment area is located in Table 1. The vegetation community within the assessment area consists of: Disturbed Habitat which was previously

developed as an electrical sub-station. Since that time the infrastructure has been removed, but for small concrete box in the ground. The area surrounding the dirt site, including the immediately adjacent dirt area to the east, is considered urban developed/paved (Photographs 1-2).

Table 1
Onsite Vegetation

Vegetation Type (Holland Code)		
DIST	Disturbed (12000)	0.30
	Total (acres)	**0.30**

Disturbed Habitat

The observed Disturbed Habitat within the dirt lot is dominated by bare dirt. No trees or shrubs persist onsite. Within the center of the site, there is an un-natural depression, presumable a remnant of the previously existing sub-station or the work required to remove it. This area appears to collect water from the site before running offsite into the street. No native species were observed onsite.

No U.S. Army Corps of Engineers (USACE) Blue Line streams were observed or recorded onsite.

SENSITIVE BIOLOGICAL RESOURCES

Status of Species and Critical Habitat in the action area

The U.S. Fish and Wildlife Service letter (attached, August 10, 2015) found that no Critical Habitat is identified onsite and identified the current list of six (6) threatened and endangered species, species proposed for listing, and designated critical habitats present or potentially present in or around the area of the site.

This full list includes the following species:

Federally Listed Species

SCIENTIFIC NAME COMMON NAME	FEDERAL STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	HAS CRITICAL HABITAT	POTENTIAL TO OCCUR ON-STUDY AREA
PLANTS					
Coachella Valley milk-vetch (Astragalus lentiginosus var. Coachellae)	FE	It is known from less than 20 locations in the Coachella Valley. At one time, it occupied sand habitat in what is now Palm Springs and Palm Desert.	This Coachella Valley endemic species grows in dunes and sand flats, along the disturbed margins of sandy washes, and in sandy soils along roadsides in areas formerly	Final designated	Not observed. No potential habitat onsite or adjacent. No potential to occur.

SCIENTIFIC NAME COMMON NAME	FEDERAL STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	HAS CRITICAL HABITAT	POTENTIAL TO OCCUR ON-STUDY AREA
			occupied by undisturbed sand dunes.		
ANIMALS					
Birds					
Least Bell's vireo *(Vireo bellii pusillus)*	FE	Historically, the least Bell's vireo was a common to locally abundant species in lowland riparian habitat, ranging from coastal southern California through the Sacramento and San Joaquin Valleys. Least Bell's vireos winter in Baja California Peninsula.	Unlike during the breeding season, they are not limited in winter to willow-dominated riparian areas, but occupy a variety of habitats including mesquite scrub within arroyos, palm groves, and hedgerows bordering agricultural and residential areas.	Final designated	No potential habitat onsite or adjacent. No potential to occur.
Southwestern Willow flycatcher *(Empidonax traillii extimus)*	FE	Summer breeder within its range in the United States. It is gone to wintering areas in Central America by the end of September.	Requires dense riparian habitats (cottonwood/willow and tamarisk vegetation. Preferred nesting vegetation is Sonoran cottonwood willow and saltcedar.	Final designated	No potential habitat onsite or adjacent. No potential to occur.
Yuma Clapper rail *(Rallus longirostris)*	FE	Locally, significant populations in the Imperial Valley near and around the Salton Sea, in California	Species is associated with dense emergent riparian vegetation. Requires wet substrate (mudflat, sandbar) with dense herbaceous or woody vegetation for nesting and foraging. Fresh-water marshes dominated by cattail or bulrush are preferred habitat.		No potential habitat onsite or adjacent. No potential to occur.

SCIENTIFIC NAME COMMON NAME	FEDERAL STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	HAS CRITICAL HABITAT	POTENTIAL TO OCCUR ON-STUDY AREA
Reptiles					
Coachella Valley Fringe-Toed lizard *(Uma inornata*)	FT	This endemic species is only found in the Coachella Valley. Most of these lizards exist inside three protected areas of the Coachella Valley Preserve System	Occurs only on active sand dunes and their stabilized margins in the northern Coachella Valley.	Final designated	No potential habitat onsite or adjacent. No potential to occur.
Desert Tortoise (*Gopherus agassizii)*	FT	*Gopherus agassizii,* Desert tortoises, inhabit elevations from below mean sea level in Death Valley to 5,300 feet (1,615 m) in Arizona, though they are most common from around 1,000 to 3,500 feet (300-1,070 m).	Desert tortoises can live in areas with ground temperatures exceeding 140°F (60°C) because of their ability to dig underground burrows and escape the heat. At least 95% of their lives are spent in burrows from November through February or March.	Final designated	No potential habitat onsite or adjacent. No potential to occur.

1. Critical Habitat and Sensitive Habitat Communities

No Critical Habitat or sensitive habitat community is recorded onsite. The site supports no native habitat.

2. Special Status Plants

a. Observed

No plant species federally listed as threatened and endangered species, or species proposed for listing, were observed onsite. Due to the historical development onsite and surrounding the site, as well as the lack of native habitat adjacent to the site, no plants that are federally listed as threatened and endangered species, or species proposed for listing, are expected to occur.

b. Not Observed

Several other sensitive species are known to occur in the vicinity of the project site. However, due to the developed and disturbed/ruderal nature of the property these species are not considered as potentially occurring on-site based on the lack of supporting native vegetation communities.

3. Special Status Wildlife

No federally listed wildlife species listed as threatened and endangered species, or species proposed for listing, were observed onsite. Due to the historical development onsite and surrounding the site, the 8-

foot-tall chain-link and barbed wire fence, as well as the lack of native habitat adjacent to the site, no wildlife species that are federally listed as threatened and endangered species, or species proposed for listing, are expected to occur.

b. Not Observed

Several other sensitive wildlife species are known to occur in the vicinity of the project site. However, due to the developed and disturbed/ruderal nature of the property these species are not considered as potentially occurring on-site based on the lack of supporting native vegetation communities.

This property does not support quality habitat, does not support a portion of a formal corridor system and will not be impacting any identified corridors.

PROJECT IMPACTS

The proposed cleanup of the site includes grading, excavation, and import of clean fill material.

Threatened and Endangered species, Species Proposed for Listing

No effect. No species federally listed as Threatened and Endangered, or species proposed for listing were observed onsite (USFWS letter, Dec 18, 2015). Due to a lack of appropriate habitat, soils, and hydrology onsite and in the immediate area, these species are not expected to occur.

Designated critical habitats present

No effect. No USFWS Critical Habitat is located onsite (USFWS letter, Dec 18, 2015).

CUMULATIVE IMPACTS

The proposed project has no potential to affect a species listed as threatened or endangered or a listed critical habitat. Impacts are less than significant and are not considered cumulatively significant because the proposed project does not impact special status vegetation communities or species. Project impacts are considered minimal on a regional scale.

CONCLUSION

The site does not support USFWS designated Critical Habitat or any species federally listed as Threatened and Endangered, or species proposed for listing. The proposed project has no potential (No Affect) for exposure of any above-listed species or designated critical habitats to PCB's from the site. The proposed cleanup of the site has no potential to affect (No Affect) any above-listed species or designated critical habitats.

Thank you for the opportunity to provide this biological assessment. If you have any questions, please contact us at 858-391-8145.

Sincerely,

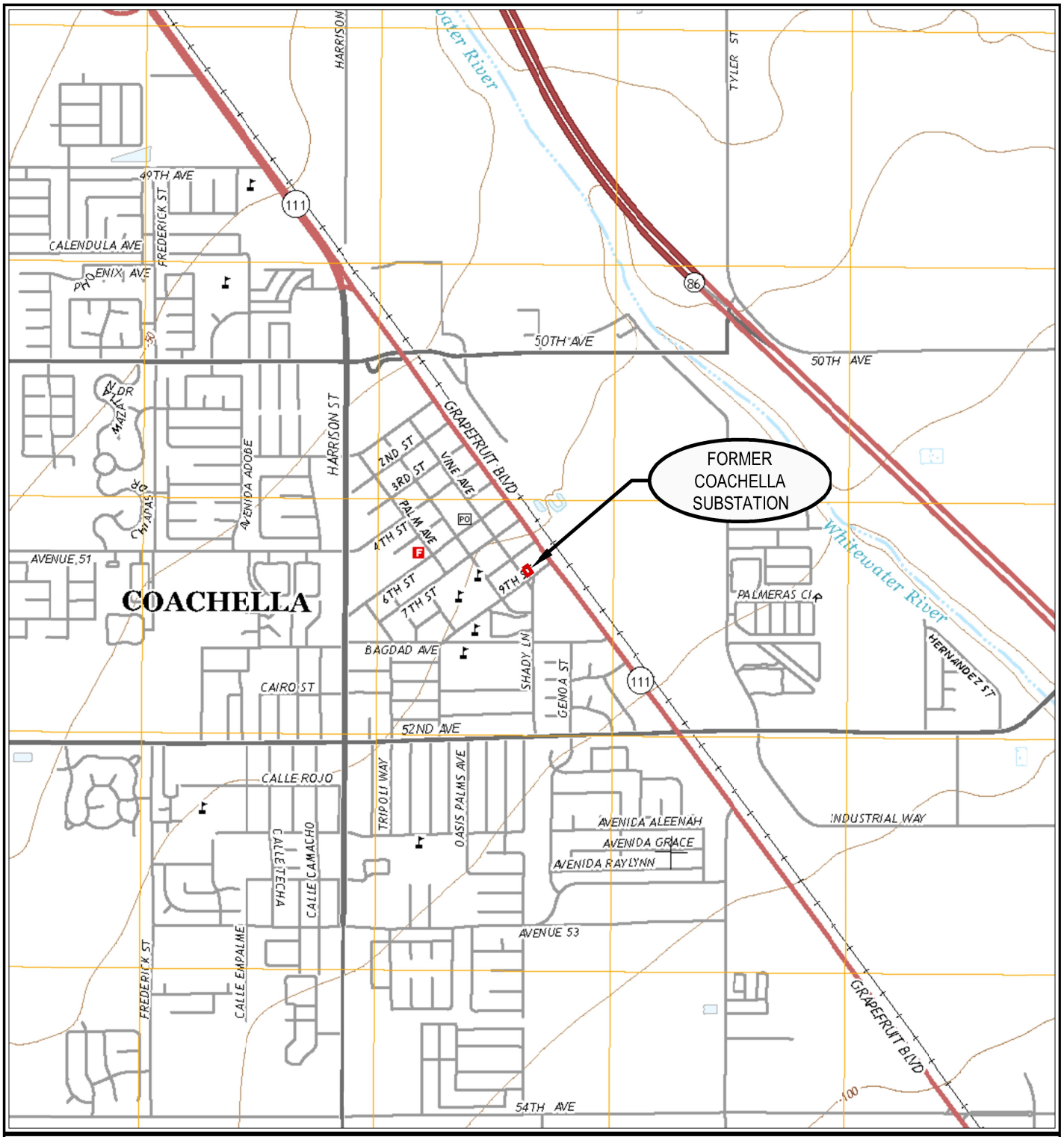
Michael Jefferson
BLUE Consulting Group
Senior Biologist

List of Attachments

Attachment A – Figures 1-2
Attachment B – Site Pictures (2)
Attachment C – USFWS Species/Critical Habitat Letter (Dec 18, 2015)
Attachment D – References
Attachment E – Certification and Wildlife Biologist Qualifications (Michael Jefferson)

ATTACHMENT A

P.O. Box 501115 San Diego, CA 92150 ☎858.391.8145 Mike@blueconsulting.com



QUADRANGLE LOCATION

Scale 1:24000

0 1/2 1 MILE

1000 0 1000 2000 3000 FEET

(SOURCE OF MAP IS USGS 7.5 MINUTE QUADRANGLE MAP, INDIO (2015), CALIFORNIA)

CHECK BY	RK
DRAWN BY	OS
DATE	10–21–15
SCALE	AS SHOWN
CAD NO.	3601023.01N2
PRJ NO.	3601023.001

SITE LOCATION MAP

FORMER COACHELLA SUBSTATION
IMPERIAL IRRIGATION DISTRICT
COACHELLA, CALIFORNIA

APEX

FIGURE

1

SCALE IN FEET

0 65 130 260

CHK BY	RK
DWN BY	OS
DATE	10–21–15
SCALE	AS SHOWN
CAD NO.	3601023.01M
PRJ NO.	3601023.001

SITE PLAN

FORMER COACHELLA SUBSTATION
IMPERIAL IRRIGATION DISTRICT
9th STREET AND VINE AVENUE
COACHELLA, CALIFORNIA

APEX

FIGURE

2

ATTACHMENT B

PHOTOGRAPHS 1 and 2 - Looking south over the site; highly disturbed surface (post Developed) supporting no vegetation

ATTACHMENT C

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish and Wildlife Office
2177 SALK AVENUE - SUITE 250
CARLSBAD, CA 92008
PHONE: (760)431-9440 FAX: (760)431-5901
URL: www.fws.gov/carlsbad/

Consultation Code: 08ECAR00-2016-SLI-0214 December 18, 2015
Event Code: 08ECAR00-2016-E-00298
Project Name: Former IID Coachella Substation : Project Number is 3615-A4001-02 - 02

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

Official Species List

Provided by:

Carlsbad Fish and Wildlife Office
2177 SALK AVENUE - SUITE 250
CARLSBAD, CA 92008
(760) 431-9440
http://www.fws.gov/carlsbad/

Consultation Code: 08ECAR00-2016-SLI-0214
Event Code: 08ECAR00-2016-E-00298

Project Type: ** OTHER **

Project Name: Former IID Coachella Substation : Project Number is 3615-A4001-02 - 02
Project Description: the former Coachella substation located on the northwest corner of Vine Avenue and 9th Street, just west of Highway 111 in the city of Coachella, California. Historically, The properties approximately 1/3 of an acre was utilized as an electrical substation. The completed onsite biological survey and letter report will assess the properties potential to support federally listed threatened or endangered species, or a listed critical habitat as required by the EPA.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-116.17329597473145 33.67767784157812, -116.17300629615784 33.677340800691695, -116.17329329252243 33.67716893165158, -116.17358833551405 33.67752829379818, -116.17329597473145 33.67767784157812)))

Project Counties: Riverside, CA

Endangered Species Act Species List

There are a total of 6 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	**Status**	**Has Critical Habitat**	**Condition(s)**
Least Bell's vireo *(Vireo bellii pusillus)* Population: Entire	Endangered	Final designated	
Southwestern Willow flycatcher *(Empidonax traillii extimus)* Population: Entire	Endangered	Final designated	
Yuma Clapper rail *(Rallus longirostris yumanensis)* Population: Entire	Endangered		
Flowering Plants			
Coachella Valley milk-vetch *(Astragalus lentiginosus var. coachellae)*	Endangered	Final designated	
Reptiles			
Coachella Valley Fringe-Toed lizard *(Uma inornata)* Population: Entire	Threatened	Final designated	
Desert tortoise *(Gopherus agassizii)*	Threatened	Final designated	

Population: Entire, except in Sonoran Desert			

Critical habitats that lie within your project area

There are no critical habitats within your project area.

ATTACHMENT D

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U.S. Department of the Interior, Fish and Wildlife Service

2015 Former IID Coachella Substation: Project Number is 3615-A4001-02 - 02; List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project. December 18.

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ATTACHMENT E

Certification/Qualification

This information and analysis is based on the best scientific and commercial data available.

The following individual completed the field surveys and preparation of this report:

Michael Jefferson; University of California at San Diego, B.A., Biological Anthropology and Socio-Biology, 1996

Qualified County of San Diego Biologist

Qualified County of Riverside Biologist

Qualified USACE Wetland Delineator

Registered State of California CHRIS Archaeologist

APPENDIX C

EUROFINS CALSCIENCE STANDARD OPERATING PROCEDURES

Title : **EPA METHOD 8082, POLYCHLORINATED BIPHENYLS (PCBs) AS AROCLORS BY GAS CHROMATOGRAPHY**

Document No. : SOP-M407
Revision No. : 4.1
Supersedes : 4.0

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Revision 4.1 changes are noted in bold italicized typeface and preceded by a "►" marker.

APPROVED FOR RELEASE BY: _____ 04/03/15
MANAGEMENT **DATE**

_____ 04-03-15
QA DEPARTMENT **DATE**

Reviewer Signature	Review Date	Comments	QA Signature

1. METHOD IDENTIFICATION

1.1. EPA Method 8082, Polychlorinated Biphenyls (PCBs) as Aroclors by Gas Chromatography.

2. APPLICABLE MATRICES

2.1. This method is applicable to water, oil, soil, and solid wastes.

3. DETECTION / QUANTITATION LIMITS

3.1. The reporting limits (RLs) for this method are as follows:

	Water	Soil	Sediment
PCBs as Aroclors	1.0 µg/L	50 µg/kg (wet-weight)	10 µg/kg (wet-weight)

	Oil	Wipe/Filter
PCBs as Aroclors Aroclor 1221	1000 µg/kg	1.0 µg/sample

3.2. The RLs will be proportionally higher for sample extracts which require dilution or cleanups.

3.3. Refer to the current revision of SOP-T006, Determination of Detection Limits, for procedure on establishing detection and reporting limits.

4. SCOPE AND APPLICATION

4.1. EPA Method 8082 is used to determine the concentrations of polychlorinated biphenyls (PCBs) as Aroclors in extracts from various matrices, using a gas chromatographic system configured with a fused-silica capillary column coated with a slightly polar silicone.

4.1.1. Aroclors are multi-component mixtures. When samples contain more than one Aroclor, a higher level of analyst expertise is required to attain acceptable levels of qualitative and quantitative analysis. The same is true of Aroclors that have been subjected to environmental degradation ("weathering") or degradation by treatment technologies. Such weathered multi-component mixtures may have significant differences in peak patterns compared to those of Aroclor standards.

4.2. The following compounds are routinely determined by this method.

Aroclor-1016	Aroclor-1242	Aroclor-1260
Aroclor-1221	Aroclor-1248	Aroclor-1262
Aroclor-1232	Aroclor-1254	Aroclor-1268

4.3. This method is restricted to use by or under the supervision of analysts experienced in the use of gas chromatograph (GC) and skilled in the interpretation of gas chromatograms.

5. ►METHOD SUMMARY

5.1. EPA Method 8082 describes chromatographic procedures that will allow for the identification of Aroclors in the extract and their qualitative and quantitative analysis by gas chromatography. Detection is achieved using an electron capture detector (ECD).

5.2. Prior to performing this procedure, the appropriate sample preparation technique must be performed on each sample.

5.2.1. Aqueous samples are extracted via EPA Methods 3510 or 3520 at neutral pH using methylene chloride exchanged into hexane.

5.2.2. Solid samples are extracted via EPA Methods 3540 or 3550 using methylene chloride-acetone (1:1) exchanged into hexane, or via EPA Method 3545 using ***acetone-hexane (1:1)*** exchanged into hexane.

5.2.3. Solid samples for TCLP, SPLP, or STLC analysis are prepared using the appropriate mobility extraction method, and the resulting mobility-procedure extracts (leachates) are extracted via EPA Methods 3510 or 3520 at neutral pH using methylene chloride exchanged into hexane.

5.2.4. Oil samples are prepared in accordance with EPA Method 3580 using hexane as the diluent.

5.2.5. A variety of cleanup procedures may be applied to the extracts, depending on the nature of the target analytes and the matrix interferences.

5.3. Acceptable preparatory methods include, but are not limited to, the following:

Type of Sample Preparation	Method	SOP No.
Separatory Funnel Liquid-Liquid Extraction	EPA 3510	SOP-M200
Continuous Liquid-Liquid Extraction	EPA 3520	SOP-M201
Soxhlet Extraction	EPA 3540	SOP-M203
Pressurized Fluid Extraction	EPA 3545	SOP-M204
Ultrasonic Extraction	EPA 3550	SOP-M202
Waste Dilution	EPA 3580	SOP-M205
Cleanup	EPA 3600(M)	SOP-M234
Gel-Permeation Cleanup	EPA 3640	SOP-M233
TCLP	EPA 1311	SOP-M226
SPLP	EPA 1312	SOP-M227
STLC (California Code of Regulations)	CCR T22.11.5.A-II	SOP-M228

6. ►DEFINITIONS

6.1. Acceptance Criteria: Specified limits placed on characteristics of an item, process, or service defined in requirement documents.

6.2. Accuracy: The degree of agreement between an observed value and an accepted reference value. Accuracy includes a combination of random error (precision) and systematic error (bias) components which are due to sampling and analytical operations; a data quality indicator.

6.3. Batch: Environmental samples, which are prepared and/or analyzed together with the same process and personnel, using the same lot(s) of reagents.

6.3.1. A preparation batch is composed of one to 20 environmental samples of the same NELAC-defined matrix, meeting the above-mentioned criteria and with a maximum time between the start of processing of the first and last sample in the batch to be 24 hours, ***unless client-specific QAPP guidance overrides this directive to a lesser time period or the method-specific SOP provides a different time period, but in no case to exceed 24 hours***.

6.3.2. An analytical batch is composed of prepared environmental samples (extracts, digestates, or concentrates) which are analyzed together as a group. An analytical batch can include prepared samples originating from various environmental matrices and can exceed 20 samples.

6.4. Blank: A sample that has not been exposed to the analyzed sample stream in order to monitor contamination during sampling, transport, storage, or analysis. The blank is subjected to the usual analytical and measurement process to establish a zero baseline or background value and is sometimes used to adjust or correct routine analytical results.

6.5. Calibration: To determine, by measurement or comparison with a standard, the correct value of each scale reading on a meter or other device. The levels of the applied calibration standard should bracket the range of planned or expected sample measurements.

6.6. Corrective Action: The action taken to eliminate the causes of an existing nonconformity, defect, or other undesirable situation in order to prevent recurrence.

6.7. Data Reduction: The process of transforming raw data by arithmetic or statistical calculations, standard curves, concentration factors, etc., and collation into a more useable form.

6.8. Holding Times (Maximum Allowable Holding Times): The maximum times that samples may be held prior to analysis and still be considered valid or not compromised.

6.9. Laboratory Control Sample (however named, such as laboratory fortified blank, spiked blank, or QC check sample): A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. It is generally used to establish intra-laboratory or analyst-specific precision and bias or to assess the performance of all or a portion of the measurement system.

6.10. Laboratory Duplicate: Aliquots of a sample taken from the same container under laboratory conditions and processed and analyzed independently.

6.11. ***Limit of Detection (LOD): The smallest concentration of a substance that must be present in a sample in order to be detected at the DL with 99% confidence. At the LOD, the false negative rate (Type II error) is 1%.***

6.12. ***Limit of Quantitation (LOQ): The smallest concentration that produces a quantitative result with known and recorded precision and bias.***

6.13. Matrix Spike (spiked sample or fortified sample): A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. Matrix spikes are used, for example, to determine the effect of the matrix on a method's recovery efficiency.

6.14. Matrix Spike Duplicate (spiked sample or fortified sample duplicate): A second replicate matrix spike prepared in the laboratory and analyzed to obtain a measure of the precision of the recovery for each analyte.

6.15. Method Blank: A sample of a matrix similar to the batch of associated samples (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences are present at concentrations that impact the analytical results for sample analyses.

6.16. Method Detection Limit: The minimum concentration of a substance (an analyte) that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.

6.17. Precision: The degree to which a set of observations or measurements of the same property, obtained under similar conditions, conform to themselves; a data quality indicator. Precision is usually expressed as standard deviation, variance or range, in either absolute or relative terms.

6.18. Preservation: Refrigeration and/or reagents added at the time of sample collection (or later) to maintain the chemical and/or biological integrity of the sample.

6.19. Pure Reagent Water: Shall be water (defined by national or international standard) in which no target analytes or interferences are detected as required by the analytical method.

6.20. Quality Assurance: An integrated system of activities involving planning, quality control, quality assessment, reporting and quality improvement to ensure that a product or service meets defined standards of quality with a stated level of confidence.

6.21. Quality Control: The overall system of technical activities whose purpose is to measure and control the quality of a product or service so that it meets the needs of users.

6.22. Quantitation Limits: Levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported at a specific degree of confidence.

6.23. Raw Data: Any original factual information from a measurement activity or study recorded in a laboratory notebook, worksheets, records, memoranda, notes, or exact copies thereof that are necessary for the reconstruction and evaluation of the report of the activity or study. Raw data may include photography, microfilm or microfiche copies, computer printouts, magnetic media, including dictated observations, and

recorded data from automated instruments. If exact copies of raw data have been prepared (e.g., tapes which have been transcribed verbatim, dated and verified accurate by signature), the exact copy or exact transcript may be submitted.

6.24. Reagent Blank (method reagent blank): A sample consisting of reagent(s), without the target analyte or sample matrix, introduced into the analytical procedure at the appropriate point and carried through all subsequent steps to determine the contribution of the reagents and of the involved analytical steps.

6.25. Standard: The document describing the elements of laboratory accreditation that has been developed and established within the consensus principles of NELAC and meets the approval requirements of NELAC procedures and policies.

6.26. Surrogate: A substance with properties that mimic the analyte of interest. It is unlikely to be found in environment samples and is added to them for quality control purposes.

6.27. ***Refer to the current revision of the Eurofins Calscience Quality Systems Manual for additional terms and definitions.***

7. INTERFERENCES

7.1. Solvents, reagents, glassware, and other sample processing equipment may yield discrete contaminants. This can lead to spurious peaks and/or an elevated baseline, resulting in possible misinterpretation of chromatograms.

7.2. Contamination by carryover can occur whenever high and low concentration level samples are analyzed sequentially.

7.2.1. Sample syringes should be thoroughly rinsed with solvent between sample injections.

7.2.2. Analysis of a suspected high level sample should be followed by an analysis of solvent blank to check for cross-contamination. In addition, suspected high level samples may be diluted and then analyzed at the end of the sequence to prevent carryover contamination.

7.3. Interference can also occur when "dirty" samples leave residue in the analytical column. To minimize this effect, a guard column should be used and cut frequently or replaced. In addition, the analytical column can be "baked" after such samples. Other maintenance procedures include cleaning the inlet or replacing injection liner and seal.

7.4. Phthalate esters introduced during sample preparation can pose a major problem in PCB determinations.

7.4.1. Common flexible plastics contain varying amounts of phthalate esters which are easily extracted or leached from such materials during laboratory operations. Interferences from phthalate esters can best be minimized by avoiding contact with any plastic materials and checking all solvents and reagents for phthalate contamination.

7.4.2. Exhaustive cleanup of solvents, reagents and glassware may be required to eliminate background phthalate ester contamination.

7.4.3. Phthalate ester interferences may be removed using EPA Method 3665 (Sulfuric Acid/Permanganate Cleanup) prior to analysis.

7.5. Sulfur (S_8) is readily extracted from soil samples and may cause chromatographic interferences in the determination of PCBs. Sulfur can be removed through the use of EPA Method 3660 (Sulfur Cleanup).

8. ►SAFETY

8.1. Compounds covered by this method have been tentatively classified as known or suspected human carcinogens. Primary standards of these compounds must be prepared in a hood. A NIOSH/MESA-approved toxic gas respirator should be worn when analysts handle high concentrations of these compounds.

8.2. Exposure to hazardous chemicals should be minimized through the use of proper protective equipment and safe laboratory practices as referenced in the current version of ***Eurofins*** Calscience's Health, Safety, and Respiratory Protection Manual. In general, safety glasses and laboratory coats are required to be worn in all designated laboratory areas. Protective gloves shall be worn when handling chemicals.

8.3. Material Safety Data Sheets (MSDSs) ***or Safety Data Sheets (SDSs)*** are available for each laboratory standard and reagent chemical. Employees should review and be familiar with the hazards and precautions outlined in the MSDS ***or SDS*** for all chemicals to be used prior to handling.

8.4. Refer to the preparatory methods for additional safety issues.

9. ►EQUIPMENT AND SUPPLIES

9.1. Gas Chromatograph: Agilent 6890 Series Gas Chromatograph, Agilent 7890A Gas Chromatograph, or equivalent configured with the following components.

9.1.1. Autoinjector, Agilent 7680 Series, Agilent 7683 Series, or equivalent.

9.2. Instrument Software

9.2.1. Agilent GC ChemStation Version A.09.01[1206], Agilent GC ChemStation Version B.04.02[98], or equivalent.

9.2.2. ***PC-based data system or equivalent.***

9.3. Instrument Maintenance and Troubleshooting

9.3.1. Refer to the current revision of SOP-T066 and instrument hardware and software manuals for instrument maintenance and troubleshooting.

9.4. Primary Detection Channel

9.4.1. Detector: Electron capture detector (ECD).

9.4.2. Analytical Column: 30-m × 0.32-mm ID, 0.50-µm film thickness, narrow-bore, capillary, silicone coated fused-silica, Restek Rtx®-CLPesticides2 or equivalent.

9.5. Confirmation Detection Channel

9.5.1. Detector: Electron capture detector (ECD).

9.5.2. Analytical Column: 15-m × 0.32-mm ID, 0.50-µm film thickness, narrow-bore, capillary, silicone coated fused-silica, Restek Rtx®-CLPesticides or equivalent.

9.6. Guard Column: 5-m × 0.32-mm ID, intermediate-polarity deactivated, uncoated fused silica, Restek IP Deactivated Guard Column or equivalent.

9.7. Carrier Gas: Nitrogen, N_2, high purity (99.998%), compressed, Praxair 4.8 grade or equivalent.

9.8. Carrier Gas: Hydrogen, H_2, high purity (99.995%), compressed, Praxair 4.5 grade or equivalent.

9.9. Makeup Gas: Nitrogen, N_2, high purity (99.998%), compressed, Praxair 4.8 grade or equivalent.

9.10. Makeup Gas: Methane, CH_4, 5%, and argon, Ar, 95%, compressed, Praxair P-5 Mixture or equivalent.

9.11. Syringes, 10 µL, 25 µL, 50 µL, 100 µL, 250 µL, and 500 µL, gastight, Cemented Needle (N) termination, Hamilton 1700 Series or equivalent with NIST Traceable Certificate or equivalent documentation.

9.12. Storage vials, 15-mm × 45-mm (4-mL capacity), screw top, clear glass, with Teflon-lined screw caps and septa, disposable.

9.13. Autoinjector vials, 12-mm × 32-mm (2-mL capacity), crimp top, clear glass, with aluminum crimp caps and Teflon-lined septa, disposable.

9.14. Vial inserts, 300 µL, clear glass, with conical bottom and spring.

9.15. Balance, analytical, calibrated, capable of weighing to the nearest 0.1 mg.

9.16. Refer to the specific SOPs of the preparatory methods for additional equipment and supplies.

10. ►REAGENTS AND STANDARDS

10.1. Reagents

10.1.1. Reagent water, interferant free.

10.1.2. Sand, washed, sea or standard Ottawa.

10.1.3. Sodium thiosulfate, $Na_2S_2O_3$, anhydrous, white solid, reagent grade or equivalent.

10.1.4. Sodium thiosulfate, $Na_2S_2O_3$, 10% (w/v).

10.1.4.1. Prepare the 10% $Na_2S_2O_3$ solution by dissolving 200 g of anhydrous $Na_2S_2O_3$ in reagent water and dilute to 2 L with additional reagent water.

10.1.5. Methylene chloride (or dichloromethane), CH_2Cl_2, clear colorless liquid, pesticide grade or equivalent.

10.1.6. Hexane, C_6H_{14}, clear colorless liquid, pesticide grade or equivalent.

10.1.7. Acetone, CH_3COCH_3, clear colorless liquid, pesticide grade or equivalent.

10.1.8. ***1:1 Acetone / Hexane solvent mixture.***

10.1.9. Refer to the specific SOPs of the preparatory methods for additional reagents.

10.1.10. All reagents must be inspected and documented in the Chemicals and Supplies Verification Logbook prior to use.

10.2. Standards

10.2.1. Pre-certified stock standard solutions, each in sealed glass ampules, containing 100/1000 ppm of each target analyte, and 200 ppm of each surrogate are used to prepare calibration and check standards.

10.2.1.1. Prepare each working standard solution by diluting the appropriate volumes of the stock standards to the specified volumes with hexane.

10.2.1.2. The 20-ppm working standards are prepared as follows:

	Initial		Final	
Analyte	**Conc. (ppm)**	**Volume (µL)**	**Conc. (ppm)**	**Volume (mL)**
Aroclor 1016	100	800	20	4.0
Aroclor 1260	100	800		
surrogates	200	80	4.0	

	Initial		Final	
Analyte	**Conc. (ppm)**	**Volume (µL)**	**Conc. (ppm)**	**Volume (mL)**
Aroclor 1016	1000	80	20	4.0
Aroclor 1260	1000	80		
surrogates	200	80	4.0	

Analyte	Initial		Final	
	Conc. (ppm)	Volume (µL)	Conc. (ppm)	Volume (mL)
Aroclor 1221	100	800	20	4.0
Aroclor 1254	100	800	20	4.0
Aroclor 1232	100	800	20	4.0
Aroclor 1262	100	800	20	4.0
Aroclor 1248	100	800	20	4.0
Aroclor 1268	100	800	20	4.0
Aroclor 1242	100	800	20	4.0
surrogates	200	80	4.0	4.0

10.2.1.3. The 500-ppb working standard is prepared as follows:

Analyte	Initial		Final	
	Conc. (ppm)	Volume (µL)	Conc. (ppb)	Volume (mL)
Aroclor 1221	100	20	500	4.0
Aroclor 1254	100	20		
Aroclor 1232	100	20	500	4.0
Aroclor 1262	100	20		
Aroclor 1248	100	20	500	4.0
Aroclor 1268	100	20		
Aroclor 1242	100	20	500	4.0

10.2.2. Pre-certified stock standard solution, in sealed glass ampule, containing 200 ppm each of decachlorobiphenyl (DCB) and 2,4,5,6-tetrachloro-m-xylene (TMX) is used to prepare surrogate working standard.

10.2.2.1. Prepare the 2.0-ppm surrogate working standard solution by diluting 10 mL of the 200-ppm surrogate stock standard to 1.0 L with acetone or other acetone miscible solvent.

10.2.3. Pre-certified stock standard solutions, each in sealed glass ampules, containing 100/1000 ppm of each target analyte are used to prepare spike working standards.

10.2.3.1. Prepare each 10-ppm spike working standard solution by diluting the appropriate volumes of the stock standards to the specified volumes with acetone or other acetone miscible solvent.

10.2.3.2. The 10-ppm spike working standards are prepared as follows:

Analyte	Initial Conc. (ppm)	Initial Volume (mL)	Final Conc. (ppm)	Final Volume (mL)
Aroclor 1016	1000	2.0	10	200
Aroclor 1260	1000	2.0		
Aroclor 1221	100	1.0	10	10
Aroclor 1254	100	1.0	10	10
Aroclor 1232	100	1.0	10	10
Aroclor 1262	100	1.0	10	10
Aroclor 1248	100	1.0	10	10
Aroclor 1268	100	1.0	10	10
Aroclor 1242	100	1.0	10	10

10.2.4. The calibration standard solution contains various concentrations of target analytes and surrogates in hexane.

10.2.4.1. Dilute the appropriate volumes of the 20-ppm working standards to the specified volumes with hexane for initial calibration.

10.2.4.2. Use the following calibration levels as guidance to prepare the calibration standards.

Calibration Level (ppb)		Initial Concentration (ppm)	Initial Volume (µL)	Final Volume (mL)
A	S	A + S	A + S	A + S
100	20	20 + 4.0	20	4.0
250	50	20 + 4.0	50	4.0
500	100	20 + 4.0	1000	40
750	150	20 + 4.0	150	4.0
2000	400	20 + 4.0	400	4.0

Note: A = Aroclor; S = Surrogate

10.2.4.3. The midpoint standard is also used as the continuing calibration verification solution.

10.2.5. The initial calibration verification (ICV) solutions contain 500 ppb of each target analyte and 100 ppb of each surrogate in hexane. The ICV solution must be of a source differing from that used for the initial five-point calibration. If it is of the same source, then it must be of different lot.

10.2.5.1. Dilute 100 µL of the second source 20-ppm working standard to 4.0 mL with hexane for initial calibration verification.

10.2.5.2. Use the following calibration level as guidance to prepare the ICV solution.

Calibration Level (ppb)		Initial		Final
		Concentration (ppm)	Volume (µL)	Volume (mL)
A	S	A + S	A + S	A + S
500	100	20 + 4.0	100	4.0

Note: A = Aroclor; S = Surrogate

10.2.6. The continuing calibration verification (CCV) solution contains 500 ppb of each target analyte and 100 ppb of each surrogate in hexane. The CCV solution is of a source same as that used for the initial five-point calibration.

10.2.6.1. Dilute 1000 µL of the 20-ppm working standard to 40 mL with hexane for continuing calibration verification.

10.2.6.2. Use the following calibration level as guidance to prepare the CCV solution.

Calibration Level (ppb)		Initial		Final
		Concentration (ppm)	Volume (µL)	Volume (mL)
A	S	A + S	A + S	A + S
500	100	20 + 4.0	1000	40

Note: A = Aroclor; S = Surrogate

10.2.7. The surrogate working standard solution contains 2.0 ppm each of deca-chlorobiphenyl (DCB) and 2,4,5,6-tetrachloro-m-xylene (TMX) in acetone or other acetone miscible solvent.

10.2.7.1. Add 500 µL of the 2.0-ppm surrogate working standard to each sample including each quality control (QC) check sample and method blank prior to solvent extraction.

10.2.7.2. Add 500 µL of the 2.0-ppm surrogate working standard to each mobility-procedure extract including each mobility-procedure extract designated as QC check sample and method blank prior to solvent extraction.

10.2.8. The spike working standard solution contains 10 ppm of each target analyte in acetone or other acetone miscible solvent. The spike standard solution must be of a source differing from that used for the initial five-point calibration. If it is of the same source, then it must be of different lot.

10.2.8.1. Use the 10-ppm spike working standard solution containing only Aroclor 1016 and Aroclor 1260 if samples are not expected to contain any Aroclor. Use the 10-ppm spike working standard solution containing the specific Aroclor(s) if samples are expected to contain these Aroclor(s).

10.2.8.2. The spike standards are used to prepare QC check samples such as matrix spikes (MS/MSDs) and laboratory control samples (LCS/LCSDs).

10.2.8.3. Add 200 µL of the spike working standard containing only Aroclor 1016 and Aroclor 1260 to each MS/MSD and LCS/LCSD sample prior to solvent extraction.

10.2.8.4. Per client request or project-specific data quality objectives (DQOs), add 200 µL of the spike working standard containing the specific Aroclor(s) to each MS/MSD and LCS/LCSD sample prior to solvent extraction.

10.2.8.5. Add 200 µL of the spike working standard containing only Aroclor 1016 and Aroclor 1260 to each mobility-procedure extract designated as MS/MSD and LCS/LCSD prior to solvent extraction.

10.2.8.6. Per client request or project-specific DQOs, add 200 µL of the spike working standard containing the specific Aroclor(s) to each mobility-procedure extract designated as MS/MSD and LCS/LCSD prior to solvent extraction.

10.2.9. All working standards must be replaced after six months (unless specified otherwise) or sooner if routine QC or comparison with check standards indicates a problem.

10.2.9.1. Store all working standards under dark and refrigerated condition.

10.2.10. All stock standards must be inspected and documented in the Chemicals and Supplies Verification Logbook prior to use.

10.2.10.1. Check all opened stock standards frequently for signs of degradation or evaporation.

11. SAMPLE COLLECTION, PRESERVATION, CONTAINERS AND HOLDING TIMES

11.1. Aqueous samples should be collected in 1-L pre-cleaned amber glass containers with Teflon-lined closures. Collect all samples in duplicate.

11.1.1. If the aqueous sample is known or suspected to contain residual chlorine, add 4 mL of the 10% $Na_2S_2O_3$ solution per 1 L of sample. The 10% $Na_2S_2O_3$ solution may be added to the sample container prior to sample collection.

11.1.2. If MS/MSD analyses are required, collect one sample in quadruplicate.

11.2. Solid samples should be collected in 4-oz or 8-oz pre-cleaned clear glass wide-mouth jars, or 6-in decontaminated stainless steel or brass sleeves with Teflon-lined closures.

11.3. Oil, wipe, or filter samples should be collected in 40-mL pre-cleaned amber glass or clear glass VOA vials with Teflon-lined closures.

11.4. Mobility-procedure extracts should be collected in 500-mL pre-cleaned amber glass containers with Teflon-lined closures.

11.4.1. If the mobility-procedure extract is known or suspected to contain residual chlorine, add 2 mL of the 10% $Na_2S_2O_3$ solution per 500 mL of mobility-procedure extract.

11.4.2. Completely fill and hermetically seal the sample container with minimum headspace.

11.5. Aqueous and non-aqueous samples shall be maintained in a chilled state post sample collection until received at the laboratory. Aqueous and non-aqueous samples should not be frozen (e.g., do not use dry ice as the refrigerant).

11.5.1. For additional information on aqueous and non-aqueous sample collection and preservation, refer to Code of Federal Regulations (CFR), Title 40, Part 136 (§136.3).

11.5.2. For additional information on sample collection and preservation, refer to SOP-M229 and EPA Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories, Third Edition, Volume 1, Section 6.3.

11.6. Upon receipt, the aqueous and non-aqueous samples are stored in a 0–6°C cooler.

11.6.1. Aqueous samples must be solvent extracted within 7 days of sample collection.

11.6.2. Non-aqueous samples must be solvent extracted within 14 days of sample collection.

11.6.3. Mobility-procedure extracts must be solvent extracted within 7 days post mobility extraction.

11.6.3.1. Mobility-procedure extracts shall be stored in a 0–6°C cooler post mobility extraction if solvent extraction is not to be performed within 24 hours.

11.6.4. All solvent extracts are then stored under dark and refrigerated (0–6°C) conditions and must be analyzed within 40 days post solvent extraction.

12. ►QUALITY CONTROL

12.1. Initial Calibration (IC)

12.1.1. The initial five-point calibration must be established prior to the processing of sample extracts.

12.1.1.1. The calibration curve is established with a minimum of five calibration standards.

12.1.1.1.1. A standard containing a mixture of Aroclor 1016 and Aroclor 1260 will include many of the peaks represented in the other Aroclor mixtures. Hence, it is not necessary to establish the initial five-point calibration for each of the other Aroclors.

12.1.1.1.2. In situations where only a few Aroclors are of interest for a specific project, it will be necessary to

establish the initial five-point calibration for each Aroclor of interest.

12.1.1.2. If the calibration curve is not established for each Aroclor other than Aroclor 1016 and Aroclor 1260, analyze the 500-ppb working standards for pattern recognition.

12.1.1.2.1. The 500-ppb working standards may also be used to determine the single-point calibration factor for each Aroclor if both of the following conditions are met.

12.1.1.2.1.1. The linearity of the detector response is demonstrated using the calibration standards containing only Aroclor 1016 and Aroclor 1260.

12.1.1.2.1.2. The calibration option is linear least squares regression and the regression is forced through zero.

12.1.2. The IC is deemed valid if the %RSD for each analyte is ≤ 20%.

12.1.3. If these criteria are not met, then the calibration is unacceptable for sample analysis to begin. Effect corrective action and recalibrate.

12.1.3.1. If the RSD of any analyte is unacceptable, review the results (e.g., proper identification, area count, response factor, etc.) for those analytes to ensure that the problem is not associated with just one of the initial calibration standards.

12.1.3.2. If the problem appears to be associated with a single calibration standard, then that one standard may be reanalyzed once within the same analytical shift prior to sample analysis to rule out problems due to random chance.

12.1.3.2.1. In some cases, replace the calibration standard may be necessary.

12.1.3.3. If a calibration standard is replaced and/or reanalyzed, recalculate the RSD, and document the rationale for re-analysis.

12.2. Initial Calibration Verification (ICV)

12.2.1. The initial calibration is deemed valid if the %D for each analyte is ≤ 15%.

12.2.2. If these criteria are not met, the initial calibration is deemed unacceptable for sample analysis to begin. An unacceptable ICV result indicates either a disagreement between like solutions from separate sources or a change in instrument conditions. Normally, this is caused when at least one of the solutions is no longer intact (representative of the stated concentration). Document the unacceptable result and reanalyze the ICV within 2 hours after the failed ICV. If the ICV criteria remain unacceptable, investigate, effect corrective action, which may include re-preparation of standard solutions or instrument maintenance, and recalibrate.

12.3. Continuing Calibration Verification (CCV)

12.3.1. Following the establishment of a valid initial calibration, a CCV standard must be analyzed daily prior to sample analysis, after every batch of 20 samples or portion thereof within a 12-hour shift, and at the end of sequence.

12.3.1.1. For EPA Region 9 requirement, a CCV standard must be analyzed daily prior to sample analysis, after every batch of 10 samples or portion thereof within a 12-hour shift, and at the end of sequence.

12.3.2. The initial calibration is deemed valid if the %D for each analyte is ≤ 15%.

12.3.3. If these criteria are not met, the initial calibration is deemed unacceptable for sample analysis to resume. Document the unacceptable result and reanalyze the CCV within 2 hours after the failed CCV. If the CCV criteria remain unacceptable, effect corrective action and recalibrate.

12.4. Retention Time Window

12.4.1. Establishment of retention time window width is accomplished by making three injections of CCV standards throughout the course of a 72-hour period. Serial injections over a shorter period of time may result in narrow retention time window width that does not accurately account for variations over several days.

12.4.1.1. Retention time window width is ± 3S (where S is the standard deviation of the three retention times for that analyte/surrogate) or ± 0.030 minute, whichever is greater.

12.4.1.1.1. For each multi-component analyte (i.e., Aroclor), calculate the standard deviation for each one of the five major characteristic peaks.

12.4.2. Establishment of retention time window position is accomplished by using the midpoint calibration standard once per initial calibration, and by using a CCV standard at the beginning of an analytical sequence.

12.4.2.1. When initial calibration is performed, daily retention time window for each analyte/surrogate is the retention time of the analyte/surrogate in the midpoint calibration standard ± 3S or ± 0.030 minute, whichever is greater.

12.4.2.2. When initial calibration is <u>not</u> performed, daily retention time window for each analyte/surrogate is the retention time of the analyte/surrogate in the CCV standard ± 3S or ± 0.030 minute, whichever is greater.

12.4.3. Retention time for each analyte/surrogate in the calibration verification standard is verified as follows:

12.4.4. Retention time window for each analyte/surrogate is verified as follows:

12.4.4.1. When initial calibration is performed, the ICV standard and all CCV standards throughout the course of an analytical sequence within a 12-hour shift must fall within the daily retention time window established by the midpoint calibration standard.

12.4.4.2. When initial calibration is not performed, all succeeding CCV standards throughout the course of an analytical sequence within a 12-hour shift must fall within the daily retention time window established by the first CCV standard.

12.4.4.3. If these criteria are not met, determine the cause of the problem, effect corrective action, and re-establish the retention time window width and/or position, if necessary.

12.5. Event Based Quality Control (MBs and LCSs)

12.5.1. Event based quality control consists of QC samples prepared and processed with each preparatory event. This consists of a method blank (MB), a laboratory control sample ***(LCS)***, and, ***in some cases, a*** laboratory control sample duplicate (LCS).

12.5.1.1. ***An LCSD shall be prepared and processed if there is insufficient sample amount to perform matrix based QC (i.e., MS/MSD), or if it is mandatory per client request or project-specific DQOs.***

12.5.2. The acceptance criteria for MBs are as follows:

12.5.2.1. Ideally, the concentrations of target analytes in an MB should be less than the respective reporting limits (RLs). If the concentration of any target analyte exceeds its RL, the source of contamination must be investigated and, if possible, eliminated.

12.5.2.2. If a target analyte is found in the MB, but not in the associated samples, report the sample and MB data without qualification.

12.5.2.3. If a target analyte is found in the MB and in the associated samples, evaluate the analyte in question to determine the effect on the analysis of samples. Determine and eliminate the source of contamination. Professional judgment should be exercised to determine if the data should be qualified, or rejected and the samples re-processed and/or re-analyzed.

12.5.3. The acceptance criteria for ***LCS or*** LCS/LCSD compounds are as follows:

12.5.3.1. The lower and upper acceptance limits for %REC of each LCS compound are 50% and 135%, respectively. The RPD is ≤ 25%.

12.5.3.1.1. If historical data is available, the lower and upper acceptance limits for %REC and RPD of each LCS/LCSD compound are based upon the historical average recovery ± 3S that is updated at least annually.

12.5.3.2. All LCS/LCSD compounds must be within acceptance limits. If one or more LCS/LCSD compounds are not acceptable, determine the cause of the problem and effect corrective action.

12.6. Matrix Based Quality Control (Surrogates and MS/MSDs)

12.6.1. Matrix based quality control consists of QC samples prepared and processed using actual environmental samples. This consists of a matrix spike and matrix spike duplicate (MS/MSD) and surrogates added to each sample.

12.6.2. The acceptance criteria for surrogate compounds are as follows:

12.6.2.1. The lower and upper acceptance limits for %REC of each surrogate compound in an aqueous sample are 50% and 135%, respectively. The lower and upper acceptance limits for %REC of each surrogate compound in a non-aqueous sample are 50% and 130%, respectively.

12.6.2.1.1. If historical data is available, the lower and upper acceptance limits for %REC of each surrogate compound are based upon the historical average recovery ± 3S that is updated at least annually.

12.6.2.1.2. For EPA Region 9 requirement, the lower and upper acceptance limits for %REC of each surrogate compound are 60% and 150%, respectively.

12.6.2.2. If the surrogate compound recoveries are acceptable, report the surrogate and sample data without qualification.

12.6.2.3. If one or more surrogate recoveries are not acceptable, evaluation is not necessarily straightforward. The sample itself may produce effects due to factors such as interferences and high analyte concentration or a problem may have occurred during extraction or cleanup. The data alone cannot be used to evaluate the precision and accuracy of individual sample analysis. However, when exercising professional judgment, this data should be used in conjunction with other available QC information.

12.6.2.4. By itself, unacceptable surrogate recoveries do not invalidate sample data. The following must be accomplished if surrogate recoveries are not acceptable.

12.6.2.4.1. Check the surrogate standard solutions for degradation and contamination.

12.6.2.4.2. If the nonconformance is due to poor instrument performance or if the above actions fail to reveal the cause of the unacceptable surrogate

recoveries, the same extract should be re-analyzed.

12.6.2.4.3. If incorrect procedures or degraded/contaminated standard solutions are determined to have not caused the unacceptable surrogate recoveries, the affected sample(s) must be re-processed and re-analyzed or, if insufficient sample remains, reference made to the associated MB surrogate recoveries and the sample data reported with qualification.

12.6.2.4.3.1. If, upon re-processing and re-analysis, the surrogates remain unacceptable, matrix interference can be cited and reference made to the associated MB surrogate recoveries and the sample data reported with qualification.

12.6.2.4.3.2. If the MB surrogates are unacceptable, all associated sample data must be invalidated and all associated samples re-processed and re-analyzed.

12.6.2.5. Where sample dilution is required, depending on the dilution factor, the surrogate recovery will be low or not detected. This is an expected occurrence and reference should be made to the MB surrogate recovery which must be reported to the client.

12.6.3. The acceptance criteria for MS/MSD compounds are as follows:

12.6.3.1. The lower and upper acceptance limits for %REC of each MS/MSD compound are 50% and 135%, respectively. The RPD is ≤ 25%.

12.6.3.1.1. If historical data is available, the lower and upper acceptance limits for %REC and RPD of each MS/MSD compound are based upon the historical average recovery ± 3S that is updated at least annually.

12.6.3.1.2. For EPA Region 9 requirement, the lower and upper acceptance limits for %REC of each MS/MSD compound are 50% and 135%, respectively. The RPD is ≤ 30%.

12.6.3.2. When the %REC and RPD of the MS/MSD compounds are at or within the established acceptance limits, the analytical system is deemed to be compliant with the accuracy and precision requirement of the method for the particular matrix. The

MS/MSD data shall be reported with the corresponding sample data.

12.6.3.3. If the %REC and/or RPD of the MS/MSD compounds are not within the established acceptance limits, the analytical system performance shall be suspect.

12.6.4. Unacceptable %REC values are typically caused by matrix effects or poor instrument performance/technique. Unacceptable RPD values are typically caused by sample inhomogeneity or poor instrument performance/technique. To properly evaluate the performance of the analytical system in these situations, refer to the LCS/LCSD. Specifically, an acceptable LCS/LCSD usually supports matrix interference.

12.7. If the %REC or RPD of the MS/MSD and LCS/LCSD are unacceptable, all associated sample data must be invalidated and all associated samples re-processed and re-analyzed.

12.8. Additional information regarding internal quality control checks is provided in SOP-T020.

13. CALIBRATION AND STANDARDIZATION

13.1. Analytical Balance

13.1.1. Calibrate the analytical balance at 2 mg, 1 g, and 100 g using Class 2 weights as outlined in the current revision of SOP-T043.

13.1.2. If control limits are not specified, calibration shall be within ± 0.1% or ± 0.5 mg, whichever is greater. If control limits are specified, calibration shall be within the specified limits. If the values are not within these limits, recalibrate the balance.

13.2. Chromatograph Initial Calibration

13.2.1. Establish an acceptable five-point calibration curve. The acceptance criteria for the initial calibration are listed in Section 12.1.

13.2.1.1. Because of the sensitivity of the electron capture detector, always clean the injection port and column prior to performing the initial calibration.

13.2.1.2. Recalibration is required for the following maintenance procedures.

13.2.1.2.1. Change, replace, or reverse the analytical column.

13.2.2. After obtaining an acceptable five-point calibration curve and prior to processing field or QC sample extracts, an ICV standard must be analyzed to verify the initial calibration. The acceptance criteria for the ICV are listed in Section 12.2.

13.2.3. The initial five-point calibration and ICV shall include all anticipated target analytes for the duration of the use of the initial calibration.

13.3. Retention Time Window

13.3.1. Retention time window width for each analyte/surrogate is generated by running three CCV standards over a 72-hour period. Retention time window width determination shall be performed at method set-up, following column changes, after major instrument maintenance or when a significant retention time shift is suspected.

13.3.2. Document the serial number of the analytical column associated with the retention time window study.

13.3.3. Record the retention time in minutes for each analyte/surrogate to three decimal places.

14. ►PROCEDURE

14.1. Instrument Setup

14.1.1. Use the following GC operating conditions as guidance to establish the GC temperature program and flow rate necessary to separate the analytes of interest.

Description	GC Operating Condition
Inlet mode	splitless
Inlet temperature	220°C
Inlet pressure	6.2041 psi
Total flow rate	87.6 mL/min
Carrier gas flow rate	1.7 mL/min
Makeup gas flow rate	30 mL/min
Detector temperature	300°C
Initial temperature	120°C
Temperature program	120°C to 300°C at 15°C/min
Final temperature	300°C, hold 15 min

14.1.2. Autoinjector is set to inject 2 µL of field or QC sample extract.

14.1.3. Once established, the same operating conditions must be applied for all subsequent standard, sample, and blank analyses.

14.2. Following the establishment of a valid initial calibration, a CCV standard must be analyzed daily prior to sample analysis, after every batch of 20 samples or portion thereof within a 12-hour shift, and at the end of sequence. If the QC and retention time criteria are met, the initial calibration is assumed to be valid and sample analysis may resume. The acceptance criteria are listed in Section 12.3. and Section 12.4.3.

14.2.1. For EPA Region 9 requirement, refer to Section 12.3.1.1. for CCV frequency.

14.2.2. If a failed CCV is the first of the day, effect corrective action prior to analyzing any samples.

14.2.3. If a failed CCV is not the first of the day, effect corrective action and reanalyze all samples since the last acceptable CCV.

14.3. Following extraction by one of the methods specified in Section 5.2., the extracts for the QC and actual environmental samples are received in autoinjector vials. The autoinjector vials are then loaded onto the GC sample tray.

14.4. Standard and sample vials are loaded in the following or other logical order:

1) Instrument Blank (IB)
2) Continuing Calibration Verification (CCV)
3) Laboratory Control Sample (LCS)
4) Laboratory Control Sample Duplicate (LCSD)***, when required***
5) Method Blank (MB)
6) Samples (up to 20 per batch, including QC check samples and MBs)
7) Matrix Spike (MS)
8) Matrix Spike Duplicate (MSD)
9) Ending CCV

14.4.1. Item 1: The IB is a vial of hexane used to determine whether the GC system is free of interferants. Additional instrument blanks may also be added elsewhere in the sequence, as necessary (i.e., after suspected high level samples). IB is optional.

14.4.2. Items 2 and 9: A CCV is used to verify the acceptance of the initial five-point calibration on a continuing basis. An acceptable CCV is required daily prior to sample analysis, after every batch of 20 samples or portion thereof within a 12-hour shift, and at the end of sequence.

14.4.2.1. For EPA Region 9 requirement, refer to Section 12.3.1.1. for CCV frequency.

14.4.2.2. More frequent (e.g., every 10 samples) calibration verification may be useful to minimize the number of sample extract re-analyses that would be required in the event of an unacceptable CCV.

14.4.3. Item 3: The LCS is a known matrix which has been spiked with known concentrations of specific target analytes. The purpose of the LCS is to demonstrate that the entire analytical process and systems are in control. The LCS is processed concurrently with the associated samples. In the processing of the LCS, reagents and procedures identical to those for actual samples are used.

14.4.3.1. For aqueous samples, the LCS consists of the specified compounds spiked into clean reagent water. For solid and oil samples, the LCS consists of the specified compounds spiked into washed sea sand. For wipe samples, the LCS consists of the specified compounds spiked into unused gauze pad. For filter samples, the LCS consists of the specified compounds spiked into unused filter paper. For mobility-procedure extracts,

the LCS consists of the specified compounds spiked into the mobility-procedure extract designated as LCS.

14.4.3.2. One LCS is required every day preparatory methods (i.e., extractions, cleanups, etc.) are performed for every batch of 20 samples per matrix or portion thereof, whichever is more frequent.

14.4.4. Item 4: The LCSD***, if required,*** is handled identically to the LCS discussed in the previous section. In addition to assessing the accuracy of the analytical measurement, the LCS in combination with the LCSD can be used to assess the precision of the analytical process. The measurement is expressed as relative percent difference (RPD). The formula for calculating RPD is listed in Section 15.6.

14.4.5. Item 5: The MB is a known matrix similar to the samples being analyzed which is processed concurrently with the associated samples. In the processing of the MB, reagents and procedures identical to those for actual samples are used (i.e., surrogates, etc.).

14.4.5.1. For aqueous samples, the MB consists of clean reagent water. For solid and oil samples, the MB consists of washed sea sand. For wipe samples, the MB consists of unused gauze pad. For filter samples, the MB consists of unused filter paper. For mobility-procedure extracts, the MB consists of the mobility-procedure extract designated as MB.

14.4.5.2. One MB is required every day preparatory methods (i.e., extractions, cleanups, etc.) are performed for every batch of 20 samples per matrix or portion thereof, whichever is more frequent.

14.4.5.3. When samples that are processed together are analyzed on separate instruments or on separate analytical shifts, the MB associated with those samples must be analyzed on at least one of the instruments. A solvent blank consisting of hexane must be analyzed on all other instruments where the associated samples are analyzed to demonstrate that the instruments are not contributing contaminants to the samples.

14.4.6. Item 6: Up to 20 sample (including QC check sample and method blank) extracts per batch. Complex extracts should be sufficiently diluted or subjected to cleanup procedures to ensure that instrument is not contaminated. Dilution or cleanup of extracts will result in increased reporting limits.

14.4.6.1. All dilutions should keep the responses of the major constituents (previously saturated peaks) in the upper half of the linear range of the curve.

14.4.7. Item 7: The MS is an actual sample matrix spiked with known concentrations of specific target analytes. The sample which is spiked for

the MS is processed concurrently with the associated samples. In the processing of the MS, reagents and procedures identical to those for actual samples are used.

14.4.7.1. The purpose of the MS is to assess the effect of a sample matrix on the recovery of target analytes (i.e., assess the accuracy of the analytical measurements of the matrix). The measurement is expressed as percent recovery (%REC). The formula for calculating %REC is listed in Section 15.5.

14.4.7.2. One MS is required for every batch of 20 samples per matrix or portion thereof processed concurrently. This approach is considered "closed batch" as opposed to "open batch."

14.4.8. Item 8: The MSD is handled identically to the MS discussed in the previous section. In addition to assessing the accuracy of the analytical measurement, the MS in combination with the MSD can be used to assess the precision of the analytical measurements. The measurement is expressed as relative percent difference (RPD). The formula for calculating RPD is listed in Section 15.6.

14.4.9. Solvent blanks may be added elsewhere in the sequence, as necessary (i.e., after suspected high concentration sample extracts), to check for potential carryover or cross-contamination.

14.5. Ensure that a sufficient amount of hexane is present in the autoinjector solvent rinse bottles and that a sufficient unused volume exists in the autoinjector waste bottles at the beginning of the sequence.

14.6. Edit the sequence in the data system. After all correct sample information is entered, save the sequence. After saving the sequence, record pertinent information in the instrument run logbook or on the sequence table printout.

14.7. Initiate the sequence.

14.8. Data Interpretation

14.8.1. Establish the daily retention time window for each analyte/surrogate (see Section 12.4.2.1. and Section 12.4.2.2.).

14.8.1.1. Tentative identification of an analyte/surrogate occurs when a peak from a sample extract falls within the daily retention time window.

14.8.1.1.1. For each multi-component analyte (i.e., Aroclor), choose a minimum of 5 characteristic peaks that are at least 25% of the height of the largest characteristic peak for the analyte, and determine the retention time window of each characteristic peak.

14.8.1.1.2. The set of peaks for each Aroclor should include at least one peak that is unique to that Aroclor.

14.8.1.1.2.1. For Aroclor 1016 and Aroclor 1260, none of the peaks chosen should be found in both of these Aroclors.

14.8.1.2. Use the succeeding CCV standards analyzed throughout the course of an analytical sequence within a 12-hour shift to evaluate retention time stability (see Section 12.4.3.). If any analyte(s)/surrogate(s) in the CCV standard fall outside of their daily retention time window(s), determine the cause of the problem and effect appropriate corrective action.

14.8.1.2.1. If any major characteristic peak(s)/surrogate(s) in the CCV standard fall outside of their daily retention time window(s), then all samples analyzed since the last acceptable CCV should be invalidated, corrective action effected, and the affected samples re-analyzed.

14.8.1.3. For Aroclors other than Aroclor 1016 and Aroclor 1260, identification shall rely primarily on pattern recognition. However, retention times should be utilized as a guide.

14.8.2. Quantitation of a target analyte is based on a reproducible response of the detector within the calibration range and a direct proportionality of the magnitude of response between peaks in the sample extract and the calibration standards.

14.8.2.1. PCBs as Aroclor may be quantitated from the total area of the PCB pattern and on the basis of the Aroclor standard that is most similar to the sample (total area approach), or the area of 5 or more major characteristic peaks (subset peak approach).

14.8.2.1.1. If total area approach is employed, any peaks that are not identifiable as PCBs on the basis of retention times should be subtracted from the total area.

14.8.2.1.2. Total area approach is recommended if weathering of PCBs in the environment and changes resulting from waste treatment processes alter the PCBs to the point that the pattern of a specific Aroclor is no longer recognizable, or if samples contain more than one Aroclor.

14.8.2.1.3. The reasons for applying total area approach on sample quantitation and the problems associated with sample matrix should be fully documented.

14.8.2.2. Proper quantitation requires the appropriate selection of a baseline from which the area of the characteristic peak(s) can be determined.

14.8.2.2.1. For multi-component analyte quantitation, a forced baseline or baseline-to-baseline integration across the entire target range is required to ensure the appropriate integration of analyte response.

14.8.2.3. Determine the concentration based on the initial calibration curve.

14.8.2.3.1. Calculate the concentration of each target analyte in a sample extract using the average of the initial RFs and the total area of the five predetermined peaks. The formula for calculating concentration is listed in Section 15.7.

14.8.2.3.2. Refer to Appendix A for examples of the predetermined peaks of each multi-component analyte.

14.8.2.3.3. The data system is programmed to perform the calculation of concentration.

14.8.2.4. If the instrument response exceeds the calibration range, dilute the extract and reanalyze.

14.8.3. Tentative identification of a target analyte occurs when a peak from a sample extract falls within the analyte's retention time window. Confirmation is necessary when the composition of samples is not well characterized. Qualitative confirmation techniques are by second column with dissimilar stationary phase, GC/MS with Selected Ion Monitoring (SIM) or Full Scan mode, or GC data from two different detectors.

14.8.4. Second column confirmation is made on a "confirmation" channel configured with a column of dissimilar stationery phase and a second detector. The principle is that the retention time of the target analyte will differ between the primary and confirmation column and, unless the detected compound is the particular target analyte, it will not be observed within both retention time windows.

14.8.4.1. Report the higher result between the primary and confirmation column. The RPD between results must be ≤ 40%.

14.8.4.1.1. If one result is significantly higher (e.g., > 40%), check the chromatograms to see if an obviously overlapping peak is causing an erroneously high result. If no overlapping peaks are observed, examine the baseline parameters established by the instrument data system (or operator) during peak integration. A rising baseline may cause the mis-integration of the peak for the lower result.

14.8.4.1.2. If no anomalies are observed, review the chromatographic conditions. If there is no evidence

of chromatographic problems, then it may be appropriate to report the lower result.

14.8.4.1.3. The data user must be advised of the disparity between the results on the two columns. Under some circumstances, including those involving in monitoring compliance with an action level or regulatory limit, further cleanup of the sample or additional analyses may be required when the two results in question span the action level or regulatory limit.

14.8.4.2. In cases where a peak is not observed in the confirmation column's retention time window, the analyte is reported as "ND."

14.8.4.3. A calibration curve and retention time window for each analyte/surrogate are also established and maintained for the confirmation channel. The calibration and quality control requirements for the confirmation channel are identical to those of the primary channel.

14.8.5. GC/MS confirmation is more reliable than second column confirmation. In this case, where confirmation is required by project requirements, the sample is re-analyzed on GC/MS. When GC/MS results indicate that a target analyte is not present, the GC result is reported as "ND."

14.8.6. Confirmation is required for all positive results unless the samples meet all of the following requirements:

14.8.6.1. All samples (aqueous, solid, ***or*** oil) come from the same source (e.g., same monitoring well). However, samples of the same matrix from the same site but from differing sources (e.g., different monitoring wells) are not exempted.

14.8.6.2. All chemical parameters have been previously analyzed, identified, and confirmed by a second column with dissimilar stationary phase, GC/MS with Selected Ion Monitoring (SIM) or Full Scan mode, or GC data from two different detectors. Documentation of such must be maintained.

14.8.6.3. The resulting chromatograms are relatively simple and do not contain complex or overlapping peaks.

14.8.6.4. Chromatograms are largely unchanged from those for which confirmation was carried out.

14.8.7. Manual integration of peaks shall adhere to the procedures and documentation policies outlined in the current revision of SOP-T023.

14.8.7.1. When the instrument software produces proper integrations, it is highly recommended to use the integrations produced by the instrument software for consistency.

14.8.7.2. When the instrument software does not produce proper integrations (e.g., selecting an improper baseline, missing the correct peak, integrating a coelution, partially integrating a peak, etc.), manual integrations performed by the analyst are necessary.

14.8.7.3. Manual integration should be minimized by properly maintaining the instrument, updating the retention times, and configuring the peak integration parameters.

14.9. Recommended Instrument Maintenance

14.9.1. Perform the following tasks to remedy the column adsorption problem.

14.9.1.1. Inject an 800-ppb single-component pesticide standard solution to prime (or deactivate) the column.

14.9.1.2. Run one or more solvent blanks consisting of hexane until no carryover is observed prior to analyzing any standards or samples.

14.9.2. Perform the following tasks to eliminate the degradation problem.

14.9.2.1. For dual columns which are connected using a press-fit Y-shaped glass splitter or a Y-shaped fused-silica connector, clean and deactivate the splitter port insert or replace with a cleaned and deactivated splitter.

14.9.2.2. Break off the first few centimeters (up to 30 cm) of the injection port side of the column.

14.9.2.3. Check the injector temperature and lower it to 205°C, if necessary.

14.9.2.4. Remove the columns and solvent backflush according to the manufacturer's instructions.

14.9.2.5. If all else fail, it may be necessary to deactivate the metal injector body and/or replace the columns.

14.9.3. Perform the following tasks to rinse the analytical column.

14.9.3.1. Depending on the nature of the residues expected, the first rinse might be reagent water, followed by methanol and acetone, with methylene chloride as the final rinse. In some cases, methylene chloride may be the only solvent necessary.

14.9.3.2. After the final rinse, the analytical column should be filled with methylene chloride and remained flooded overnight to allow materials within the stationary phase to migrate into the solvent.

14.9.3.3. The analytical column is then flushed with fresh methylene chloride, drained, and dried at room temperature with a stream of ultrapure nitrogen passing through the column.

15. ►CALCULATIONS

15.1. The response factor is calculated as follows:

$$RF = \frac{A_x}{C_x}$$

where: RF = response factor for target analyte being measured.
A_x = area of the characteristic peaks for target analyte being measured.
C_x = concentration of target analyte being measured in µg/L.

15.2. The percent relative standard deviation is calculated as follows:

$$\%RSD = \frac{SD}{RF_{ave}} \times 100$$

where: %RSD = percent relative standard deviation.
SD = standard deviation of the RFs for the target analyte.
RF_{ave} = mean of the 5 initial RFs for the target analyte.

15.3. The percent difference of each analyte is calculated as follows:

$$\%D = \frac{|RF_{ave} - RF_{daily}|}{RF_{ave}} \times 100$$

where: %D = percent difference.
RF_{daily} = daily RF for the target analyte.
RF_{ave} = mean of the 5 initial RFs for the target analyte.

15.4. The recovery of each LCS compound is calculated as follows:

$$\%REC_{LCS} = \frac{C_{recovered}}{C_{added}} \times 100$$

where: $\%REC_{LCS}$ = percent recovery of target analyte in LCS.
$C_{recovered}$ = concentration of target analyte recovered.
C_{added} = concentration of target analyte added.
Note: Concentrations must be in equivalent units.

15.5. The recovery of each MS compound is calculated as follows:

$$\%REC_{MS} = \frac{C_{recovered} - C_{sample}}{C_{added}} \times 100$$

where: $\%REC_{MS}$ = percent recovery of target analyte in MS (or MSD).
$C_{recovered}$ = concentration of target analyte recovered.
C_{sample} = concentration of target analyte in environmental sample used.
C_{added} = concentration of target analyte added.
Note: Concentrations must be in equivalent units.

15.6. The relative percent difference is calculated as follows:

$$RPD = \frac{|C_1 - C_2|}{\left(\frac{C_1 + C_2}{2}\right)} \times 100$$

where: RPD = relative percent difference between two measurements (C_1 and C_2).
C_1 = concentration of target analyte in measurement 1.
C_2 = concentration of target analyte in measurement 2.
Note: Concentrations must be in equivalent units.

15.7. The target analyte concentration for a sample extract is calculated as follows:

$$C_{ex} = \frac{A_x}{RF_{ave}}$$

where: C_{ex} = concentration of target analyte in extract in µg/L.
A_x = area of the characteristic peaks for target analyte.
RF_{ave} = mean of the 5 initial RFs for the target analyte.

15.8. The target analyte concentration for an aqueous sample is calculated as follows:

$$C_A = \frac{C_{ex} \times V_{ex} \times D}{V_A}$$

where: C_A = concentration of target analyte in aqueous sample in µg/L.
C_{ex} = concentration of target analyte in extract in µg/L.
V_{ex} = volume of extract in mL.
V_A = volume of aqueous sample solvent extracted in mL.
D = dilution factor, if the sample or extract was diluted prior to analysis. If no dilution was made, D = 1.

15.9. ►The target analyte concentration for a solid (***or*** oil) sample is calculated as follows:

$$C_S = \frac{C_{ex} \times V_{ex} \times D}{W_S}$$

where: C_S = concentration of target analyte in solid (***or*** oil) sample in µg/kg.
C_{ex} = concentration of target analyte in extract in µg/L.
V_{ex} = volume of extract in mL.
W_S = mass of solid (***or*** oil) sample solvent extracted in g.
D = dilution factor, if the sample or extract was diluted prior to analysis. If no dilution was made, D = 1.

15.10. The target analyte concentration for a solid sample on a dry-weight basis is calculated as follows:

$$C_S = \frac{C_{ex} \times V_{ex} \times D}{W_S \times \left(\frac{C_{ss}}{100}\right)}$$

where: C_S = concentration of target analyte in solid sample in µg/kg.
C_{ex} = concentration of target analyte in extract in µg/L.
V_{ex} = volume of extract in mL.
W_S = mass of solid sample solvent extracted in g.
C_{ss} = solids content in %.
D = dilution factor, if the extract was diluted prior to analysis. If no dilution was made, D = 1.

15.11. The target analyte concentration for a wipe (or filter) sample is calculated as follows:

$$C_W = C_{ex} \times V_{ex} \times D$$

where: C_W = concentration of target analyte in wipe (or filter) sample in µg/sample.
C_{ex} = concentration of target analyte in extract in µg/L.
V_{ex} = volume of extract in L.
D = dilution factor, if the extract was diluted prior to analysis. If no dilution was made, D = 1.

15.12. The target analyte concentration for a mobility-procedure extract is calculated as follows:

$$C_{MP} = \frac{C_{ex} \times V_{ex} \times D}{V_{MP}}$$

where: C_{MP} = concentration of target analyte in mobility-procedure extract in µg/L.
C_{ex} = concentration of target analyte in extract in µg/L.
V_{ex} = volume of extract in mL.
V_{MP} = volume of mobility-procedure extract solvent extracted in mL. Unless specified otherwise, V_{MP} = 100.
D = dilution factor, if the extract was diluted prior to analysis. If no dilution was made, D = 1.

15.13. Refer to the preparatory method(s) for additional calculations.

15.14. All concentrations shall be reported in µg/L (ppb) for aqueous samples, µg/kg (ppb) for oil, soil and solid waste samples, and µg/sample for wipe and filter samples.

15.14.1. For EPA Region 9 requirement, report all concentrations in µg/L (ppb) for water samples, and µg/kg (ppb) on a dry-weight basis for soil samples.

15.15. The data reported shall adhere to the significant figures, rounding, and data reporting procedures outlined in the current revision of SOP-T009.

16. METHOD PERFORMANCE

16.1. A demonstration of analytical capability shall be performed initially (prior to the analysis of any samples) and with a significant change in instrument type, personnel, matrix or test method.

16.2. Calibration protocols specified in Section 13., "Calibration and Standardization," shall be followed.

16.3. Proficiency test sample results shall be used to evaluate the ability to produce accurate results.

17. ►POLLUTION PREVENTION

17.1. The toxicity, carcinogenicity, and other health hazards associated with the use of most laboratory chemicals have not been precisely defined. Each chemical should be handled assuming it is a potential health hazard.

17.2. Exposure to these chemicals should be minimized through the use of proper protective equipment and safe laboratory practices as referenced in the current revision of ***Eurofins*** Calscience's Health, Safety, and Respiratory Protection Manual. In general, protective eyewear (e.g. safety glasses or goggles), and protective apparel (e.g. lab coats) and gloves are required to be worn when handling chemicals.

17.3. The following additional precautions should be taken, as necessary, when handling high concentrations of hazardous materials:

17.3.1. A NIOSH-approved air purifying respirator with cartridges appropriate for the chemical handled.

17.3.2. Extended-length protective gloves.

17.3.3. Face shield.

17.3.4. Full-length laboratory apron.

17.4. Processes that promote vaporization of volatile chemicals should be performed in an area well ventilated to the exterior of the laboratory to prevent contamination to other areas in the laboratory.

17.5. When working with large amounts of volatile chemicals, the Coordinator must be cautious of the risk of high levels of volatile displacing the atmospheric air within the work area and causing asphyxiation. Air purification respirators are ineffective in this situation and must not be used. The Coordinator must immediately vacate the area until ventilation has effectively reduced the concentration of volatiles. Alternatively, the Coordinator may utilize a self-contained breathing apparatus or other supplied air system if appropriately trained and approved by the Health and Safety Manager.

17.6. Material Safety Data Sheets (MSDSs) ***or Safety Data Sheets (SDSs)*** are available for each laboratory standard and reagent chemical. Employees should review and be familiar with the hazards and precautions outlined in the MSDS ***or SDS*** for all chemicals to be used prior to handling.

18. ►DATA ASSESSMENT AND ACCEPTANCE CRITERIA

18.1. Ideally, the concentrations of target analytes in an MB should be less than the respective reporting limits (RLs). If the concentration of any target analyte exceeds its RL, the source of contamination must be investigated and, if possible, eliminated. The acceptance criteria for MBs are as follows:

18.1.1. If a target analyte is found in the MB but not in the associated samples, report the sample and MB data without qualification.

18.1.2. If a target analyte is found in the MB and in the associated samples, evaluate the analyte in question to determine the effect on the analysis of samples. Determine and eliminate the source of contamination. Professional judgment should be exercised to determine if the data should be qualified or rejected and the samples re-processed and/or re-analyzed.

18.2. The acceptance criteria for LCS/LCSD compounds are predetermined. The lower and upper acceptance limits for %REC of each LCS/LCSD compound are 50% and 135%, respectively. The RPD is ≤ 25%. All LCS/LCSD compounds must be within acceptance limits (see Section 12.5.3. for additional information).

18.2.1. If the LCS and/or LCSD %REC is outside of the acceptance limits high, the RPD is within acceptance limits, and all target analytes in the associated samples are not detected, the sample data can be reported without qualification.

18.2.2. ***If an LCS/LCSD pair was analyzed, both the LCS and the LCSD must be reported.***

18.3. The acceptance criteria for surrogate compound recoveries are predetermined. The lower and upper acceptance limits for %REC of each surrogate compound in an aqueous sample are 50% and 135%, respectively. The lower and upper acceptance limits for %REC of each surrogate compound in a non-aqueous sample are 50% and 130%, respectively.

18.3.1. For EPA Region 9 requirement, refer to Section 12.6.2.1.2. for acceptance criteria.

18.3.2. If the surrogate compound recoveries are acceptable, report the surrogate and sample data without qualification.

18.3.3. If one or more surrogate recoveries are not acceptable, evaluation is not necessarily straightforward. The sample itself may produce effects due to factors such as interferences and high analyte concentration. This data alone cannot be used to evaluate the precision and accuracy of individual sample analysis. However, when exercising professional judgment, this data should be used in conjunction with other available QC information.

18.3.4. By itself, unacceptable surrogate recoveries do not invalidate sample data. The following must be accomplished if surrogate recoveries are not acceptable.

18.3.4.1. Check the surrogate standard solutions for degradation and contamination.

18.3.4.2. If the nonconformance is due to poor instrument performance or if the above actions fail to reveal the cause of the unacceptable surrogate recoveries, the same extract should be re-analyzed.

18.3.4.3. If incorrect procedures or degraded/contaminated standard solutions are determined to have not caused the unacceptable surrogate recoveries, the affected sample(s) must be re-processed and re-analyzed or, if insufficient sample remains, reference made to the associated MB surrogate recoveries and the sample data reported with qualification.

18.3.4.3.1. If, upon re-processing and re-analysis, the surrogates remain unacceptable, matrix interference can be cited and reference made to the associated MB surrogate recoveries and the sample data reported with qualification.

18.3.4.3.2. If the MB surrogates are unacceptable, all associated sample data must be invalidated and all associated samples re-processed and re-analyzed.

18.3.5. Where sample dilution is required, depending on the dilution factor, the surrogate recovery will be low or not detected. This is an expected occurrence and reference should be made to the MB surrogate recovery which must be reported to the client.

18.4. The acceptance criteria for MS/MSD compounds are predetermined. The lower and upper acceptance limits for %REC of each MS/MSD compound are 50% and 135%, respectively. The RPD is ≤ 25%.

18.4.1. For EPA Region 9 requirement, refer to Section 12.6.3.1.2. for acceptance criteria.

18.4.2. When the %REC and RPD of the MS/MSD compounds are at or within the established acceptance limits, the analytical system is deemed to be compliant with the accuracy and precision requirement of the method for the particular matrix. The MS/MSD data shall be reported with the corresponding sample data.

18.4.3. If the %REC and/or RPD of the MS/MSD compounds are not within the established acceptance limits, the analytical system performance shall be suspect.

18.5. Matrix effects or poor instrument performance/technique typically cause unacceptable %REC values. Unacceptable RPD values are typically caused by sample inhomogeneity or poor instrument performance/technique. To properly evaluate the performance of the analytical system in these situations, refer to the LCS/LCSD. Specifically, an acceptable LCS/LCSD usually supports matrix interference.

18.6. Additional information regarding internal quality control checks is provided in SOP-T020.

18.7. All concentrations shall be reported in µg/L (ppb) for aqueous samples, µg/kg (ppb) for oil, soil, and solid waste samples, and µg/sample for wipe and filter samples.

18.7.1. For EPA Region 9 requirement, report all concentrations in µg/L (ppb) for water samples, and µg/kg (ppb) on a dry-weight basis for soil samples.

18.8. The data reported shall adhere to the significant figures, rounding, and data reporting procedures outlined in the current revision of SOP-T009.

19. ►CORRECTIVE ACTIONS

19.1. If on the basis of internal or external systems or performance audits, routine monitoring of laboratory support equipment, or QC sample analysis results, analytical systems fail to meet the established criteria, an appropriate corrective action must be implemented.

19.2. The Operations ***Director***, Project Manager, ***Quality Control Director,*** Quality Control Manager, Group Leader, and analyst may be involved in identifying the most appropriate corrective action. If previously reported data are affected or if corrective action will impact the project budget or schedule, the action may directly involve the Laboratory Director.

19.3. Corrective actions are generally of two types, immediate and long-term actions.

19.3.1. An **immediate action** is designed to correct or repair nonconforming instruments and measurement systems. The analyst or Group Leader as a result of calibration checks and other QC sample analyses most frequently will identify the need for such an action.

19.3.2. A **long-term action** is designed to eliminate causes of nonconformance. The need for such actions is identified by systems and performance audits. The systematic nonconformances identified during the data generation process and the appropriate corrective measures taken are thoroughly documented in the Corrective Action Record. Examples of this type of action include:

19.3.2.1. Remedial training of staff in technical skills, technique, or implementation of operating procedures.

19.3.2.2. Rescheduling of analytical laboratory routine to ensure analysis within holding times.

19.3.2.3. Revision of standard operating procedures.

19.3.2.4. Replacing personnel, as necessary.

19.4. For either type of corrective action, the sequential steps that compose a close-loop corrective action system are as follows:

19.4.1. Define the problem.

19.4.2. Assign responsibility for investigating the problem.

19.4.3. Investigate and determine the cause of the problem.

19.4.4. Assign and accept responsibility for implementing the corrective action.

19.4.5. Determine effectiveness of the corrective action and implement correction.

19.4.6. Verify that the corrective action has eliminated the problem.

19.5. Depending on the nature of the problem, the corrective action employed may be formal or informal. In either case, occurrence of the problem, the corrective action employed, and verification that the problem has been eliminated must be properly documented on a Corrective Action Record.

20. ►CONTINGENCIES FOR OUT-OF-CONTROL OR UNACCEPTABLE DATA

20.1. Out-of-control data are reviewed and verified by the ***group leader*** of the appropriate department. All samples associated with an unacceptable QC set are then subject to reanalysis, depending upon the QC type in question.

20.1.1. MS/MSD: Acceptability of the MS/MSD recoveries is subject to the matrix and any anomalies associated with the subject batch. Failure of recoveries of an MS/MSD data set does not constitute an automatic reanalysis of the batch samples. Rather, it is acceptable to defer to the LCS/LCSD recoveries, to determine acceptance of the sample results.

20.1.2. LCS/LCSD: Because they denote whether the analytical system is operating within control, it is imperative that the LCS recoveries obtained are within acceptance criteria. If the recoveries fail for a given reported compound, the technical director confirms the unacceptable result.

20.1.2.1. If the LCS results are verified as acceptable, no corrective action is required.

20.1.2.2. If the LCS result is verified as out-of-control, and the subject compound is to be reported in samples within that analytical batch, the samples reported with that failed compound must be reanalyzed with a valid LCS recovery for the compound.

20.1.2.3. If the LCS result is verified as out-of-control, and the subject compound is NOT to be reported in the samples within that analytical batch, the samples are not subject to reanalysis. No corrective action is required for that batch.

21. WASTE MANAGEMENT

21.1. The proper disposal of analytical samples and laboratory wastes is not only good laboratory practice, but also regulated by a variety of local, state, and federal laws. In order to remain compliant with these laws, and at the same time keep sample disposal costs at a minimum, the samples and wastes are identified, segregated, and either returned to the client (preferable) or placed into the proper laboratory waste stream.

21.2. Unused or remaining soil or liquid samples and all other solid or liquid wastes resulting from our laboratory operations are considered hazardous for disposal purposes.

21.3. All laboratory personnel must be aware of the types of chemicals they are using and the appropriate procedures for their disposal.

21.4. Each specific laboratory area shall maintain clearly labeled waste containers for small quantity waste collection. These waste containers shall be used for temporary collection of residual sample from aliquotting procedures, contaminated consumables, sample extracts, purged aqueous samples, and other wastes that require disposal as hazardous waste.

21.5. To ensure compliance with Federal RCRA regulations, the Hazardous Waste Coordinator collects and disposes of the hazardous waste at each satellite collection point no less than monthly.

21.6. In order to maintain accountability for all samples received by ***Eurofins*** Calscience, when a sample is used in its entirety for analysis, the empty container(s) are returned to Sample Control for placement in analytical storage.

21.7. Waste management procedures shall adhere to the current revision of SOP-T005, "Disposal of Laboratory Samples and Wastes."

22. ►REFERENCES

22.1. *Polychlorinated Biphenyls (PCBs) by Gas Chromatography*, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1B, Method 8082, USEPA, Revision 0, December 1996.

22.2. *Determinative Chromatographic Separations,* Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1B, Method 8000B, USEPA, Revision 2, December 1996.

22.3. *Determinative Chromatographic Separations*, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1B, Method 8000C, USEPA, Revision 3, March 2003.

22.4. *Quality Control*, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1, Chapter One, USEPA, Revision 1, July 1992.

22.5. *Choosing the Correct Procedure*, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1, Chapter Two, USEPA, Revision 4, February 2007.

22.6. *Organic Analytes*, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1, Chapter Four, USEPA, Revision 4, February 2007.

22.7. *Organochlorine Pesticides and Polychlorinated Biphenyls (PCBs)*, SW-846 Method 8081 or 8080, Region 9 Quality Assurance Data Quality Indicator Tables, USEPA, December 1999.

23. ►TABLES, DIAGRAMS, FLOWCHARTS AND VALIDATION DATA

23.1. Appendix A: Quantitation Peaks for Multiple-Component Target Compounds.

23.2. Appendix B: Additional Quality Control Criteria for Department of Defense Project.

24. MODIFICATIONS

24.1. The following modifications from EPA Method 8082 Revision 0 are noted.

Calscience SOP M407 Section	Reference Document EPA Method 8082 Section	Summary of Modification
All	All	None.

25. ►REVISION HISTORY

Revision	Description	Author(s)	Effective Date
4.0	Section 2: Add tissue matrix. Section 3: Update terminology for RL, and add reference to the determinations of DL and RL. Section 4: Revise the scope to indicate routine analytes. Section 5: Update method summary and EPA method numbers. Section 6: Delete internal standard definition. Add LOD and LOQ definitions. Section 7: Update interferences. Section 8: Update safety information. Section 9: Update the list of equipment and supplies. Section 10: Revise reagent and standard preparations. Section 11: Revise the requirements on collection and preservation. Section 12: Revise quality control criteria. Section 13: Add calibration procedures. Section 14: Update procedures. Section 15: Add references to solvent extraction, mobility extraction, and tissue matrix. Section 18: Update section references, and add EPA Region 9 requirements.	J. Kang / K. Chang	01/28/13

Revision	Description	Author(s)	Effective Date
4.0	Section 22: Update references. Section 23: Update appendices. Section 24: Add modifications. Section 25: Add revision history. Appendix A: Update Aroclor patterns. Appendix B: Update DoD quality control requirements and criteria.	J. Kang / K. Chang	01/28/13
5.1	Entire document: Update company name. Entire document: Remove tissue matrix. Section 5: Update method 3545 extraction solvent. Section 6: Update definitions. Sections 8 and 17: Add SDS. Section 9: Update equipment. Section 10: Add acetone/hexane. Sections 10, 12, 14, 18, and Appendix B: Update LCSD requirement. Sections 19 and 20: Update responsibilities.	L. Hunt	04/13/15

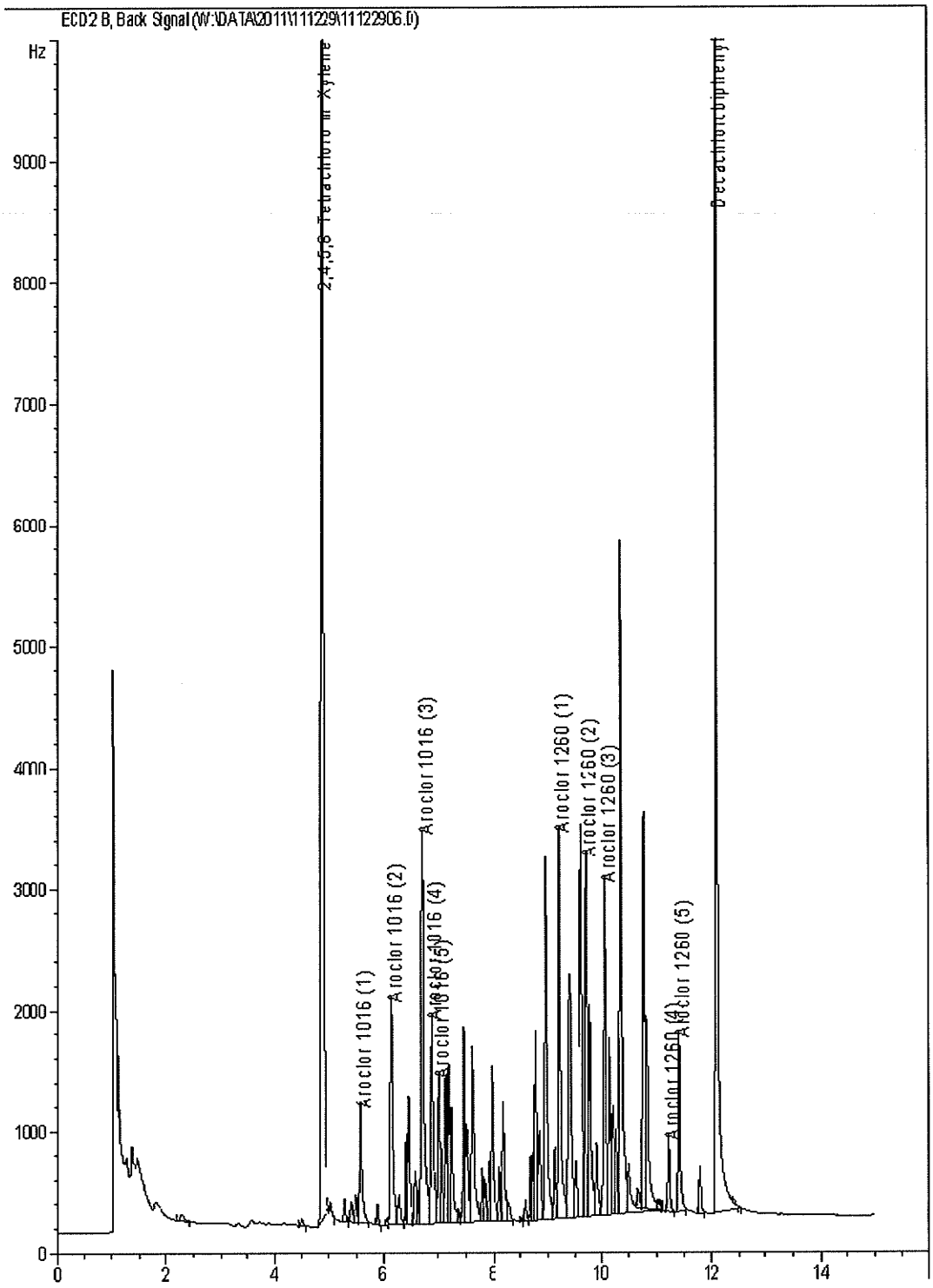
Appendix A

QUANTITATION PEAKS FOR MULTIPLE-COMPONENT TARGET COMPOUNDS

Eurofins Calscience, Inc.

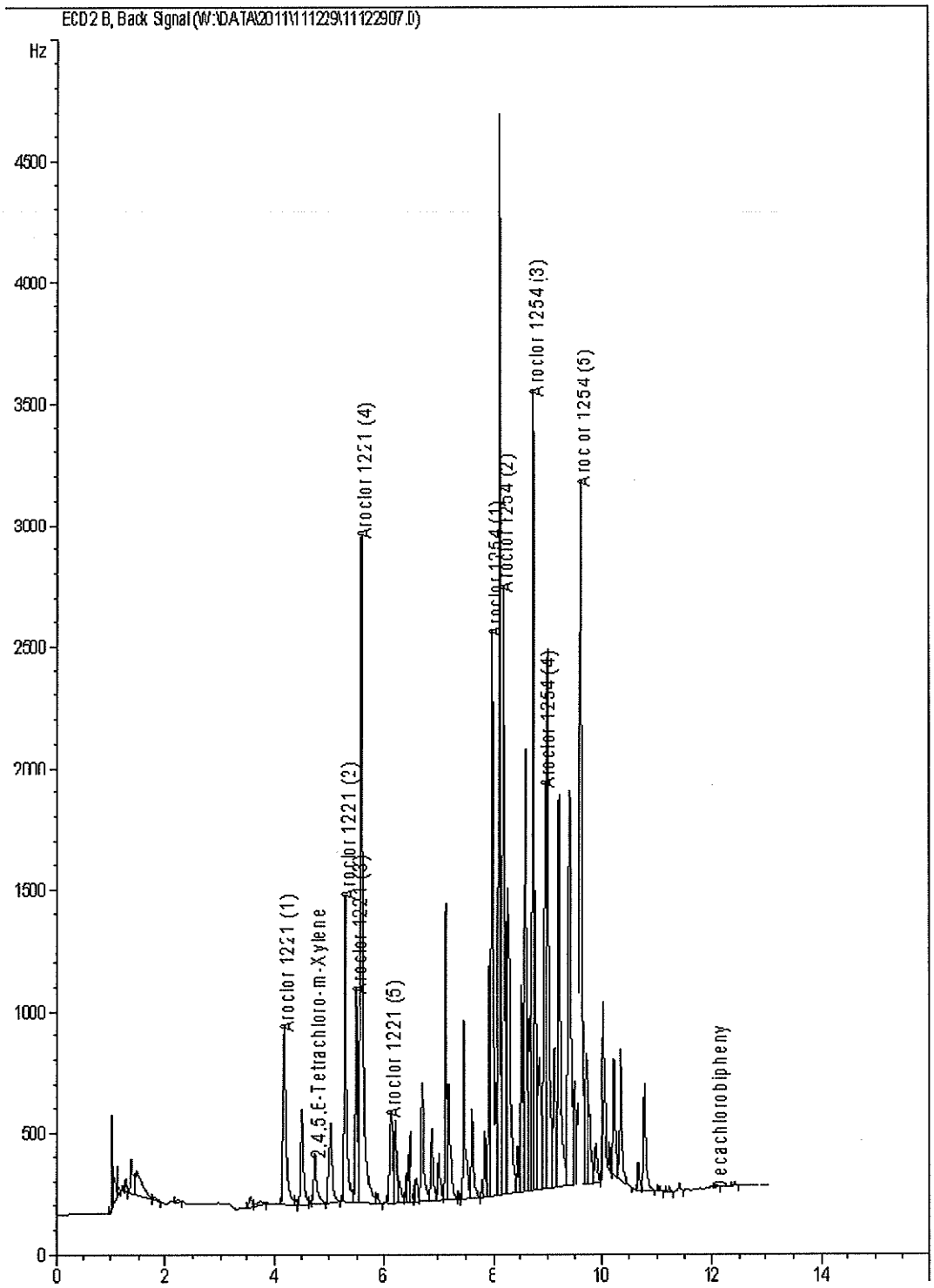
Appendix A

Quantitation Peaks for Aroclor 1016 and Aroclor 1260



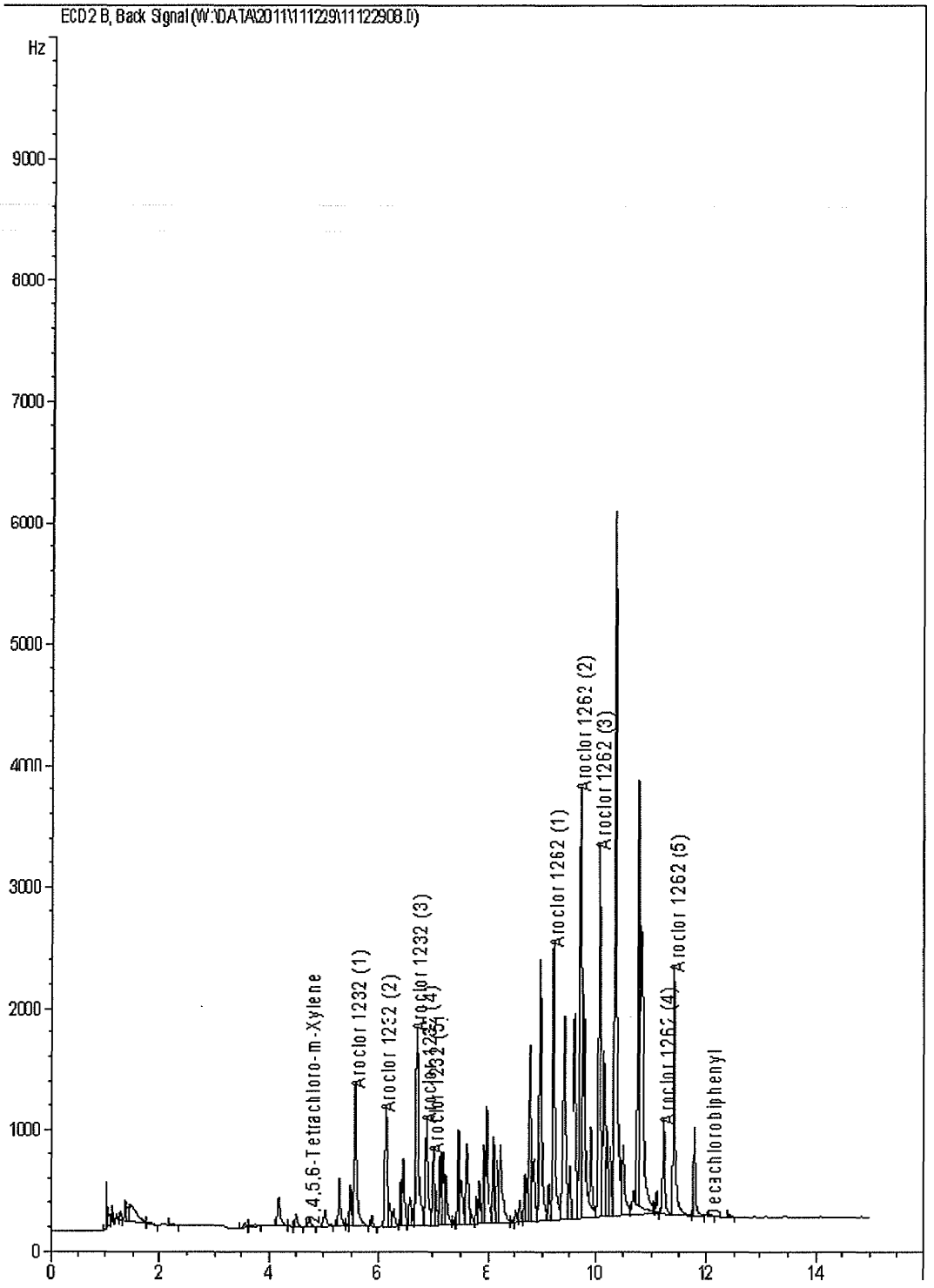
Appendix A

Quantitation Peaks for Aroclor 1221 and Aroclor 1254



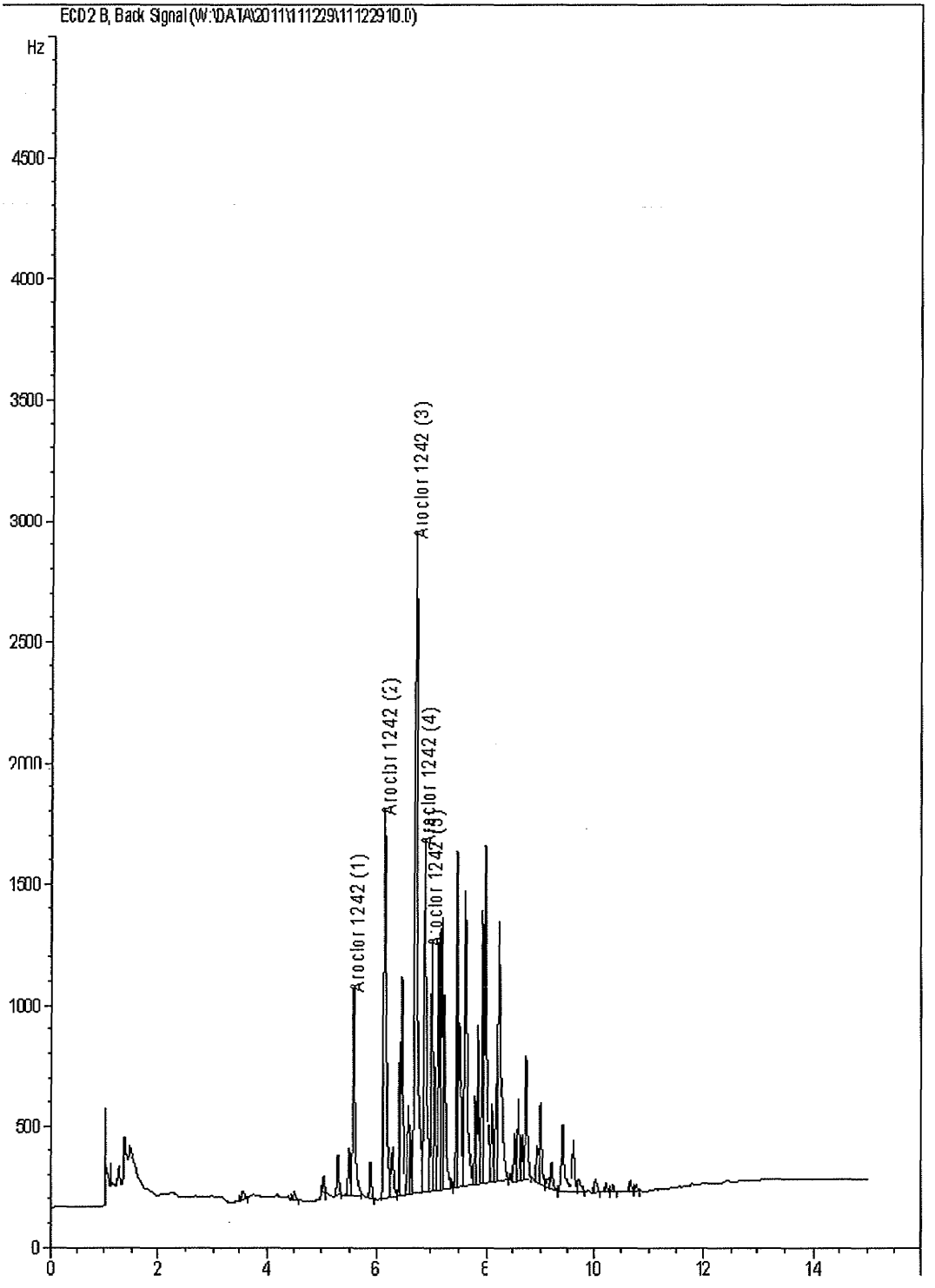
Appendix A

Quantitation Peaks for Aroclor 1232 and Aroclor 1262



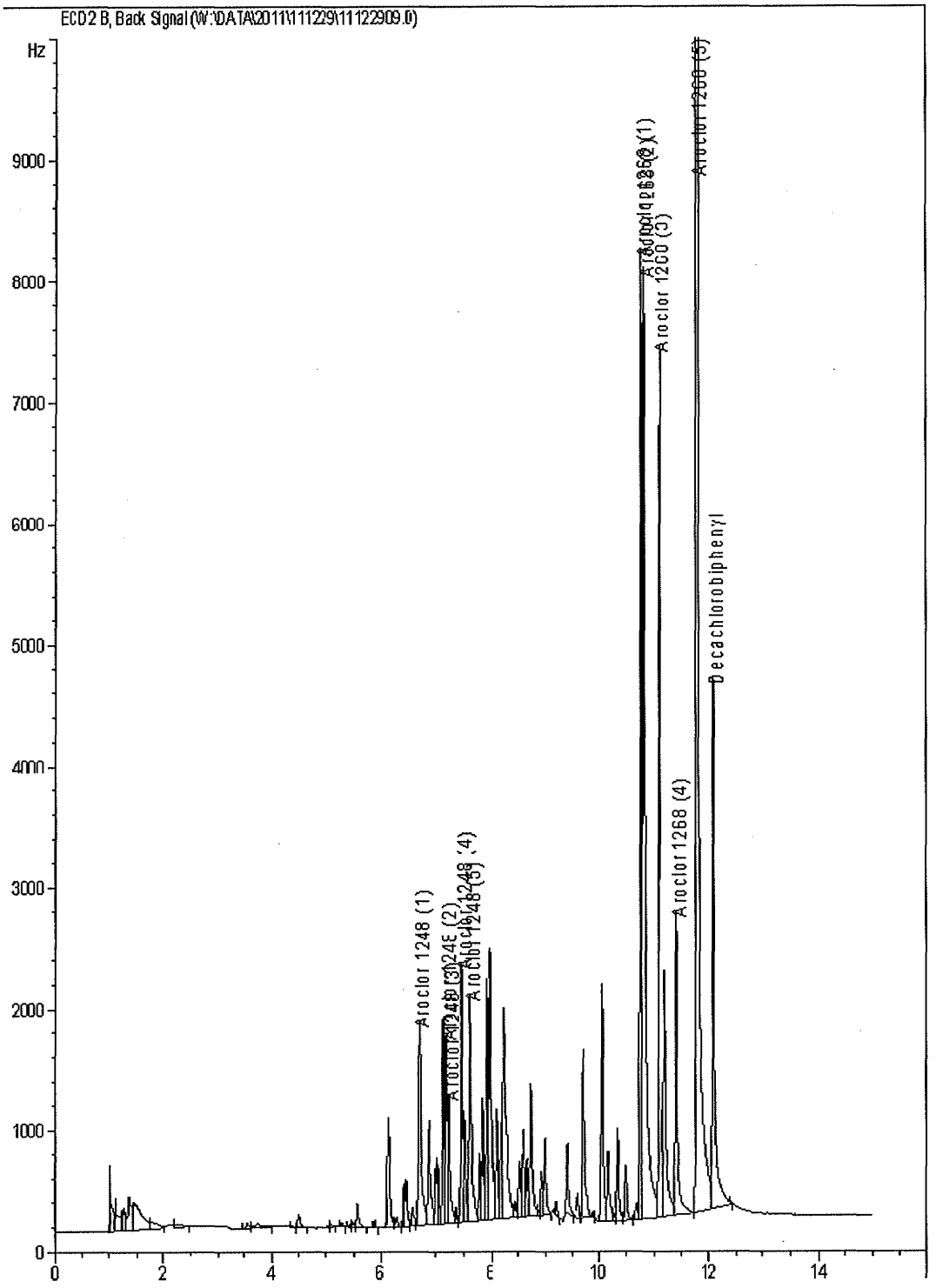
Appendix A

Quantitation Peaks for Aroclor 1242



Appendix A

Quantitation Peaks for Aroclor 1248 and Aroclor 1268



Appendix B

ADDITIONAL QUALITY CONTROL CRITERIA FOR DEPARTMENT OF DEFENSE PROJECT

Eurofins Calscience, Inc.

1. METHOD IDENTIFICATION

1.1. EPA Method 8082, Polychlorinated Biphenyls (PCBs) as Aroclors by Gas Chromatography – Additional Quality Control Criteria for Department of Defense (DoD) Project.

2. DETECTION / QUANTITATION LIMITS

2.1. The quantitation limit must be set within the calibration range.

3. SCOPE AND APPLICATION

3.1. The quality control criteria and procedure described herein either supersede or are in addition to the standard quality control criteria and procedure.

4. ►STANDARDS

4.1. The spike standard solution shall contain all anticipated target analytes.

4.2. The use of a standard from a second lot as the second source standard is acceptable when only one manufacturer of the calibration standard exists. "Manufacturer" refers to the producer of the standard, not the vendor.

5. QUALITY CONTROL

5.1. Limit of Detection (LOD)

5.1.1. LOD determination shall be performed at the initial test method setup, following a change in the test method that affects how the test is performed, and following a change in instrumentation that affects the sensitivity of the analysis thereafter.

5.1.2. LOD verification must be performed immediately following an LOD determination and quarterly thereafter to verify method sensitivity.

5.1.2.1. LOD verification sample shall be prepared by spiking an appropriate matrix at approximately 2 to 3 times the detection limit for a single-analyte standard, or greater than 1 to 4 times the detection limit for a multi-analyte standard.

5.1.2.2. LOD verification is deemed valid if the apparent signal-to-noise ratio of each analyte is at least 3 and the results must meet all method requirements for analyte identification (e.g., second column confirmation, pattern recognition, etc.).

5.1.2.2.1. For data system that does not provide a measure of noise, the signal produced by the verification sample must produce a result that is at least 3 standard deviations greater than the mean method blank concentrations.

5.1.2.3. If these criteria are not met, perform either one of the following tasks.

5.1.2.3.1. Repeat the LOD determination and verification at a higher concentration. Set the LOD at the higher concentration.

5.1.2.3.2. Perform and pass 2 consecutive LOD verifications at a higher concentration. Set the LOD at the higher concentration.

5.1.3. No samples shall be analyzed without a valid LOD.

5.2. Limit of Quantitation (LOQ)

5.2.1. LOQ shall be set at or above the concentration of the lowest initial calibration standard and within the linear dynamic range.

5.2.1.1. The procedure for establishing the LOQ must empirically demonstrate precision and bias at the LOQ.

5.2.1.2. The LOQ and associated precision and bias must meet client requirements and must be reported. If the test method is modified, precision and bias at the new LOQ must be demonstrated and reported.

5.2.2. LOQ verification must be performed quarterly to verify precision and bias at the LOQ.

5.2.2.1. LOQ verification sample shall be prepared by spiking an appropriate matrix at approximately 1 to 2 times the claimed LOQ.

5.2.2.2. LOQ verification is deemed valid if the recovery of each analyte is within the established test method acceptance criteria or client data objectives for accuracy.

5.3. Initial Calibration (IC)

5.3.1. The initial five-point calibration must be established for each Aroclor prior to the processing of sample extracts.

5.3.1.1. Results may not be quantitated using a single point.

5.4. Continuing Calibration Verification (CCV)

5.4.1. Following the establishment of a valid initial calibration, a CCV standard must be analyzed daily prior to sample analysis, after every batch of 10 field samples or portion thereof within a 12-hour shift, and at the end of sequence.

5.4.2. The concentration of the CCV standard shall be between the low point and the midpoint of the calibration range.

5.5. Retention Time Window

5.5.1. Establishment of retention time window position is accomplished by using the midpoint calibration standard once per initial calibration, and by using a low-to-midpoint CCV standard at the beginning of an analytical sequence.

5.5.1.1. When initial calibration is performed, daily retention time window for each analyte/surrogate is the retention time of the analyte/surrogate in the midpoint calibration standard ± 3S.

5.5.1.2. When initial calibration is not performed, daily retention time window for each analyte/surrogate is the retention time of the analyte/surrogate in the low-to-midpoint CCV standard ± 3S.

5.6. Event Based Quality Control (MBs and LCSs)

5.6.1. Method Blanks (MBs)

5.6.1.1. The MB is considered to be contaminated if one of the following conditions is met.

5.6.1.1.1. The concentration of any target analyte in the MB exceeds 1/2 the RL, and is greater than 1/10 the amount measured in any sample or 1/10 the regulatory limit (whichever is greater).

5.6.1.1.2. The concentration of any common laboratory contaminant in the MB exceeds RL, and is greater than 1/10 the amount measured in any sample or 1/10 the regulatory limit (whichever is greater).

5.6.1.1.3. The MB result otherwise affects the sample results as per the test method requirements or the project-specific data quality objectives (DQOs).

5.6.1.2. If the MB is contaminated, reprocess the samples associated with the failed MB in a subsequent preparation batch, except when the sample results are below the LOD.

5.6.1.2.1. If insufficient sample volume remains for reprocessing, the results shall be reported with the appropriate data qualifier (B-flag) for the specific analyte(s) in all samples associated with the failed MB.

5.6.2. Laboratory Control Samples (LCSs)

5.6.2.1. The lower and upper acceptance limits for %REC of each LCS/LCSD compound in aqueous and solid matrices are listed below.

Analyte	Aqueous Matrix Control Limit		Solid Matrix Control Limit	
	Lower	Upper	Lower	Upper
Aroclor 1016	25	145	40	140
Aroclor 1260	30	145	60	130

5.6.2.2. Project-specific control limits shall be applied. If project-specific control limits are unavailable, DoD-generated control limits shall be applied. If DoD-generated control limits are unavailable, laboratory's in-house control limits shall be applied.

5.6.2.2.1. Laboratory's in-house control limits may not be greater than ± 3S of the average recovery.

5.6.2.3. All project-specific analytes of concern must be within control limits. If a project-specific analyte of concern exceeds its control limit, determine the cause of the problem and effect corrective action.

5.7. Matrix Based Quality Control (Surrogates and MS/MSDs)

5.7.1. Surrogate

5.7.1.1. The lower and upper acceptance limits for %REC of each surrogate compound in aqueous and solid matrices are listed below.

Analyte	Aqueous Matrix Control Limit		Solid Matrix Control Limit	
	Lower	Upper	Lower	Upper
Decachlorobiphenyl	40	135	60	125

5.7.1.2. Project-specific control limits shall be applied. If project-specific control limits are unavailable, DoD-generated control limits shall be applied. If DoD-generated control limits are unavailable, laboratory's in-house control limits shall be applied.

5.7.2. Matrix Spikes (MS/MSDs) and Surrogate

5.7.2.1. The lower and upper acceptance limits for %REC of each MS/MSD compound in aqueous and solid matrices are listed below. The RPD is ≤ 30%.

Analyte	Aqueous Matrix Control Limit		Solid Matrix Control Limit	
	Lower	Upper	Lower	Upper
Aroclor 1016	25	145	40	140
Aroclor 1260	30	145	60	130

5.7.2.2. Project-specific control limits shall be applied. If project-specific control limits are unavailable, DoD-generated control limits shall be applied. If DoD-generated control limits are unavailable, laboratory's in-house control limits shall be applied.

5.7.2.2.1. Laboratory's in-house control limits may not be greater than ± 3S of the average recovery.

6. ►PROCEDURE

6.1. Following the establishment of a valid initial calibration, a CCV standard must be analyzed daily prior to sample analysis, after every batch of 10 field samples or portion thereof within a 12-hour shift, and at the end of sequence.

6.2. Standard and sample vials are loaded in the following or other logical order:

1) Instrument Blank (IB)
2) Continuing Calibration Verification (CCV)
3) Laboratory Control Sample (LCS)
4) Laboratory Control Sample Duplicate (LCSD)***, when required***
5) Method Blank (MB)
6) Samples (up to 10 per batch, excluding QC check samples and MBs)
7) Matrix Spike (MS)
8) Matrix Spike Duplicate (MSD)
9) Ending CCV

6.2.1. Items 2 and 9: A CCV is used to verify the acceptance of the initial five-point calibration on a continuing basis. An acceptable CCV is required daily prior to sample analysis, after every batch of 10 field samples or portion thereof within a 12-hour shift, and at the end of sequence.

6.2.2. Item 6: Up to 10 sample (excluding QC check sample and method blank) extracts per batch. Complex extracts should be sufficiently diluted or subjected to cleanup procedures to ensure that instrument is not contaminated. Dilution or cleanup of extracts will result in increased reporting limits.

6.2.3. Item 7: The MS is the actual sample matrix spiked with known concentrations of specific target analytes. The sample which is spiked for the MS is processed concurrently with the associated samples. In the processing of the MS, reagents and procedures identical to those for actual samples are used.

6.2.3.1. The sample selected for spiking must be one of the samples collected for the specific DoD project.

6.2.4. Item 8: The MSD is handled identically to the MS discussed in the previous section. In addition to assessing the accuracy of the analytical measurement, the MS in combination with the MSD can be used to assess the precision of the analytical measurements. The measurement is expressed as relative percent difference (RPD).

6.3. Data Interpretation

6.3.1. The flagging criteria and data reporting procedure for second column confirmation are as follows:

6.3.1.1. If RPD is > 40%, apply the appropriate data qualifier (J-flag) and document in the case narrative.

6.3.1.2. Follow project-specific reporting requirements when reporting data.

6.3.1.2.1. If project-specific reporting requirements are unavailable, apply method-specific reporting requirements.

6.3.1.2.2. If method-specific reporting requirements are unavailable, report the results from the primary column or detector, unless there is a scientifically valid and documented reason for not doing so.

6.3.2. Identify unconfirmed results with the appropriate data qualifiers and document in the case narrative.

7. REFERENCES

7.1. Department of Defense Quality Systems Manuals for Environmental Laboratories, Version 4.2, October 25, 2010.

Title : **EPA METHOD 3540C, SOXHLET EXTRACTION**

Document No. : SOP-M203
Revision No. : 1.3
Supersedes : 1.2

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No revision 1.3 changes.

APPROVED FOR RELEASE BY: _____ 07/12/11
MANAGEMENT **DATE**

_____ 07-12-11
QA DEPARTMENT **DATE**

ANNUAL SOP REVIEW

YEAR	GROUP LEADER	DATE	QA MANAGER	DATE

YEAR	GROUP LEADER	DATE	QA MANAGER	DATE

YEAR	GROUP LEADER	DATE	QA MANAGER	DATE

YEAR	GROUP LEADER	DATE	QA MANAGER	DATE

YEAR	GROUP LEADER	DATE	QA MANAGER	DATE

1. METHOD IDENTIFICATION

1.1. EPA Method 3540C, Soxhlet Extraction.

2. APPLICABLE MATRICES

2.1. This method is applicable to soils, sludges, and solid wastes.

3. DETECTION LIMITS

3.1. Refer to the determinative method for detection limit data.

4. SCOPE AND APPLICATION

4.1. EPA Method 3540C describes the procedures for extracting nonvolatile and semi-volatile organic compounds. The Soxhlet extraction process ensures intimate contact of the sample matrix with the extraction solvent. The method also describes concentration techniques suitable for preparing the extract for the appropriate determinative methods including, but not limited to, EPA Methods 8081A, 8082, 8141A, 8270C and 8310.

4.2. This method is applicable to the isolation and concentration of water-insoluble and slightly water-soluble organic compounds in preparation for a variety of chromatographic procedures.

4.3. This method is restricted to use by or under the supervision of analysts experienced in the use of the instruments and apparatus required to execute the procedure.

5. METHOD SUMMARY

5.1. The solid sample is mixed with anhydrous sodium sulfate, placed in an extraction thimble and extracted using an appropriate solvent in a Soxhlet extractor. The extract is dried, concentrated, and, as necessary, exchanged into a solvent compatible with the cleanup or determinative method to be employed. Refer to Appendix A for specifics.

6. DEFINITIONS

6.1. Acceptance Criteria: Specified limits placed on characteristics of an item, process, or service defined in requirement documents.

6.2. Accuracy: The degree of agreement between an observed value and an accepted reference value. Accuracy includes a combination of random error (precision) and systematic error (bias) components which are due to sampling and analytical operations; a data quality indicator.

6.3. Batch: Environmental samples, which are prepared and/or analyzed together with the same process and personnel, using the same lot(s) of reagents. A preparation

batch is composed of one to 20 environmental samples of the same NELAC-defined matrix, meeting the above mentioned criteria and with a maximum time between the start of processing of the first and last sample in the batch to be 24 hours. An analytical batch is composed of prepared environmental samples (extracts, digestates or concentrates) which are analyzed together as a group. An analytical batch can include prepared samples originating from various environmental matrices and can exceed 20 samples.

6.4. Blank: A sample that has not been exposed to the analyzed sample stream in order to monitor contamination during sampling, transport, storage or analysis. The blank is subjected to the usual analytical and measurement process to establish a zero baseline or background value and is sometimes used to adjust or correct routine analytical results.

6.5. Calibration: To determine, by measurement or comparison with a standard, the correct value of each scale reading on a meter or other device. The levels of the applied calibration standard should bracket the range of planned or expected sample measurements.

6.6. Corrective Action: The action taken to eliminate the causes of an existing nonconformity, defect or other undesirable situation in order to prevent recurrence.

6.7. Data Reduction: The process of transforming raw data by arithmetic or statistical calculations, standard curves, concentration factors, etc., and collation into a more useable form.

6.8. Holding Times (Maximum Allowable Holding Times): The maximum times that samples may be held prior to analysis and still be considered valid or not compromised.

6.9. Internal Standard: A known amount of standard added to a test portion of a sample as a reference for evaluating and controlling the precision and bias of the applied analytical method.

6.10. Laboratory Control Sample (however named, such as laboratory fortified blank, spiked blank, or QC check sample): A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. It is generally used to establish intra-laboratory or analyst-specific precision and bias or to assess the performance of all or a portion of the measurement system.

6.11. Laboratory Duplicate: Aliquots of a sample taken from the same container under laboratory conditions and processed and analyzed independently.

6.12. Matrix Spike (spiked sample or fortified sample): A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. Matrix spikes are used, for example, to determine the effect of the matrix on a method's recovery efficiency.

6.13. Matrix Spike Duplicate (spiked sample or fortified sample duplicate): A second replicate matrix spike prepared in the laboratory and analyzed to obtain a measure of the precision of the recovery for each analyte.

6.14. Method Blank: A sample of a matrix similar to the batch of associated samples (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences are present at concentrations that impact the analytical results for sample analyses.

6.15. Method Detection Limit: The minimum concentration of a substance (an analyte) that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.

6.16. Precision: The degree to which a set of observations or measurements of the same property, obtained under similar conditions, conform to themselves; a data quality indicator. Precision is usually expressed as standard deviation, variance or range, in either absolute or relative terms.

6.17. Preservation: Refrigeration and/or reagents added at the time of sample collection (or later) to maintain the chemical and/or biological integrity of the sample.

6.18. Pure Reagent Water: Shall be water (defined by national or international standard) in which no target analytes or interferences are detected as required by the analytical method.

6.19. Quality Assurance: An integrated system of activities involving planning, quality control, quality assessment, reporting and quality improvement to ensure that a product or service meets defined standards of quality with a stated level of confidence.

6.20. Quality Control: The overall system of technical activities whose purpose is to measure and control the quality of a product or service so that it meets the needs of users.

6.21. Quantitation Limits: Levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported at a specific degree of confidence.

6.22. Raw Data: Any original factual information from a measurement activity or study recorded in a laboratory notebook, worksheets, records, memoranda, notes, or exact copies thereof that are necessary for the reconstruction and evaluation of the report of the activity or study. Raw data may include photography, microfilm or microfiche copies, computer printouts, magnetic media, including dictated observations, and recorded data from automated instruments. If exact copies of raw data have been prepared (e.g., tapes which have been transcribed verbatim, data and verified accurate by signature), the exact copy or exact transcript may be submitted.

6.23. Reagent Blank (method reagent blank): A sample consisting of reagent(s), without the target analyte or sample matrix, introduced into the analytical procedure at the appropriate point and carried through all subsequent steps to determine the contribution of the reagents and of the involved analytical steps.

6.24. Standard: The document describing the elements of laboratory accreditation that has been developed and established within the consensus principles of NELAC and meets the approval requirements of NELAC procedures and policies.

6.25. Standard Operating Procedure (SOP): A written document which details the method of an operation, analysis or action whose techniques and procedures are thoroughly prescribed and which is accepted as the method for performing certain routine or repetitive tasks.

6.26. Surrogate: A substance with properties that mimic the analyte of interest. It is unlikely to be found in environment samples and is added to them for quality control purposes.

7. INTERFERENCES

7.1. Solvents, reagents, glassware, and other sample processing hardware may yield artifacts and/or interferences to sample analysis. All these materials must be demonstrated to be free from interferences under the conditions of the analysis by analyzing method blanks. Specific selection of reagents and purification of solvents by distillation in all-glass systems may be required.

7.2. Interferences co-extracted from the samples will vary considerably from sample to sample. If analysis of an extracted sample is prevented due to interferences, further cleanup of the sample extract may be necessary. Refer to EPA Method 3600C, "Cleanup."

7.3. Phthalate esters contaminate many types of products commonly found in the laboratory. Plastics, in particular, must be avoided because phthalates are commonly used as plasticizers and are easily extracted from plastic materials. Serious phthalate contamination may result at any time if consistent quality control is not practiced.

7.4. Glassware contamination with surfactants can cause analyte degradation. Specifically, aldrin, heptachlor, and most organophosphorus pesticides will degrade in this situation. This problem is specially pronounced with glassware that may be difficult to rinse (i.e., K-D flask, etc.). These items should be hand-rinsed very carefully to avoid this problem. This is especially important when the determinative method to be used is EPA Method 8141A.

7.5. Boiling stones with acidic or basic characteristics can interfere with base/neutral and acid analysis. Care should be taken when selecting boiling stones so that they are not a factor in the loss of base or acid analytes.

8. SAFETY

8.1. Extraction must be performed in a fume hood vented to the exterior of the laboratory.

8.2. For the safety of the analyst, cracked or broken glassware should be immediately discarded into a broken glassware receptacle. Broken glassware shall not be used in any step of the extraction.

8.3. To ensure the safety of the analyst during any possible emergency situation, chemists shall not perform extractions alone. Another chemist must be present during any extraction process.

8.4. Exposure to hazardous chemicals should be minimized through the use of proper protective equipment and safe laboratory practices as referenced in the current version of Calscience's Health, Safety, and Respiratory Protection Manual. In general, safety glasses and laboratory coats are required to be worn in all designated laboratory areas. Protective gloves shall be worn when handling chemicals.

8.5. Material Safety Data Sheets (MSDSs) are available for each laboratory standard and reagent chemical. Employees should review and be familiar with the hazards and precautions outlined in the MSDS for all chemicals to be used prior to handling.

8.6. Many compounds covered by this method have been tentatively classified as known or suspected human carcinogens. A NIOSH/MESA approved toxic gas respirator should be worn when extracting high concentration samples.

9. EQUIPMENT AND SUPPLIES

9.1. Soxhlet extractor, 40-mm ID, with 250-mL round bottom flask.

9.2. Dry weight determination apparatus:

- 9.2.1. Weighing dish, aluminum, disposable.
- 9.2.2. Drying oven, thermostatically controlled, forced draft, capable of maintaining 104 ± 1°C.
- 9.2.3. Desiccator, containing indicating-type desiccant.
- 9.2.4. Spatula, stainless steel.
- 9.2.5. Forceps, stainless steel.

9.3. Filtration apparatus:

- 9.3.1. Funnel, short-stemmed, glass.
- 9.3.2. Filter paper, untreated or silicone-treated, 150-mm or 185-mm diameter.

9.4. Kuderna-Danish (K-D) apparatus:

- 9.4.1. Concentrator tube, 10-mL, graduated, Kontes K-570050-1025 or equivalent.
  - 9.4.1.1. Use ground-glass stopper to prevent evaporation of extracts.
- 9.4.2. Evaporation flask, 250-mL or 500-mL, Kontes K-570001-500 or equivalent.
  - 9.4.2.1. Attach evaporation flask to concentrator tube with clamps.
- 9.4.3. Snyder column, three-ball macro, Kontes K-503000-0121 or equivalent.
- 9.4.4. Snyder column, two-ball micro, Kontes K-569001-0219 or equivalent.
- 9.4.5. Clamps.

9.5. Boiling stones, Teflon.

9.6. Water bath, heated, capable of temperature control within ± 5°C.

9.6.1. Place water bath in a fume hood.

9.7. Thermometer.

9.8. Glass or paper thimble.

9.9. Heating mantle, rheostat controlled.

9.10. Graduated cylinder, 1-L, Class A.

9.11. Grinding apparatus.

9.12. Sieve, 18-mesh (1-mm).

9.13. Balance, top loading, capable of accurately weighing to the nearest 0.01 g.

9.14. Dispenser, set volume to 5 mL.

9.15. Dispenser, set volume to 10 mL.

9.16. Syringes, 10-µL, 25-µL, 50-µL, 100-µL, 250-µL, and 500-µL, gastight, Cemented Needle (N) termination, Hamilton 1700 Series or equivalent with N.I.S.T. Traceable Certification.

10. REAGENTS AND STANDARDS

10.1. Reagent water, interferant free.

10.2. Sand, washed, sea or standard Ottawa.

10.3. Sodium sulfate, Na_2SO_4, granular, anhydrous, reagent grade or equivalent.

10.3.1. Purify by heating at 400°C for 4 hours in a shallow tray, or by extraction with methylene chloride. If extraction with methylene chloride is employed, then a reagent blank should be prepared to demonstrate that the drying agent is free of interferences.

10.4. Extraction/exchange solvents:

10.4.1. Methylene chloride, CH_2Cl_2, boiling point 39.8°C, pesticide grade or equivalent.

10.4.2. Acetone, CH_3COCH_3, boiling point 56.2°C, pesticide grade or equivalent.

10.4.3. Methylene chloride-acetone, 1:1 (v/v).

10.4.3.1. Prepare the solution by combining equal volumes of methylene chloride (pesticide grade or equivalent) and acetone (pesticide grade or equivalent).

10.4.4. Hexane, C_6H_{14}, boiling point 68.7°C, pesticide grade or equivalent.

10.4.5. Acetonitrile, CH_3CN, boiling point 81.6°C, pesticide grade or equivalent.

10.5. Pesticide-free reagents shall be used for all extractions where such specifications are available. Other grades may be used, provided it is first ascertained that the reagent is of sufficiently high purity to permit its use without lessening the accuracy

of the determination. Reagents should be stored in glass to prevent the leaching of contaminants from plastic containers.

10.6. All reagents must be inspected and documented prior to use.

11. SAMPLE COLLECTION, PRESERVATION, CONTAINERS AND HOLDING TIMES

11.1. Refer to the specific SOPs of the determinative methods for sample collection, preservation, containers and holding times.

12. QUALITY CONTROL

12.1. Event Based Quality Control (LCS/LCSDs and MBs)

12.1.1. Event based quality control consists of QC samples prepared and processed with each preparatory event. This consists of a laboratory control sample and laboratory control sample duplicate (LCS/LCSD) and a method blank (MB).

12.1.2. One LCS consisting of the specified compounds spiked into washed sea sand is required every day extractions are performed for every batch of 20 samples per matrix or portion thereof, whichever is more frequent. The LCSD is handled identically to the LCS.

12.1.3. One MB consisting of washed sea sand is required every day extractions are performed for every batch of 20 samples per matrix or portion thereof, whichever is more frequent.

12.1.4. The MB/LCS/LCSD is processed concurrently with the associated samples. In the processing of the MB/LCS/LCSD, reagents and procedures identical to those for actual samples are used (e.g., surrogates, internal standards, etc.).

12.2. Matrix Based Quality Control (Surrogates and MS/MSDs)

12.2.1. Matrix based quality control consists of QC samples prepared and processed using actual environmental samples. This consists of a matrix spike and matrix spike duplicate (MS/MSD) and surrogates added to each sample.

12.2.2. One MS consisting of the actual sample matrix spiked with known concentrations of specific target analytes is required for every batch of 20 samples per matrix or portion thereof extracted concurrently. The MSD is handled identically to the MS.

12.2.3. The sample which is spiked for the MS/MSD is processed concurrently with the associated samples. In the processing of the MS/MSD, reagents and procedures identical to those for actual samples are used (e.g., surrogates, internal standards, etc.).

12.3. A variety of problems can occur during the course of the extraction process and can drastically affect the integrity of the data produced.

12.3.1. If the extract is inadvertently concentrated to dryness, the sample can be irrevocably altered. A portion of the analyte content can be lost to the atmosphere. In this case, if there is sufficient sample, the best solution is to re-extract the sample. If there is insufficient sample, first let the extractor cool and allow the vapor to condense to see how much solvent can be recovered. Then add fresh solvent to the desired final volume (see Appendix A). If the latter is the only option, a notation must be made of the error. In addition, the analyst and the client must be made aware of the error. Low surrogate recoveries are indicative of the possible loss of target analytes. To avoid this problem, extraction should never be left unattended during concentration.

12.3.2. If the Snyder column floods, special care must be taken to correct the problem without losing any of the sample. In case of flooding, gently remove the Snyder column from the concentrator. Once it has cooled sufficiently, and the vapors have condensed, gently shake the column and allow the solvent to drain back into the concentrator. If the column is shaken while it is still hot and attached to the concentrator, the pressure build-up can force vapor out of the column and into the atmosphere, irrevocably altering the sample.

13. CALIBRATION AND STANDARDIZATION

13.1. Top Loading Balance

13.1.1. Calibrate the top loading balance at 1 g and 100 g using Class 2 weights.

13.1.2. Calibration shall be within ± 2% at 1 g (± 0.02 g) and at 100 g (± 2 g). If the values are not within these limits, recalibrate the balance.

13.2. Thermometer

13.2.1. Calibrate the thermometer using an NIST certified thermometer. The calibration procedure shall adhere to the current revision of SOP-T042, "Thermometer Calibration."

13.3. Dispenser

13.3.1. Calibrate the dispenser using a Class A graduated cylinder.

13.3.2. Calibration shall be within 1% of the expected volume.

14. PROCEDURE

14.1. Sample Preparation

14.1.1. Homogenize sample as outlined in the current revision of SOP-M230. Use the following information as guidance for sample homogenization and sieving.

14.1.1.1. For sediment/soil samples, decant and discard any water layer on a sediment sample. Mix the sample thoroughly, especially

composited samples. Discard any foreign objects such as sticks, leaves, and rocks.

14.1.1.2. For dry waste samples amenable to grinding, grind or subdivide the waste so that it either passes through a 1-mm sieve or can be extruded through a 1-mm hole. Use sufficient sample to obtain at least 10 g after grinding.

14.1.1.3. Gummy, fibrous, or oily materials not amenable to grinding should be cut, shredded, or broken up to allow mixing and maximum exposure of the sample surfaces for extraction.

14.1.2. The amount of sample required for analytical determination is established by the determinative method (see Appendix B) or the project's Quality Assurance Project Plan (QAPP).

14.2. Percent Dry Weight Determination

14.2.1. When sample results are to be reported on a dry weight basis, a second portion of sample should be weighed at the same time as the portion used for analytical determination.

14.2.2. Immediately after weighing the sample for extraction, weigh 5–10 g of the sample into a tared weighing dish. Dry this aliquot overnight at 105°C. Allow the dried sample to cool in a desiccator before weighing. The formula for calculating percent dry weight is listed in Section 15.1.

14.2.3. Additional information regarding determination of solids content is provided in SOP-M700.

14.3. Weigh sufficient amount of the homogenized solid sample (Section 14.1.) for analytical determination. Record the mass of the sample to the nearest 0.1 g.

14.3.1. The MB/LCS/LCSD consists of washed sea sand, and the MS/MSD consists of solid sample in each analytical batch selected for spiking.

14.4. Mix the portion of the sample for analytical determination with an equal amount of anhydrous sodium sulfate to get a free flowing mixture, and place it in an extraction thimble. The extraction thimble must drain freely for the duration of the extraction period.

14.5. Add the surrogate standard solution listed in the determinative method to all samples, matrix spikes, laboratory control samples, and method blanks.

14.5.1. If EPA Method 3640A, "Gel-Permeation Cleanup," is to be employed, add twice the volume of surrogate standard solution since half of the extract is not recovered from the GPC apparatus.

14.6. Add the spike standard solution listed in the determinative method to all matrix spikes and laboratory control samples.

14.6.1. If EPA Method 3640A, "Gel-Permeation Cleanup," is to be employed, add twice the volume of spike standard solution since half of the extract is not recovered from the GPC apparatus.

14.7. Place approximately 150 mL of extraction solvent (see Appendix A) into a 250-mL round-bottom extractor flask containing clean boiling stones. Attach the extractor flask to the extractor and extract the sample for 16–24 hours at 4–6 cycles/hour.

14.8. Allow the extract to cool after the extraction is complete.

14.9. Assemble a Kuderna-Danish (K-D) concentrator by attaching a 10-mL concentrator tube to a 250-mL or 500-mL evaporation flask.

14.10. Dry the extract by passing it through a glass funnel containing silicone-treated filter paper (or anhydrous sodium sulfate on untreated filter paper). Collect the dried extract in a K-D concentrator. Rinse the extractor flask thoroughly with extraction solvent, and add it to the funnel to complete the quantitative transfer.

14.11. Add one or two clean boiling stones to the evaporation flask and attach a three-ball Snyder column. Prewet the Snyder column by adding about 1 mL of methylene chloride to the top of the column. Place the K-D apparatus on a hot water bath (15–20°C above the boiling point of the solvent) so that the concentrator tube is partially immersed in the hot water and the entire lower rounded surface of the flask is bathed with hot vapor. Adjust the vertical position of the apparatus and the water temperature as required to complete the concentration in 10–20 minutes. At the proper rate of distillation, the balls of the column will actively chatter, but the chambers will not flood. When the apparent volume of liquid reaches 1–2 mL, remove the K-D apparatus from the water bath and allow it to drain and cool for at least 10 minutes.

14.12. If a solvent exchange is required (as indicated in Appendix A), momentarily remove the Snyder column, add the exchange solvent as indicated, a new boiling stone, and reattach the Snyder column. Concentrate the extract, as per Section 14.11., raising the temperature of the water bath, if necessary, to maintain proper distillation.

14.13. Remove the Snyder column and rinse the flask and its lower joints into the concentrator tube with 1–2 mL of methylene chloride or exchange solvent. It is possible that white sulfur crystals can appear in the extract during the concentration phase. If sulfur crystals appear, proceed to EPA Method 3660B for cleanup. The extract may be further concentrated by using the technique outlined in Section 14.14. or adjusted to final volume (see Appendix A) with the solvent last used.

14.14. If further concentration is indicated in Appendix A, either the micro Snyder column technique or nitrogen blowdown technique is used to adjust the extract to the final volume required.

14.14.1. If micro Snyder column technique is used, add another clean boiling stone to the concentrator tube and attach a two-ball micro Snyder column. Prewet the column by adding 0.5 mL of methylene chloride or exchange solvent to the top of the column. Place the K-D apparatus in a hot water bath so that the concentrator tube is partially immersed in the hot water. Adjust the vertical position of the apparatus and the water temperature, as required, to complete the concentration in 5–10 minutes. At the proper rate of distillation, the balls of the column will actively chatter, but the chambers will not flood. When the apparent volume of liquid reaches about one half of the final volume, remove the K-D apparatus from the water bath and

allow it to drain and cool for at least 10 minutes. Remove the Snyder column, rinse the flask and its lower joints into the concentrator tube with 0.2 mL of solvent, and adjust to the final volume as indicated in Appendix A with solvent.

14.14.2. If nitrogen blowdown technique is used, place the concentrator tube in a warm water bath (approximately 35°C) and evaporate the solvent volume to the final volume as indicated in Appendix A by blowing a gentle stream of pre-purified, dry nitrogen (filtered through a column of activated carbon) above the extract. The internal wall of the concentrator tube must be rinsed several times with solvent during the operation. Do not allow the extract to become dry.

14.15. The extract obtained (from either Section 14.13. or 14.14.) should be transferred to a crimp-top autoinjector/autosampler vial and label appropriately. The extract may now be analyzed using the appropriate determinative method.

14.15.1. If necessary, perform the appropriate cleanup methods on the sample extracts prior to sample analysis. Refer to EPA Method 3600C, "Cleanup."

14.15.2. Add the internal standard solution if required in the determinative method to all sample extracts including the QC extracts at the completion of the concentration step, or the cleanup step, if applicable.

14.16. Thoroughly document all aspects of the extraction in an extraction logbook. This logbook includes:

14.16.1. Extraction date, start time, and end time.

14.16.2. Sample matrix, initial mass, and final volume.

14.16.3. Extraction/exchange solvent lot (or identification) number and volume.

14.16.4. Surrogate lot (or identification) number, concentration, and volume added.

14.16.5. Standard lot (or identification) number, concentration, and volume added.

14.16.6. Analyst comments which include encountered problems, pertinent observations, or conditions that could potentially impact data quality.

15. CALCULATIONS

15.1. The dry weight (wet-based solids content) for a sample is calculated as follows:

$$C_s = \frac{M_2 - M_0}{M_1 - M_0} \times 100$$

where: C_s = dry weight (wet-based solids content) in %.
M_2 = mass of weighing dish and oven-dried sample in g.
M_0 = mass of weighing dish in g.
M_1 = mass of weighing dish and as-received sample in g.

15.2. Refer to the determinative method for additional calculations.

16. METHOD PERFORMANCE

16.1. A demonstration of analytical capability shall be performed initially (prior to the analysis of any samples) and with a significant change in instrument type, personnel, matrix or test method.

16.2. Calibration protocols specified in Section 13., "Calibration and Standardization," shall be followed.

16.3. Proficiency test sample results shall be used to evaluate the ability to produce accurate results.

17. POLLUTION PREVENTION

17.1. The toxicity, carcinogenicity and other health hazards associated with the use of most laboratory chemicals have not been precisely defined. Each chemical should be handled assuming it is a potential health hazard.

17.2. Exposure to these chemicals should be minimized through the use of proper protective equipment and safe laboratory practices as referenced in the current revision of Calscience's Health, Safety, and Respiratory Protection Manual. In general, protective eyewear (e.g. safety glasses or goggles), and protective apparel (e.g. lab coats) and gloves are required to be worn when handling chemicals.

17.3. The following additional precautions should be taken, as necessary, when handling high concentrations of hazardous materials:

17.3.1. A NIOSH approved air purifying respirator with cartridges appropriate for the chemical handled.

17.3.2. Extended length protective gloves.

17.3.3. Face shield.

17.3.4. Full-length laboratory apron.

17.4. Processes that promote vaporization of volatile chemicals should be performed in an area well ventilated to the exterior of the laboratory to prevent contamination to other areas in the laboratory.

17.5. When working with large amounts of volatile chemicals, the Coordinator must be cautious of the risk of high levels of volatile displacing the atmospheric air within the work area; therefore causing asphyxiation. Air purification respirators are ineffective in this situation and must not be used. The Coordinator must immediately vacate the area until ventilation has effectively reduced the concentration of volatiles. Alternatively, the Coordinator may utilize a self-contained breathing apparatus or other supplied air system if appropriately trained and approved by the Health and Safety Manager.

17.6. Material Safety Data Sheets (MSDSs) are available for each laboratory standard and reagent chemical. Employees should review and be familiar with the hazards and precautions outlined in the MSDS for all chemicals to be used prior to handling.

18. DATA ASSESSMENT AND ACCEPTANCE CRITERIA

18.1. Refer to the determinative method for data assessment and acceptance criteria.

18.2. Additional information regarding internal quality control checks is provided in SOP-T020.

18.3. The data reported shall adhere to the significant figures, rounding, and data reporting procedures outlined in the current revision of SOP-T009.

19. CORRECTIVE ACTIONS

19.1. If on the basis of internal or external systems or performance audits, routine monitoring of laboratory support equipment, or QC sample analysis results, analytical systems fail to meet the established criteria, an appropriate corrective action must be implemented.

19.2. The Operations Manager, Project Manager, Quality Control Manager, Group Leader and analyst may be involved in identifying the most appropriate corrective action. If previously reported data are affected or if corrective action will impact the project budget or schedule, the action may directly involve the Laboratory Director.

19.3. Corrective actions are generally of two types, immediate and long-term actions.

19.3.1. An **immediate action** is designed to correct or repair nonconforming instruments and measurement systems. The analyst or Group Leader as a result of calibration checks and other QC sample analyses most frequently will identify the need for such an action.

19.3.2. A **long-term action** is designed to eliminate causes of nonconformance. The need for such actions is identified by systems and performance audits. The systematic nonconformances identified during the data generation process and the appropriate corrective measures taken are thoroughly documented in the Corrective Action Record. Examples of this type of action include:

19.3.2.1. Remedial training of staff in technical skills, technique or implementation of operating procedures.

19.3.2.2. Rescheduling of analytical laboratory routine to ensure analysis within holding times.

19.3.2.3. Revision of standard operating procedures.

19.3.2.4. Replacing personnel, as necessary.

19.4. For either type of corrective action, the sequential steps that compose a close-loop corrective action system are as follows:

19.4.1. Define the problem.

19.4.2. Assign responsibility for investigating the problem.

19.4.3. Investigate and determine the cause of the problem.

19.4.4. Assign and accept responsibility for implementing the corrective action.

19.4.5. Determine effectiveness of the corrective action and implement correction.

19.4.6. Verify that the corrective action has eliminated the problem.

19.5. Depending on the nature of the problem, the corrective action employed may be formal or informal. In either case, occurrence of the problem, the corrective action employed, and verification that the problem has been eliminated must be properly documented on a Corrective Action Record.

20. CONTINGENCIES FOR OUT-OF-CONTROL OR UNACCEPTABLE DATA

20.1. Refer to the determinative method for contingencies for out-of-control or unacceptable data.

20.2. Out-of-control data are reviewed and verified by the technical director of the appropriate department. All samples associated with an unacceptable QC set are then subject to reanalysis, depending upon the QC type in question.

21. WASTE MANAGEMENT

21.1. The proper disposal of analytical samples and laboratory wastes is not only good laboratory practice, but also regulated by a variety of local, state, and federal laws. In order to remain compliant with these laws, and at the same time keep sample disposal costs at a minimum, the samples and wastes are identified, segregated, and either returned to the client (preferable) or placed into the proper laboratory waste stream.

21.2. Unused or remaining soil or liquid samples and all other solid or liquid wastes resulting from our laboratory operations are considered hazardous for disposal purposes.

21.3. All laboratory personnel must be aware of the types of chemicals they are using and the appropriate procedures for their disposal.

21.4. Each specific laboratory area shall maintain clearly labeled waste containers for small quantity waste collection. These waste containers shall be used for temporary collection of residual sample from aliquotting procedures, contaminated consumables, sample extracts, purged aqueous samples, and other wastes that require disposal as hazardous waste.

21.5. To ensure compliance with Federal RCRA regulations, the Hazardous Waste Coordinator collects and disposes of the hazardous waste at each satellite collection point no less than monthly.

21.6. In order to maintain accountability for all samples received by Calscience, when a sample is used in its entirety for analysis, the empty container(s) are returned to Sample Control for placement in analytical storage.

21.7. Waste management procedures shall adhere to the current revision of SOP-T005, "Disposal of Laboratory Samples and Wastes."

22. REFERENCES

22.1. *Soxhlet Extraction*, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1B, Method 3540C, USEPA, Revision 3, December 1996.

22.2. *Quality Control*, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1, Chapter One, USEPA, Revision 1, July 1992.

22.3. *Choosing the Correct Procedure*, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1, Chapter Two, USEPA, Revision 4, November 2000.

22.4. *Organic Analytes*, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1, Chapter Four, USEPA, Revision 4, November 2000.

23. TABLES, DIAGRAMS, FLOWCHARTS AND VALIDATION DATA

23.1. Appendix A: EPA Method 3540C Extraction Table.

23.2. Appendix B: EPA Method 3540C Initial Sample Aliquot Mass.

Appendix A

EPA METHOD 3540C EXTRACTION TABLE

Calscience Environmental Laboratories, Inc.

EPA Method 3540C Extraction Table

Analytical Method	Extraction Solvent Name	Extraction Solvent Volume (mL)	Exchange Solvent Name	Exchange Solvent Volume (mL)	Final Extract Volume (mL)
EPA 8081A	Methylene Chloride-Acetone (1:1)	150	Hexane	10	10
EPA 8082	Methylene Chloride-Acetone (1:1)	150	Hexane	10	10
EPA 8141A	Methylene Chloride-Acetone (1:1)	150	Hexane	10	10
EPA 8270C	Methylene Chloride-Acetone (1:1)	150	N/A	N/A	2
EPA 8310	Methylene Chloride	150	Acetonitrile	5	1

Appendix B

EPA METHOD 3540C INITIAL SAMPLE ALIQUOT MASS

Calscience Environmental Laboratories, Inc.

EPA Method 3540C Initial Sample Aliquot Mass

Analytical Method	Environmental Sample Mass (g)	MB Mass (g)	LCS/LCSD Mass (g)	MS/MSD Mass (g)
EPA 8081A	20	20	20	20
EPA 8082	20	20	20	20
EPA 8141A	10	10	10	10
EPA 8270C	20	20	20	20
EPA 8270C PAH / Dioxane	10	10	10	10
EPA 8310	20	20	20	20

Title : **EPA METHOD 3600C(M), CLEANUP**

Document No. : SOP-M234
Revision No. : 1.1
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Revision 1.1 changes are noted in bold italicized typeface and preceded by a "►" marker.

APPROVED FOR RELEASE BY: _____ 09/05/13
MANAGEMENT **DATE**

_____ 09-05-13
QA DEPARTMENT **DATE**

1. METHOD IDENTIFICATION

1.1. EPA Method 3600C(M), Cleanup.

2. APPLICABLE MATRICES

2.1. This modified method is applicable to extracts of water, oil, soil, and solid wastes.

3. DETECTION LIMITS

3.1. Refer to the determinative (analytical) method for detection limits.

4. SCOPE AND APPLICATION

4.1. EPA Method 3600C(M) provides general guidance on selection of cleanup methods that are appropriate for the target analytes of interest. Cleanup methods are applied to the extracts prepared by one of the extraction methods, to eliminate sample interferences.

4.2. Most extracts of soil and waste require some degree of cleanup, whereas, cleanup for water extracts may be unnecessary. Highly contaminated extracts (e.g. sample extracts of oily waste or soil containing oily residue) may require multiple cleanup steps.

4.3. The purpose of applying a cleanup method to an extract is to remove interferences and high boiling material that may result in:

4.3.1. Errors in quantitation (data may be biased low because of analyte adsorption in the injection port or front of the GC column or biased high because of overlap with an interference peak).

4.3.2. False positives because of interference peaks falling within the analyte retention time window.

4.3.3. False negatives caused by shifting the analyte outside the retention time window.

4.3.4. Rapid deterioration of expensive capillary columns.

4.3.5. Instrument downtime caused by cleaning and rebuilding of detectors and ion sources.

4.4. ►The following methods are suitable for cleaning up the extracts for the appropriate determinative methods including, but not limited to, EPA Methods 8015, 8081, and 8082. Refer to EPA Method 3600C guidance document for additional cleanup methods.

Cleanup Method	Cleanup Type	Determinative Method
EPA 3620C(M), Florisil®	***Adsorption***	***EPA 8081, 8082***
EPA 3630***C***(M), Silica Gel (Silicic Acid)	Adsorption	EPA 8015
EPA 3660***A***(M), Sulfur	Oxidation/Reduction	EPA 8081, 8082
EPA 3665***A***(M), Sulfuric Acid	Oxidation/Reduction	EPA 8082

4.5. ►Silica gel (silicic acid) is a regenerative adsorbent of silica with weakly acidic properties. ***It is produced from sodium silicate and sulfuric acid. Silica gel can be used in column chromatography for the separation of analytes from interfering compounds of a different chemical polarity.***

4.5.1. Silica gel is used to remove polar, non-hydrocarbon oil and grease in the sample extracts for total petroleum hydrocarbons (TPH) as diesel analysis.

4.5.2. ***Silica gel may be used activated, after heating to 130°C, or deactivated with up to 10% water.***

4.6. Elemental sulfur is encountered in many sediment samples, marine algae, and some industrial wastes. One of the techniques for the elimination of sulfur is the use of mercury.

4.6.1. Sulfur will be quite evident in gas chromatograms obtained from electron capture detectors. If the gas chromatograph is operated at the normal conditions for pesticide analysis, the sulfur interference can completely mask the region from the solvent peak through aldrin.

4.7. Whenever elevated baselines or overly complex chromatograms prevent accurate quantitation of polychlorinated biphenyls (PCBs), sulfuric acid technique is utilized to clean up the sample extracts.

4.8. This method is restricted to use by or under the supervision of analysts/technicians experienced in the use of the equipment and apparatus required to execute the procedure.

5. ►METHOD SUMMARY

5.1. Aqueous and solid samples are extracted using one of the EPA Method 3500 series methods. Following extraction, solvent exchange, and concentration, and depending upon the required analysis, the samples may be cleaned up using one of the noted procedures.

5.1.1. ***EPA Method 3620C(M) Florisil® Cleanup***

5.1.1.1. ***A solid-phase extraction (SPE) cartridge pre-packed with 1.0 g of Florisil® adsorbent is solvent washed immediately prior to use, and then loaded with the sample extract to be analyzed. Elution of the analytes is accomplished with a suitable solvent(s) that leaves the interfering compounds on the cartridge. A vacuum manifold is required to obtain reproducible results. The eluate is then concentrated (if necessary) prior to chlorinated pesticide and/or PCB analyses.***

5.1.2. EPA Method 3630C(M) Silica Gel Cleanup

5.1.2.1. ***For CEL proprietary cleanup protocol***, an appropriate amount (***0.5 g***) of silica gel adsorbent is added directly to a sample extract, and then shaken briefly. The silica gel is allowed to

settle, and the cleaned up extract is collected prior to TPH as diesel analysis.

5.1.2.2. ***For standard column cleanup protocol, the column is packed with the required amount (2.0 g or 10 g) of silica gel adsorbent, and then loaded with the sample extract to be analyzed. Elution of the analytes is accomplished with a suitable solvent(s) that leaves the interfering compounds on the column. The eluate is then concentrated (if necessary) prior to TPH as diesel analysis.***

5.1.2.3. ***For cartridge cleanup protocol, a solid-phase extraction (SPE) cartridge pre-packed with the required amount (2.0 g or 10 g) of silica gel adsorbent is solvent washed immediately prior to use, and then loaded with the sample extract to be analyzed. Elution of the analytes is accomplished with a suitable solvent(s) that leaves the interfering compounds on the cartridge. A vacuum manifold is required to obtain reproducible results. The eluate is then concentrated (if necessary) prior to TPH as diesel analysis.***

5.1.3. EPA Method 3660A(M) Sulfur Cleanup

5.1.3.1. An appropriate amount of sulfur cleanup reagent (e.g., 2–3 drops of mercury) is mixed with a sample extract. The mixture is shaken, and the extract is removed from the sulfur cleanup reagent prior to chlorinated pesticide and/or PCB analyses.

5.1.3.2. Sulfur cleanup is routinely performed on the extracts of marine sediment samples.

5.1.4. EPA Method 3665A(M) Sulfuric Acid Cleanup

5.1.4.1. A sample extract is solvent exchanged to hexane, and the hexane extract is treated with an appropriate amount of concentrated sulfuric acid prior to PCB analysis.

5.1.4.2. It is important that all the extracts be solvent exchanged to hexane prior to the cleanup procedure.

6. DEFINITIONS

6.1. ►Batch: Environmental samples, which are prepared and/or analyzed together with the same process and personnel, using the same lot(s) of reagents. A preparation batch is composed of one to 20 environmental samples of the same NELAC-defined matrix, meeting the above mentioned criteria and with a maximum time between the start of processing of the first and last sample in the batch to be 24 hours, ***unless client-specific QAPP guidance overrides this directive to a lesser time period or the method-specific SOP provides a different time period, but in no case to exceed 24 hours.*** An analytical batch is composed of prepared environmental

samples (extracts, digestates or concentrates) which are analyzed together as a group. An analytical batch can include prepared samples originating from various environmental matrices and can exceed 20 samples.

6.2. Blank: A sample that has not been exposed to the analyzed sample stream in order to monitor contamination during sampling, transport, storage or analysis. The blank is subjected to the usual analytical and measurement process to establish a zero baseline or background value and is sometimes used to adjust or correct routine analytical results.

6.3. Corrective Action: The action taken to eliminate the causes of an existing nonconformity, defect or other undesirable situation in order to prevent recurrence.

6.4. Holding Times (Maximum Allowable Holding Times): The maximum times that samples may be held prior to analysis and still be considered valid or not compromised.

6.5. Internal Standard: A known amount of standard added to a test portion of a sample as a reference for evaluating and controlling the precision and bias of the applied analytical method.

6.6. Laboratory Control Sample (however named, such as laboratory fortified blank, spiked blank, or QC check sample): A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. It is generally used to establish intra-laboratory or analyst-specific precision and bias or to assess the performance of all or a portion of the measurement system.

6.7. Laboratory Duplicate: Aliquots of a sample taken from the same container under laboratory conditions and processed and analyzed independently.

6.8. Limit of Detection (LOD): A laboratory's estimate of the minimum amount of an analyte in a given matrix that an analytical process can reliably detect in their facility.

6.9. Limit of Quantitation (LOQ): The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.

6.10. Matrix Spike (spiked sample or fortified sample): A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. Matrix spikes are used, for example, to determine the effect of the matrix on a method's recovery efficiency.

6.11. Matrix Spike Duplicate (spiked sample or fortified sample duplicate): A second replicate matrix spike prepared in the laboratory and analyzed to obtain a measure of the precision of the recovery for each analyte.

6.12. Method Blank: A sample of a matrix similar to the batch of associated samples (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences are present at concentrations that impact the analytical results for sample analyses.

6.13. Preservation: Refrigeration and/or reagents added at the time of sample collection (or later) to maintain the chemical and/or biological integrity of the sample.

6.14. Pure Reagent Water: Shall be water (defined by national or international standard) in which no target analytes or interferences are detected as required by the analytical method.

6.15. Quality Assurance: An integrated system of activities involving planning, quality control, quality assessment, reporting and quality improvement to ensure that a product or service meets defined standards of quality with a stated level of confidence.

6.16. Quality Control: The overall system of technical activities whose purpose is to measure and control the quality of a product or service so that it meets the needs of users.

6.17. Raw Data: Any original factual information from a measurement activity or study recorded in a laboratory notebook, worksheets, records, memoranda, notes, or exact copies thereof that are necessary for the reconstruction and evaluation of the report of the activity or study. Raw data may include photography, microfilm or microfiche copies, computer printouts, magnetic media, including dictated observations, and recorded data from automated instruments. If exact copies of raw data have been prepared (e.g., tapes which have been transcribed verbatim, data and verified accurate by signature), the exact copy or exact transcript may be submitted.

6.18. Reagent Blank (method reagent blank): A sample consisting of reagent(s), without the target analyte or sample matrix, introduced into the analytical procedure at the appropriate point and carried through all subsequent steps to determine the contribution of the reagents and of the involved analytical steps.

6.19. Standard: The document describing the elements of laboratory accreditation that has been developed and established within the consensus principles of NELAC and meets the approval requirements of NELAC procedures and policies.

6.20. Standard Operating Procedure (SOP): A written document which details the method of an operation, analysis or action whose techniques and procedures are thoroughly prescribed and which is accepted as the method for performing certain routine or repetitive tasks.

6.21. Surrogate: A substance with properties that mimic the analyte of interest. It is unlikely to be found in environment samples and is added to them for quality control purposes.

7. INTERFERENCES

7.1. Solvents, reagents, glassware, and other sample processing hardware may yield artifacts and/or interferences (e.g., elevated chromatographic baseline) to sample analysis. All these materials must be demonstrated to be free from interferences under the conditions of the analysis by analyzing method blanks. Specific selection of reagents and purification of solvents by distillation in all-glass systems may be necessary.

7.2. Phthalate esters contaminate many types of products commonly found in the laboratory. Plastics, in particular, must be avoided because phthalates are commonly used as plasticizers and are easily extracted from plastic materials. Serious phthalate contamination may result at any time if consistent quality control is not practiced.

7.2.1. ►***Phthalate esters were detected in the Florisil® cartridges method blanks at concentrations of up to 400 ng per cartridge. Therefore, complete removal of the phthalate esters from Florisil® cartridges may not be possible.***

7.3. Many matrices may require a combination of cleanup procedures in order to ensure proper analytical determinations; however, each cleanup step has the potential to decrease the analytical sensitivity through small losses of analytes during the cleanup. Hence, when multiple cleanup procedures are necessary, additional care is recommended to minimize analyte loss during each individual cleanup procedure.

7.4. Mercury may degrade some organochlorine pesticides.

7.5. Refer to the determinative method for other potential interferences.

8. SAFETY

8.1. Mercury is corrosive and causes burns to skin, eyes and the respiratory tract. It may be fatal if swallowed or inhaled. Mercury vapor is highly toxic if inhaled causing severe respiratory tract damage. If absorbed through the skin, it can affect the kidneys and central nervous system and may also cause an allergic skin reaction.

8.2. Sulfuric acid is a corrosive liquid that can cause severe burns to all body tissue and may be fatal if swallowed or contacted with skin. Concentrated solutions react violently with water, spattering and liberating heat. Always add acid to water to avoid a potentially violent reaction.

8.3. Many compounds covered by this method have been tentatively classified as known or suspected human carcinogens. A NIOSH/MESA approved toxic gas respirator should be worn when extracting high concentration samples.

8.4. Cleanup must be performed in a fume hood vented to the exterior of the laboratory.

8.5. For the safety of the analyst, cracked or broken glassware should be immediately discarded into a broken glassware receptacle. Broken glassware shall not be used in any step of the cleanup.

8.6. To ensure the safety of the analyst during any possible emergency situation, it is recommended that chemists do not perform cleanups alone. Another chemist should be present during any cleanup process.

8.7. Exposure to hazardous chemicals should be minimized through the use of proper protective equipment and safe laboratory practices as referenced in the current version of Calscience's Health, Safety, and Respiratory Protection Manual. In general, safety glasses and laboratory coats are required to be worn in all designated laboratory areas. Protective gloves shall be worn when handling chemicals.

8.8. Material Safety Data Sheets (MSDSs) are available for each laboratory standard and reagent chemical. Employees should review and be familiar with the hazards and precautions outlined in the MSDS for all chemicals to be used prior to handling.

9. ►EQUIPMENT AND SUPPLIES

9.1. VOA vials, 28-mm × 95-mm (40-mL capacity), screw top, clear glass, with Teflon- or aluminum foil-lined open top or closed top screw caps and Teflon-lined septa, EPA VOA Vial or equivalent.

9.2. Storage vials, 15-mm × 45-mm (4-mL capacity), 17-mm × 60-mm (8-mL capacity), or other capacity, screw top, clear glass, with Teflon-lined screw caps and septa, disposable.

9.3. Autosampler vials, 12-mm × 32-mm (2-mL capacity), crimp top, clear glass, with aluminum crimp caps and Teflon-lined septa, disposable.

9.4. Vial inserts, 300−µL, clear glass, with conical bottom and spring.

9.5. Graduated cylinders, 10-mL or other capacity, glass, Class A.

9.6. Pipets, Pasteur, glass, disposable.

9.7. Spatula, stainless steel or Teflon.

9.8. Shaker, 10−250-rpm variable speed, 0−60-min mechanical timer, Lab-Line Reciprocal Shaker Model 3506 or equivalent.

9.8.1. Vial tray, 27-vial capacity.

9.9. Centrifuge, ***250−6000-rpm digital variable speed, 1−30-min or continuous digital timer, VWR Clinical 200 Large Capacity*** Centrifuge or equivalent.

9.10. Balance, top loading, capable of weighing to the nearest 0.01 g.

9.11. ***Balance, analytical, calibrated, capable of weighing to the nearest 0.1 mg.***

9.12. ***Desiccator.***

9.13. ***Drying oven, capable of maintaining 130°C.***

9.14. ***Muffle furnace, capable of maintaining 400°C.***

9.15. ***Foil, aluminum.***

9.16. ***Tray, shallow, glass or aluminum.***

9.17. ***Forceps or tongs, stainless steel.***

9.18. ***Gloves, heat resistant.***

9.19. ***Syringes, 50-µL and 100-µL, gastight, Cemented Needle (N) termination, Hamilton 1700 Series or equivalent with NIST Traceable Certificate or equivalent documentation.***

9.20. ***Columns, 50-mL, metal Luer Lock tip, borosilicate glass, Tomopal Syringe Part Number 140-4550 or equivalent.***

9.21. ***Filters, cellulose, 19.8-mm diameter, type D28, disposable, Dionex P/N 049458 or equivalent.***

9.22. ***Cartridges, solid-phase extraction (SPE), 6-mL/1-g, Florisil® packing, Restek Resprep SPE Cartridge Catalog Number 26205 or equivalent, equipped with the following components:***

9.22.1. ***Tubes, 6-mL, polypropylene.***

9.22.2. ***Bases, granular Florisil®, 40-µm particle size, 60Å pore size.***

9.23. ***Cartridges, solid-phase extraction (SPE), 15-mL/2-g, silica gel packing, Grace Davison Discovery Alltech Silica Extract-Clean Column Part Number 209362 or equivalent, equipped with the following components:***

9.23.1. ***Tubes, 15-mL, polypropylene.***

9.23.2. ***Bases, irregular silica, 50-µm particle size, 60Å pore size.***

9.24. ***Cartridges, solid-phase extraction (SPE), 25-mL/10-g, silica gel packing, Grace Davison Discovery Alltech Silica Extract-Clean Column Part Number 239300 or equivalent, equipped with the following components:***

9.24.1. ***Tubes, 25-mL, polypropylene.***

9.24.2. ***Bases, irregular silica, 50-µm particle size, 60Å pore size.***

9.25. ***Vacuum manifold, 24-port, , Restek Resprep™ 24-port SPE Manifold or equivalent equipped with the following components:***

9.25.1. ***Valves (stopcocks), flow control, polypropylene.***

9.25.2. ***Valve attachments, polypropylene.***

9.25.3. ***Lid, polypropylene.***

9.25.4. ***Needle attachments, polypropylene.***

9.25.5. ***Sample guides, polypropylene.***

9.25.6. ***Vacuum chamber, glass, with vacuum regulator.***

9.26. ***Equipment Software***

9.26.1. ***None.***

9.27. ***Equipment Maintenance and Troubleshooting***

9.27.1. ***Refer to the user manual or equivalent document(s) of the specific equipment.***

9.28. ***Refer to the specific SOPs of the determinative methods for additional equipment and supplies.***

10. ►REAGENTS AND STANDARDS

10.1. Reagents

10.1.1. Reagent water, interferant free.

10.1.2. Silica gel, SiO_2, 60–200-mesh (nominal), white powder, ***Davisil®*** grade 62, reagent grade, EMD SX0143U or equivalent.

10.1.2.1. ***Prior to the first use, activate silica gel by baking at 130°C for at least 16 hours in a shallow tray, loosely covered with aluminum foil.***

10.1.2.2. ***Store the unused, activated silica gel in a desiccator. Re-activate the silica gel at 130°C for at least 12 hours daily.***

10.1.2.3. ***Do not heat silica gel above 160°C, for silica gel oxidizes at higher temperatures.***

10.1.3. ***Silica gel, SiO_2, 70–230-mesh (or 0.063–0.200-mm, nominal), white powder, Davisil® grade 60, chromatographic grade, EMD 1.07734 or equivalent.***

10.1.3.1. ***Prior to the first use, activate silica gel by baking at 130°C for at least 16 hours in a shallow tray, loosely covered with aluminum foil.***

10.1.3.2. ***Store the unused, activated silica gel in a desiccator. Re-activate the silica gel at 130°C for at least 12 hours daily.***

10.1.3.3. ***Do not heat silica gel above 160°C, for silica gel oxidizes at higher temperatures.***

10.1.4. ***Dichloromethane (or methylene chloride), CH_2Cl_2, clear colorless liquid, pesticide grade or equivalent.***

10.1.5. ***Pentane, C_5H_{12}, clear colorless liquid, chromatographic grade or equivalent.***

10.1.6. ***Dichloromethane/pentane solution, 2:3 (v/v).***

10.1.6.1. ***Prepare the 2:3 dichloromethane/pentane solution by adding 1.6 L of dichloromethane to 2.4 L of pentane.***

10.1.7. ***Hexane, C_6H_{14}, clear colorless liquid, boiling point 68.7°C, pesticide grade or equivalent.***

10.1.8. ***Dichloromethane/hexane solution, 26:74 (v/v).***

10.1.8.1. ***Prepare the 26:74 dichloromethane/hexane solution by adding 260 mL of dichloromethane to 740 mL of hexane.***

10.1.9. ***Acetone, CH_3COCH_3, clear colorless liquid, pesticide grade or equivalent.***

10.1.10. ***Acetone/hexane solution, 10:90 (v/v).***

10.1.10.1. ***Prepare the 10:90 acetone/hexane solution by adding 100 mL of acetone to 900 mL of hexane.***

10.1.11. Mercury, Hg, silvery metallic liquid, reagent grade or equivalent.

10.1.12. Sulfuric acid, H_2SO_4, 90–98% (v/v), concentrated, colorless liquid, reagent grade or equivalent.

10.1.13. Sodium sulfate, Na_2SO_4, anhydrous, white powder, reagent grade or equivalent.

10.1.13.1. Purify sodium sulfate by heating at 400°C for 4 hours in a shallow tray, or by pre-cleaning with methylene chloride. If sodium sulfate is pre-cleaned with methylene chloride, use method blank to demonstrate that the drying agent is free of interferences.

10.1.14. Refer to the specific SOPs of the extraction methods for additional reagents.

10.1.15. All reagents must be inspected and documented in the Chemicals and Supplies Verification Logbook prior to use.

10.2. Standards

10.2.1. ***Pre-certified stock standard solid, in sealed glass bottle, containing 98.0% or higher purity of decanoic acid (capric acid) is used to prepare the 10000-ppm reverse surrogate stock standard solution.***

10.2.1.1. ***Prepare the 10000-ppm reverse surrogate stock standard solution by dissolving 200 mg of decanoic acid in 20.0 mL of dichloromethane.***

10.2.2. ***Reverse surrogate calibration standard solutions containing various concentrations of decanoic acid in dichloromethane.***

10.2.2.1. ***Dilute the appropriate volumes of the 10000-ppm reverse surrogate stock standard to 20 mL with dichloromethane for initial calibration.***

10.2.2.2. ***Use the following calibration levels as guidance to prepare the reverse surrogate calibration standards.***

Calibration Level (ppm)	Initial		Final
	Concentration (ppm)	Volume (µL)	Volume (mL)
5.0	10000	10	20
10	10000	20	20
15	10000	30	20
20	10000	40	20
25	10000	50	20

10.2.3. ***Reverse surrogate calibration verification solution containing 15 ppm of decanoic acid in dichloromethane.***

10.2.3.1. ***Dilute 30 µL of the 10000-ppm reverse surrogate stock standard to 20 mL with dichloromethane for calibration verification.***

10.2.4. ***All working standards must be replaced after six months (unless specified otherwise) or sooner if comparison with check standards indicates a problem.***

10.2.4.1. ***Store all working standards under dark and refrigerated condition.***

10.2.5. ***All stock standards must be inspected and documented in the Chemicals and Supplies Verification Logbook prior to use.***

11. SAMPLE COLLECTION, PRESERVATION, CONTAINERS AND HOLDING TIMES

11.1. Refer to the specific SOPs of the determinative methods for sample collection, preservation, containers and holding times.

12. ►QUALITY CONTROL

12.1. Event Based Quality Control (MBs and LCS/LCSDs)

12.1.1. Event based quality control consists of QC samples prepared and processed with each preparatory event. This consists of a method blank (MB) and a laboratory control sample and laboratory control sample duplicate (LCS/LCSD).

12.1.2. The MB/LCS/LCSD extracts are processed concurrently with the associated sample extracts. In the processing of the MB/LCS/LCSD extracts, reagents and procedures identical to those for actual sample extracts are used ***(e.g., reverse surrogate, etc.)***.

12.2. Matrix Based Quality Control (***Reverse Surrogate*** and MS/MSDs)

12.2.1. Matrix based quality control consists of QC samples prepared and processed using actual environmental samples. This consists of a matrix spike and matrix spike duplicate (MS/MSD) ***and reverse surrogate added to each sample extract***.

12.2.1.1. ***Reverse surrogate is used to provide a positive control for the effectiveness of the silica gel cleanup process and the retention capacity of the column or cartridge. Reverse surrogate is only required per client request or project specific data quality objectives (DQOs).***

12.2.1.2. ***The acceptance criteria for reverse surrogate compound are as follows:***

12.2.1.2.1. ***The lower and upper acceptance limits for %REC of the reverse surrogate compound are 0% and 1%, respectively.***

12.2.2. The MS/MSD extracts are processed concurrently with the associated sample extracts. In the processing of the MS/MSD extracts, reagents and procedures identical to those for actual sample extracts are used ***(e.g., reverse surrogate, etc.)***.

12.3. Refer to the specific SOPs of the determinative methods for additional information on quality control.

13. ►CALIBRATION AND STANDARDIZATION

13.1. Top Loading Balance

13.1.1. Calibrate the top loading balance at 0.1 g, 1 g, 100 g, and 500 g using Class 2 weights ***as outlined in the current revision of SOP-T043.***

13.1.2. Calibration shall be within ± 2% or ± 0.02 g, whichever is greater. If the values are not within these limits, recalibrate the balance.

13.2. ***Analytical Balance***

13.2.1. ***Calibrate the analytical balance at 2 mg, 1 g, and 100 g using Class 2 weights as outlined in the current revision of SOP-T043.***

13.2.2. ***Calibration shall be within ± 0.1% or ± 0.5 mg, whichever is greater. If the values are not within these limits, recalibrate the balance.***

13.3. ***Thermometer***

13.3.1. ***Calibrate the thermometer using an NIST certified thermometer as outlined in the current revision of SOP-T043.***

13.4. ***Chromatograph Initial Calibration for Reverse Surrogate***

13.4.1. ***Refer to the specific SOPs of the determinative methods for initial calibration and calibration verification acceptance criteria and procedures.***

13.4.2. ***Calibration verification using a second source standard solution is not required for reverse surrogate.***

14. ►PROCEDURE

14.1. Cleanup procedures may be used separately or in conjunction with one another depending upon the interferences to be removed.

14.1.1. If a sample extract requires both sulfur cleanup and sulfuric acid cleanup, the sulfuric acid cleanup shall be performed first. The extract must be free of any acid residue prior to the sulfur cleanup as concentrated sulfuric acid can oxidize elemental mercury.

14.2. ***EPA Method 3620C(M) Florisil® Cleanup for Organochlorine Pesticide and/or PCB Analyses***

14.2.1. ***Concentrate the field or QC sample extract to 1 mL (or as low as possible if a precipitate forms) with solvent exchange to hexane.***

14.2.1.1. ***Refer to the extraction method for extraction and concentration procedures.***

14.2.2. ***Adjust the sample or QC extract volume to 10.0 mL with hexane.***

14.2.3. ***Assemble the vacuum manifold according to the manufacturer's instructions.***

14.2.4. ***Unseal an SPE cartridge and attach it to the flow control valve of the vacuum manifold.***

14.2.5. ***Turn on the vacuum pump and set the vacuum to 10-in (254-mm) Hg.***

14.2.5.1. ***Do not exceed the manifold vacuum specified by the manufacturer.***

14.2.6. ***Place a waste container below the sample guide.***

14.2.7. ***Slowly open the flow control valve for each cartridge.***

14.2.7.1. ***Control the flow rate by adjusting the valve.***

14.2.8. ***Condition (i.e., rinse) the cartridge with 4 mL of hexane.***

14.2.8.1. ***The elution rate should be approximately 2 mL/min.***

14.2.8.2. ***The elution rate can be checked by collecting the hexane eluate into a graduated cylinder within a time frame.***

14.2.9. ***Allow the hexane to flow through the Florisil® sorbent bed to the lower frit of the cartridge, and allow a few drops per cartridge to pass through the manifold to remove all air bubbles.***

14.2.10. ***Close the valve to stop solvent flow and allow the solvent to soak the entire sorbent bed for 5 minutes. Do not turn off the vacuum.***

14.2.11. ***Slowly open the valve and allow the hexane to pass through the cartridge, and close the valve until the meniscus of the solvent is at least 1 mm above the sorbent bed.***

14.2.11.1. ***Do not allow the cartridge to become dry. If the cartridge becomes dry, repeat the conditioning procedure.***

14.2.12. ***Inject 1.0 mL of the extract into the cartridge.***

14.2.12.1. ***If the extract was in cold storage, allow it to reach ambient temperature.***

14.2.12.2. ***Visually inspect the extract to ensure that no particulates, phase separation, or evaporative loss has taken place. If crystals of sulfur crystals are observed, or if the presence of sulfur is suspected, proceed with EPA Method 3660A(M) for sulfur cleanup.***

14.2.13. ***Open the valve and ensure that the elution rate is approximately 2 mL/min.***

14.2.14. ***Rinse the syringe with 0.5 mL of hexane and inject the rinse into the cartridge.***

14.2.15. ***When the meniscus of the extract is just above the surface of Florisil®, close the valve to stop solvent flow and turn off the vacuum.***

14.2.15.1. ***Do not allow the cartridge to become dry.***

14.2.16. ***Label a clean VOA vial and place it below the sample guide for each cartridge.***

14.2.17. ***If there is no need to separate organochlorine pesticides from PCBs, proceed to Section 14.1.17.1. To separate organochlorine pesticides from PCBs, proceed to Section 14.2.18.***

14.2.17.1. ***Add 9 mL of 10:90 acetone/hexane solution to the cartridge.***

14.2.17.2. ***Turn on the vacuum pump and set the vacuum to 10-in (254-mm) Hg.***

14.2.17.3. ***Allow the solvent to soak the entire sorbent bed for a maximum of 1 minute.***

14.2.17.4. ***Slowly open the valve and start collecting the extract at approximately 2 mL/min.***

14.2.17.5. ***Proceed to Section 14.2.30.***

14.2.18. ***Add 3 mL of hexane to the cartridge.***

14.2.19. ***Turn on the vacuum pump and set the vacuum to 10-in (254-mm) Hg.***

14.2.20. ***Allow the solvent to soak the entire sorbent bed for a maximum of 1 minute.***

14.2.21. ***Slowly open the valve and start collecting the extract at approximately 2 mL/min.***

14.2.22. ***When the meniscus of the extract is just above the surface of Florisil®, close the valve to stop solvent flow.***

14.2.22.1. ***The first fraction of the eluted extract contains the PCBs and a few of the organochlorine pesticides.***

14.2.23. ***Label a second clean VOA vial and place it below the sample guide for each cartridge.***

14.2.24. ***Add 5 mL of 26:74 dichloromethane/hexane solution to the cartridge.***

14.2.25. ***Slowly open the valve and start collecting the extract at approximately 2 mL/min.***

14.2.26. ***When the meniscus of the extract is just above the surface of Florisil®, close the valve to stop solvent flow.***

14.2.26.1. ***The second fraction of the eluted extract contains most of the organochlorine pesticides.***

14.2.27. ***Label a third clean VOA vial and place it below the sample guide for each cartridge.***

14.2.28. ***Add 5 mL of 10:90 acetone/hexane solution to the cartridge.***

14.2.29. ***Slowly open the valve and start collecting the extract at approximately 2 mL/min.***

14.2.29.1. ***The third fraction of the eluted extract contains the remaining organochlorine pesticides.***

14.2.30. ***Concentrate the Florisil® cleaned up extract to 1 mL (or as low as possible if a precipitate forms) with solvent exchange to hexane.***

14.2.30.1. ***Refer to the extraction method for concentration procedure.***

14.2.31. ***Transfer the Florisil® cleaned up extract into a clean crimp-top autosampler vial and label appropriately. The extract may now be analyzed using the appropriate determinative method.***

14.3. EPA Method 3630C(M) Silica Gel Cleanup for TPH as Diesel Analysis – ***CEL Proprietary Cleanup Protocol***

14.3.1. Concentrate the field or QC sample extract to the desired volume.

14.3.1.1. Refer to the extraction method for extraction and concentration procedures.

14.3.2. Adjust the field or QC sample extract volume to the desired final volume with methylene chloride.

14.3.3. Add ***0.5*** g of ***activated*** silica gel directly to the extract, and cap the vial. Record the silica gel identification number in the extraction logbook.

14.3.4. Vigorously shake the contents of the vial for 10–20 seconds. Allow the extract to settle.

14.3.5. Pipet an aliquot of the silica gel cleaned up extract into a clean crimp-top autosampler vial and label appropriately. The extract may now be analyzed using the appropriate determinative method.

14.4. ***EPA Method 3630C(M) Silica Gel Cleanup for TPH as Diesel Analysis – Standard Column Cleanup or Cartridge Cleanup Protocol***

14.4.1. ***Concentrate the field or QC sample extract to the desired volume.***

14.4.1.1. ***Refer to the extraction method for extraction and concentration procedures.***

14.4.2. ***Assemble the vacuum manifold according to the manufacturer's instructions.***

14.4.3. ***For standard column cleanup protocol, secure a 50-mL syringe (column) on a vacuum manifold and pack the column as follows:***

14.4.3.1. ***Place a clean cellulose filter in the column.***

14.4.3.2. ***Add 2.0 g or 10 g of activated silica gel (chromatographic grade) on top of the cellulose filter.***

14.4.3.2.1. ***The required amount of activated silica gel is established per client request or project specific DQOs.***

14.4.3.3. ***Tap the column and allow the silica gel to settle.***

14.4.3.4. ***Proceed to Section 14.4.5.***

14.4.4. ***For cartridge cleanup protocol, unseal an SPE cartridge and attach it to the valve of the vacuum manifold.***

14.4.4.1. ***Unseal a 15-mL SPE cartridge if 2.0 g of silica gel is required or a 25-mL SPE cartridge if 10 g of silica gel is required.***

14.4.4.1.1. ***The required amount of silica gel is established per client request or project specific DQOs.***

14.4.4.1.2. ***If activated silica gel is required, do not use an SPE cartridge. Process the extract via the standard column cleanup protocol.***

14.4.4.2. ***Proceed to Section 14.4.5.***

14.4.5. ***Turn on the vacuum pump and set the vacuum to 10-in (254-mm) Hg.***

14.4.5.1. ***Do not exceed the manifold vacuum specified by the manufacturer.***

14.4.6. ***Place a waste container below the sample guide.***

14.4.7. ***Slowly open the flow control valve for each column or cartridge.***

14.4.7.1. ***Control the flow rate by adjusting the valve.***

14.4.8. ***Condition (i.e., rinse) the column or cartridge with 40 mL of pentane.***

14.4.8.1. ***The elution rate should be approximately 2 mL/min.***

14.4.8.2. ***The elution rate can be checked by collecting the pentane eluate into a graduated cylinder within a time frame.***

14.4.9. ***Allow the pentane to flow through the silica gel sorbent bed until the meniscus of the solvent is just above the surface of sorbent bed.***

14.4.10. ***Close the valve to stop solvent flow, and discard the pentane eluate. Do not turn off the vacuum.***

14.4.10.1. ***Do not allow the column or cartridge to become dry. If the column or cartridge becomes dry, repeat the conditioning procedure.***

14.4.11. ***Label a clean VOA vial and place it below the sample guide for each column or cartridge.***

14.4.12. ***Per client request or project specific DQOs, inject 50 µL of the 10000-ppm reverse surrogate stock standard solution into the column or cartridge.***

14.4.13. ***Inject 1.0 mL of the extract into the column or cartridge.***

14.4.13.1. ***If the extract was in cold storage, allow it to reach ambient temperature.***

14.4.14. ***Slowly open the valve and start collecting the extract at approximately 2 mL/min.***

14.4.15. ***When the meniscus of the extract is just above the surface of silica gel, add 25 mL of 2:3 dichloromethane/pentane solution in 1–2 mL increment or dropwise using a Pasteur pipet.***

14.4.15.1. ***Add each increment or drops of 2:3 dichloromethane/pentane solution when the meniscus of the solvent is just above the surface of silica gel. Do not expose the surface of silica gel to air.***

14.4.15.2. ***Monitor the silica gel during elution. If any channeling, streaking, or change in silica gel is observed, repack the column or replace the cartridge, and re-process the extract.***

14.4.16. ***Allow the final 2:3 dichloromethane/pentane solution to flow through the silica gel column until the meniscus of the solvent is just above the surface of silica gel. Close the valve to stop solvent flow and turn off the vacuum.***

14.4.16.1. ***The eluted extract is the silica gel cleaned up extract.***

14.4.17. ***Concentrate the silica gel cleaned up extract to 1.0 mL.***

14.4.17.1. ***Refer to the extraction method for concentration procedure.***

14.4.18. ***Transfer the silica gel cleaned up extract into a clean crimp-top autosampler vial and label appropriately. The extract may now be analyzed using the appropriate determinative method.***

14.5. EPA Method 3660A(M) Sulfur Cleanup for Organochlorine Pesticide and/or PCB Analyses

14.5.1. Concentrate the sample or QC extract to 1 mL (or as low as possible if a precipitate forms) with solvent exchange to hexane.

14.5.1.1. Refer to the extraction method for extraction and concentration procedures.

14.5.2. Adjust the sample or QC extract volume to 10.0 mL with hexane.

14.5.3. Pipet approximately 1–2 mL of the extract into a clean autosampler vial.

14.5.4. Add 2–3 drops of mercury to the extract, and cap the vial. Record the mercury identification number in the extraction logbook.

14.5.4.1. Add more drops of mercury if an elevated level of sulfur is observed.

14.5.4.2. Addition of mercury must be performed in an operational fume hood.

14.5.5. Place the vial on the vial tray, set the shaker speed rotatory dial to 10, and agitate the contents of the vial for 2 hours.

14.5.6. Allow the black mercury sulfide precipitate to settle.

14.5.6.1. If the precipitate does not settle, place the vial in a centrifuge tube, and centrifuge at low speed for 1–2 mL or until the precipitate has settled.

14.5.7. Pipet the sulfur cleaned up extract (supernatant) into a clean crimp-top autosampler vial and label appropriately. The extract may now be analyzed using the appropriate determinative method.

14.5.7.1. The supernatant must be clear and free of the mercury sulfide particles.

14.6. EPA Method 3665A(M) Sulfuric Acid Cleanup for PCB Analysis

14.6.1. Concentrate the sample or QC extract to 1 mL (or as low as possible if a precipitate forms) with solvent exchange to hexane.

14.6.1.1. Refer to the extraction method for extraction and concentration procedures.

14.6.2. Adjust the sample or QC extract volume to 10.0 mL with hexane.

14.6.3. Pipet approximately 1–2 mL of the extract into a clean storage vial.

14.6.4. Add approximately the same volume of concentrated sulfuric acid to the extract, and cap the vial. Record the sulfuric acid identification number in the extraction logbook.

14.6.4.1. Addition of sulfuric acid must be performed in an operational fume hood.

14.6.5. Vigorously shake the contents of the vial for 1 minute.

14.6.5.1. Make sure that neither exothermic reaction nor evolution of gas occurs prior to shaking.

14.6.5.2. Stop shaking immediately if the vial leaks.

14.6.6. Allow the hexane (top) layer to separate from the acid layer for at least 1 minute.

14.6.6.1. If the hexane layer is colored or cloudy, or if the emulsion persists for several minutes, remove and dispose the acid layer. Repeat Sections ***14.6.4.*** through ***14.6.6.*** with fresh concentrated sulfuric acid.

14.6.6.1.1. Do not remove any hexane at this stage.

14.6.6.2. If the hexane layer is clear, or if a clean phase separation is achieved, proceed to Section ***14.6.7.***

14.6.7. Pipet the sulfuric acid cleaned up extract (hexane layer) into a clean crimp-top autosampler vial and label appropriately. The extract may now be analyzed using the appropriate determinative method.

14.6.7.1. Do not pipet any acid into the autosampler vial. Acid can cause damage to the analytical instrumentation.

14.6.7.2. If acid is transferred, performed the following tasks to remove the acid.

14.6.7.2.1. Add several drops of reagent water to the extract, and cap the vial.

14.6.7.2.2. Vigorously shake the contents of the vial for 10–20 seconds.

14.6.7.2.3. Allow the hexane (top) layer to separate from the aqueous phase.

14.6.7.2.4. Remove and dispose the aqueous phase.

14.6.7.2.5. Add 0.5–1.0 g of sodium sulfate to the vial, and cap the vial. Sodium sulfate will absorb the remaining traces of water in the extract.

14.6.7.2.6. Pipet the dried extract into a clean crimp-top autosampler vial and label appropriately. The extract may now be analyzed using the appropriate determinative method.

14.7. Thoroughly document all aspects of the extract cleanup in the ***cleanup section*** of an extraction logbook. ***This section of the logbook includes, but is not limited to:***

14.7.1. ***Cleanup date.***

14.7.2. ***Extract initial volume and final volume.***

14.7.3. ***Reagent lot (or identification) number and amount.***

14.7.4. ***Standard lot (or identification) number, concentration, and volume added.***

14.7.5. ***Analyst comments which include encountered problems, pertinent observations, or conditions that could potentially impact data quality.***

15. CALCULATIONS

15.1. Refer to the specific SOPs of the extraction and determinative methods for calculations.

16. METHOD PERFORMANCE

16.1. A demonstration of capability shall be performed initially (prior to the analysis of any samples) and with a significant change in personnel, matrix or cleanup method.

16.2. Calibration protocols specified in Section 13., "Calibration and Standardization," shall be followed.

16.3. Proficiency test sample results shall be used to evaluate the ability to produce accurate results.

17. POLLUTION PREVENTION

17.1. The toxicity, carcinogenicity and other health hazards associated with the use of most laboratory chemicals have not been precisely defined. Each chemical should be handled assuming it is a potential health hazard.

17.2. Exposure to these chemicals should be minimized through the use of proper protective equipment and safe laboratory practices as referenced in the current revision of Calscience's Health, Safety, and Respiratory Protection Manual. In general, protective eyewear (e.g. safety glasses or goggles), and protective apparel (e.g. lab coats) and gloves are required to be worn when handling chemicals.

17.3. The following additional precautions should be taken, as necessary, when handling high concentrations of hazardous materials:

17.3.1. A NIOSH approved air purifying respirator with cartridges appropriate for the chemical handled.

17.3.2. Extended length protective gloves.

17.3.3. Face shield.

17.3.4. Full-length laboratory apron.

17.4. Processes that promote vaporization of volatile chemicals should be performed in an area well ventilated to the exterior of the laboratory to prevent contamination to other areas in the laboratory.

17.5. When working with large amounts of volatile chemicals, the Coordinator must be cautious of the risk of high levels of volatile displacing the atmospheric air within the work area; therefore causing asphyxiation. Air purification respirators are ineffective in this situation and must not be used. The Coordinator must immediately vacate the area until ventilation has effectively reduced the concentration of volatiles. Alternatively, the Coordinator may utilize a self-contained breathing apparatus or other supplied air system if appropriately trained and approved by the Health and Safety Manager.

17.6. Material Safety Data Sheets (MSDSs) are available for each laboratory standard and reagent chemical. Employees should review and be familiar with the hazards and precautions outlined in the MSDS for all chemicals to be used prior to handling.

18. DATA ASSESSMENT AND ACCEPTANCE CRITERIA

18.1. Refer to the specific SOPs of the determinative methods for data assessment and acceptance criteria.

18.2. Additional information regarding internal quality control checks is provided in SOP-T020.

19. CORRECTIVE ACTIONS

19.1. If on the basis of internal or external systems or performance audits, routine monitoring of laboratory support equipment, or QC sample analysis results, analytical

systems fail to meet the established criteria, an appropriate corrective action must be implemented.

19.2. The Operations Manager, Project Manager, Quality Control Manager, Group Leader and analyst may be involved in identifying the most appropriate corrective action. If previously reported data are affected or if corrective action will impact the project budget or schedule, the action may directly involve the Laboratory Director.

19.3. Corrective actions are generally of two types, immediate and long-term actions.

19.3.1. An **immediate action** is designed to correct or repair nonconforming instruments and measurement systems. The analyst or Group Leader as a result of calibration checks and other QC sample analyses most frequently will identify the need for such an action.

19.3.2. A **long-term action** is designed to eliminate causes of nonconformance. The need for such actions is identified by systems and performance audits. The systematic nonconformances identified during the data generation process and the appropriate corrective measures taken are thoroughly documented in the Corrective Action Record. Examples of this type of action include:

19.3.2.1. Remedial training of staff in technical skills, technique or implementation of operating procedures.

19.3.2.2. Rescheduling of analytical laboratory routine to ensure analysis within holding times.

19.3.2.3. Revision of standard operating procedures.

19.3.2.4. Replacing personnel, as necessary.

19.4. For either type of corrective action, the sequential steps that compose a close-loop corrective action system are as follows:

19.4.1. Define the problem.

19.4.2. Assign responsibility for investigating the problem.

19.4.3. Investigate and determine the cause of the problem.

19.4.4. Assign and accept responsibility for implementing the corrective action.

19.4.5. Determine effectiveness of the corrective action and implement correction.

19.4.6. Verify that the corrective action has eliminated the problem.

19.5. Depending on the nature of the problem, the corrective action employed may be formal or informal. In either case, occurrence of the problem, the corrective action employed, and verification that the problem has been eliminated must be properly documented on a Corrective Action Record.

20. CONTINGENCIES FOR OUT-OF-CONTROL OR UNACCEPTABLE DATA

20.1. Refer to the specific SOPs of the determinative methods for contingencies for out-of-control or unacceptable data.

20.2. Out-of-control data are reviewed and verified by the technical director of the appropriate department. All samples associated with an unacceptable QC set are then subject to reanalysis, depending upon the QC type in question.

21. WASTE MANAGEMENT

21.1. The proper disposal of analytical samples and laboratory wastes is not only good laboratory practice, but also regulated by a variety of local, state, and federal laws. In order to remain compliant with these laws, and at the same time keep sample disposal costs at a minimum, the samples and wastes are identified, segregated, and either returned to the client (preferable) or placed into the proper laboratory waste stream.

21.2. Unused or remaining soil or liquid samples and all other solid or liquid wastes resulting from our laboratory operations are considered hazardous for disposal purposes.

21.3. All laboratory personnel must be aware of the types of chemicals they are using and the appropriate procedures for their disposal.

21.4. Each specific laboratory area shall maintain clearly labeled waste containers for small quantity waste collection. These waste containers shall be used for temporary collection of residual sample from aliquotting procedures, contaminated consumables, sample extracts, purged aqueous samples, and other wastes that require disposal as hazardous waste.

21.5. To ensure compliance with Federal RCRA regulations, the Hazardous Waste Coordinator collects and disposes of the hazardous waste at each satellite collection point no less than monthly.

21.6. In order to maintain accountability for all samples received by Calscience, when a sample is used in its entirety for analysis, the empty container(s) are returned to Sample Control for placement in analytical storage.

21.7. Waste management procedures shall adhere to the current revision of SOP-T005, "Disposal of Laboratory Samples and Wastes."

22. REFERENCES

22.1. *Cleanup*, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1B, Method 3600C, USEPA, Revision 3, December 1996.

22.2. ►***Florisil Cleanup, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1B, Method 3620C, USEPA, Revision 3, February 2007.***

22.3. *Silica Gel Cleanup*, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1B, Method 3630C, USEPA, Revision 3, December 1996.

22.4. *Sulfur Cleanup*, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1B, Method 3660A, USEPA, Revision 1, July 1992.

22.5. *Sulfur Cleanup*, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1B, Method 3660B, USEPA, Revision 2, December 1996.

22.6. *Sulfuric Acid/Permanganate Cleanup*, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1B, Method 3665A, USEPA, Revision 1, December 1996.

22.7. *Quality Control*, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1, Chapter One, USEPA, Revision 1, July 1992.

22.8. *Choosing the Correct Procedure*, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1, Chapter Two, USEPA, Revision 4, February 2007.

22.9. *Organic Analytes*, Test Methods for Evaluating Solid Waste (SW-846), Third Edition, Volume 1, Chapter Four, USEPA, Revision 4, February 2007.

22.10. L. Scharpenberg (Calscience) correspondence dated February 8th, 2010 to ITSI.

23. TABLES, DIAGRAMS, FLOWCHARTS AND VALIDATION DATA

23.1. ►Appendix A: ***Carbon/PSA*** Cleanup Procedure ***for Sediment Sample Extracts***.

24. ►MODIFICATIONS

24.1. ***The following modifications from EPA Method 3620C Revision 3 are noted.***

Calscience SOP M234 Section	Reference Document EPA Method 3620C Section	Summary of Modification
All	All	Procedures for cleaning up sample extracts containing target analytes other than organochlorine pesticides and PCBs are excluded.

24.2. The following modifications from EPA Method 3630C ***Revision 3*** are noted.

Calscience SOP M234 Section	Reference Document EPA Method 3630C Section	Summary of Modification
10.1.	5.3 and 5.4	Silica gel specification is modified.
14.3. and 14.4.	7.0	Procedure for conditioning cartridge is modified. Procedure for cleaning up sample extracts containing total petroleum hydrocarbons as diesel is added.

24.3. The following modifications from EPA Method 3660A ***Revision 1*** are noted.

Calscience SOP M234 Section	Reference Document EPA Method 3660A Section	Summary of Modification
All	All	Procedures for using cleanup reagents other than mercury are excluded.
10.1.9.	5.6	Mercury specification is modified.
14.5.	7.2	Procedure for sample extract concentration prior to cleanup is modified.

24.4. The following modifications from EPA Method 3665A ***Revision 1*** are noted.

Calscience SOP M234 Section	Reference Document EPA Method 3665A Section	Summary of Modification
All	All	Procedures for using cleanup reagents other than sulfuric acid are excluded.
14.6.	7.1	Concentrated sulfuric acid instead of 1:1 sulfuric acid solution is utilized as the cleanup reagent. Volumes of sample extract and concentrated sulfuric acid used for cleanup are modified. Procedure for second extraction of sulfuric acid layer with hexane is eliminated. Procedure for sample extract concentration after cleanup is eliminated.

25. ►REVISION HISTORY

Revision	Description	Author(s)	Effective Date
1.0	Section 23: Add Appendix A. Section 25: Add revision history.	K. M. Burney	06/18/12
1.1	Section 4: Add scope and application for Florisil® cleanup and update information on silica gel. Section 5: Add method summaries for Florisil® cleanup and additional silica gel cleanup procedures. Section 6: Revise batch definition. Section 7: Add interference information for Florisil® cleanup. Section 9: Update the list of equipment and supplies. Section 10: Update reagent and standard preparation procedures. Section 12: Add quality control criteria for reverse surrogate.	K. Chang	09/11/13

Revision	Description	Author(s)	Effective Date
1.1	Section 13: Add calibrations for balance, thermometer, and reverse surrogate. Section 14: Add Florisil® cleanup and additional silica gel cleanup procedures. Update sulfuric acid cleanup and documentation procedures. Section 22: Add method reference to Florisil® cleanup. Section 23: Update Appendix A title. Section 24: Revise modifications. Section 25: Update revision history. Appendix A: Add method identification and revise the whole appendix to clarify the procedure.	K. Chang	09/11/13

Appendix A

CARBON/PSA CLEANUP PROCEDURE FOR SEDIMENT SAMPLE EXTRACTS

Calscience Environmental Laboratories, Inc.

1. ►METHOD IDENTIFICATION

1.1. ***Carbon/SPA Cleanup Procedure for Sediment Sample Extracts.***

2. ►METHOD SUMMARY

2.1. ***A solid-phase extraction (SPE) cartridge pre-packed with 500 mg of nonporous, graphitized carbon (e.g., ENVI-Carb™ or CarboPrep® 90) and 500 mg of Primary Secondary Amine (PSA) adsorbent is solvent washed immediately prior to use, and then loaded with the sediment sample extract to be analyzed. Elution of the analytes is accomplished with a suitable solvent(s) that leaves the interfering compounds on the cartridge. A vacuum manifold is required to obtain reproducible results. The eluate is then concentrated (if necessary) and processed with sulfur cleanup prior to pesticide analysis via EPA Method 8270 SIM.***

2.1.1. ***An SPE cartridge with reversed-phase, anion-exchange mechanism is utilized.*** According to the manufacturer (Sigma-Aldrich/Supelco), the ENVI-Carb ***upper*** layer "...has a strong affinity towards planar molecules and can isolate/remove pigments (e.g., chlorophyll and carotinoids) and sterols commonly present in foods and natural products." The PSA ***lower*** layer "...has a strong affinity and high capacity for fatty acids, organic acids and some polar pigments and sugars."

2.2. The ***Carbon/PSA*** cleanup procedure ***shall*** be employed after sample extraction but prior to any other cleanup procedure.

2.2.1. The ***Carbon/PSA*** cleanup procedure is an optional step that is intended to reduce the amount of analyte (e.g., DDTs) breakdown found during analysis.

3. ►EQUIPMENT AND SUPPLIES

3.1. ***Nitrogen evaporation system:***

3.1.1. ***Evaporator, Caliper Life Sciences TurboVap® LV Concentration Workstation or equivalent.***

3.2. Cartridges, solid-phase extraction (SPE), 6-mL, 500-mg ***ENVI-Carb™ or*** CarboPrep® 90 and 500-mg PSA packing, ***Sigma-Aldrich/Supelco Supelclean ENVI-Carb II/PSA SPE Cartridge Catalog Number 54067-U***, Restek ***Combo*** SPE Cartridge Catalog Number 26194, or equivalent, ***equipped with the following components***:

3.2.1. ***Tubes, 6-mL, polypropylene.***

3.2.2. ***Frits, polyethylene.***

3.3. VOA vials, ***28-mm × 95-mm (40-mL capacity), screw top***, borosilicate glass, ***with Teflon- or aluminum foil-lined open top or closed top screw caps and Teflon-lined septa***, manufacturer certified clean, ***EPA VOA Vial or equivalent***.

4. ►REAGENTS

4.1. ***Dichloromethane/hexane solution, 20:80 (v/v).***

4.1.1. ***Prepare the 20:80 dichloromethane/hexane solution by adding 200 mL of dichloromethane to 800 mL of hexane.***

4.2. Nitrogen, N_2, ***99.998%***, compressed, ***Praxair*** 4.8 grade or higher.

5. ►PROCEDURE

5.1. ***Concentrate the field or QC sample extract to the desired volume.***

5.1.1. ***Refer to the extraction method for extraction and concentration procedures.***

5.2. ***Assemble the vacuum manifold according to the manufacturer's instructions.***

5.3. ***Unseal an SPE cartridge and attach it to the flow control valve of the vacuum manifold.***

5.4. ***Turn on the vacuum pump and set the vacuum to 10-in (254-mm) Hg.***

5.4.1. ***Do not exceed the manifold vacuum specified by the manufacturer.***

5.5. ***Place a waste container below the sample guide.***

5.6. ***Slowly open the flow control valve for each cartridge.***

5.6.1. ***Control the flow rate by adjusting the valve.***

5.7. Condition ***(i.e., rinse)*** each cartridge with 5 mL of hexane.

5.7.1. ***The elution rate should be approximately 2 mL/min.***

5.7.2. ***The elution rate can be checked by collecting the hexane eluate into a graduated cylinder within a time frame.***

5.8. ***Allow the hexane to flow through the Carbon/PSA sorbent bed to the lower frit of the cartridge, and allow a few drops per cartridge to pass through the manifold to remove all air bubbles.***

5.9. ***Close the valve to stop solvent flow and allow the solvent to soak the entire sorbent bed for a few minutes. Do not turn off the vacuum.***

5.10. ***Slowly open the valve and allow the hexane to pass through the cartridge, and close the valve until the meniscus of the solvent is at least 1 mm above the sorbent bed.***

5.10.1. ***Do not allow the cartridge to become dry. If the cartridge becomes dry, repeat the conditioning procedure.***

5.11. Inject 1.0 mL of the extract into the cartridge.

5.11.1. ***If the extract was in cold storage, allow it to reach ambient temperature.***

5.12. ***Rinse the syringe with 0.5 mL of hexane and inject the rinse into the cartridge.***

5.13. ***Label a clean VOA vial and place it below the sample guide for each cartridge.***

5.14. ***Open the valve and*** allow the extract to elute dropwise slowly.

5.15. ***When the meniscus of the extract is just above the surface of carbon, close the valve to stop solvent flow and turn off the vacuum.***

5.16. Add 20 mL of 20:80 dichloromethane/hexane solution to the cartridge.

5.17. ***Turn on the vacuum pump and set the vacuum to 10-in (254-mm) Hg.***

5.18. ***Slowly open the valve and start collecting the extract dropwise.***

5.19. Load the VOA vial(s) in the ***evaporator containing a warm water bath (44°C) so that the VOA vial(s) are partially immersed in the warm water. Adjust the nitrogen gas pressure (~5 psi) to concentrate the eluted extracts.***

5.20. ***When the apparent volume of the extract reaches 1 mL, remove the VOA vial from the water bath and allow it to cool.***

5.21. ***Proceed to sulfur or other cleanup procedures. If no additional cleanup procedure is needed***, proceed to analysis.