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**SUPPLEMENTAL SOIL/SEDIMENT
CHARACTERIZATION REPORT**
**Corte Madera Ecological Reserve,
Four-Acre Tidal Marsh Restoration Project
Corte Madera, California**

Prepared For:

**Golden Gate Bridge, Highway and Transportation District
PO Box 9000, Presidio Station
Golden Gate Bridge Toll Plaza
San Francisco, California 94129**

Prepared By:

**Northgate Environmental Management, Inc.
428 13th Street, 4th Floor
Oakland, California 94612**

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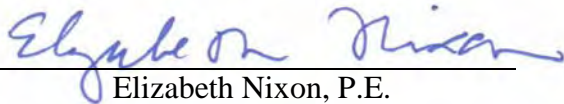
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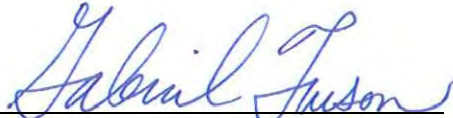
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Oakland, California 94612



Elizabeth Nixon, P.E.
Principal



Gabriel Fuson, P.G.
Project Geologist



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1.0 INTRODUCTION

Northgate Environmental Management, Inc. (Northgate) has prepared this *Supplemental Soil/Sediment Characterization Report* (SSCR) in support of the 4-Acre Tidal Marsh Restoration Project (the Project) at the Corte Madera Ecological Reserve, Corte Madera, California. The 4-Acre Project area sits within a 72-acre parcel (the Site) owned by the Golden Gate Bridge, Highway and Transportation District (District). The District has retained WRA Environmental Consultants (WRA) to provide tidal marsh restoration design and permitting services for the Project; the SSCR was prepared on behalf of the District to aid in the design and permitting of the Project.

WRA has developed a restoration alternative that would restore approximately four acres of tidal marsh at the northwestern corner of the Site as wildlife habitat. It is understood that Project activities will involve excavating soils/sediments to lower the existing grade in some areas in order to create tidal marsh habitat. According to the design, the outboard levee system will be breached in one location to provide tidal hydrology to the restored tidal marsh habitat. In addition, to balance the earthwork within the Project, excavated soils/sediments will be used in upland areas that will border the new tidal marsh and will be accessible to the public for recreational uses. A Site Location Map is shown on Figure 1, and a Regional Location Map is shown on Figure 2. Figure 3 shows the general layout, features and grading plan associated with the Project.

During an earlier design phase of the District-owned parcel conducted in 2015 and 2016, WRA and the District considered alternative designs that could restore up to 32 acres of tidal marsh. At that time, Northgate was retained to perform a characterization program for soil/sediment to evaluate conditions with respect to those alternatives, as reported in Northgate's *Soil/Sediment Characterization Report*, dated April 8, 2016 (Northgate, 2016). The new 4-acre restoration area was not included in the 2015/2016 characterization program.

The purpose of this SSCR is to describe the methods and protocols taken to identify, collect, analyze, and evaluate samples for soil and sediment quality characterization and to present the results in accordance with the *Work Plan for Supplemental Soil/Sediment Characterization Report* (Work Plan; Northgate 2018). A meeting was held with the Regional Water Quality Control Board (RWQCB) on October 19, 2018 to review the Work Plan. The RWQCB requested that three additional samples from the Marsh design elevation be collected and analyzed; based on the District's agreement to include the additional samples, the RWQCB approved proceeding with the work. The SSCR is being submitted to the RWQCB for review and concurrence.



1.1 Scope and Objective of the Characterization Program

This SSCR was performed to assess whether the soil/sediment that would be used to construct the 4-acre restoration is suitable for beneficial reuse as tidal marsh habitat and adjacent upland areas. A comparison to the findings of the 2015/2016 characterization program that evaluated previously considered restoration alternatives at the District-owned parcel was used to make the assessment.

1.2 Regulatory Setting

The Project is subject to the regulatory jurisdiction of Sections 404 and 401 of the Clean Water Act (CWA), the Porter-Cologne Act, and the San Francisco Bay Conservation Development Commission's (BCDC) Bay Plan Section. Therefore, the District is applying for the following regulatory permits:

- BCDC Administrative Permit;
- US Army Corps of Engineers (Corps) Section 404 Nationwide Permit 27 - Aquatic Habitat, Restoration, Enhancement, and Establishment Activities; and
- RWQCB Section 401 Water Quality Certification.

This report will inform the approval process for both the BCDC and RWQCB, who regulate contamination as part of their authorities to protect public access and habitats of San Francisco Bay tidal waters and adjacent wetlands and water quality, respectively.

1.3 Report Organization

This SSCR is comprised of the following sections:

- Section 1 summarizes the purpose and scope of the supplemental soil/sediment characterization program.
- Section 2 provides a brief background including a Site description and a summary of the Northgate 2015/2016 characterization.
- Section 3 summarizes the approach for characterizing the soil/sediment quality and for obtaining representative data.
- Section 4 describes the field sampling methodology for collecting samples.
- Section 5 summarizes the laboratory methods for chemical analyses of the samples.
- Section 6 describes the analytical results of the sampling and analysis program.
- Section 7 summarizes the comparative screening values used for data analysis.
- Section 8 provides the results of the soil/sediment characterization and analysis.



- Section 9 provides an evaluation of the potential for soil/sediment re-use at the Project area.
- Section 10 summarizes a comparison made between soil/sediment conditions and reference wetland restoration projects in the San Francisco Bay Area.
- Section 11 summarizes conclusions and recommendations.
- References are cited in Section 12.



2.0 BACKGROUND

2.1 Site Description

The Site, located in Corte Madera, Marin County, California, is owned by the District and consists of approximately 72 acres. It is located east of and adjacent to the intersection of Redwood Highway and San Clemente Drive near its southern end and extends north but short of the intersection of the former NWP railroad right-of-way and Industrial Way (Figure 1).

In 1975, the 72-acre Site received spoils generated from adjacent subtidal dredging performed for the construction of the Larkspur Landing Ferry Terminal. Records from the District indicate that the dredge spoils were deposited to the Site via a pipeline. Approximately 750,000 cubic yards of dredge spoils (about half of the total amount that was dredged) were deposited at the Site and the adjacent Muzzi Marsh; historical construction drawings indicate that the thickness of dredge spoils was approximately 5 feet. Chemical data gathered from the Ferry Terminal prior to dredging indicated that the spoils contained elevated concentrations of several metals in some of the sediment samples that were collected. The approximate dredge channel and location of the Larkspur Ferry Terminal in relation to the Site is shown on Figure 2.

The Site is undeveloped with a drainage channel, uplands and seasonal wetlands and is bounded by levees and tidal gates. The terrain is relatively flat, and is mostly covered in grassland vegetation and some pampas grass shrubbery. The geologic setting of the Site consists of silt loam and clays. Groundwater was encountered at depths ranging from 2 to 5 feet below the ground surface (bgs), or approximately 1 to 5 feet above mean sea level (amsl), during Northgate's 2015/2016 characterization program (Northgate, 2016). The surrounding lands consist of tidal marsh, with the Heerst Marsh to the north and the Muzzi Marsh to the east and south (Figure 2). West of the property is the Sonoma Marin Area Rail Transit (SMART) District right-of-way, the Shorebird Marsh, and portions of the Town of Corte Madera.

2.2 Previous Soil/Sediment Characterization

In late October and early November 2015, Northgate collected soil/sediment samples at other portions of the Site (not a part of the 4-acre Project), in support of wetland design alternatives proposed at the time. Appendix A contains two figures from Northgate's *Soil/Sediment Characterization Report* (Northgate, 2016) showing the sample locations. Based on the results of the characterization program, the following conclusions were made:

- No soil/sediment was identified at the Site that could qualify as hazardous waste based on chemical composition;



- The soil/sediment is suitable for on-Site upland reuse, including recreational purposes, based on comparison to applicable San Francisco Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESLs) criteria;
- The soil/sediment evaluated as the tidal marsh surface slightly exceeded comparative Effects Range-Low screening values (ER-Ls) and Effects Range-Median values (ER-Ms) (Long et al, 1995), and San Francisco Bay ambient concentrations for a subset of chemical constituents. However these relatively minor exceedances should not preclude the use of the material for beneficial ecological reuse as tidal marsh habitat;
- The soil/sediment quality meets most of the action goals adopted at nearby reference restoration sites where action goals were developed based on San Francisco Bay ambient or ER-L)/ER-M values;
- The soil/sediment quality meets all of the action goals adopted at nearby reference restoration sites where ecological risk assessments were performed (e.g. Hamilton, Mare Island, and Presidio);
- Comparison to reference sites supports the suitability of the Site soil/sediment to be beneficially reused for tidal marsh habitat restoration; and,
- The sediment quality of the drainage channel in the northern portion of the Site is similar to the remainder of the Site, suggesting that potential environmental impacts from historical off-Site urban drainage is de minimis.

The report was submitted to the RWQCB in April of 2016. Per email correspondence from the RWQCB on June 24, 2016 to the District, the RWQCB stated that it concurred with the conclusions made in the report.



3.0 CHARACTERIZATION APPROACH

Soil/sediment characterization of the 4-acre restoration Project area followed the California Department of Toxic Substances (DTSC) guidance for characterizing large-quantity soil stockpiles. The DTSC guidance provides a method for calculating the number of samples necessary to be representative of the surface area and/or volume being tested (DTSC, 2001). This approach was used in Northgate's 2015/2016 characterization program and the intent of this supplemental program was to be consistent with the previous work. This supplemental characterization assessed the soil/sediment quality of the following:

- Upper one foot of tidal marsh design surface; and
- Material to be excavated and remain within the Project boundaries in upland areas.

Table 1 provides information on the number of samples that were collected at the depth of the proposed tidal marsh design surface and in overlying soil/sediment that would be excavated and reused to construct upland features as part of the Project. A frequency of one sample per half acre was used to determine the number of samples to be collected from the proposed of tidal marsh surface (total of eight samples for four acres); the RWQCB's request to increase the number of samples by three brought the total number of marsh surface samples to 11. A frequency of 12 samples for the "first" 5,000 cubic yards with an additional one sample per additional 5,000 cubic yards was used to calculate the number of samples to represent materials to be excavated. A total of 17 samples were collected to be representative of the 28,500 cubic yards of cut material, resulting in a ratio of one sample per approximately 1,700 cubic yards. Sample locations are discussed in Section 4 and the chemical analyses performed are discussed in Section 5.

Data collected during the program were compared to the regulatory values and comparative reference sites described in Section 10. Based on the comparisons, an assessment was made as to the potential for beneficially reusing the soil/sediment at the 4-acre restoration Project.



4.0 FIELD AND SOIL SAMPLE COLLECTION METHODOLOGY

This section describes the methodology for field activities and sample collection of a total of 31 samples taken at the 4-acre Project area on October 24 and 25, 2018. The 31 samples include 11 samples collected to characterize the marsh surface, 17 samples collected to characterize the cut material, and 3 field duplicates collected for QA/QC purposes. Photographs taken during the field program are presented in Appendix B.

4.1 Pre-Field Activities

4.1.1 Health and Safety

A project-specific Health and Safety Plan (HSP) was prepared conforming to the requirements of CFR 29-1910, 120 and 18CCR5144 and provided in the Work Plan. All field work performed during the characterization program was completed in accordance with the HSP. Northgate field personnel conducted daily tailgate meetings prior to the start of work to review the HSP.

4.1.2 Permitting

Due to the generally shallow depths of the samples (i.e., less than 8 feet), a drilling permit was not needed from the Marin County Department of Environmental Health Services (EHS) for construction of soil borings. Due to the borings being advanced in high-ground locations and outside of seasonal wetlands located within the 4-acre Project area, permits from the RWQCB and U.S. Army Corps of Engineers (USACE) were not required to perform the work.

4.1.3 Work Constraints

Because the boring locations are near to seasonal wetlands, the field work was conducted according to constraints imposed by USACE (jurisdictional wetlands), California Department of Fish and Wildlife (CDFW; Ridgeway's Rail [formerly Clapper Rail] habitat) and Bay Conservation and Development Commission (BCDC; access to the perimeter berm). The sampling locations, protocols and schedule accommodated the following constraints:

- The location of USACE jurisdictional wetlands are shown on Figure 4. Effort was made to select sample locations outside of the seasonal wetland areas as possible and all 11 of the boring locations were located outside of the wetland areas. No tracked or wheeled vehicles were operated in existing wetland habitat and borings were advanced using hand-operated equipment carried across the Project area via field personnel.
- The characterization program was scheduled to be conducted outside of the Ridgeway's rail breeding season (mid-March to mid-September), but before significant winter rains occur (approximately October 23 to November 15, with all sampling being completed by



November 15) in order to reduce noise impacts to the Ridgeway's rail during breeding season.

- All Northgate field personnel were trained by a WRA biologist in the identification of and protective measures for sensitive species (i.e., Ridgeway's rail and salt marsh harvest mouse) and sensitive habitat (i.e., wetlands). The training occurred on Tuesday October 23, 2018 prior to the start of field activities. Additionally, all boring locations were visually inspected for the presence of salt marsh harvest mouse prior to clearing the surface vegetation and advancing the boring.
- Borings were backfilled with soil cuttings upon completion. Excess soil cuttings were not generated during the advancement of soil borings.
- No fueling, cleaning, or maintenance of vehicles or equipment took place within any area where an accidental discharge to existing wetlands or to San Francisco Bay could occur. All equipment or vehicles driven and/or operated on the Site were checked and maintained daily to prevent leaks of materials. Staging and storage areas were located a minimum of 20 feet from any existing wetland or San Francisco Bay. No spills occurred during the field program.

4.2 Sampling Frequency and Locations

As discussed in Section 3.0, a sampling program was developed to provide a characterization of the 4-acre Project area based on a frequency of approximately one sample per half-acre of proposed tidal marsh surface area and a frequency of one sample per 1,700 cubic yards of anticipated cut material (Table 1). Three additional samples were collected at the request of the RWQCB to help bolster the marsh surface material dataset for statistical analysis. Therefore, 11 samples were collected to characterize the proposed tidal marsh surface material and 17 samples were collected to characterize the cut material for reuse as upland material within the Project area.

Additionally, to assess the precision of field sampling, 3 field duplicates were collected at a 10-percent frequency. Field duplicates are independent samples collected at the same location as the primary sample to evaluate the precision of the sampling and analysis process. Distribution of the field duplicates was chosen at the discretion of the field personnel. Boring locations are shown on Figures 5 and 6; sample location coordinates are provided in Table 2; and the three added samples are indicated in Tables 2 and 3. A description of the tidal marsh and cut material sample location layout is provided below.



Tidal Marsh Surface Sample Locations

A sampling grid was established across the Site during the 2015/2016 characterization work to represent approximately one sample per half-acre of proposed tidal marsh (each grid cell). The same grid was used for this supplemental work to cover the 4-acre restoration design area. A total of 11 sample locations were placed within the footprint of the proposed tidal marsh (Figure 5). The depths of sample locations relative to the existing ground and proposed marsh surface elevations are shown in Figure 6. The boring locations were placed within the center of 147 foot-wide and 147 foot-long grid cells and then shifted within the respective grid cell to avoid borings being advanced in nearby existing wetland areas. Samples collected to characterize the marsh material were collected at the approximate elevation of the upper one foot of the design surface.

Cut Material Sample Locations

Sample locations for the cut material were distributed over the Project area based on the volume of cut and total number of samples needed. Effort was made to coincide the sample locations in same vertical plane with those already in place to characterize the marsh material while ensuring the volume of cut material is adequately characterized.

4.3 Sampling Methodology

Borings were advanced for the collection of soil samples using a hand auger, to a maximum depth of up to seven feet bgs. Details of the sampling methodology including the equipment used, field protocols, and sample collection procedures are described in detail in the Field Sampling Plan found in Appendix B of the Work Plan. An overview is presented below.

Tidal Marsh and Cut Material Sampling

Soil/sediment samples collected to characterize the marsh surface were taken from the proposed design elevations (Table 1). Borings were advanced to within approximately 0.5 feet of the top of the marsh design surface, and extended one foot deeper for sample collection. Soil samples taken to characterize the cut material were collected over a one-foot interval from the surface, following the removal of up to four inches of vegetation and organic material from the top of the boring. The one-foot sample interval was vertically mixed in the field, and placed into a 16-ounce laboratory supplied glass jar; the sample was homogenized by the analytical laboratory. Schematic cross-sectional views of the existing and proposed surfaces with select projected sample locations and a schematic diagram of the sampling methodology are shown on Figure 6.



Soil and sediment samples collected from each boring were observed for visual indications of contamination (e.g. discoloration), field screened for volatile organic compounds (VOCs) prior to homogenization using a photoionization detector (PID), labelled, and stored in coolers on ice to maintain samples prior to and during shipment to the analytical laboratory. Each sample was recorded on a chain-of-custody record. Soil observations, including soil type, color, and moisture, were recorded for the total depth of each boring. Each boring was backfilled with its soil cuttings upon completion such that the soil cuttings were placed at the approximate depth from which they were retrieved. Excess soil cuttings were not generated during the advancement of soil borings.



5.0 LABORATORY ANALYTICAL METHODS

Soil/sediment samples collected during the investigation were transferred under Northgate chain-of-custody protocol to a state-certified laboratory, Enthalpy Analytical (Enthalpy) located in Berkeley, California, for chemical analysis. Soil/sediment samples were analyzed for constituents of concern including:

- CAM-17 metals by United States Environmental Protection Agency (EPA) Method 6020/7471A;
- Polychlorinated biphenyls (PCBs) by EPA Method 8082;
- Total petroleum hydrocarbons (TPH) as diesel and motor oil (TPH-d/-mo) by EPA Methods 8015 with silica gel cleanup;
- Total organic carbon (TOC) by the Walkley-Black Method
- Polyaromatic hydrocarbons (PAHs) by EPA Method 8270C Selective Ion Monitoring (SIM);
- Organochlorine pesticides by EPA Method 8081A; and,
- Moisture content by American Society of Testing and Materials (ASTM) Method D2216-98/CLP.

No field readings collected using the PID indicated the presence of volatile organic compounds. Therefore, no samples were analyzed for TPH as gasoline by EPA Method 8015 or for VOCs by EPA Method 8260B. Analytical methods, method detection limits (MDLs), and target reporting limits (RLs) are listed in Table 4. RLs and MDLs are listed for “wet weight” reporting requirements. For the purposes of this characterization, results will be reported in “dry weight” which corrects the “wet weight” result based on the moisture content of the sample. Therefore, MDLs and target RLs may increase based on the moisture content of the sample. The sample aliquot, size and type of container, and holding time are also listed in Table 4.

5.1 Laboratory Reporting Limits (RLs)

RLs represent the lowest concentrations that can be accurately quantified and were used in reporting chemical concentrations for each sample. In addition to the RL, the MDL value reported by the laboratory represents the maximum concentration that could occur in a sample for which the concentration of the analyte has been reported as not-detected. The RL is equal to or greater than the MDL. If concentrations are detected between the MDLs and the RLs, the values are qualified as detected concentrations with some uncertainty associated with the reported concentration or “J” flagged. This distinction is important with regard to which value is



used when assessing environmental concerns or suitability determinations when the concentration is reported as non-detected.

Due to potential sample matrix interferences, laboratory method RLs may not meet the comparative screening values for select chemical compounds. Therefore, all non-detected analytical results were reported using the MDLs.

5.2 Data Quality Assessment

Northgate performed a data quality assessment of the laboratory quality control (QC) results for the soil/sediment samples analyzed. A data quality assessment was performed for each analytical laboratory report which included: reviewing report contents; confirming holding times and sample preservation; surrogate, method blank matrix spike, and field duplicate evaluations; and, an overall assessment of the data quality. Detailed data quality assessment checklists are presented in Appendix C.

During the initial 2015/2016 characterization, selenium results appeared to indicate false positives due to matrix interference using EPA Method 6010B. Therefore, a modification to the analytical program was made in which all samples where selenium was detected were re-analyzed by EPA Method 6020 to lessen the matrix interference and provide more accurate results. Similarly, a modification was made to the analytical program for this characterization in which all samples were analyzed using EPA Method 6020.

The following is a summary of the data quality assessment:

- All analytical laboratory reports contained adequate documentation;
- All samples were prepared and analyzed within the method prescribed holding times;
- All laboratory surrogate recoveries were within acceptable limits, with a few minor exceptions;
- Laboratory method blanks had no detected analytes with the exception of a few chemicals detected between the MDL and RL which were either not detected above the RL or were at least 10 times that of the blank and were not qualified;
- All batch spike (BS), batch spike duplicate (BSD), laboratory control sample (LCS), laboratory control sample duplicate (LCSD), matrix spike (MS), and matrix spike duplicates (MSD) results were within laboratory quality control limits with a few minor exceptions and, overall, indicated acceptable laboratory accuracy and precision; and



- Calculated relative percent difference (RPD) of field duplicates and the associated primary sample were acceptable with a few minor exceptions. Using professional judgment and Region 9 Guidance for Data Review as recommended by the National Functional Guidelines (EPA, 2010), field duplicate RPD exceedances were not qualified due to the common occurrence of non-homogenous bulk field sample matrix of soil.

Based on our review, the dataset is of sufficient quality to provide representative environmental characterization of the soil/sediment present within the Project area.



6.0 RESULTS

This section summarizes subsurface conditions encountered during the field program and presents soil/sediment sample chemical analytical results. Summaries of the results are shown in Tables 5 through 11 for field observations, metals, PCBs, TPH, TOC, PAHs, and pesticides, respectively. Figures 7 through 9 display selected chemical results. Analytical laboratory reports are presented in Appendix D. Results discussed below and included in Appendix D are the dry weight results of the laboratory analyses; analytical laboratory reports of wet weight results are available upon request.

It should be noted that the analytical results do not indicate a potential risk to human health under the proposed future uses of the area. A discussion of human health and ecological comparative screening values and the analytical results with respect to the comparative values are presented in Sections 7 and 8, respectively.

6.1 Subsurface Conditions

During sampling activities, field observations included VOC screening using a PID and recording observations of soil type, soil color, moisture, notes of non-native material, odor, discoloration, and/or presence of groundwater. Non-soil/sediment material (including rootlets, shell fragments and wood fragments) was evaluated by observing and estimating the percentage and type of material within the soil after it was retrieved from the hand auger. Detailed field observations are summarized in Table 5.

Overall, the soil consisted of a soft and dry, olive brown to light or dark yellowish brown silty clay to a depth of 1 foot bgs followed by dark yellowish brown silty clay transitioning to clay with depth in the range of approximately 1 to 4 feet bgs, and then dark greenish grey to dark brown or very dark greyish brown clay to the maximum explored depth of 7.5 feet bgs. Additionally, the material from 0 to 1 feet bgs generally exhibited less than 10% rootlets mixed in the soil. Trace shell fragments were encountered in various soil borings at depths generally greater than 3 feet bgs.

Iron oxide mottling was observed in each of soil borings B9 and C7 at respective depth ranges of 2-4.5 and 3.5-4 feet bgs. Fine to coarse subangular to subrounded gravel was encountered in boring D6 at a depth of 1.75 to 5 feet bgs. Trace fine subrounded gravel was encountered in boring E7 at a depth of 1 to 5.5 feet bgs. No odor was observed from any of the soil borings and all PID measurements were zero. Percent moisture ranged from 10% (in the 2 to 3 foot interval bgs of soil boring S4) to 35% (in the bottom foot of soil boring B8) in the marsh and cut samples. Groundwater was not observed in any of the soil borings.



6.2 Metals

As listed in Table 6, all of the CAM-17 metals analyzed were detected in one or more of the samples at the following frequency and concentration ranges:

- Antimony was detected in all of the samples ranging from 0.15 to 1.7 milligrams per kilogram (mg/kg);
- Arsenic was detected in all of the samples ranging from 7.7 to 14 mg/kg;
- Barium was detected in all of the samples ranging from 40.0 to 160 mg/kg;
- Beryllium was detected in all of the samples ranging from 0.27 to 0.83 mg/kg;
- Cadmium was detected in all of the samples ranging from 0.21 to 0.71 mg/kg;
- Chromium was detected in all of the samples ranging from 70 to 220 mg/kg;
- Cobalt was detected in all of the samples ranging from 7.0 to 28.0 mg/kg;
- Copper was detected in all of the samples ranging from 18.0 to 65.0 mg/kg;
- Lead was detected in all of the samples ranging from 7.6 to 44.0 mg/kg;
- Mercury was detected in all of the samples ranging from 0.05 to 0.46 mg/kg;
- Molybdenum was detected in all of the samples ranging from 0.38 to 2.2 mg/kg;
- Nickel was detected in all of the samples ranging from 66.0 to 330 mg/kg¹;
- Selenium was detected in all of the samples ranging from 0.34 to 0.83 mg/kg;
- Silver was detected in all of the samples ranging from 0.07 to 0.51 mg/kg;
- Thallium was detected in 89% of the samples ranging from 0.12 to 0.38 mg/kg;
- Vanadium was detected in all of the samples ranging from 40.0 to 87.5 mg/kg; and,
- Zinc was detected in all of the samples ranging from 38.0 to 135 mg/kg.

6.3 Polychlorinated Biphenyls

As listed in Table 7, one or more PCBs were detected in 36% of the samples collected. Only Aroclor 1254 and Aroclor 1260 were detected above MDLs and were detected at frequencies of 4% and 36%, respectively. Aroclor 1254 was detected in one sample at a concentration of 47 micrograms per kilogram ($\mu\text{g}/\text{kg}$) and Aroclor 1260 was detected at concentrations between 4.9 and 25 $\mu\text{g}/\text{kg}$. Aroclor 1254 and 1260 were summed to represent the total concentration of PCBs or 'Total PCBs'. In cases where Aroclor 1254 and/or 1260 was not detected, the MDL was used in the summation of Total PCBs for the purpose of quantifying the non-detect result for statistical analysis. The concentration of Total PCBs ranged from 4.9 to 61 $\mu\text{g}/\text{kg}$.

¹ The range of nickel concentration was 66 to 130 mg/kg, with the exception of sample E7-5.0, which contained 330 mg/kg.



6.4 Total Petroleum Hydrocarbons

Sample results for TPH-d and TPH-mo are presented in Table 8. TPH-d and TPH-mo were detected in every sample. TPH-d concentrations range between 0.54 and 35 mg/kg and TPH-mo concentrations range between 5.7 and 310 mg/kg.

6.5 Total Organic Carbon

Sample results for TOC are presented in Table 9. TOC was measured in all of the samples at concentrations ranging between 0.54 and 1.4 percent.

6.6 Polyaromatic Hydrocarbons

As listed in Table 10, several PAHs were detected above MDLs. The following PAHs were detected in one or more of the samples at the following frequency and concentration ranges:

- Acenaphthylene was detected in 14% of the samples ranging from 1.3 to 8.2 µg/kg;
- Anthracene was detected in 25% of the samples ranging from 1.3 to 8.5 µg/kg;
- Benzo(a)anthracene was detected in 75% of the samples ranging from 1.3 to 32 µg/kg;
- Benzo(a)pyrene was detected in 93% of the samples ranging from 1.5 to 47 µg/kg;
- Benzo(b)fluoranthene was detected in 96% of the samples ranging from 2.3 to 73 µg/kg;
- Benzo(g,h,i)perylene was detected in all of the samples ranging from 2.2 to 67 µg/kg;
- Benzo(k)fluoranthene was detected in 54% of the samples ranging from 1.9 to 21 µg/kg;
- Chrysene was detected in 86% of the samples ranging from 1.4 to 50 µg/kg;
- Dibenz(a,h)anthracene was detected in 29% of the samples ranging from 1.4 to 9.4 µg/kg;
- Fluoranthene was detected in 96% of the samples ranging from 1.7 to 64 µg/kg;
- Fluorene was detected in 7% of the samples ranging from 1.5 to 8.4 µg/kg;
- Indeno(1,2,3-cd)pyrene was detected in 82% of the samples ranging from 1.2 to 44 µg/kg;
- Naphthalene was detected in 50% of the samples ranging from 1.3 to 22.0 µg/kg;
- Phenanthrene was detected in 89% of the samples ranging from 1.6 to 51 µg/kg; and,
- Pyrene was detected in all of the samples ranging from 2.2 to 80 µg/kg.

6.7 Pesticides

As listed in Table 11, several pesticides were detected above MDLs. The following pesticides were detected at a frequency of 5% or greater at the concentrations noted:

- 4,4'-DDD was detected in 79% of the samples ranging from 0.16 to 19.0 µg/kg;
- 4,4'-DDE was detected in 86% of the samples ranging from 0.20 to 7.90 µg/kg;
- 4,4'-DDT was detected in 68% of the samples ranging from 0.14 to 15.0 µg/kg;



- Aldrin was detected in 14% of the samples ranging from 0.09 to 0.41 µg/kg;
- alpha-BHC was detected in 7% of the samples ranging from 0.16 to 0.23 µg/kg;
- beta-BHC was detected in 46% of the samples ranging from 0.25 to 2.60 µg/kg;
- delta-BHC was detected in 29% of the samples ranging from 0.13 to 0.59 µg/kg;
- alpha-Chlordane was detected in 54% of the samples ranging from 0.19 to 1.3 µg/kg;
- gamma-Chlordane was detected in 25% of the samples ranging from 0.36 to 2.1 µg/kg;
- Dieldrin was detected in 82% of the samples ranging from 0.09 to 2.30 µg/kg;
- Endosulfan sulfate was detected in 32% of the samples ranging from 0.28 to 1.20 µg/kg;
- Endrin was detected in 43% of the samples ranging from 0.18 to 0.91 µg/kg;
- Endrin aldehyde was detected in 7% of the samples ranging from 0.81 to 1.0 µg/kg; and
- Heptachlor epoxide was detected in 68% of the samples ranging from 0.08 to 0.69 µg/kg.

The pesticides gamma-BHC, Endosulfan I, and Endosulfan II, were detected at low concentrations (<0.35 µg/kg) at frequencies less than 5%.

4,4'-DDD, 4,4'-DDE, and 4,4'-DDT were summed to represent a Total DDTs concentration. In the event one or more of the DDTs were not detected, zero was used in place of the concentration for the summation. Total DDTs was detected in soil samples ranging in concentration from 0.27 to 36.90 µg/kg.

Alpha-, beta-, delta-, and gamma-BHC were summed to represent a Total BHCs concentration for each sample. In the event one of the analytes was not detected, zero was used in place of the concentration for the summation. Total BHCs was detected in soil samples ranging in concentration from 0.16 to 2.77 µg/kg.

Alpha- and gamma-chlordane were summed to represent a Total Chlordanes concentration for each sample. In the event one of the analytes was not detected, zero was used in place of the concentration for the summation. Total Chlordanes was detected in soil samples ranging in concentration from 0.19 to 3.40 µg/kg.



7.0 PRELIMINARY COMPARATIVE SCREENING VALUES

Selected screening criteria are proposed to help evaluate the analytical results and assess the suitability of existing soil/sediment for use in the tidal marsh and upland areas of the Project. Table 12 is a compilation of these criteria used to compare to conditions of the Project area. The comparative screening values are not regulatory standards (with the exception of Total Threshold Limit Concentration [TTLC]), and the presence of a chemical at a concentration above a screening value does not necessarily indicate that adverse impacts to human health or the environment are occurring, or that a mitigating action is necessary. Rather, it indicates that a potential for adverse risk may exist and that additional evaluation may be warranted.

7.1 Screening Comparative Values for Human Health and Waste Classification

Chemical analytical results from this characterization were compared to the ESLs established by the RWQCB (*Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, Interim Final, November 2005, Revised December 2013; Revised February 2016). The RWQCB ESLs are developed using a tiered approach to environmental risk assessment. This characterization compares soil sample test results to RWQCB ESLs for evaluating direct human exposure in a residential land use scenario (the most sensitive land-use). Comparing soil/sediment quality to these criteria is useful for assessing the beneficial reuse potential in upland areas.

It should be noted that in some cases, particularly with respect to metals such as arsenic, the RWQCB ESLs are lower than the naturally occurring regional background concentrations. In these cases, generally accepted values for background concentrations are used in place of the ESLs.

Chemical test results also were compared to the TTLC established by the State of California (Title 22, California Code of Regulations). The TTLC is a regulatory threshold for classifying a waste material as a hazardous waste for landfill disposal purposes based on the total chemical concentration. Comparing soil/sediment quality to TTLCs is useful for assessing if materials could be classified as a California hazardous waste if removed from the Project area.

Another measure for classifying a waste material as a hazardous waste for landfill disposal is the Soluble Threshold Limit Concentration (STLC). The STLC is based on the leachable/soluble concentration of a particular chemical constituent. Any sample containing a metal at a total concentration equal to or greater than 10-times its STLC value could potentially contain leachable metals above the STLC and further testing would be necessary for off-Site disposal at a landfill. Comparison to the STLC is not applicable to evaluating the beneficial re-use of



soil/sediment in a wetland environment and therefore, further review of data relative to STLCS was not performed.

7.2 Wetland Restoration Comparative Screening Values

A different set of comparative screening values than those listed in Section 7.1 was used to evaluate soil/sediment quality for potential beneficial re-use as a tidal marsh restoration, as discussed in the following sub-sections.

7.2.1 Comparative Ambient Values

San Francisco Bay ambient sediment concentrations and Marin County ambient sediment concentrations are based on data collected throughout the San Francisco Bay and Marin County regions, respectively, and represent ambient conditions of Bay sediments. The San Francisco Bay ambient concentrations are published by the San Francisco Estuary Institute (SFEI) as the 90-percent Upper Tolerance Limit (90% UTL) of the data from sediment samples routinely collected by the SFEI between 2003 and 2012 as part of the Regional Monitoring Program (RMP) for Water Quality in the San Francisco Bay (SFEI, 2015a). For chemicals of interest that are not published in the RMP, Northgate calculated San Francisco Bay 90% UTLs using data available for download from SFEI's Contaminant Data Download and Display (CD3; SFEI, 2015b) online database, and ProUCL, Version 5.0 software. The Marin County 90% UTLs were calculated by Northgate using ProUCL, Version 5.0 software and the raw Marin County ambient data downloaded from the CD3 database for the years 2003 to 2012 or 2007 to 2012, depending on the available chemical-specific datasets. The San Francisco Bay and Marin County Ambient Averages were pulled from SFEI's CD3 online database.

7.2.2 Beneficial Re-Use Comparative Values

The National Oceanic and Atmospheric Administration's (NOAA's) effects- based sediment concentrations for chemical constituents of potential concern known as "effects range – low" (ER-L; Long et. al., 1995) and "effects range – median" (ER-M; Long et. al., 1995) values are often used to screen sediments for beneficial re-use in wetland or tidal marsh areas. ER-Ls and ER-Ms represent concentrations above which biological effects on benthic organisms are either rare (ER-Ls defined by less than 10% chance of adverse biological effects) or probable (ER-Ms defined by less than 50% chance of adverse biological effects) derived from compiled biological toxicity assays and synoptic sampling of marine sediment in NOAA's National Status and Trends Program (NSTP) database. In some cases, the ER-Ls are lower than the San Francisco Bay Ambient Average sediment concentrations. For the purposes of this evaluation, the more region-specific San Francisco Bay Ambient Average concentration was



used in place of the ER-L for identifying chemicals of interest when the San Francisco Bay Ambient Average exceeds the ER-L.

The Florida Department of Environmental Protection's (FDEP's) effects-level approach for sediment quality assessment known as "threshold effects level" (TEL; FDEP, 1994a) and "probable effects level" (PEL; FDEP, 1994b) also are frequently used to assess sediment quality for wetland habitat uses. The TELs/PELs are screening values similar to the ER-Ls/ER-Ms, but are derived using an expanded NSTP database which includes data from studies of equilibrium partitioning modelling, laboratory spiked-sediment bioassays, and field investigations of sediment toxicity and benthic community composition conducted in the southeastern and Gulf of Mexico regions of the United States in addition to northeastern and western coastal areas of the United States and Canada.



8.0 SOIL/SEDIMENT CHARACTERIZATION

A soil/sediment characterization was performed to identify chemicals that may exceed ambient or comparative screening values and to develop a set of Site-specific chemicals of interest. This set of chemicals of interest is then used for further assessment of the potential for beneficial reuses. The methodology and results of the characterization are discussed below.

8.1 Methodology

To evaluate the chemical data set, the data were divided into three datasets:

- combined cut and marsh surface materials,
- cut material only, and
- marsh surface material only.

The combined cut and marsh surface material dataset represents all of the samples. The marsh surface material only dataset is representative of the design marsh surface. The cut material only dataset is representative of material that would be cut and relocated to upland areas as part of the design.

The maximum, minimum and averages of the datasets were compared to RWQCB ESLs to screen for potential human health effects in an upland reuse scenario, and to TTLCs, to screen for potential classification of the soil/sediment as a California hazardous waste. The three datasets were further compared to the comparative screening values for tidal marsh re-use.

For the analytes where the calculated averages of the combined, cut, and/or independent marsh surface datasets exceed the ER-Ls and/or San Francisco Bay Ambient Averages, additional statistical analyses were performed to aid in the evaluation of the potential re-use of soil/sediment as tidal marsh. Statistical analyses included:

- calculation of 90% UTL, and
- calculation of 95% Upper Confidence Limit (95% UCL) of the mean.

The 95% UCL is the value that, when repeatedly calculated for a data set, equals or exceeds the data's arithmetic mean 95 percent of the time. The 90% UTL is the upper 90 percent confidence bound on the 90th percentile of the underlying distribution and infers that, with 90 percent confidence, 90 percent of the underlying data distribution is less than the UTL calculated from the data.



The 95% UCLs and 90% UTLs were calculated using the EPA ProUCL statistical software, Version 5.0 using the most appropriate fit of statistical method, as determined by the ProUCL program. Non-detect results were included in the calculation using half of the respective MDL and were accounted for using the program features of the ProUCL Version 5.0 software. Once calculated, the following comparisons were made:

- The 90% UTLs were compared to San Francisco Bay Ambient 90% UTLs and Marin County Ambient 90% UTLs (calculated using the raw SFEI Marin County Ambient data), and
- The calculated 95% UCLs were compared to ER-Ls and ER-Ms.

Analytical data and results from the statistical analyses are included in Tables 6 through 11. ProUCL program outputs are available upon request.

8.2 Metals

As listed in Table 6, the cut and marsh surface material results for metals indicate the following:

- All CAM-17 metals were detected at concentrations below TTLC thresholds in both cut and marsh surface samples;
- No samples contained antimony, barium, beryllium, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium and zinc at concentrations above RWQCB ESLs for residential direct exposure. An RWQCB ESL for residential direct exposure is not established for chromium, however, soil/sediment contained chromium concentrations within ambient levels and therefore would not be expected to present a direct exposure risk; and
- San Francisco Bay or Marin County sediment concentrations, ER-Ls, and ER-Ms are not established for antimony, beryllium, thallium, and vanadium.

The remaining CAM-17 metals in which one or more sample exceeded a comparative value are discussed below.

Arsenic

Arsenic was reported in all of the cut and marsh surface soil samples at concentrations ranging from 7.7 to 14 mg/kg, all of which exceed the RWQCB ESL for residential direct exposure scenario of 0.067 mg/kg. However, observed concentrations are typical of ambient levels found throughout the San Francisco Bay Area, and are unlikely to represent a concern for direct human exposure.



The 90% UTLs for the combined, cut, and marsh surface material datasets for arsenic (12.3 to 13.8 mg/kg) are below the San Francisco Bay Ambient 90% UTL of 13.9 mg/kg, and the Marin County Ambient 90% UTL of 18.1 mg/kg.

The 95% UCLs for the combined, cut and marsh surface material datasets for arsenic (10.7 to 11.0 mg/kg) exceed the ER-L of 8.2 mg/kg and are below the ER-M of 70 mg/kg.

Barium

Barium was reported in all of the cut and marsh surface soil samples at concentrations ranging from 40 to 160 mg/kg. The 90% UTLs for the combined, cut, and marsh surface material datasets (90 to 160 mg/kg) exceed the Marin County Ambient 90% UTL of 77 mg/kg. The 90% UTLs for the combined and marsh surface material datasets (110 and 160 mg/kg, respectively) exceed the San Francisco Bay 90% UTL of 103 mg/kg; the 90% UTL for the cut material dataset (90mg/kg) is below the San Francisco Bay 90% UTL.

The 95% UCLs for the combined, cut and marsh surface material datasets for barium range from 68.7 to 89.6 mg/kg. No ER-L or ER-M values have been established for barium.

Cadmium

Cadmium was detected in all of the cut and marsh surface soil samples at concentrations ranging from 0.21 to 0.71 mg/kg. The 90% UTLs for the combined, cut, and marsh surface material datasets (0.65 to 0.70 mg/kg) exceed the San Francisco Bay and Marin County Ambient 90% UTLs of 0.33 mg/kg and 0.34 mg/kg, respectively.

The 95% UCLs for the combined, cut and marsh surface material datasets for cadmium (0.49 to 0.54 mg/kg) are below the ER-L of 1.2 mg/kg and the ER-M of 9.6 mg/kg.

Chromium

Chromium was detected in all of the cut and marsh surface soil samples at concentrations ranging from 70 to 220 mg/kg. The 90% UTL for the marsh surface material dataset (220 mg/kg) exceeds the San Francisco Bay and Marin County Ambient 90% UTLs of 140 and 129 mg/kg, respectively; the 90% UTL for the combined and cut material datasets (110 and 117 mg/kg, respectively) are below the San Francisco Bay and Marin County Ambient 90% UTLs.

The 95% UCLs for the combined, cut and marsh surface material datasets (98 to 130 mg/kg) exceed the ER-L of 81 mg/kg. All three dataset 95% UCLs are below the ER-M of 370 mg/kg.



Cobalt

Cobalt was reported in all of the cut and marsh surface soil samples at concentrations ranging from 7 to 28 mg/kg. The value in one marsh surface sample (28 mg/kg, as averaged with its associated field duplicate sample) exceeds the RWQCB ESL for residential direct exposure scenario of 23 mg/kg.

The 90% UTLs for the combined and marsh surface material datasets (21.7 and 20.9 mg/kg, respectively) exceed the San Francisco Bay Ambient 90% UTL of 20.1 mg/kg, and the Marin County Ambient 90% UTL of 20.2 mg/kg; the 90% UTL for the cut material dataset (19.6 mg/kg) is below the San Francisco Bay and Marin County Ambient 90% UTLs.

The 95% UCLs for the combined, cut and marsh surface material datasets for cobalt ranged from 14.6 to 19.1 mg/kg. No ER-Ls or ER-Ms have been published for cobalt.

Copper

Copper was detected in all of the cut and marsh surface soil samples at concentrations ranging from 18 to 68 mg/kg. The 90% UTL for the marsh surface material dataset (59.8 mg/kg) slightly exceeds the San Francisco Bay Ambient 90% UTL of 53.9 mg/kg; the 90% UTLs for the combined and cut material datasets (50.7 and 48.3 mg/kg, respectively) are below the San Francisco Bay Ambient 90% UTL. The 90% UTLs for all three datasets are below the Marin County Ambient 90% UTL of 1570 mg/kg.

The 95% UCLs for the combined, cut and marsh surface material datasets (35.5 to 41.5 mg/kg) exceed the ER-L of 34 mg/kg, and are below the ER-M of 270 mg/kg.

Lead

Lead was detected in all of the cut and marsh surface soil samples at concentrations ranging from 7.6 to 44.0 mg/kg. The 90% UTLs for the combined, cut, and marsh surface material datasets (31.1 to 39.5 mg/kg) exceed the San Francisco Bay and Marin County Ambient 90% UTLs of 25.1 mg/kg and 29.3 mg/kg, respectively.

The 95% UCLs for the combined, cut, and marsh surface material datasets (19.9 to 23.5 mg/kg) are below the ER-L of 46.7 mg/kg and ER-M of 218 mg/kg.

Mercury

Mercury was detected in all of the cut and marsh surface soil samples at concentrations ranging from 0.05 to 0.46 mg/kg. The 90% UTL for the cut material dataset (0.36 mg/kg) exceeds the



San Francisco Bay and Marin County Ambient 90% UTLs of 0.33 mg/kg and 0.34 mg/kg, respectively; the 90% UTLs for the combined and marsh surface material datasets (0.31 and 0.25 mg/kg, respectively) are below the San Francisco Bay and Marin County Ambient 90% UTLs.

The 95% UCLs for the combined, cut and marsh surface material datasets (0.16 to 0.23 mg/kg) exceed the ER-L of 0.15 mg/kg, and are below ER-M of 0.71 mg/kg.

Molybdenum

Molybdenum was detected in all of the cut and marsh surface soil samples at concentrations ranging from 0.38 to 2.2 mg/kg. The 90% UTLs for the combined, cut, and marsh surface material datasets (1.53 to 1.78 mg/kg) exceed the San Francisco Bay and Marin County Ambient 90% UTLs of 0.75 mg/kg and 0.92 mg/kg, respectively.

The 95% UCLs for the combined, cut, and marsh surface material datasets for molybdenum ranged from 1.01 to 1.17 mg/kg. No ER-L or ER-M values have been established for molybdenum.

Nickel

Nickel was detected in all of the cut and marsh surface soil samples at concentrations ranging from 66.0 to 330 mg/kg. The 90% UTLs for the combined, cut, and marsh surface material datasets (118 to 330 mg/kg) exceed the San Francisco Bay and Marin County Ambient 90% UTLs of 98.3 mg/kg and 110 mg/kg, respectively.

The 95% UCLs for the combined, cut and marsh surface material datasets (94.7 to 158 mg/kg) exceed the ER-L of 20.9 mg/kg and ER-M of 51.6 mg/kg.

It should be noted that the driver for the elevated nickel 90% UTL and 95% UCL in the marsh surface dataset is a single sample, E7-5.0, which contained 330 mg/kg – the next highest concentration found in the marsh sample dataset was 130 mg/kg.

Selenium

Selenium was detected in all of the cut and marsh surface soil samples at concentrations ranging from 0.34 to 0.83 mg/kg. The 90% UTLs for the combined, cut, and marsh surface material datasets (0.70 to 0.75 mg/kg) exceed the San Francisco Bay and Marin County Ambient 90% UTLs, both of which are 0.36 mg/kg.



The 95% UCLs for the combined, cut and marsh surface material datasets for selenium ranged from 0.55 to 0.58 mg/kg. No ER-L or ER-M values have been established for selenium.

Silver

Silver was detected in all of the cut and marsh surface soil samples at concentrations ranging from 0.07 to 0.51 mg/kg. The 90% UTLs for the combined, cut, and marsh surface material datasets (0.50 to 0.56 mg/kg) exceed the San Francisco Bay and Marin County Ambient 90% UTLs of 0.32 mg/kg and 0.30 mg/kg, respectively.

The 95% UCLs for the combined, cut and marsh surface material datasets (0.28 to 0.37 mg/kg) are below the ER-L and ER-M of 0.32 mg/kg and 0.35 mg/kg, respectively.

Zinc

Zinc was detected in all of the cut and marsh surface soil samples at concentrations ranging from 38 to 135 mg/kg. All of the detected concentrations of zinc are below the ER-L of 150 mg/kg. The average of the soil samples (76.1 mg/kg) is below the ER-L and ER-M values, 150 mg/kg and 410 mg/kg, respectively; therefore, no further statistical evaluation was performed.

In summary for metals:

- All CAM-17 metals were detected at concentrations below TTLC thresholds.
- All metals with the exception of arsenic and cobalt were detected at concentrations below RWQCB ESLs for residential direct exposure.
- Several metals had 90% UTLs and/or 95% UCLs that exceed their respective ambient or comparative values. As shown in Table 6, the metals with 95% UCLs exceeding their respective ER-L had a factor of exceedance of less than 1.7 with the exception of nickel where the factor of exceedance ranged from 4.5 to 7.6 in the three datasets.
- There was one nickel concentration that appears to be a statistical outlier (Sample E7-5.0 at 330 mg/kg) compared to the rest of the dataset.
- Given the information discussed above, a subset of twelve metals (arsenic, barium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, and silver) was selected as chemicals of interest for further assessment (see Sections 9.0 and 10.0).

8.3 Polychlorinated Biphenyls

As listed in Table 7, only the Aroclor-1254 and Aroclor-1260 were reported above method detection limits. The sum of these PCBs was taken to represent a ‘Total PCBs’ concentration and



evaluated against comparative screening criteria. The cut and marsh surface material sample results for Total PCBs indicate the following:

- All Total PCB results were below the TTLC threshold.
- No samples contained Total PCBs above the RWQCB ESL for residential direct exposure of 250 µg/kg.

Total PCBs was detected in 36% of the cut and marsh surface material samples at concentrations ranging from 4.9 to 61 µg/kg. The 90% UTLs for Total PCBs for the combined and cut material datasets (22.2 and 30.6 µg/kg, respectively) exceed the San Francisco Bay Ambient 90% UTL of 18.3 µg/kg; the 90% UTL for the marsh surface material dataset (12.0 µg/kg) is below the San Francisco Bay Ambient 90% UTL. The 90% UTLs for all three datasets exceed the Marin County Ambient 90% UTL of 8.7 µg/kg.

The 95% UCLs for the combined, cut and marsh surface material datasets (9.1 to 22.0 µg/kg) are below the ER-L of 22.7 µg/kg and the ER-M of 180 µg/kg.

In summary, all Total PCB results were below the TTLC threshold and the RWQCB ESL for residential direct exposure. The 90% UTLs for Total PCBs of the datasets exceed one or more respective ambient values, which may be largely attributed to the relatively small datasets with a couple concentrations that are statistical outliers. Given the information discussed above, Total PCBs is considered a chemical of interest for further assessment.

8.4 Total Petroleum Hydrocarbons

As shown in Table 8, TPH-d and TPH-mo were detected in all cut and marsh surface soil samples analyzed. TPH-d was detected at concentrations ranging from 0.54 to 35 mg/kg. TPH-mo was detected at concentrations ranging from 5.7 to 310 mg/kg. The cut and marsh surface material sample results indicate the following:

- No TTLCs have been established for TPH-d and TPH-mo and soil/sediment containing TPH are not considered a California hazardous waste.
- None of the reported concentrations exceed the RWQCB residential direct exposure ESLs for TPH-d or TPH-mo of 230 mg/kg and 11,000 mg/kg, respectively.
- ER-Ls and ER-Ms have not been established for TPH-d and TPH-mo.

Given the results, no further statistical analyses or evaluation were performed for TPH-d and TPH-mo. TPH-d and TPH-mo are not considered chemicals of interest for further analysis.



8.5 Total Organic Carbon Characterization

As listed in Table 9, TOC was measured in every sediment sample analyzed ranging in content between 0.54 and 1.4%. TOC is an indicator for productivity within a wetland habitat and predominantly self-produced in a mature wetland environments. The presence of TOC in the sediment samples may indicate suitability for wetland habitat.

8.6 Polyaromatic Hydrocarbons

As shown in Table 10, several PAHs were detected in the cut and marsh surface soil samples analyzed. The cut and marsh surface material sample results indicate the following:

- No TTLCs have been established for PAHs and soil/sediment containing PAHs are not considered a California hazardous waste.
- With the exception of benzo(a)pyrene, the concentrations of PAHs measured in the cut and marsh surface soil samples did not exceed the RWQCB ESLs for residential direct exposure.
- No samples contained PAHs above ambient San Francisco Bay or Marin County sediment concentrations.
- No samples contained PAHs in the cut and marsh surface soil samples over ER-Ls/ER-Ms.

Benzo(a)pyrene was detected in 93% of the cut and marsh surface soil samples ranging in concentrations of 1.5 µg/kg to 47 µg/kg. The maximum and average concentrations of benzo(a)pyrene (47 µg/kg and 19.4 µg/kg) exceeded the RWQCB residential direct exposure ESL of 16 µg/kg.

The maximum and average concentrations of benzo(a)pyrene (47 µg/kg and 19.4 µg/kg) are below the ER-L and ER-M values of 430 µg/kg and 1,600 µg/kg, respectively.

Given the results, no further statistical analyses or evaluation were performed for PAHs. No PAHs are considered chemicals of interest for further analysis.

8.7 Pesticides

As shown in Table 11, several pesticides were detected in the cut and marsh surface soil samples analyzed. The cut and marsh surface material sample results indicate the following:

- All pesticides analyzed were below TTLC thresholds.
- No samples contained pesticides in the cut and marsh surface soil samples over RWQCB



ESLs for direct exposure.

- With the exception of DDTs, BHCs, chlordane, aldrin, dieldrin, endrin, and heptachlor epoxide, the concentrations of pesticides measured in the cut and marsh surface soil samples did not exceed ambient San Francisco Bay or Marin County sediment concentrations. MDLs for several pesticides were elevated above respective San Francisco Bay and Marin County ambient averages, both of which are 0.001 $\mu\text{g}/\text{kg}$.

BHCs, aldrin, endrin, and heptachlor epoxide were either detected at low frequencies (less than 10%) or exceed ambient concentrations while not having ER-Ls or ER-Ms established. Therefore, no further statistical evaluation was performed for these pesticides. The remaining pesticides are discussed below.

Total DDTs

4,4'-DDD, 4,4'-DDE, and 4,4'-DDT were summed to represent a Total DDTs concentration. In the event one or more of the DDTs were not detected, the MDL was used in place of the concentration for the summation to quantify the non-detect result for statistical analysis. Total DDTs was detected in the cut and marsh surface sample locations ranging in concentration from 0.27 to 36.9 $\mu\text{g}/\text{kg}$ at a frequency of 89%. The Total DDTs 90% UTLs for the combined, cut, and marsh surface material datasets (24.0 to 27.0 $\mu\text{g}/\text{kg}$) exceed the San Francisco Bay and Marin County Ambient 90% UTLs of 4.7 $\mu\text{g}/\text{kg}$ and 5.5 $\mu\text{g}/\text{kg}$, respectively.

The 95% UCLs for the combined, cut and marsh surface material datasets (11.5 to 12.8 $\mu\text{g}/\text{kg}$) exceed the ER-L of 1.6 $\mu\text{g}/\text{kg}$, and are below the ER-M of 46.1 $\mu\text{g}/\text{kg}$.

Total Chlordanes

Alpha- and gamma-chlordane were summed to represent a Total Chlordanes concentration for each sample location. In the event one of the analytes was not detected, the MDL was used in place of the concentration for the summation to quantify the non-detect result for statistical analysis. Total Chlordanes was detected in the cut and marsh surface sample locations ranging in concentration from 0.19 to 3.40 $\mu\text{g}/\text{kg}$ at a frequency of 57%. The Total Chlordanes 90% UTLs for the combined, cut and marsh surface material datasets (2.03 to 2.60 $\mu\text{g}/\text{kg}$) exceed the San Francisco Bay and Marin County Ambient 90% UTLs of 0.34 and 0.33 $\mu\text{g}/\text{kg}$, respectively.

The 95% UCLs for the combined, cut, and marsh surface material datasets (1.02 to 1.3 $\mu\text{g}/\text{kg}$) exceed the ER-L of 0.50 $\mu\text{g}/\text{kg}$, and are below the ER-M of 0 6.0 $\mu\text{g}/\text{kg}$.



In summary, all pesticide results were below the TTLC thresholds and the RWQCB ESLs for residential direct exposure. The 90% UTLs and 95% UCLs for Total DDTs, dieldrin, and Total Chlordanes of the datasets exceed their respective ambient and comparative values. The factor of exceedance over the ER-L of 95% UCLs for Total DDTs and Total Chlordanes ranged between 2.0 and 8.1. The factor of exceedance over the ER-L of the 95% UCL for dieldrin ranged between 27.2 and 49.8. Given the information discussed above, Total DDTs, dieldrin, and Total Chlordanes are considered chemicals of interest for further assessment.



9.0 POTENTIAL RE-USE EVALUATION

9.1 Potential Cut Material

As listed in Tables 6 through 11 and discussed in Section 8.0, no samples from potential cut material contained constituents above RWQCB ESLs for human health under a direct exposure residential land use scenario with the minor exceptions of arsenic, cobalt, and benzo(a)pyrene. However, arsenic concentrations are below ambient levels, and a cobalt concentration was slightly over the ESL at one primary sample location only. Benzo(a)pyrene was detected at a high frequency at values slightly to modestly above the residential ESL, but significantly below the San Francisco Bay ambient level. Given these minor exceptions and the conservative comparison of future uses as uplands to residential ESLs, the metals and benzo(a)pyrene are not considered potential human health risks. Based on both the combined and cut material datasets, the soil/sediment at the Project area is suitable for reuse in upland areas.

9.2 Potential Marsh Surface

As discussed in Section 8.1, two statistical parameters were used to evaluate the dataset for potential beneficial reuse as tidal marsh surface sediments: the 90% UTL (used to compare to ambient values) and the 95% UCL (used to compare to ER-Ls/ER-Ms). A shortlist of 16 chemicals of interest was selected for statistical evaluation based on 1) dataset averages exceeding comparative values and 2) frequency of detections. The statistical parameters of the chemicals of interest and respective comparative values are presented in Tables 6 through 11 and summarized in Table 13.

The distributions of the select chemicals of interest (metals, PCBs, and pesticides) are presented on Figures 7 through 9. As shown, the soil quality is relatively evenly distributed across the Project area, except where a slight variation in distribution shows that there is a higher concentration of nickel at one location at the marsh surface design elevation in the southern portion of the Project area (Figure 7a, grid E7), two higher concentrations of mercury at a northern and a central location in the cut material (Figure 7b, grids A7 and D7), two higher concentrations of Total PCBs in the cut material from the central portion of the Project area (Figure 8, grids C8 and D7), and one higher concentration of Total DDTs in the cut material at the northern portion of the Project area (Figure 9, grid A7).

As shown in Table 13, sixteen chemicals exceed either their respective ambient values or ER-Ls (and in one instance, an ER-M is exceeded). However, seven of the metals (arsenic, barium, cobalt, mercury, molybdenum, selenium and silver) can be ruled out as a potential concern for beneficial re-use due to their 90% UTLs being below or approximately at the San Francisco Bay Ambient 90% UTLs and/or there being no established ER-L/ER-M for the respective metal.



The 90% UTLs and/or 95% UCLs of the remaining nine constituents, cadmium, chromium, copper, lead, nickel, Total PCBs, Total DDTs, dieldrin, and Total Chlordanes, exceed their respective ambient and/or ER-L comparative values. However, most exceedances were slight to modest, and all values were well below their respective ER-Ms with the exception of nickel.

In summary, the statistical characterizations of the marsh surface and combined (marsh and cut) datasets indicate that the Site soils/sediments are of good quality with some relatively minor exceedances of comparative screening values, mostly due to statistical outliers within the relatively small datasets. With the exception of nickel at one location at the tidal marsh design surface (see Section 8.2), the soil quality at the Site is comparable to other tidal wetland beneficial re-use sites in the surrounding San Francisco Bay Area and the exceedances of comparative screening values at the Site should not preclude the material from being suitable for beneficial reuse in tidal marsh habitat and adjacent uplands. A discussion of comparable wetland restoration sites is included in Section 10.

9.3 Comparison to 2015/2016 Characterization

Results of this supplemental characterization are consistent with the previous sample collection and data analysis performed in 2015/2016 with a few minor exceptions. Table 14 summarizes the 90% UTL and 95% UCL values calculated for both data sets, and the differences between them. A brief summary of the differences in data between the two studies is provided below.

- PCB concentrations were lower than previously measured – though there were a few individual detections above comparative screening levels, none of the samples collected from the marsh design surface exceeded the lowest screening level. The 95% UCL for the entire data set was below ambient and ER-L values.
- Pesticides – concentrations were consistent with previous findings, except that dieldrin was detected at a higher frequency (likely because the laboratory achieved a lower detection limit) – dieldrin was therefore added to the list of pesticides to evaluate. Though detected at levels higher than ambient/ER-Ls, like the other pesticides present in the materials, the concentrations of all pesticides are within the ranges that have been acceptable at comparable reference sites.
- Of the metals, cadmium, which had been detected previously at levels above its ER-L value, was below the ER-L in this data set.
- Of the metals, nickel concentrations were higher compared to the previous data set. Due to the smaller data set for the 4-acre area compared to the previous 23-acre area, one data point that appears to be an outlier caused the 90% UTL and 95% UCL for nickel to exceed the comparative reference site goal (Hamilton) for the marsh sample data subset;



however, the statistical values for the entire data set remained below the comparative site levels, similar to the previous data set.

- Mercury was not detected in any of the marsh samples above ambient levels – the previous data set had a few exceedances.



10.0 COMPARISON TO SAN FRANCISCO BAY WETLAND RESTORATION SITES

Currently, there are no published regulatory standards for beneficial reuse of soil/sediment at wetland restoration sites in the San Francisco Bay Area. Instead, permitting of wetland restoration projects is performed on a case-by-case basis as part of the project's regulatory review process. While the comparative screening values used in this characterization report provide a framework within which to evaluate the relative quality of the soil/sediment, a comparison to the chemical-specific action goals used at similar restoration sites also helps assess the suitability and regulatory acceptance of beneficially using the soil/sediment for wetland restoration purposes.

Therefore, we have compiled a summary of action goals (initially presented in the 2015/2016 characterization report) that have been adopted at other similar tidal wetland restoration sites in the San Francisco Bay Area to evaluate whether the conditions in the Project area are consistent with other approved projects with respect to soil/sediment quality.

10.1 Reference Wetland Restoration Sites

Numerous wetlands and tidal marshes have been restored in the San Francisco Bay Area that share similar features and goals with this Project. To identify potential reference sites, the California Wetland Tracker website maintained by the SFEI was searched. A selection of representative reference sites were reviewed for use in this evaluation; their proximities to Corte Madera are shown on Figure 10.

The reference sites displayed vary with respect to overseeing regulatory agencies, whether or not site-specific chemical actions goals were developed, and/or the basis upon which action goals were derived, and the ecological receptors of concern. Several large restoration sites were restored without the development of action goals for soil/sediment quality. Reference sites without action goals being specified include:

- South Bay Salt Ponds, Alviso
- Skaggs Island, Sonoma
- Cullinan Ranch, Vallejo
- Sears Point, Sonoma
- Breuner Marsh, Richmond

Restoration sites where action goals were developed used two general approaches: 1) the action goals were developed by adopting San Francisco Bay Ambient or ER-L/ER-M values, or 2) ecological risk assessment was used to develop action goals that are protective of ecological receptors. In some instances, a combination of approaches has been used. Generally, restoration



sites where the San Francisco Bay Ambient or ER-L/ER-M values were adopted include the following (the primary overseeing regulatory agency is shown in parentheses):

- Montezuma Wetlands, Farfield (RWQCB)
- Bair Island, Redwood City (RWQCB)
- Winter Island, Pittsburg (RWQCB)
- Yosemite Slough, San Francisco (RWQCB)

Restoration sites where an ecological risk assessment was performed to determine action goals include the following (the overseeing regulatory agency is shown in parentheses):

- Presidio of San Francisco (Army/DTSC/RWQCB/USEPA);
- Mare Island, Vallejo (Navy/DTSC);
- Hamilton Army Airfield, Novato (ecological risk, site-specific ambient or ER-L; DTSC/RWQCB); and
- Yosemite Creek, San Francisco (USEPA).

Action goals that were adopted for the above reference sites are presented in Table 15. Only the action goals for the chemicals of interest identified at the Site are tabulated.

10.2 Comparison of Project Area Conditions to Reference Sites

Conditions of the Project area were evaluated by comparing the 95% UCLs of the 16 chemicals of interest to the reference site action goals. For reference sites that used ecological risk assessment to derive action goals, the Site-specific sensitive species that were identified as the target ecological receptors were reviewed for compatibility with the Site's habitat goals, which are Ridgeway's rail and the salt marsh harvest mouse.

Comparison of Project Area 95% UCLs to Reference Site Action Goals

The 95% UCLs of the chemicals of interest, for the total data set (presented in Section 9) were compared to reference site action goals (Table 15). The 95% UCL of 12 of the 16 chemicals of interest met or were below the respective action goals at all of the reference sites. Cadmium, nickel, Total DDTs, and dieldrin exceed action goals at sites where ambient and/or ER-L/ER-M values were adopted, but met or were below the action goals at reference sites where ecological risk assessment was used to derive the action goals.

Though cadmium exceeds San Francisco Bay ambient values and therefore exceeds the action goals established at two of the reference sites, it is not thought to be a concern as the 95% UCL does not exceed the ER-L. The 95% UCL values for Total DDTs and dieldrin exceed the San Francisco Bay Ambient 90% UTLs and ER-Ls, however, Total DDTs and dieldrin are both



well below the action goals set for Hamilton, Presidio, Mare Island, and Yosemite Creek, where ecological risk assessments were performed. The 95% UCL value for nickel exceeds the San Francisco Bay Ambient 90% UTL, ER-L, and reference site action goals where the goal is based on ambient values. The 95% UCL value of the combined dataset for nickel is below the action goals set for Hamilton, Mare Island, and Yosemite Creek, and only slightly above the Presidio action goal range. In the case of nickel only, the 95% UCL of the marsh surface data set exceeds the action goals of Hamilton, Mare Island and the Presidio. As noted in Sections 8.2 and 9.3, the relatively higher 95% UCL of nickel in the marsh dataset is due to a single data point (sample E7-5.0) with an elevated concentration.

Ecological Risk Assessment Receptors

Ecological risk assessments were performed at the Hamilton, Presidio, and Mare Island restoration sites, and at Yosemite Creek as part of environmental remediation. The ecological risk assessment used for Yosemite Creek may not be directly applicable to the Project area as Yosemite Creek is not being restored as tidal marsh but rather as a slough adjacent to tidal wetlands. For the remaining sites, the ecological risk assessment receptors included tidal marsh species as follows:

- Hamilton: An ecological risk assessment was performed for select chemicals for the Hamilton restoration project including Total DDTs and Total PCBs. The risk assessment was based on potential exposure to the special status species Ridgeway's rail (known previously as the California clapper rail) (RWQCB, 2003), an ecological species of concern.
- Presidio: The ecological risk assessment performed for the Presidio restoration considered two types of exposure scenarios and developed two sets of action goals (referred to as preliminary remediation goals [PRGs]; EKI 2002):
 - Non-special status species PRGs selected to protect populations of ecological receptors, and
 - Special status species PRGs where the ecological risk assessment receptor was chosen to protect the western sandpiper, red-tailed hawk, mallard duck and peregrine.
- Mare Island: The receptors considered for the Mare Island ecological risk assessment included the special status species salt marsh harvest mouse, an ecological species of concern (Weston 2006).



In comparison, the Site-specific habitat goals for sensitive species include the salt marsh harvest mouse and Ridgeway's rail. Therefore, the action goals developed for the Hamilton and Mare Island restoration projects are particularly relevant to the Site. Action goals developed for the Presidio restoration work also are relevant, given the close proximity and overlapping ecological receptors.



11.0 CONCLUSIONS

The field program and characterization evaluation was implemented in accordance with the approved Work Plan. Adequate investigation of the 4-acre Project area has been completed as presented in this SSCR. The data set is representative of current conditions and can be used for decision making purposes.

The characterization revealed that the soil/sediment present to depths of at least 7.5 feet bgs are comprised predominantly of clays with little to no occurrence of non-soil matter other than shells and plant roots characteristic of Bay sediments. The distribution of chemical constituents throughout the Project area is relatively homogenous with minor horizontal and vertical variation. The overall quality of the soil/sediment is suitable for beneficial reuse for both upland and tidal marsh purposes.

Based on the results of the characterization, the following can be concluded:

- No soil/sediment was identified at the Project area that could qualify as hazardous waste based on chemical composition;
- The soil/sediment quality is suitable for upland reuse, including recreational purposes, based on physical characteristics and comparison to applicable RWQCB ESL screening criteria;
- The soil/sediment is suitable for tidal marsh cover and habitat restoration, based on physical characteristics and comparison to applicable ecological screening criteria and comparison to local reference sites, with the exception of one location;
- soil quality does not present adverse risks to habitat or water quality;
- The soil/sediment evaluated for the Project design slightly exceeds comparative screening value ER-Ls and ambient concentrations for a subset of chemical constituents. However these relatively minor exceedances and/or statistical outliers should not preclude the use of the material for beneficial ecological reuse as tidal marsh habitat;
- The soil/sediment quality meets most of the action goals adopted at nearby reference restoration sites where action goals were developed based on San Francisco Bay Ambient or ER-L/ER-M values;
- The soil/sediment quality meets almost all of the action goals adopted at nearby reference restoration sites where ecological risk assessments were performed (e.g. Hamilton, Mare Island, and Presidio) with the exception of nickel at one sample location; and,
- Comparison to reference sites supports the suitability of the Project area soil/sediment to be beneficially reused for tidal marsh habitat restoration.



To address the one location at the proposed tidal marsh design surface where an elevated nickel concentration was observed, the District, when implementing the restoration, plans to over-excavate this area by one foot and backfill to the proposed design grade using other suitable materials derived on-site. The over-excavated materials, which meet uplands reuse criteria, will be placed in proposed upland reuse areas and will be incorporated as upland fill.

Considering the favorable conditions at the Project area, it is our opinion that Site-specific action goals are not necessary for the beneficial reuse of soils as tidal marsh and adjoining uplands. The overall quality of the soil/sediment does not pose adverse risks to future ecological habitat or to the water quality of San Francisco Bay. The District's plan to mitigate the one localized area with elevated nickel is a conservative measure that adequately addresses this condition.



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TABLES



TABLE 1
Design Basis for Sampling and Analysis Program

Location	Proposed New Marsh Surface Area ¹ (Acres)	Number of Samples to Characterize New Marsh Area ^{1,2}	Design Volume of Cut Material (Cubic Yards) ³	Number of Samples to Characterize Cut Material ⁴	Number of QA/QC Samples	Total Number of Samples
4-acre Project	4.1	11	28,500	17	3	31

NOTES:

1. Total marsh area will be 4.3 acres including existing marsh.
2. Per Department of Toxic Substance Control (DTSC) guidance, one sample per half acre shall be collected to characterize the tidal marsh area.
3. Volume of cut material as provided by WRA.
4. Modified per DTSC guidance, 12 samples per first 5,000 cubic yards +1 sample per each additional 5,000 cubic yards shall be collected to characterize the cut material for beneficial re-use.

QA/QC = Quality Assurance/Quality Control

Sampling numbers were calculated by rounding up to the nearest whole sample number.

TABLE 2
Sample Location Coordinates

Grid Cell Identification of Sample Location	Sample Location Type	X	Y	Existing Ground Surface (Z) Elevation (feet) ¹	Design Marsh Surface (Z ²) Elevation (feet) ¹	Sample Depth From Existing Ground Surface (feet bgs) ^{2,3}	Sample (Z ⁴) Elevation (feet)
A7	Cut	5,981,779	2,169,615	12.0	5.5	--	12.0
A7	Cut	5,981,779	2,169,615	12.0	5.5	3.0	9.0
A7	Marsh	5,981,779	2,169,615	12.0	5.5	6.5	5.5
B7	Cut	5,981,842	2,169,547	8.0	6.5	--	8.0
B7	Marsh	5,981,842	2,169,547	8.0	6.5	1.5	6.5
B8	Cut	5,981,687	2,169,525	8.5	4.5	--	8.5
B8	Cut	5,981,687	2,169,525	8.5	4.5	2.0	6.5
B8	Marsh	5,981,687	2,169,525	8.5	4.5	4.0	4.5
B9	Cut	5,981,600	2,169,537	10.0	6.5	1.5	8.5
B9	Marsh	5,981,600	2,169,537	10.0	6.5	3.5	6.5
C7	Cut	5,981,853	2,169,403	9.0	6.0	--	9.0
C7	Marsh	5,981,853	2,169,403	9.0	6.0	3.0	6.0
C8	Cut	5,981,702	2,169,398	8.5	2.0	0.5	8.0
C8	Cut	5,981,702	2,169,398	8.5	2.0	3.5	5.0
C8	Marsh	5,981,702	2,169,398	8.5	2.0	6.5	2.0
D6	Cut	5,981,938	2,169,245	10.0	6.0	2.0	8.0
D6	Marsh	5,981,938	2,169,245	10.0	6.0	4.0	6.0
D7	Cut	5,981,834	2,169,256	9.0	2.5	--	9.0
D7	Cut	5,981,834	2,169,256	9.0	2.5	3.0	6.0
D7	Cut	5,981,834	2,169,256	9.0	2.5	5.0	4.0
D7	Marsh	5,981,834	2,169,256	9.0	2.5	6.5	2.5
D8	Cut	5,981,702	2,169,255	9.0	5.5	--	9.0
D8	Marsh	5,981,702	2,169,255	9.0	5.5	3.5	5.5
E7	Cut	5,981,832	2,169,107	9.5	5.0	--	9.5
E7	Cut	5,981,832	2,169,107	9.5	5.0	2.5	7.0
E7	Marsh	5,981,832	2,169,107	9.5	5.0	4.5	5.0
E8	Cut	5,981,695	2,169,107	9.5	6.0	--	9.5
E8	Marsh	5,981,695	2,169,107	9.5	6.0	3.5	6.0

Notes and Abbreviations:

Each sample ID (example: A7-12.0) consists of the grid cell identification of the sample location (A7) followed by the topmost elevation of the 1-foot sample interval in feet (12.0). Each field duplicate sample ID (example: FD-1) consists of "FD" (field duplicate) followed by sequential numbering (1).

1. Elevations are rounded to the nearest 0.5-foot.

2. The elevation and depth of the boring location corresponds to the top of the 1-foot sample interval.

3. Sample depths are calculated by subtracting the design surface elevation from the existing ground surface elevation for each marsh sample location. All depths have been rounded to the nearest 0.5-foot for sample collection.

4. The sample elevation (Z⁴) is the existing ground surface elevation minus the sample depth from the existing ground surface. Example B7: Adjusted sample elevation is the existing ground surface elevation, 8.0, minus the sample depth, 1.5, giving 6.5.

-- = Cut material sample will be collected from the surface following the removal of surface vegetation and organic material.

bgs = below ground surface

Y = Latitude in feet (NAD 1983)

X = Longitude in feet (NAD 1983)

Z = Elevation in feet (NAVD 1988)

Green highlight indicates sample location added as a result of San Francisco Regional Water Quality Control Board request in 10/19/2018 meeting.

TABLE 3
Sampling and Analysis Program for 4-Acre Restoration Project

Sample Identification	Grid Cell Identification of Sample Location	Depth From Existing Surface ^{1,2,3} (feet bgs)	Sample Elevation ^{1,3}	Method for Chemical Analyses					
				Metals (EPA 6020/7471A) ⁴	Pesticides (EPA 8081A)	PCBs (EPA 8082)	PAHs (EPA 8720C SIM)	TPH-d / TPH-mo (EPA 8015 w/SGC)	TOC (Walkley-Black)
A7-12.0	A7	--	12.0	✓	✓	✓	✓	✓	✓
A7-9.0	A7	3.0	9.0	✓	✓	✓	✓	✓	✓
A7-5.5	A7	6.5	5.5	✓	✓	✓	✓	✓	✓
B7-8.0	B7	--	8.0	✓	✓	✓	✓	✓	✓
B7-6.5	B7	1.5	6.5	✓	✓	✓	✓	✓	✓
B8-8.5	B8	--	8.5	✓	✓	✓	✓	✓	✓
B8-6.5	B8	2.0	6.5	✓	✓	✓	✓	✓	✓
B8-4.5	B8	4.0	4.5	✓	✓	✓	✓	✓	✓
B9-8.5	B9	1.5	8.5	✓	✓	✓	✓	✓	✓
B9-6.5	B9	3.5	6.5	✓	✓	✓	✓	✓	✓
C7-9.0	C7	--	9.0	✓	✓	✓	✓	✓	✓
C7-6.0	C7	3.0	6.0	✓	✓	✓	✓	✓	✓
C8-8.0	C8	0.5	8.0	✓	✓	✓	✓	✓	✓
C8-5.0	C8	3.5	5.0	✓	✓	✓	✓	✓	✓
C8-2.0	C8	6.5	2.0	✓	✓	✓	✓	✓	✓
D6-8.0	D6	2.0	8.0	✓	✓	✓	✓	✓	✓
D6-6.0	D6	4.0	6.0	✓	✓	✓	✓	✓	✓
D7-9.0	D7	--	9.0	✓	✓	✓	✓	✓	✓
D7-6.0	D7	3.0	6.0	✓	✓	✓	✓	✓	✓
D7-4.0	D7	5.0	4.0	✓	✓	✓	✓	✓	✓
D7-2.5	D7	6.5	2.5	✓	✓	✓	✓	✓	✓
D8-9.0	D8	--	9.0	✓	✓	✓	✓	✓	✓
D8-5.5	D8	3.5	5.5	✓	✓	✓	✓	✓	✓
E7-9.5	E7	--	9.5	✓	✓	✓	✓	✓	✓
E7-7.0	E7	2.5	7.0	✓	✓	✓	✓	✓	✓
E7-5.0	E7	4.5	5.0	✓	✓	✓	✓	✓	✓
E8-9.5	E8	--	9.5	✓	✓	✓	✓	✓	✓
E8-6.0	E8	3.5	6.0	✓	✓	✓	✓	✓	✓
FD-1	Field Duplicate ⁵			✓	✓	✓	✓	✓	✓
FD-2	Field Duplicate ⁵			✓	✓	✓	✓	✓	✓
FD-3	Field Duplicate ⁵			✓	✓	✓	✓	✓	✓

Notes and Abbreviations:

1. The elevation and depth of the boring location corresponds to the top of the 1-foot sample interval.
2. Sample depths are calculated by subtracting the design surface elevation from the existing ground surface elevation for each marsh sample location. All depths have been rounded to the nearest 0.5-foot for sample collection.
3. See Table 2.
4. Samples were analyzed for CAM-17 metals using EPA Method 6020 with the exception of mercury by EPA Method 7471.
5. Field Duplicates were collected on a 10% frequency. Field duplicate sample locations will be selected at the discretion of the field sampling team.

Green highlight indicates sample location added as a result of San Francisco Regional Water Quality Control Board request in a 10/19/2018 meeting.

-- = Cut material sample was collected from the surface, following the removal of vegetation and organic material from the top of the boring.

bgs = below ground surface

EPA = United States Environmental Protection Agency

PCBs = Polychlorinated Biphenyls

PAHs = Polyaromatic Hydrocarbons

SGC = Silica Gel Cleanup

TPHd = Total Petroleum Hydrocarbons as diesel

TPHmo = Total Petroleum Hydrocarbons as motor oil

TOC = Total Organic Carbon

TABLE 4
Analytical Methods, Reporting Limits, Sample Volume, Container,
and Hold Times

Analyte	Method	Reporting Limit ¹	Method Detection Limit ¹	Minimum Sample Volume	Container ²	Hold time Extract/Hold ³
Metals (mg/kg) - Soil						
Antimony	EPA 6020	0.625	0.0745	10 g	brass liner or glass jar	180 days
Arsenic	EPA 6020	0.625	0.0823	10 g	brass liner or glass jar	180 days
Barium	EPA 6020	0.625	0.0668	10 g	brass liner or glass jar	180 days
Beryllium	EPA 6020	0.625	0.0475	10 g	brass liner or glass jar	180 days
Cadmium	EPA 6020	0.625	0.0545	10 g	brass liner or glass jar	180 days
Chromium	EPA 6020	0.625	0.0736	10 g	brass liner or glass jar	180 days
Cobalt	EPA 6020	0.625	0.0592	10 g	brass liner or glass jar	180 days
Copper	EPA 6020	0.625	0.1	10 g	brass liner or glass jar	180 days
Iron	EPA 6020	62.5	3.25	10 g	brass liner or glass jar	180 days
Lead	EPA 6020	0.625	0.0668	10 g	brass liner or glass jar	180 days
Mercury	EPA 7471A	0.02	0.0043	5 g	brass liner or glass jar	28 days
Molybdenum	EPA 6020	1.25	0.135	10 g	brass liner or glass jar	180 days
Nickel	EPA 6020	1.25	0.13	10 g	brass liner or glass jar	180 days
Selenium	EPA 6020	0.625	0.0806	10 g	brass liner or glass jar	180 days
Silver	EPA 6020	0.625	0.029	10 g	brass liner or glass jar	180 days
Thallium	EPA 6020	0.313	0.05	10 g	brass liner or glass jar	180 days
Vanadium	EPA 6020	1.25	0.147	10 g	brass liner or glass jar	180 days
Zinc	EPA 6020	1.5	0.5	10 g	brass liner or glass jar	180 days
Pesticides (µg/kg) - Soil						
Aldrin	EPA 8081A	0.83	0.07	30 g	brass liner or glass jar	14 days / 40 days
alpha-BHC	EPA 8081A	0.83	0.08	30 g	brass liner or glass jar	14 days / 40 days
beta-BHC	EPA 8081A	0.83	0.09	30 g	brass liner or glass jar	14 days / 40 days
delta-BHC	EPA 8081A	0.83	0.12	30 g	brass liner or glass jar	14 days / 40 days
gamma-BHC	EPA 8081A	0.83	0.09	30 g	brass liner or glass jar	14 days / 40 days
Technical Chlordane	EPA 8081A	15	3	30 g	brass liner or glass jar	14 days / 40 days
4,4-DDD	EPA 8081A	1.7	0.11	30 g	brass liner or glass jar	14 days / 40 days
4,4'-DDE	EPA 8081A	1.7	0.08	30 g	brass liner or glass jar	14 days / 40 days
4,4'-DDT	EPA 8081A	1.7	0.25	30 g	brass liner or glass jar	14 days / 40 days
Dieldrin	EPA 8081A	1.7	0.07	30 g	brass liner or glass jar	14 days / 40 days
Endosulfan I	EPA 8081A	1.7	0.08	30 g	brass liner or glass jar	14 days / 40 days
Endosulfan II	EPA 8081A	1.7	0.09	30 g	brass liner or glass jar	14 days / 40 days
Endosulfan sulfate	EPA 8081A	1.7	0.13	30 g	brass liner or glass jar	14 days / 40 days
Endrin	EPA 8081A	1.7	0.16	30 g	brass liner or glass jar	14 days / 40 days
Endrin Aldehyde	EPA 8081A	1.7	0.52	30 g	brass liner or glass jar	14 days / 40 days
Heptachlor	EPA 8081A	1.7	0.09	30 g	brass liner or glass jar	14 days / 40 days
Heptachlor epoxide	EPA 8081A	1.7	0.06	30 g	brass liner or glass jar	14 days / 40 days
Methoxychlor	EPA 8081A	1.7	2	30 g	brass liner or glass jar	14 days / 40 days
Toxaphene	EPA 8081A	30	10	30 g	brass liner or glass jar	14 days / 40 days
PCBs (µg/kg) - Soil						
Aroclor 1016	EPA 8082	12	3.3	30 g	brass liner or glass jar	14 days / 40 days
Aroclor 1221	EPA 8082	24	5.8	30 g	brass liner or glass jar	14 days / 40 days
Aroclor 1232	EPA 8082	12	2.8	30 g	brass liner or glass jar	14 days / 40 days
Aroclor 1242	EPA 8082	12	3.6	30 g	brass liner or glass jar	14 days / 40 days
Aroclor 1248	EPA 8082	12	3.9	30 g	brass liner or glass jar	14 days / 40 days
Aroclor 1254	EPA 8082	12	2.5	30 g	brass liner or glass jar	14 days / 40 days
Aroclor 1260	EPA 8082	12	3.4	30 g	brass liner or glass jar	14 days / 40 days

TABLE 4
Analytical Methods, Reporting Limits, Sample Volume, Container,
and Hold Times

Analyte	Method	Reporting Limit ¹	Method Detection Limit ¹	Minimum Sample Volume	Container ²	Hold time Extract/Hold ³
PAHs (µg/kg) - Soil						
Acenaphthene	EPA 8270C SIM	5	1	30 g	brass liner or glass jar	14 days / 40 days
Acenaphthylene	EPA 8270C SIM	5	1	30 g	brass liner or glass jar	14 days / 40 days
Anthracene	EPA 8270C SIM	5	1	30 g	brass liner or glass jar	14 days / 40 days
Benzo(a)anthracene	EPA 8270C SIM	5	1.3	30 g	brass liner or glass jar	14 days / 40 days
Benzo(a)pyrene	EPA 8270C SIM	5	1	30 g	brass liner or glass jar	14 days / 40 days
Benzo(b)fluoranthene	EPA 8270C SIM	5	1	30 g	brass liner or glass jar	14 days / 40 days
Benzo(g,h,i)perylene	EPA 8270C SIM	5	1	30 g	brass liner or glass jar	14 days / 40 days
Benzo(k)fluoranthene	EPA 8270C SIM	5	1.1	30 g	brass liner or glass jar	14 days / 40 days
Chrysene	EPA 8270C SIM	5	1	30 g	brass liner or glass jar	14 days / 40 days
Dibenzo(a,h)anthracene	EPA 8270C SIM	5	1	30 g	brass liner or glass jar	14 days / 40 days
Fluoranthene	EPA 8270C SIM	5	1	30 g	brass liner or glass jar	14 days / 40 days
Fluorene	EPA 8270C SIM	5	1	30 g	brass liner or glass jar	14 days / 40 days
Indeno(1,2,3-cd)pyrene	EPA 8270C SIM	5	1	30 g	brass liner or glass jar	14 days / 40 days
1-Methylnaphthalene	EPA 8270C SIM	5	1.3	30 g	brass liner or glass jar	14 days / 40 days
2-Methylnaphthalene	EPA 8270C SIM	5	1.4	30 g	brass liner or glass jar	14 days / 40 days
Naphthalene	EPA 8270C SIM	5	1.1	30 g	brass liner or glass jar	14 days / 40 days
Phenanthrene	EPA 8270C SIM	5	1	30 g	brass liner or glass jar	14 days / 40 days
Pyrene	EPA 8270C SIM	5	1.2	30 g	brass liner or glass jar	14 days / 40 days
TPH-d / TPH-mo w/ SGC (mg/kg) - Soil						
TPH-d	EPA 8015B	1	0.83	30 g	brass liner or glass jar	14 days / 40 days
TPH-mo	EPA 8015B	5	1.7	30 g	brass liner or glass jar	14 days / 40 days
TOC (%) - Soil						
TOC	Walkley-Black	0.01	na	10 g	brass liner or glass jar	none

Notes and Abbreviations:

¹ Reporting limits (RLs) and method detection limits (MDLs) are wet weight limits. Dry weight limits will increase based on moisture content of the sample. Due to sample matrix interferences, laboratory method RLs may not meet the regulatory comparative values for select chemical compounds. Therefore, all analytical results with elevated RLs may be reported using the MDLs.

² One 16-oz glass jar is sufficient to cover all sample analyses. Sampling containers will be supplied by the laboratory.

³ Hold times given as a fraction x/y mean x days from collection to extraction and y days from extraction to analysis.

EPA = United States Environmental Protection Agency

PCB = Polychlorinated Biphenyls

PAHs = Polyaromatic Hydrocarbons

SGC = Silica Gel Cleanup

SIM = Selective Ion Monitoring

TPHd = Total Petroleum Hydrocarbons as diesel

TPHmo = Total Petroleum Hydrocarbons as motor oil

TOC = Total Organic Carbon

mg/kg = milligrams per kilogram

µg/kg = micrograms per kilogram

g = grams

/ = per

oz = ounce

na = not applicable

TABLE 5
Field Observations

Location			Soil									Other (Debris, Roots Shells, Etc.)		
Grid ID	Date Advanced	Depth bgs (ft)	Vol. (%)	Type (Soil USCS Classification)	Notes	Color	Moisture (observed)	Moisture (%) ¹	GW	Odor	PID (ppm)	Vol. (%)	Type	Notes
A7	10/25/2018	0-1	>85 10	silt (ML) clay (CL)	soft	olive brown (2.5Y-4/4)	dry	17	none	none	0.0	<5	rootlets	--
		1-6	60-70 30-40	silt (ML) clay (CL)	soft, increasing clay with depth	dark yellowish brown (10YR-3/4)	dry	21	none	none	0.0	--	--	--
		6-7.5	100	clay (CL)	soft	very dark grayish brown (10YR-3/2)	moist	26	none	none	0.0	--	--	--
B7	10/24/2018	0-1	80-85 10-15	clay (CL) silt (ML)	soft	light yellowish brown (2.5Y-6/3)	dry	14	none	none	0.0	<5	rootlets	--
		1-2.5	80-85 10-15	clay (CL) silt (ML)	soft	olive brown (2.5Y-4/4)	dry to moist	14-22	none	none	0.0	--	--	--
B8	10/25/2018	0-1	80-85 10-15	clay (CL) silt (ML)	soft	olive brown (2.5Y-4/4)	dry	12	none	none	0.0	<5	rootlets	--
		1-2	100	clay (CL)	soft	dark yellowish brown (10YR-3/4)	dry to moist	--	none	none	0.0	--	--	--
		2-4	100	clay (CL)	soft	dark grayish brown (2.5Y-4/2)	moist	28	none	none	0.0	--	--	--
		4-5	100	clay (CL)	soft	dark greenish gray (GLEYS: 10GY-4/1)	very moist	35	none	none	0.0	--	--	--
B9	10/25/2018	0-2	>80 <15	silt (ML) clay (CL)	soft	olive brown (2.5Y-4/4)	dry	24	none	none	0.0	<5	rootlets	--
		2-4	>70 <30	silt (ML) clay (CL)	soft, iron-oxide mottling	olive brown (2.5Y-4/4)	dry	31	none	none	0.0	--	--	--
		4-4.5	>70 <30	silt (ML) clay (CL)	soft, iron-oxide mottling	olive brown (2.5Y-4/4)	moist	--	none	none	0.0	--	--	--
C7	10/24/2018	0-1	>80 <10	clay (CL) silt (ML)	soft	light yellowish brown (2.5Y-6/3)	dry	12	none	none	0.0	<5 <5	rootlets shell fragments	--
		1-3.5	70-80 10-20	clay (CL) silt (ML)	soft	dark yellowish brown (10YR-3/4)	dry to moist	12-21	none	none	0.0	<10	shell fragments	--
		3.5-4	>90	clay (CL)	soft, iron-oxide mottling	dark brown (10YR-3/3)	moist to very moist	21	none	none	0.0	<10	shell fragments	--

**TABLE 5
Field Observations**

Location			Soil									Other (Debris, Roots Shells, Etc.)		
Grid ID	Date Advanced	Depth bgs (ft)	Vol. (%)	Type (Soil USCS Classification)	Notes	Color	Moisture (observed)	Moisture (%) ¹	GW	Odor	PID (ppm)	Vol. (%)	Type	Notes
C8	10/25/2018	0-1	>80 <10	clay (CL) silt (ML)	soft	olive brown (2.5Y-4/4)	dry	20	none	none	0.0	<10	rootlets	--
		1-3	>10 <5 <5	clay (CL) silt (ML) sand (SP)	soft	dark yellowish brown (10YR-3/4)	dry to moist	--	none	none	0.0	--	--	--
		3-7.5	>95	clay (CL)	soft	dark greenish gray (GLEY1: 10GY-4/1)	moist to very moist	29-32	none	none	0.0	<5	shell fragments	--
D6	10/24/2018	0-1.75	>75 <20	clay (CL) silt (ML)	soft	dark yellowish brown (10YR-3/4)	dry	--	none	none	0.0	<5	rootlets	--
		1.75-4.75	60 40	gravel (GP) clay (CL)	fine to coarse subangular to subrounded gravel	dark yellowish brown (10YR-3/4)	dry	10	none	none	0.0	--	--	--
		4.75-5	60 35	gravel (GP) clay (CL)	fine to coarse subangular to subrounded gravel	dark yellowish brown (10YR-3/4)	dry	13	none	none	0.0	<5	shell fragments	--
D7	10/24/2018	0-3.5	>85 <10	clay (CL) silt (ML)	soft	dark yellowish brown (10YR-3/4)	dry to moist	14-22	none	none	0.0			
		3.5-5.75	90-95	clay (CL)	soft	dark brown (10YR-3/3)	moist	22-23	none	none	0.0	5-10	shell fragments	
		5.75-7.5	>95	clay (CL)	soft	dark greenish gray (GLEY1: 5G-4/1)	moist	37	none	none	0.0	<5	shell fragments	
D8	10/24/2018	0-1	>80 <10	clay (CL) silt (ML)	soft	light yellowish brown (2.5Y-6/3)	dry	11	none	none	0.0	<10	rootlets	--
		1-3.5	>90 <10	clay (CL) silt (ML)	soft	dark brown (10YR-3/3)	dry to moist	--	none	none	0.0	--	--	--
		3.5-4	100	clay (CL)	soft	dark brown (10YR-3/3)	moist	29	none	none	0.0	--	--	
		4-4.5	100	clay (CL)	soft	dark greenish gray (GLEY1: 5G-4/1)	moist to very moist	29	none	none	0.0	--	--	--
E7	10/24/2018	0-1	>90 <5	clay (CL) silt (ML)	soft	dark yellowish brown (10YR-3/4)	dry	12	none	none	0.0	<5	rootlets	--
		1-5.5	>90 <5 <5	clay (CL) gravel (GP) silt (ML)	soft, fine subrounded gravel	dark yellowish brown (10YR-3/4)	dry to moist	15-19	none	none	0.0	--	--	--

**TABLE 5
Field Observations**

Location			Soil									Other (Debris, Roots Shells, Etc.)		
Grid ID	Date Advanced	Depth bgs (ft)	Vol. (%)	Type (Soil USCS Classification)	Notes	Color	Moisture (observed)	Moisture (%) ¹	GW	Odor	PID (ppm)	Vol. (%)	Type	Notes
E8	10/24/2018	0-1	70-80 10-20	clay (CL) silt (ML)	soft	very pale yellow (10YR-7/4)	dry	13	none	none	0.0	<10	rootlets	--
		1-4.25	100	clay (CL)	soft	dark yellowish brown (10YR-3/4) to dark brown (10YR-3/3)	dry to moist	13-26	none	none	0.0	--	--	--
		4.25-4.5	100	clay (CL)	soft	dark greenish gray (GLEY1: 10GY-4/1)	very moist	26	none	none	0.0	--	--	--

Notes and Abbreviations:

1. Moisture content was measured by the analytical laboratory by ASTM D2216-98/CLP
 USCS = Unified Soil Classification System
 ID = Identification
 bgs = below ground surface
 ft = feet
 % = percent

GW = Groundwater
 Vol. = Volume
 PID = Photoionization detector
 ppm = parts per million
 -- = not observed

**TABLE 6
Soil Sample Analytical Results for Metals**

Sample ID	Sample Elevation (feet)	Sample Location Type	Primary Sample	Analyte	Moisture, Percent	Metals																															
				Units	%	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc															
				Laboratory Method	ASTM D2216-98/CLP	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg													
				Sample Date		EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 7471A	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020													
A7-12.0	12.0	Cut	--	10/25/2018	17	0.36 J	14	66	0.82	0.64 J	110	16	60	37	0.36	1.1	100	0.81 J	0.41 J	0.27 J	89	140															
FD-3	12.0	Cut	A7-12.0	10/25/2018	17	0.31 J	12	64	0.83	0.64 J	110	16	54	34	0.36	1.1	99	0.85 J	0.42 J	0.24 J	86	130															
A7-9.0	9.0	Cut	--	10/25/2018	21	0.37 J	11	73	0.57 J	0.50 J	110	12	43	26	0.18	1.2	87	0.58 J	0.28 J	0.14 J	79	89															
A7-5.5	5.5	Marsh	--	10/25/2018	26	0.34 J	9.3	77	0.60 J	0.64 J	110	15	65	25	0.17	0.96	97	0.67 J	0.43 J	0.38	75	94															
B7-8.0	8.0	Cut	--	10/24/2018	14	0.27 J	11	55	0.27 J	0.21 J	85	7.0	23	8.8	0.093	0.94	68	0.43 J	0.26 J	0.15 J	53	56															
B7-6.5	6.5	Marsh	--	10/24/2018	22	0.54 J	14	62	0.49 J	0.71 J	100	16	29	15	0.17	0.95	120	0.58 J	0.39 J	0.15 J	58	80															
B8-8.5	8.5	Cut	--	10/25/2018	12	0.32 J	11	59	0.47 J	0.53 J	87	17	24	12	0.14	0.74	100	0.56 J	0.24 J	0.13 J	54	72															
B8-6.5	6.5	Cut	--	10/25/2018	28	0.41 J	9.5	60	0.71 J	0.54 J	96	15	34	11	0.11	0.87	92	0.58 J	0.19 J	0.14 J	69	85															
FD-2	6.5	Cut	B8-6.5	10/25/2018	29	0.41 J	9.8	77	0.54 J	0.36 J	100	14	34	12	0.10	0.92	96	0.63 J	0.18 J	0.14 J	69	80															
B8-4.5	4.5	Marsh	--	10/25/2018	35	0.18 J	9.9	50	0.55 J	0.45 J	86	18	30	9.1	0.083	0.87 J	92	0.46 J	0.11 J	0.15 J	64	73															
B9-8.5	8.5	Cut	--	10/25/2018	24	0.34 J	12	60	0.61 J	0.47 J	110	13	42	24	0.16	2.2	89	0.69 J	0.24 J	0.15 J	81	94															
B9-6.5	6.5	Marsh	--	10/25/2018	31	0.36 J	11	73	0.58 J	0.52 J	110	12	45	25	0.15	1.8	87	0.69 J	0.35 J	0.17 J	81	90															
C7-9.0	9.0	Cut	--	10/24/2018	12	0.83 J	11	63	0.43 J	0.32 J	100	12	28	13	0.16	0.90	110	0.47 J	0.30 J	0.12 J	55	65															
C7-6.0	6.0	Marsh	--	10/24/2018	21	1.7 J	11	72	0.61 J	0.48 J	100	15	33	44	0.22	1.6	130	0.48 J	0.51 J	0.14 J	55	89															
C8-8.0	8.0	Cut	--	10/25/2018	20	0.48 J	10	64	0.43 J	0.40 J	100	11	35	15	0.15	0.82	79	0.53 J	0.45 J	0.16 J	64	81															
C8-5.0	5.0	Cut	--	10/25/2018	29	0.49 J	9.6	77	0.60 J	0.51 J	100	18	33	26	0.25	0.66 J	110	0.43 J	0.42 J	0.14 J	61	85															
C8-2.0	2.0	Marsh	--	10/25/2018	32	0.25 J	8.5	45	0.52 J	0.41 J	94	16	24	7.7	0.061	0.59 J	93	0.35 J	0.089 J	0.13 J	56	60															
D6-8.0	8.0	Cut	--	10/24/2018	10	1.1 J	10	110	0.64 J	0.49 J	75	21	20	9.8	0.080	0.48 J	97	0.45 J	0.16 J	< 0.092 ND	40	53															
D6-6.0	6.0	Marsh	--	10/24/2018	13	1.5 J	12	160	0.65 J	0.31 J	81	21	18	9.7	0.054	0.38 J	93	0.34 J	0.069 J	< 0.10 ND	46	38															
D7-9.0	9.0	Cut	--	10/24/2018	14	0.38 J	9.5	60	0.50 J	0.40 J	110	14	31	17	0.16	0.69 J	120	0.53 J	0.36 J	0.12 J	54	80															
D7-6.0	6.0	Cut	--	10/24/2018	22	0.27 J	8.8	48	0.44 J	0.60 J	70	13	32	14	0.46	0.75 J	73	0.45 J	0.51 J	0.16 J	46	84															
D7-4.0	4.0	Cut	--	10/24/2018	23	0.36 J	10	40	0.48 J	0.62 J	74	14	22	7.6	0.10	0.53 J	74	0.47 J	0.13 J	0.19 J	49	55															
D7-2.5	2.5	Marsh	--	10/24/2018	37	0.17 J	8.0	74	0.63 J	0.43 J	110	14	40	17	0.21	0.96 J	100	0.57 J	0.26 J	0.14 J	72	80															
D8-9.0	9.0	Cut	--	10/24/2018	11	1.3 J	9.7	59	0.45 J	0.37 J	90	10	27	13	0.14	0.65 J	83	0.43 J	0.27 J	0.16 J	50	65															
D8-5.5	5.5	Marsh	--	10/24/2018	29	0.31 J	9.8	46	0.54 J	0.46 J	85	16	27	8.1	0.081	0.86	84	0.55 J	0.16 J	0.14 J	72	67															
E7-9.5	9.5	Cut	--	10/24/2018	12	0.27 J	10	56	0.32 J	0.32 J	81	8.7	29	16	0.20	0.62 J	71	0.35 J	0.43 J	0.12 J	48	75															
E7-7.0	7.0	Cut	--	10/24/2018	15	0.19 J	9.6	46	0.46 J	0.30 J	75	13	25	8.9	0.075	0.53 J	66	0.45 J	0.12 J	0.12 J	49	60															
E7-5.0	5.0	Marsh	--	10/24/2018	19	0.78 J	8.9	73	0.71 J	0.47 J	220	29	36	13	0.16	0.63 J	330	0.53 J	0.13 J	< 0.10 ND	62	98															
FD-1	5.0	Marsh	E7-5.0	10/24/2018	19	1.1 J	8.9	72	0.62 J	0.42 J	220	27	35	10	0.16	0.63 J	330	0.52 J	0.12 J	< 0.099 ND	59	79															
E8-9.5	9.5	Cut	--	10/24/2018	13	0.17 J	11	53	0.33 J	0.34 J	85	8.8	33	17	0.17	0.64 J	70	0.43 J	0.34 J	0.14 J	56	68															
E8-6.0	6.0	Marsh	--	10/24/2018	26	0.15 J	7.7	66	0.55 J	0.47 J	100	11	35	21	0.084	0.71 J	82	0.51 J	0.27 J	0.12 J	62	72															
Beneficial Reuse and Human Health Comparative Values																																					
San Francisco Bay Ambient, 90% UTL				ne		13.9		103		ne		0.33		141		20.1		53.9		25.1		0.33		0.75		98.3		0.36		0.32		ne		ne		136	
Marin County Ambient 90% UTL				ne		18.1		77.0		ne		0.34		129		20.2		1570		29.3		0.34		0.92		110		0.36		0.30		ne		ne		ne	
San Francisco Ambient Average				ne		8.7		66.8		ne		0.21		98.0		14.7		39.0		19.5		0.33		0.50		78.5		0.23		0.19		ne		ne		104	
Marin County Ambient Average				ne		12.2		51.1		ne		0.21		86.8		14.4		39.0 *		20.7		0.28		0.48		87.3		0.27		0.16		ne		ne		114	
ER-L (1995, 1998)				ne		8.2		ne		ne		1.2		81.0		ne		34.0		46.7		0.15		ne		20.9		ne		1.0		ne		ne		150	
ER-M (1995, 1998)				ne		70.0		ne		ne		9.6		370		ne		270		218		0.71		ne		51.6		ne		3.7		ne		ne		410	
SFRWQCB 2016 Residential Direct Exposure ESLs				31.0		0.067		15,000		150		39.0		ne		23.0		3,100		80.0		13.0		390		820		390		390		700		140,000		23,000	
TTLC				500		500		10,000		75.0		100		2,500		8,000		2,500		1,000		20.0		3,500		2,000		100.0		500		700		2,400		5,000	
Combined Cut and Marsh Dataset Statistics																																					
Frequency of Detections (%) ¹				100%		100%		100%		100%		100%		100%		100%		100%		100%		100%		100%		100%		100%		89%		100%		100%			
Frequency of results above ER-L or San Francisco Bay Ambient Average (%) ¹				--		89%		36%		--		0%		50%		43%		21%		0%		7%		93%		79%		100%		0%		--		--		0%	
Maximum Detected Value ^{1,2}				1.7		14		160		0.83		0.71		220		28		65		44		0.46		2.2		330		0.83		0.51		0.38		87.5		135	
Minimum Detected Value ^{1,2}				0.15		7.7		40		0.27		0.21		70		7.0		18		7.6		0.054		0.38		66		0.34		0.069		0.12		40		38	
Average including Non-Detects ^{1,2}				0.51		10.2		66.2		0.53		0.46		90.4		14.5		32.8		16.7		0.16		0.88		99.9		0.51		0.28		0.15		60.6		76.1	
90% Upper Tolerance Limit ^{1,3}				--		12.6		118		--		0.65		110		21.7		51		32.0		0.31		1.56		138		0.70		0.50		--		--		--	
95% Upper Confidence Limit ^{1,2}				--		10.7		73.6		--		0.50		107.1		15.9		36.5		19.9		0.19		1.01		115.4		0.55		0.32		--		--		--	
Number of Times the 95% UCL is above the ER-L (if below, result is in parentheses)				--		1.3		--		--		(0.41)		1.3		--		1.07		(0.43)		1.3		--		5.5		--		(0.32)		--		--		--	
Cut Sample Statistics																																					
Maximum Detected Value ^{1,2}				--		13.0		110		--		0.64		110		21		57		35.5		0.46		2.2		120		0.83		0.51		--		--		--	
Minimum Detected Value ^{1,2}				--		8.8		40		--		0.21		70		7.0		20		7.6		0.075		0.48		66		0.35		0.12		--		--		--	
Average including Non-Detects ^{1,2}				--		10.4		62.1		--		0.44		92		13.1		31.6		16.2		0.18		0.84		87.7		0.51		0.30		--		--		--	
90% Upper Tolerance Limit ^{1,3}				--		12.3		90		--		0.66		117		19.6		48.3		31.1		0.36		1.53		118		0.73		0.52		--		--		--	
95% Upper Confidence Limit ^{1,2}				--		10.9		68.7		--		0.49		98		14.6		35.5		20.1		0.23		1.02		94.7		0.57		0.35		--		--		--	
Number of Times the 95% UCL is above the ER-L (if below, result is in parentheses)				--		1.3		--		--		(0.41)		1.2		--		1.0		(0.43)		1.5		--		4.5		--		(0.35)		--		--		--	

TABLE 6
Soil Sample Analytical Results for Metals

Sample ID	Sample Elevation (feet)	Sample Location Type	Primary Sample	Analyte	Moisture, Percent	Metals																	
				Units	%	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	
				Laboratory Method	ASTM D2216-98/CLP	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020	EPA 6020
				Sample Date																			
Marsh Sample Statistics																							
Maximum Detected Value ^{1,2}				--	14.0	160	--	0.71	220	28	65	44	0.22	1.8	330	0.69	0.51	--	--	--			
Minimum Detected Value ^{1,2}				--	7.7	45	--	0.31	81	11	18	7.7	0.054	0.38	82	0.34	0.069	--	--	--			
Average including Non-Detects ^{1,2}				--	10.0	72.5	--	0.48	108.7	16.5	34.7	17.6	0.13	0.94	118.9	0.52	0.25	--	--	--			
90% Upper Tolerance Limit ^{1,3}				--	13.8	160	--	0.70	220	28.9	59.8	35.5	0.25	1.78	330	0.75	0.56	--	--	--			
95% Upper Confidence Limit ^{1,2}				--	11.0	89.6	--	0.54	120.7	19.1	41.2	23.5	0.16	1.17	158.4	0.58	0.33	--	--	--			
Number of Times the 95% UCL is above the ER-L (if below, result is in parentheses)				--	1.3	--	--	(0.45)	1.6	--	1.2	(0.5)	1.1	--	7.6	--	(0.33)	--	--	--			

Notes and Abbreviations

mg/kg = milligrams per kilogram
 % = Percent
 MDL = Method detection limit
 UTL = Upper tolerance limit
 UCL = Upper confidence limit

J = Estimated value
 ND = Not detected above the method detection limit (< MDL)
 ne = Not established
 -- = Not Calculated
 < = Analyte was not detected above the method detection limit

Each sample ID (example: A7-12.0) consists of the grid cell identification of the sample location (A7) followed by the topmost elevation of the 1-foot sample interval in feet (12.0). Each field duplicate sample ID (example: FD-1) consists of "FD" (field duplicate) followed by sequential numbering (1).

* = San Francisco Ambient Average value was used in place of the Marin County Ambient value, as the San Francisco Ambient Average value is more stringent.

TTL = Total Threshold Limit Concentration for defining a waste as a California hazardous waste. TTL values are from CCR, Title 22, Chapter 11, Article 3, Section 66261.24.

San Francisco Bay Sediment Ambient, 90% UTL = Ambient concentrations for San Francisco Bay sediments. San Francisco Estuary Institute (SFEI). Yee, D., Trowbridge, P., and J. Sun. 2015. Updated ambient concentrations of toxic chemicals in San Francisco Bay sediments.

Unpublished values were calculated based on data published in the Regional Monitoring Program for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

Marin County Ambient, 90% UTL = Calculated 90% UTL using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

San Francisco Bay and Marin County Ambient Average = Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

ER-L = Effects Range Low. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management Vol. 19, No. 1, pp. 81-97.

ER-M = Effects Range-Median. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management Vol. 19, No. 1, pp. 81-97.

ESLs = Environmental Screening Level for Direct Exposure (Residential Scenario). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table S-1. February 2016.

1. Primary and field duplicates were accounted for as one sample using the average value.

2. Maximum, minimum, average and 95% UCL values are compared to the respective ER-L, ER-M, and ESL. Average calculated using half the detection limit value for non-detects.

3. 90% UTLs are compared to the respective San Francisco Bay Ambient 90% UTL and Marin County Ambient 90% UTL.

Comparative Value Formatting Key for Individual Samples

Bolded indicates an individual sample location result exceeds either the ER-L and/or the San Francisco Bay Ambient Average (the higher of the two being selected for comparison).

Comparative Value Formatting Key for Statistics

Blue Bolded indicates a 90% Upper Threshold Limit exceeds the Marin County Ambient 90% UTL.

Highlighted indicates a 90% Upper Threshold Limit exceeds the San Francisco Bay Ambient 90% UTL.

Green Bolded indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the San Francisco Ambient.

Highlighted indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the ER-L.

Highlighted indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the ER-M.

Red Bolded indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the Residential Direct Exposure ESLs.

TABLE 7
Soil Sample Analytical Results for Polychlorinated Biphenyls (PCBs)

Sample ID	Sample Elevation (feet)	Sample Location Type	Primary Sample	Analyte	Moisture, Percent	PCBs		
				Units	%	Aroclor-1254	Aroclor-1260	Total PCBs
				Laboratory Method	ASTM D2216-98/CLP	µg/kg	µg/kg	µg/kg
				Sample Date		EPA 8082	EPA 8082	Sum of Detected Aroclors ¹
A7-12.0	12.0	Cut	--	10/25/2018	17	< 3.3 ND	12 J	12
FD-3	12	Cut	A7-12.0	10/25/2018	17	< 3.3 ND	6.2 J	6.2
A7-9.0	9	Cut	--	10/25/2018	21	< 3.5 ND	14 J	14
A7-5.5	5.5	Marsh	--	10/25/2018	26	< 4.5 ND	< 4.3 ND	< 4.5 ND
B7-8.0	8	Cut	--	10/24/2018	14	< 3.8 ND	< 3.6 ND	< 3.8 ND
B7-6.5	6.5	Marsh	--	10/24/2018	22	< 4.2 ND	5.4 J	5.4
B8-8.5	8.5	Cut	--	10/25/2018	12	< 6.3 ND	< 8.1 ND	< 8.1 ND
B8-6.5	6.5	Cut	--	10/25/2018	28	< 3.9 ND	< 5.0 ND	< 5.0 ND
FD-2	6.5	Cut	B8-6.5	10/25/2018	29	< 3.9 ND	< 5.0 ND	< 5.0 ND
B8-4.5	4.5	Marsh	--	10/25/2018	35	< 4.3 ND	< 5.5 ND	< 5.5 ND
B9-8.5	8.5	Cut	--	10/25/2018	24	< 3.6 ND	< 4.6 ND	< 4.6 ND
B9-6.5	6.5	Marsh	--	10/25/2018	31	< 4.8 ND	< 4.6 ND	< 4.8 ND
C7-9.0	9	Cut	--	10/24/2018	12	< 3.7 ND	< 3.6 ND	< 3.7 ND
C7-6.0	6	Marsh	--	10/24/2018	21	< 4.2 ND	12 J	12
C8-8.0	8	Cut	--	10/25/2018	20	< 4.3 ND	10 J	10
C8-5.0	5	Cut	--	10/25/2018	29	< 3.9 ND	25	25
C8-2.0	2	Marsh	--	10/25/2018	32	< 4.0 ND	< 5.2 ND	< 5.2 ND
D6-8.0	8	Cut	--	10/24/2018	10	< 3.7 ND	< 3.5 ND	< 3.7 ND
D6-6.0	6	Marsh	--	10/24/2018	13	< 3.8 ND	< 3.6 ND	< 3.8 ND
D7-9.0	9	Cut	--	10/24/2018	14	< 3.9 ND	< 3.7 ND	< 3.9 ND
D7-6.0	6	Cut	--	10/24/2018	22	47	14 J	61
D7-4.0	4	Cut	--	10/24/2018	23	< 1.8 ND	< 2.3 ND	< 2.3 ND
D7-2.5	2.5	Marsh	--	10/24/2018	37	< 5.2 ND	< 5.0 ND	< 5.2 ND
D8-9.0	9	Cut	--	10/24/2018	11	< 3.7 ND	6.6 J	6.6
D8-5.5	5.5	Marsh	--	10/24/2018	29	< 4.6 ND	< 4.4 ND	< 4.6 ND
E7-9.5	9.5	Cut	--	10/24/2018	12	< 3.7 ND	4.9 J	4.9
E7-7.0	7	Cut	--	10/24/2018	15	< 3.9 ND	< 3.7 ND	< 3.9 ND
E7-5.0	5	Marsh	--	10/24/2018	19	< 4.1 ND	< 4.0 ND	< 4.1 ND
FD-1	5	Marsh	E7-5.0	10/24/2018	19	< 4.1 ND	< 4.0 ND	< 4.1 ND
E8-9.5	9.5	Cut	--	10/24/2018	13	< 3.8 ND	10 J	10
E8-6.0	6	Marsh	--	10/24/2018	26	< 4.5 ND	< 4.3 ND	< 4.5 ND
Beneficial Reuse and Human Health Comparative Values								
San Francisco Bay Ambient, 90% UTL						ne	ne	18.3
Marin County Regional 90% UTL						ne	ne	8.7
San Francisco Bay Ambient Average						ne	ne	9.0
Marin County Ambient Average						ne	ne	6.4
ER-L (1995, 1998)						ne	ne	22.7
ER-M (1995, 1998)						ne	ne	180
SFRWQCB 2016 Residential Direct Exposure ESLs						ne	ne	250
TTLC						ne	ne	50,000
Combined Cut and Marsh Dataset Statistics								
Frequency of Detections (%) ²						4%	36%	36%
Frequency of results above ER-L or San Francisco Bay Ambient Average (%) ²						--	--	7%
Maximum Detected Value ^{2,3}						47	25	47
Minimum Detected Value ^{2,3}						47	4.9	4.9
Average including Non-Detects ^{2,3}						4	5.4	7.1
90% Upper Tolerance Limit ^{2,4}						--	--	22.2
95% Upper Confidence Limit ^{2,3}						--	--	13.6
Number of Times the 95% UCL is above the ER-L (if below, result is in parentheses)						--	--	(0.08)

TABLE 7
Soil Sample Analytical Results for Polychlorinated Biphenyls (PCBs)

Sample ID	Sample Elevation (feet)	Sample Location Type	Primary Sample	Analyte	Moisture, Percent	PCBs		
				Units	%	Aroclor-1254	Aroclor-1260	Total PCBs
				Laboratory Method	ASTM D2216-98/CLP	µg/kg	µg/kg	µg/kg
				Sample Date		EPA 8082	EPA 8082	Sum of Detected Aroclors ¹
Cut Sample Statistics								
Maximum Detected Value ^{2,3}						--	--	3.1
Minimum Detected Value ^{2,3}						--	--	4.9
Average including Non-Detects ^{2,3}						--	--	9.4
90% Upper Tolerance Limit ^{2,4}						--	--	30.6
95% Upper Confidence Limit ^{2,3}						--	--	22.0
Number of Times the 95% UCL is above the ER-L (if below, result is in parentheses)						--	--	(0.12)
Marsh Sample Statistics								
Maximum Detected Value ^{2,3}						--	--	12
Minimum Detected Value ^{2,3}						--	--	5.4
Average including Non-Detects ^{2,3}						--	--	3.5
90% Upper Tolerance Limit ^{2,4}						--	--	12.0
95% Upper Confidence Limit ^{2,3}						--	--	9.1
Number of Times the 95% UCL is above the ER-L (if below, result is in parentheses)						--	--	(0.05)

Notes and Abbreviations:

µg/kg = Micrograms per kilogram

% = Percent

MDL = Method detection limit

UTL = Upper tolerance limit

UCL = Upper confidence limit

Each sample ID (example: A7-12.0) consists of the grid cell identification of the sample location (A7) followed by the topmost elevation of the

1-foot sample interval in feet (12.0). Each field duplicate sample ID (example: FD-1) consists of "FD" (field duplicate) followed by sequential numbering (1).

TTL = Total Threshold Limit Concentration for defining a waste as a California hazardous waste. TTL values are from CCR, Title 22, Chapter 11, Article 3, Section 66261.1.

San Francisco Bay Sediment Ambient, 90% UTL = Ambient concentrations for San Francisco Bay sediments. San Francisco Estuary Institute (SFEI). Yee, D., Trowbridge, P., and J. Sun. 2015. Updated ambient concentrations of toxic chemicals in San Francisco Bay sediments. Unpublished values were calculated based on data published in the Regional Monitoring Program for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

Marin County Ambient, 90% UTL = Calculated 90% UTL using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

San Francisco Bay and Marin County Ambient Average = Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

ER-L = Effects Range Low. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management Vol. 19, No. 1, pp. 81-97.

ER-M = Effects Range-Median. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management Vol. 19, No. 1, pp. 81-97.

ESLs = Environmental Screening Level for Direct Exposure (Residential Scenario). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table S-1. February 2016.

1. Sum calculated using detected value(s). In case of no detections for the analytes, the highest non-detect value was selected.
2. Primary and field duplicates were accounted for as one sample using the average value.
3. Maximum, minimum, average and 95% UCL values are compared to the respective ER-L, ER-M, and ESL.
4. 90% UTLs are compared to the respective San Francisco Bay Ambient 90% UTL and Marin County Ambient 90% UTL.

Comparative Value Formatting Key for Individual Samples

Bolded indicates an individual sample location result exceeds the ER-L.

Comparative Value Formatting Key for Statistics

Blue Bolded indicates a 90% Upper Threshold Limit exceeds the Marin County Ambient 90% UTL.

Highlighted indicates a 90% Upper Threshold Limit exceeds the San Francisco Bay Ambient 90% UTL.

Green Bolded indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the San Francisco Bay Ambient.

Highlighted indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the ER-L.

Highlighted indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the ER-M.

Red Bolded indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the Residential Direct Exposure ESLs.

TABLE 8
Soil Sample Analytical Results for Total Petroleum Hydrocarbons (TPH)

Sample ID	Sample Elevation (feet)	Sample Location Type	Primary Sample	Analyte	Moisture, Percent	TPH		
				Units	%	Diesel C10-C24		Motor Oil C24-C36
				Laboratory Method	ASTM D2216-98/CLP	mg/kg		mg/kg
				Sample Date		EPA 8015B	EPA 8015B	
A7-12.0	12	Cut	--	10/25/2018	17	6.5	Y	53
FD-3	12	Cut	A7-12.0	10/25/2018	17	6.8	Y	65
A7-9.0	9	Cut	--	10/25/2018	21	3.0	Y	24
A7-5.5	5.5	Marsh	--	10/25/2018	26	5.0	Y	31
B7-8.0	8	Cut	--	10/24/2018	14	12	Y	81
B7-6.5	6.5	Marsh	--	10/24/2018	22	16	Y	70
B8-8.5	8.5	Cut	--	10/25/2018	12	7.0	Y	36
B8-6.5	6.5	Cut	--	10/25/2018	28	1.6	Y	18
FD-2	6.5	Cut	B8-6.5	10/25/2018	29	1.8	Y	21
B8-4.5	4.5	Marsh	--	10/25/2018	35	3.9	Y	21
B9-8.5	8.5	Cut	--	10/25/2018	24	2.2	Y	21
B9-6.5	6.5	Marsh	--	10/25/2018	31	1.9	Y	16
C7-9.0	9	Cut	--	10/24/2018	12	5.5	Y	31
C7-6.0	6	Marsh	--	10/24/2018	21	17	Y	88
C8-8.0	8	Cut	--	10/25/2018	20	6.5	Y	39
C8-5.0	5	Cut	--	10/25/2018	29	6.7	Y	32
C8-2.0	2	Marsh	--	10/25/2018	32	4.5	Y	13
D6-8.0	8	Cut	--	10/24/2018	10	3.8	YZ	14
D6-6.0	6	Marsh	--	10/24/2018	13	0.54	JY	5.7 J
D7-9.0	9	Cut	--	10/24/2018	14	4.9	Y	36
D7-6.0	6	Cut	--	10/24/2018	22	28	Y	99
D7-4.0	4	Cut	--	10/24/2018	23	3.8	Y	14
D7-2.5	2.5	Marsh	--	10/24/2018	37	9.5	Y	26
D8-9.0	9	Cut	--	10/24/2018	11	2.9	Y	35
D8-5.5	5.5	Marsh	--	10/24/2018	29	2.1	Y	12
E7-9.5	9.5	Cut	--	10/24/2018	12	35	Y	310
E7-7.0	7	Cut	--	10/24/2018	15	3.1	Y	28
E7-5.0	5	Marsh	--	10/24/2018	19	3.5	Y	14
FD-1	5	Marsh	E7-5.0	10/24/2018	19	5.2	Y	22
E8-9.5	9.5	Cut	--	10/24/2018	13	6.4	Y	40
E8-6.0	6	Marsh	--	10/24/2018	26	5.3	Y	31
Beneficial Reuse and Human Health Comparative Values								
San Francisco Bay Ambient, 90% UTL						ne		ne
Marin County Regional 90% UTL						ne		ne
San Francisco Bay Ambient Average						ne		ne
Marin County Ambient Average						ne		ne
ER-L (1995, 1998)						ne		ne
ER-M (1995, 1998)						ne		ne
SFRWQCB 2016 Residential Direct Exposure ESLs						230		11,000
TTLC						ne		ne
Combined Cut and Marsh Dataset Statistics								
Frequency of Detections (%) ¹						100%		100%
Frequency of results above ER-L or San Francisco Bay Ambient Average (%) ¹						0%		0%
Maximum Detected Value ^{1,2}						35		310
Minimum Detected Value ^{1,2}						0.54		5.7
Average including Non-Detects ^{1,2}						7		45
90% Upper Tolerance Limit ^{1,3}						--		--
95% Upper Confidence Limit ^{1,2}						--		--
Number of Times the 95% UCL is above the ER-L						--		--

TABLE 8
Soil Sample Analytical Results for Total Petroleum Hydrocarbons (TPH)

Sample ID	Sample Elevation (feet)	Sample Location Type	Primary Sample	Analyte	Moisture, Percent	TPH	
				Units	%	Diesel C10-C24	Motor Oil C24-C36
				Laboratory Method	ASTM D2216-98/CLP	mg/kg	mg/kg
				Sample Date		EPA 8015B	EPA 8015B
Cut Sample Statistics							
Maximum Detected Value ^{1,2}						--	--
Minimum Detected Value ^{1,2}						--	--
Average including Non-Detects ^{1,2}						--	--
90% Upper Tolerance Limit ^{1,3}						--	--
95% Upper Confidence Limit ^{1,2}						--	--
Number of Times the 95% UCL is above the ER-L						--	--
Marsh Sample Statistics							
Maximum Detected Value ^{1,2}						--	--
Minimum Detected Value ^{1,2}						--	--
Average including Non-Detects ^{1,2}						--	--
90% Upper Tolerance Limit ^{1,3}						--	--
95% Upper Confidence Limit ^{1,2}						--	--
Number of Times the 95% UCL is above the ER-L						--	--

Notes and Abbreviations:

mg/kg = Milligrams per kilogram

% = Percent

MDL = Method detection limit

UTL = Upper tolerance limit

UCL = Upper confidence limit

J = Estimated Value

< = Analyte was not detected above the method detection limit

ND = Not detected above the method detection limit (< MDL)

Y = Sample exhibits chromatographic pattern which does not resemble standard

ne = Not established

-- = Not calculated

Z = Sample exhibits unknown single peak or peaks

Each sample ID (example: A7-12.0) consists of the grid cell identification of the sample location (A7) followed by the topmost elevation of the

1-foot sample interval in feet (12.0). Each field duplicate sample ID (example: FD-1) consists of "FD" (field duplicate) followed by sequential numbering (1).

TTLC = Total Threshold Limit Concentration for defining a waste as a California hazardous waste. TTLC values are from CCR, Title 22, Chapter 11, Article 3, Section 6. San Francisco Bay Sediment Ambient, 90% UTL = Ambient concentrations for San Francisco Bay sediments. San Francisco Estuary Institute (SFEI). Yee, D., Trowbridge and J. Sun. 2015. Updated ambient concentrations of toxic chemicals in San Francisco Bay sediments. Unpublished values were calculated based on data published in the Regional Monitoring Program for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

Marin County Ambient, 90% UTL = Calculated 90% UTL using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

San Francisco Bay and Marin County Ambient Average = Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

ER-L = Effects Range Low. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management Vol. 19, No. 1, pp. 81-97.

ER-M = Effects Range-Median. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management Vol. 19, No. 1, pp. 81-97.

ESLs = Environmental Screening Level for Direct Exposure (Residential Scenario). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table S-1. February 2016.

1. Primary and field duplicates were accounted for as one sample using the average value.

2. Maximum, minimum, average and 95% UCL values are compared to the respective ER-L, ER-M, and ESL.

3. 90% UTLs are compared to the respective San Francisco Bay Ambient 90% UTL and Marin County Ambient 90% UTL.

Comparative Value Formatting Key for Individual Samples

Bolded indicates an individual sample location result exceeds the ER-L.

Comparative Value Formatting Key for Statistics

Blue Bolded indicates a 90% Upper Threshold Limit exceeds the Marin County Ambient 90% UTL.

Highlighted indicates a 90% Upper Threshold Limit exceeds the San Francisco Bay Ambient 90% UTL.

Green Bolded indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the San Francisco Bay Ambient.

Highlighted indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the ER-L.

Highlighted indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the ER-M.

Red Bolded indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the Residential Direct Exposure ESLs.

TABLE 9
Soil Sample Analytical Results for Total Organic Carbon

Sample ID	Sample Elevation (feet)	Sample Location Type	Primary Sample	Analyze	Moisture, Percent	Total Organic Carbon
				Units	%	%
				Laboratory Method	ASTM D2216-98/CLP	Walkley-Black
				Sample Date		
A7-12.0	12	Cut	--	10/25/2018	17	1.0
FD-3	12	Cut	A7-12.0	10/25/2018	17	1.0
A7-9.0	9	Cut	--	10/25/2018	21	0.85
A7-5.5	5.5	Marsh	--	10/25/2018	26	1.0
B7-8.0	8	Cut	--	10/24/2018	14	1.3
B7-6.5	6.5	Marsh	--	10/24/2018	22	1.1
B8-8.5	8.5	Cut	--	10/25/2018	12	0.95
B8-6.5	6.5	Cut	--	10/25/2018	28	0.73
FD-2	6.5	Cut	B8-6.5	10/25/2018	29	0.77
B8-4.5	4.5	Marsh	--	10/25/2018	35	0.82
B9-8.5	8.5	Cut	--	10/25/2018	24	1.0
B9-6.5	6.5	Marsh	--	10/25/2018	31	1.1
C7-9.0	9	Cut	--	10/24/2018	12	1.3
C7-6.0	6	Marsh	--	10/24/2018	21	0.77
C8-8.0	8	Cut	--	10/25/2018	20	1.1
C8-5.0	5	Cut	--	10/25/2018	29	0.65
C8-2.0	2	Marsh	--	10/25/2018	32	0.83
D6-8.0	8	Cut	--	10/24/2018	10	0.77
D6-6.0	6	Marsh	--	10/24/2018	13	0.54
D7-9.0	9	Cut	--	10/24/2018	14	1.3
D7-6.0	6	Cut	--	10/24/2018	22	0.8
D7-4.0	4	Cut	--	10/24/2018	23	0.9
D7-2.5	2.5	Marsh	--	10/24/2018	37	1.4
D8-9.0	9	Cut	--	10/24/2018	11	1.1
D8-5.5	5.5	Marsh	--	10/24/2018	29	0.93
E7-9.5	9.5	Cut	--	10/24/2018	12	1.4
E7-7.0	7	Cut	--	10/24/2018	15	0.95
E7-5.0	5	Marsh	--	10/24/2018	19	0.77
FD-1	5	Marsh	E7-5.0	10/24/2018	19	0.77
E8-9.5	9.5	Cut	--	10/24/2018	13	1.2
E8-6.0	6	Marsh	--	10/24/2018	26	1.0
Combined Cut and Marsh Dataset Statistics						
Frequency of Detections (%) ¹						100%
Maximum Detected Value ¹						1.4
Minimum Detected Value ¹						0.54
Average ¹						1.0

Notes and Abbreviations:

% = Percent

-- = Not applicable

Values are listed as dry weight unless otherwise noted.

Each sample ID (example: A7-12.0) consists of the grid cell identification of the sample location (A7) followed by the topmost elevation of the 1-foot sample interval in feet (12.0). Each field duplicate sample ID (example: FD-1) consists of "FD" (field duplicate) followed by sequential numbering (1).

1. Primary and field duplicates were accounted for as one sample using the average value.

TABLE 10
Soil Sample Analytical Results for Polyaromatic Hydrocarbons (PAHs)

Sample ID	Sample Elevation (feet)	Sample Location Type	Primary Sample	Analyte	Moisture, Percent	PAHs																																
				Units	%	Acenaphthylene		Anthracene		Benzo(a)anthracene		Benzo(a)pyrene		Benzo(b)fluoranthene		Benzo(g,h,i)perylene		Benzo(k)fluoranthene		Chrysene		Dibenz(a,h)anthracene		Fluoranthene		Fluorene		Indeno(1,2,3-cd)pyrene		Naphthalene		Phenanthrene		Pyrene				
				Laboratory Method	ASTM D2216-98/CLP	µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg						
				Sample Date		EPA 8270C-SIM		EPA 8270C-SIM		EPA 8270C-SIM		EPA 8270C-SIM		EPA 8270C-SIM		EPA 8270C-SIM		EPA 8270C-SIM		EPA 8270C-SIM		EPA 8270C-SIM		EPA 8270C-SIM		EPA 8270C-SIM		EPA 8270C-SIM		EPA 8270C-SIM		EPA 8270C-SIM						
A7-12.0	12.0	Cut	--	10/25/2018	17	< 12	ND	< 12	ND	28	J	41	J	75	67	20	J	43	J	< 12	ND	70	< 12	ND	44	J	< 12	ND	38	J	85							
FD-3	12.0	Cut	A7-12.0	10/25/2018	17	< 12	ND	< 12	ND	23	J	37	J	70	66	18	J	37	J	< 12	ND	57	J	< 12	ND	43	J	< 12	ND	28	J	73						
A7-9.0	9.0	Cut	--	10/25/2018	21	< 13	ND	< 13	ND	17	J	30	J	40	J	39	J	< 13	ND	26	J	< 13	ND	42	J	< 13	ND	24	J	< 13	ND	26	J	54				
A7-5.5	5.5	Marsh	--	10/25/2018	26	< 14	ND	< 14	ND	< 14	ND	< 14	ND	< 14	ND	< 14	ND	< 14	ND	< 14	ND	< 14	ND	< 14	ND	< 14	ND	< 14	ND	< 14	ND	< 14	ND	< 14	ND	15	J	32
B7-8.0	8.0	Cut	--	10/24/2018	14	< 5.8	ND	< 5.8	ND	17	J	19	J	32	18	J	10	J	26	J	< 5.8	ND	24	J	< 5.8	ND	12	J	7.0	J	14	J	31					
B7-6.5	6.5	Marsh	--	10/24/2018	22	< 6.4	ND	6.6	J	19	J	24	J	41	28	J	13	J	29	J	< 6.4	ND	38	< 6.4	ND	19	J	13	J	30	J	57						
B8-8.5	8.5	Cut	--	10/25/2018	12	< 11	ND	< 11	ND	< 11	ND	< 11	ND	21	J	18	J	< 11	ND	15	J	< 11	ND	19	J	< 11	ND	< 11	ND	14	J	18	J	23	J			
B8-6.5	6.5	Cut	--	10/25/2018	28	< 14	ND	< 14	ND	14	J	20	J	24	J	22	J	< 14	ND	15	J	< 14	ND	32	J	< 14	ND	< 14	ND	< 14	ND	17	J	40	J			
FD-2	6.5	Cut	B8-6.5	10/25/2018	29	< 14	ND	< 14	ND	< 14	ND	< 14	ND	15	J	20	J	< 14	ND	< 14	ND	< 14	ND	16	J	< 14	ND	< 14	ND	< 14	ND	< 14	ND	< 14	ND	24	J	
B8-4.5	4.5	Marsh	--	10/25/2018	35	< 15	ND	< 15	ND	< 15	ND	23	J	24	J	29	J	< 15	ND	< 15	ND	< 15	ND	21	J	< 15	ND	16	J	< 15	ND	< 15	ND	< 15	ND	33	J	
B9-8.5	8.5	Cut	--	10/25/2018	24	< 13	ND	< 13	ND	28	J	47	J	60	J	58	J	17	J	38	J	< 13	ND	62	J	< 13	ND	38	J	< 13	ND	29	J	80				
B9-6.5	6.5	Marsh	--	10/25/2018	31	< 14	ND	< 14	ND	20	J	44	J	51	J	60	J	15	J	28	J	< 14	ND	50	J	< 14	ND	37	J	< 14	ND	21	J	72	J			
C7-9.0	9.0	Cut	--	10/24/2018	12	< 5.7	ND	< 5.7	ND	10	J	15	J	25	J	22	J	< 5.7	ND	15	J	< 5.7	ND	20	J	< 5.7	ND	13	J	6.8	J	16	J	26	J			
C7-6.0	6.0	Marsh	--	10/24/2018	21	< 13	ND	< 13	ND	< 13	ND	21	J	29	J	31	J	< 13	ND	20	J	< 13	ND	26	J	< 13	ND	17	J	22	J	27	J	39	J			
C8-8.0	8.0	Cut	--	10/25/2018	20	< 13	ND	< 13	ND	13	J	21	J	33	J	31	J	< 13	ND	21	J	< 13	ND	30	J	< 13	ND	19	J	15	J	22	J	42	J			
C8-5.0	5.0	Cut	--	10/25/2018	29	< 14	ND	< 14	ND	< 14	ND	16	J	21	J	16	J	< 14	ND	< 14	ND	< 14	ND	21	J	< 14	ND	< 14	ND	< 14	ND	< 14	ND	< 14	ND	30	J	
C8-2.0	2.0	Marsh	--	10/25/2018	32	< 15	ND	< 15	ND	< 15	ND	< 15	ND	< 15	ND	15	J	< 15	ND	< 15	ND	< 15	ND	< 15	ND	< 15	ND	< 15	ND	< 15	ND	< 15	ND	< 15	ND	21	J	
D6-8.0	8.0	Cut	--	10/24/2018	10	< 1.1	ND	< 1.1	ND	1.3	J	2.1	J	3.9	J	3.2	J	< 1.1	ND	2.4	J	< 1.1	ND	3.0	J	< 1.1	ND	2.1	J	< 1.1	ND	2.3	J	3.4	J			
D6-6.0	6.0	Marsh	--	10/24/2018	13	< 1.1	ND	< 1.1	ND	< 1.1	ND	1.5	J	2.3	J	2.2	J	< 1.1	ND	1.4	J	< 1.1	ND	1.7	J	< 1.1	ND	1.2	J	< 1.1	ND	1.6	J	2.2	J			
D7-9.0	9.0	Cut	--	10/24/2018	14	< 3.5	ND	< 3.5	ND	10	J	16	J	29	29	7.9	J	19	4.1	J	23	< 3.5	ND	17	J	6.0	J	20	20	33	33							
D7-6.0	6.0	Cut	--	10/24/2018	22	8.2	J	8.5	J	32	45	65	39	21	50	9.4	J	61	< 3.9	ND	34	< 3.9	ND	24	71													
D7-4.0	4.0	Cut	--	10/24/2018	23	< 1.3	ND	1.3	J	4.2	J	5.7	J	7.0	5.6	J	1.9	J	5.7	J	< 1.3	ND	8.9	< 1.3	ND	3.7	J	< 1.3	ND	5.2	J	11						
D7-2.5	2.5	Marsh	--	10/24/2018	37	< 8.0	ND	< 8.0	ND	8.0	J	16	J	20	J	23	J	< 8.0	ND	11	J	< 8.0	ND	19	J	< 8.0	ND	12	J	< 8.0	ND	11	J	28	J			
D8-9.0	9.0	Cut	--	10/24/2018	11	< 2.2	ND	< 2.2	ND	7.3	J	11	J	20	16	4.3	J	13	2.3	J	17	< 2.2	ND	11	J	4.2	J	11	11	21								
D8-5.5	5.5	Marsh	--	10/24/2018	29	1.4	J	2.3	J	8.0	11	12	9.1	4.0	J	10	1.5	J	15	1.5	J	6.2	J	1.9	J	13	13	22										
E7-9.5	9.5	Cut	--	10/24/2018	12	< 3.4	ND	5.1	J	21	29	47	34	13	J	30	7.3	J	42	< 3.4	ND	24	< 3.4	ND	24	4.5	J	26	47									
E7-7.0	7.0	Cut	--	10/24/2018	15	< 1.2	ND	< 1.2	ND	4.8	J	8.5	12	11	2.8	J	7.8	1.4	J	11	< 1.2	ND	6.8	1.3	J	7.1	15											
E7-5.0	5.0	Marsh	--	10/24/2018	19	< 1.2	ND	1.4	J	8.2	11	26	14	3.7	J	22	3.6	J	15	9.2	8.7	22	57	20														
FD-1	5.0	Marsh	E7-5.0	10/24/2018	19	1.9	J	1.7	J	8.0	14	26	15	5.1	J	21	2.9	J	14	7.6	10	20	45	20														
E8-9.5	9.5	Cut	--	10/24/2018	13	3.5	J	4.2	J	17	J	25	45	12	J	30	4.8	J	41	< 3.4	ND	23	< 3.4	ND	23	4.3	J	27	54									
E8-6.0	6.0	Marsh	--	10/24/2018	26	< 6.7	ND	< 6.7	ND	12	J	20	J	25	J	22	J	7.1	J	17	J	< 6.7	ND	21	J	< 6.7	ND	13	J	6.9	J	13	J	31	J			
Beneficial Reuse and Human Health Comparative Values																																						
San Francisco Bay Ambient, 90% UTL						32.6	80.1	212	428	227	416	231	252	49.9	620	27.1	337	56.4	176	791																		
Marin County Regional 90% UTL						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--																		
San Francisco Bay Ambient Average						18.9	38.0	95.7	175	125	209	94.6	108	20.8	282	13.8	178	33.2	102	366																		
Marin County Ambient Average						7.7	20.2	62.1	114	89.4	144	68.5	76.6	13.7	186	10.5	116	25.3	63	244																		
ER-L (1995, 1998)						44	85.30	261	430	ne	ne	ne	384	63.4	600	19	ne	160	240	665																		
ER-M (1995, 1998)						640	1,100	1,600	1,600	ne	ne	ne	2,800	260	5,100	540	ne	2,100	1,500	2,600																		
SFRWQCB 2016 Residential Direct Exposure ESLs						ne	18,000,000	160	16	160	ne	1,600	15,000	16	2,400,000	2,400,000	160	1,800	ne	1,800,000																		
TTLC						ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne																		
Combined Cut and Marsh Dataset Statistics																																						
Frequency of Detections (%) ¹						14%	25%	75%	93%	96%	100%	54%	86%	29%	96%	7%	82%	50%	89%	100%																		
Frequency of results above ER-L or San Francisco Bay Ambient Average (%) ¹						0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%																		
Maximum Detected Value ^{1,2}						8.2	8.5	32	47	73	67	21	50	9.4	64	8.4	44	22	51	80																		
Minimum Detected Value ^{1,2}						1.3	1.3	1.3	1.5	2.3	2.2	1.9	1.4	1.4	1.5	1.2	1.3	1.6	2.2																			
Average including Non-Detects ^{1,2}						4.2	4.6	12.0	19.4	28.9	25.6	7.9	18.5	4.7	26.8	4.2	15.6	7.1	17.8	36.1																		
90% Upper Tolerance Limit ^{1,3}						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--																		
95% Upper Confidence Limit ^{1,4}						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--																		
Cut Sample Statistics																																						
Maximum Detected Value ^{1,2}						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--																		
Minimum Detected Value ^{1,2}						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--																		
Average including Non-Detects ^{1,2}						--	--	--	--	--	--	--	--	--	--	--	--	--	--																			
90% Upper Tolerance Limit ^{1,3}						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--																		
95% Upper Confidence Limit ^{1,4}						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--																		

TABLE 10
Soil Sample Analytical Results for Polyaromatic Hydrocarbons (PAHs)

Sample ID	Sample Elevation (feet)	Sample Location Type	Primary Sample	Analyte	Moisture, Percent	PAHs														
				Units	%	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
				Laboratory Method	ASTM D2216-98/CLP	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM
				Sample Date																
Marsh Sample Statistics																				
Maximum Detected Value ^{1,2}				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Minimum Detected Value ^{1,2}				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Average including Non-Detects ^{1,2}				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
90% Upper Tolerance Limit ^{1,3}				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
95% Upper Confidence Limit ^{1,4}				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		

Notes and Abbreviations:

µg/kg = micrograms per kilogram

% = Percent

MDL = Method detection limit

UTL = Upper tolerance limit

UCL = Upper confidence limit

J = Estimated Value

ND = Not detected above the method detection limit (< MDL)

-- = Not calculated

< = Analyte was not detected above the method detection limit

ne = Not established

Each sample ID (example: A7-12.0) consists of the grid cell identification of the sample location (A7) followed by the topmost elevation of the 1-foot sample interval in feet (12.0). Each field duplicate sample ID (example: FD-1) consists of "FD" (field duplicate) followed by sequential numbering (1).

TTLIC = Total Threshold Limit Concentration for defining a waste as a California hazardous waste. TTLIC values are from CCR, Title 22, Chapter 11, Article 3, Section 66261.24.

San Francisco Bay Sediment Ambient, 90% UTL = Ambient concentrations for San Francisco Bay sediments. San Francisco Estuary Institute (SFEI). Yee, D., Trowbridge, P., and J. Sun. 2015. Updated ambient concentrations of toxic chemicals in San Francisco Bay sediments.

Unpublished values were calculated based on data published in the Regional Monitoring Program for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

Marin County Ambient, 90% UTL = Calculated 90% UTL using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

San Francisco Bay and Marin County Ambient Average = Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

ER-L = Effects Range Low. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management Vol. 19, No. 1, pp. 81-97.

ER-M = Effects Range-Median. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management Vol. 19, No. 1, pp. 81-97.

ESLs = Environmental Screening Level for Direct Exposure (Residential Scenario). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table S-1. February 2016.

1. Primary and field duplicates were accounted for as one sample using the average value.

2. Maximum, minimum, average and 95% UCL values are compared to the respective ER-L, ER-M, and ESL.

3. 90% UTLs are compared to the respective San Francisco Bay Ambient 90% UTL and Marin County Ambient 90% UTL.

Comparative Value Formatting Key for Individual Samples

Bolded indicates an individual sample location result exceeds either the ER-L and/or the Marin County Ambient (the higher of the two being selected for comparison).

Comparative Value Formatting Key for Statistics

Blue Bolded indicates a 90% Upper Threshold Limit exceeds the San Francisco Bay Ambient 90% UTL.

Highlighted indicates a 90% Upper Threshold Limit exceeds the Marin County Ambient 90% UTL.

Green Bolded indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the San Francisco Bay Ambient.

Highlighted indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the ER-L.

Highlighted indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the ER-M.

Red Bolded indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the Residential Direct Exposure ESLs.

TABLE 11
Soil Sample Analytical Results for Pesticides

Sample ID	Sample Elevation (feet)	Sample Location Type	Primary Sample	Analyte	Moisture, Percent	Pesticides																								
				Units	%	4,4'-DDD	4,4'-DDE	4,4'-DDT	Total DDTs	Aldrin	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC	Total BHCs	alpha-Chlordane	gamma-Chlordane	Total Chlordanes	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Heptachlor	Heptachlor epoxide				
				Laboratory Method	ASTM D2216-98/CLP	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
				Sample Date		EPA 8081A	EPA 8081A	EPA 8081A	Sum of Detected DDTs	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	Sum of Detected BHCs	EPA 8081A	EPA 8081A	Sum of Detected Chlordanes ¹	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A		
A7-12.0	12	Cut	--	10/25/2018	17	2.5 J	0.16 CJ	1.1 CJ	3.76	< 0.11 ND	0.17 J	< 0.14 ND	< 0.19 ND	< 0.15 ND	0.17	< 0.17 ND	< 0.17 ND	< 0.17 ND	0.22 CJ	< 0.13 ND	< 0.15 ND	0.40 CJ	0.63 J	< 0.83 ND	< 0.15 ND	< 0.10 ND				
FD-3	12	Cut	A7-12.0	10/25/2018	17	3.1	2.9 #	1.0 J	7.0	< 0.073 ND	0.15 CJ	< 0.078 ND	< 0.10 ND	< 0.10 ND	0.15	< 0.22 ND	< 0.17 ND	< 0.22 ND	0.21 J	< 0.10 ND	< 0.096 ND	0.59 CJ	0.75 J	< 0.71 ND	< 0.10 ND	0.11 J				
A7-9.0	9	Cut	--	10/25/2018	21	14	7.9	15 #	36.9	< 0.12 ND	< 0.12 ND	< 0.15 ND	< 0.20 ND	< 0.16 ND	< 0.20 ND	1.3 CJ	2.1 C	3.4	1.9 J	< 0.14 ND	< 0.16 ND	0.28 CJ	0.36 CJ	< 0.89 ND	< 0.16 ND	0.11 CJ				
A7-5.5	5.5	Marsh	--	10/25/2018	26	9.2	2.6 J	0.27 CJ	12.07	< 0.081 ND	< 0.13 ND	< 0.086 ND	< 0.11 ND	< 0.11 ND	< 0.13 ND	1.0 J	0.91 CJ	1.91	0.56 J	< 0.11 ND	< 0.11 ND	< 0.10 ND	< 0.089 ND	< 0.79 ND	< 0.11 ND	0.24 J				
B7-8.0	8	Cut	--	10/24/2018	14	1.7 J	2.0 CJ	0.14 CJ	3.84	< 0.070 ND	< 0.11 ND	< 0.073 ND	0.23 CJ	< 0.092 ND	0.23	< 0.16 ND	< 0.16 ND	< 0.16 ND	0.52 CJ	< 0.091 ND	< 0.091 ND	< 0.20 ND	0.39 CJ	< 0.67 ND	< 0.091 ND	0.16 CJ				
B7-6.5	6.5	Marsh	--	10/24/2018	22	1.2 CJ	5.1	< 0.42 ND	6.30	< 0.12 ND	< 0.13 ND	0.62 CJ	0.30 CJ	< 0.10 ND	0.92	0.28 CJ	< 0.17 ND	0.28	0.86 CJ	< 0.10 ND	< 0.10 ND	1.2 J	0.91 CJ	< 0.73 ND	< 0.10 ND	0.11 CJ				
B8-8.5	8.5	Cut	--	10/25/2018	12	0.81 J	< 0.11 ND	0.18 CJ	0.99	< 0.11 ND	< 0.10 ND	< 0.13 ND	< 0.18 ND	< 0.14 ND	< 0.18 ND	0.27 CJ	< 0.16 ND	0.27	0.34 CJ	< 0.12 ND	< 0.14 ND	< 0.21 ND	< 0.24 ND	< 0.79 ND	< 0.14 ND	< 0.10 ND				
B8-6.5	6.5	Cut	--	10/25/2018	28	< 0.21 ND	< 0.14 ND	< 0.48 ND	< 0.48 ND	< 0.13 ND	< 0.13 ND	0.37 CJ	< 0.22 ND	< 0.18 ND	0.37	< 0.20 ND	< 0.19 ND	< 0.20 ND	< 0.13 ND	< 0.15 ND	< 0.17 ND	< 0.25 ND	< 0.29 ND	< 1.0 ND	< 0.17 ND	< 0.12 ND				
FD-2	6.5	Cut	B8-6.5	10/25/2018	29	0.22 CJ	0.32 CJ	0.48 J	1.02	< 0.13 ND	< 0.14 ND	0.21 CJ	< 0.11 ND	< 0.11 ND	0.21	< 0.25 ND	0.63 J	0.63	0.16 CJ	< 0.11 ND	< 0.11 ND	< 0.10 ND	< 0.093 ND	< 0.82 ND	< 0.11 ND	< 0.11 ND				
B8-4.5	4.5	Marsh	--	10/25/2018	35	< 0.12 ND	< 0.120 ND	< 0.14 ND	< 0.14 ND	< 0.09 ND	< 0.15 ND	< 0.10 ND	< 0.12 ND	< 0.12 ND	< 0.15 ND	< 0.27 ND	< 0.21 ND	< 0.27 ND	< 0.13 ND	< 0.12 ND	< 0.12 ND	< 0.11 ND	< 0.10 ND	< 0.89 ND	< 0.12 ND	< 0.12 ND				
B9-8.5	8.5	Cut	--	10/25/2018	24	8.7	3.7 #	6.2 C	18.6	0.41 J	< 0.13 ND	< 0.15 ND	0.19 CJ	< 0.11 ND	0.19	0.71 CJ	0.70 J	1.41	0.20 CJ	< 0.10 ND	< 0.10 ND	< 0.10 ND	< 0.27 ND	< 0.77 ND	< 0.10 ND	0.14 CJ				
B9-6.5	6.5	Marsh	--	10/25/2018	31	19	4.8 #	0.90 CJ	24.70	0.089 CJ	< 0.15 ND	< 0.16 ND	< 0.11 ND	< 0.12 ND	< 0.16 ND	1.1 CJ	1.1 CJ	2.2	0.41 CJ	< 0.16 ND	< 0.11 ND	< 0.11 ND	< 0.30 ND	< 0.85 ND	< 0.11 ND	0.23 CJ				
C7-9.0	9	Cut	--	10/24/2018	12	0.84 CJ	1.6 CJ	0.60 CJ	3.04	< 0.068 ND	< 0.11 ND	0.65 CJ	0.14 CJ	< 0.090 ND	0.79	< 0.16 ND	< 0.15 ND	< 0.16 ND	0.68 CJ	< 0.12 ND	< 0.088 ND	< 0.20 ND	0.31 J	< 0.65 ND	< 0.088 ND	0.18 CJ				
C7-6.0	6	Marsh	--	10/24/2018	21	7.5 #	3.7 J	2.2 CJ	13.4	< 0.15 ND	< 0.25 ND	0.43 CJ	< 0.20 ND	< 0.20 ND	0.43	0.79 CJ	< 0.34 ND	0.79	1.1 CJ	< 0.20 ND	< 0.20 ND	< 0.19 ND	< 0.52 ND	< 1.5 ND	< 0.20 ND	0.56 CJ				
C8-8.0	8	Cut	--	10/25/2018	20	1.2 J	2.8 J	0.38 CJ	4.38	< 0.077 ND	< 0.13 ND	< 0.082 ND	< 0.10 ND	< 0.10 ND	< 0.13 ND	0.32 CJ	0.36 J	0.68	1.4 J	< 0.10 ND	< 0.10 ND	< 0.094 ND	0.20 CJ	< 0.75 ND	< 0.10 ND	0.24 CJ				
C8-5.0	5	Cut	--	10/25/2018	29	4.9	0.30 CJ	0.74 CJ	5.94	< 0.13 ND	< 0.13 ND	< 0.16 ND	< 0.23 ND	< 0.18 ND	< 0.23 ND	0.39 CJ	< 0.20 ND	0.39	1.0 CJ	< 0.15 ND	< 0.18 ND	< 0.25 ND	0.43 J	< 1.0 ND	< 0.17 ND	< 0.12 ND				
C8-2.0	2	Marsh	--	10/25/2018	32	< 0.22 ND	< 0.15 ND	< 0.50 ND	< 0.50 ND	< 0.14 ND	< 0.13 ND	0.66 CJ	< 0.23 ND	< 0.19 ND	0.66	< 0.21 ND	< 0.20 ND	< 0.21 ND	< 0.13 ND	< 0.16 ND	< 0.18 ND	< 0.26 ND	< 0.31 ND	< 1.0 ND	< 0.18 ND	< 0.13 ND				
D6-8.0	8	Cut	--	10/24/2018	10	< 0.16 ND	0.33 CJ	0.25 CJ	0.58	< 0.10 ND	< 0.11 ND	0.46 J	< 0.087 ND	< 0.088 ND	0.46	< 0.16 ND	< 0.15 ND	< 0.16 ND	< 0.087 ND	< 0.087 ND	0.15 CJ	< 0.081 ND	< 0.23 ND	< 0.64 ND	< 0.087 ND	0.093 ND				
D6-6.0	6	Marsh	--	10/24/2018	13	< 0.17 ND	< 0.11 ND	< 0.38 ND	< 0.38 ND	< 0.11 ND	< 0.11 ND	0.34 J	< 0.091 ND	< 0.092 ND	0.34	< 0.16 ND	< 0.13 ND	< 0.16 ND	< 0.091 ND	< 0.091 ND	< 0.091 ND	< 0.20 ND	< 0.076 ND	< 0.67 ND	< 0.091 ND	0.13 CJ				
D7-9.0	9	Cut	--	10/24/2018	14	1.8 J	2.4 CJ	0.58 CJ	4.78	< 0.070 ND	< 0.12 ND	0.26 CJ	< 0.092 ND	< 0.14 ND	0.26	0.19 CJ	< 0.16 ND	0.19	0.69 CJ	< 0.12 ND	< 0.092 ND	0.60 CJ	0.39 CJ	0.81 CJ	< 0.092 ND	0.25 J				
D7-6.0	6	Cut	--	10/24/2018	22	9.6 #	3.9 #	< 0.42 ND	13.5	< 0.077 ND	< 0.13 ND	0.25 CJ	0.26 CJ	< 0.10 ND	0.51	0.46 CJ	1.0 CJ	1.5	2.3 CJ	< 0.10 ND	< 0.10 ND	1.2 J	0.37 CJ	1.0 CJ	< 0.10 ND	0.57 CJ				
D7-4.0	4	Cut	--	10/24/2018	23	< 0.11 ND	0.34 J	< 0.12 ND	0.34	0.26 CJ	0.23 J	0.45 CJ	< 0.11 ND	< 0.11 ND	0.68	< 0.24 ND	< 1.5 #ND	< 1.5 ND	< 0.11 ND	0.34 CJ	< 0.11 ND	0.29 CJ	< 0.088 ND	< 0.78 ND	< 0.16 ND	0.69 CJ				
D7-2.5	2.5	Marsh	--	10/24/2018	37	8.4 #	4.3 #	0.83 CJ	13.53	< 0.14 ND	< 0.16 ND	< 0.10 ND	< 0.24 ND	< 0.12 ND	< 0.24 ND	< 0.28 ND	< 0.21 ND	< 0.28 ND	0.19 CJ	< 0.17 ND	< 0.12 ND	0.28 CJ	< 0.10 ND	< 0.91 ND	< 0.12 ND	< 0.13 ND				
D8-9.0	9	Cut	--	10/24/2018	11	1.3 J	2.1 J	1.4 CJ	4.8	< 0.067 ND	< 0.11 ND	< 0.071 ND	< 0.088 ND	< 0.089 ND	< 0.11 ND	0.73 CJ	< 0.15 ND	0.73	0.68 CJ	< 0.088 ND	< 0.088 ND	< 0.20 ND	0.18 CJ	< 0.76 ND	< 0.088 ND	0.087 CJ				
D8-5.5	5.5	Marsh	--	10/24/2018	29	0.42 J	0.76 CJ	< 0.12 ND	1.18	< 0.13 ND	< 0.14 ND	2.6	< 0.22 ND	0.17 CJ	2.77	< 0.25 ND	< 0.19 ND	< 0.25 ND	0.13 CJ	< 0.11 ND	< 0.11 ND	< 0.10 ND	< 0.29 ND	< 0.82 ND	< 0.17 ND	< 0.12 ND				
E7-9.5	9.5	Cut	--	10/24/2018	12	2.0 J	2.7 #	0.96 CJ	5.7	< 0.10 ND	< 0.11 ND	< 0.13 ND	0.34 J	< 0.090 ND	0.34	0.59 CJ	< 0.15 ND	0.59	0.78 CJ	< 0.12 ND	< 0.089 ND	0.50 CJ	0.27 CJ	< 0.76 ND	< 0.089 ND	0.23 CJ				
E7-7.0	7	Cut	--	10/24/2018	15	< 0.17 ND	0.27 J	< 0.39 ND	0.27	< 0.071 ND	< 0.12 ND	< 0.13 ND	< 0.092 ND	< 0.094 ND	< 0.13 ND	< 0.21 ND	< 0.13 ND	< 0.21 ND	0.09 CJ	< 0.092 ND	< 0.092 ND	< 0.086 ND	< 0.077 ND	< 0.68 ND	< 0.092 ND	< 0.089 ND				
E7-5.0	5	Marsh	--	10/24/2018	19	2.0 CJ	0.29 CJ	< 0.41 ND	2.29	< 0.12 ND	< 0.12 ND	0.18 CJ	0.16 CJ	< 0.10 ND	0.34	< 0.18 ND	< 0.17 ND	< 0.18 ND	0.13 CJ	< 0.10 ND	< 0.098 ND	< 0.22 ND	< 0.082 ND	< 0.73 ND	< 0.15 ND	0.11 CJ				
FD-1	5	Marsh	E7-5.0	10/24/2018	19	0.61 CJ	1.4 CJ	< 0.11 ND	2.01	< 0.12 ND	< 0.12 ND	1.0 J	< 0.19 ND	< 0.10 ND	1.0	< 0.18 ND	< 0.17 ND	< 0.18 ND	0.16 J	< 0.10 ND	< 0.10 ND	< 0.092 ND	< 0.082 ND	< 0.73 ND	< 0.15 ND	< 0.10 ND				
E8-9.5	9.5	Cut	--	10/24/2018	13	2.8 #	3.2 #	1.8 CJ	7.8	< 0.069 ND	< 0.11 ND	< 0.13 ND	< 0.090 ND	< 0.091 ND	< 0.13 ND	0.64 CJ	< 0.16 ND	0.64	1.1 CJ	< 0.090 ND	< 0.090 ND	0.48 CJ	0.47 CJ	< 0.67 ND	< 0.090 ND	0.29 CJ				
E8-6.0	6	Marsh	--	10/24/2018	26	9.7 #	4.2 #	1.8 CJ	15.7	0.21 CJ	< 0.14 ND	0.80 CJ	0.59 CJ	< 0.11 ND	1.39	0.44 CJ	< 0.18 ND	0.44	0.17 CJ	< 0.11 ND	< 0.11 ND	< 0.24 ND	< 0.089 ND	< 0.79 ND	< 0.11 ND	0.30 CJ				
Beneficial Reuse and Human Health Comparative Values																														
San Francisco Bay Ambient, 90% UTL						1.98	1.98	0.27	4.7	0.03	ne	ne	ne	ne	0.05	ne	ne	0.34	0.16	ne	ne	ne	0.01	ne	ne	ne	ne			
Marin County Regional 90% UTL						--	--	--	5.5	--	--	--	--	--	--	--	--	--	0.33	--	--	--	--	--	--	--	--	--		
San Francisco Bay Ambient Average						1.2	1.4	0.17	3.0	0.007	0.007	0.010	0.001	0.003	0.020	0.069	ne	0.22	0.078	ne	ne	ne	0.007	ne	0.001	0.002	ne	ne		
Marin County Ambient Average						1.4	1.5	0.29	3.6	0.009	0.009	0.015	0.001	0.004	0.026	0.061	ne	0.20	0.081	ne	ne	ne	0.039	ne	0.001	0.003	ne	ne	ne	ne
ER-L (1995, 1998)						2	2.2	1.0	1.6	ne	ne	ne	ne	ne	ne	ne	ne	ne	0.50	0.02	ne	ne	ne	ne	ne	ne	ne	ne		
ER-M (1995, 1998)						20	27	7.0	46.1	ne	ne	ne	ne	ne	ne	ne	ne	ne	6.0	8.0	ne	ne	ne	ne	ne	ne	ne	ne	ne	
SFRWQCB 2016 Residential Direct Exposure ESLs						2,700	1,900	1,900	ne	36	ne	ne	ne	550	ne	ne	ne	480	38	420,000	470000	ne	21,000	ne	140	67	ne	ne		
TTLC						1,000	1,000	1,000	ne	1,400	ne	ne	ne	4,000	ne	ne	ne	2,500	8,000	ne	ne	ne	200	ne	4,700	ne	ne	ne		
Combined Cut and Marsh Dataset Statistics																														
Frequency of Detections (%) ¹						79%	86%	68%	89%	14%	7%	46%	29%	4%	61%	54%	25%	57%	82%	4%	4%	32%	43%	7%	--	68%	ne	ne		
Frequency of results above ER-L or San Francisco Bay Ambient Average (%) ¹						39%	46%	25%	64%	14%	7%	46%	29%	4%	61%	54%	--	36%	82%	--	--	--	43%	--	--	68%	ne	ne		
Maximum Detected Value ^{2,3}						15	7.8	15	36.99	0.41	0.23	2.6	0.59	0.17	2.77	1.3	2.1	3.4	2.3	0.34</										

TABLE 11 Soil Sample Analytical Results for Pesticides

Sample ID	Sample Elevation (feet)	Sample Location Type	Primary Sample	Analyte	Moisture, Percent	Pesticides																					
						4,4'-DDD	4,4'-DDE	4,4'-DDT	Total DDTs	Aldrin	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC	Total BHCs	alpha-Chlordane	gamma-Chlordane	Total Chlordanes	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Heptachlor	Heptachlor epoxide	
				Units	%	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
				Laboratory Method	ASTM D2216-98/CLP	EPA 8081A	EPA 8081A	EPA 8081A	Sum of Detected DDTs	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	Sum of Detected Chlordanes ¹	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A
Sample Date																											
Cut Sample Statistics																											
		Maximum Detected Value ^{2,3}		--	--	--	56.9	--	--	--	--	--	--	--	1.4	2.3	--	--	--	--	--	--	--	--			
		Minimum Detected Value ^{2,3}		--	--	--	0.27	--	--	--	--	--	--	--	0.19	0.003	--	--	--	--	--	--	--	--			
		Average including Non-Detects ^{2,3}		--	--	--	6.95	--	--	--	--	--	--	--	0.37	0.79	--	--	--	--	--	--	--	--			
		90% Upper Tolerance Limit ^{2,4}		--	--	--	25.36	--	--	--	--	--	--	--	2.6	4.9	--	--	--	--	--	--	--	--			
		95% Upper Confidence Limit ^{2,3}		--	--	--	32.57	--	--	--	--	--	--	--	3.3	6.0	--	--	--	--	--	--	--	--			
		Number of Times the 95% UCL is above the ER-L		--	--	--	8.1	--	--	--	--	--	--	--	2.6	49.8	--	--	--	--	--	--	--	--			
Marsh Sample Statistics																											
		Maximum Detected Value ^{2,3}		--	--	--	24.70	--	--	--	--	--	--	--	2.2	1.1	--	--	--	--	--	--	--	--			
		Minimum Detected Value ^{2,3}		--	--	--	1.18	--	--	--	--	--	--	--	0.28	0.13	--	--	--	--	--	--	--	--			
		Average including Non-Detects ^{2,3}		--	--	--	6.14	--	--	--	--	--	--	--	0.37	0.79	--	--	--	--	--	--	--	--			
		90% Upper Tolerance Limit ^{2,4}		--	--	--	23.98	--	--	--	--	--	--	--	2.0	4.1	--	--	--	--	--	--	--	--			
		95% Upper Confidence Limit ^{2,3}		--	--	--	32.54	--	--	--	--	--	--	--	3.03	5.54	--	--	--	--	--	--	--	--			
		Number of Times the 95% UCL is above the ER-L		--	--	--	8.1	--	--	--	--	--	--	--	2.1	27.2	--	--	--	--	--	--	--	--			

Notes and Abbreviations

µg/kg = Micrograms per kilogram
% = Percent

MDL = Method detection limit

UTL = Upper tolerance limit

UCL = Upper confidence limit

J = Estimated Value

C = Presence confirmed, but relative percent difference between columns exceeds 40%

ND = Not detected above the method detection limit (< MDL)

< = Analyte was not detected above the method detection limit

-- = Not calculated

= Continuing Calibration Verifications (CCV) drift outside limits; average CCV drift within limits per method requirements

Each sample ID (example: A7-12.0) consists of the grid cell identification of the sample location (A7) followed by the topmost elevation of the 1-foot sample interval in feet (12.0). Each field duplicate sample ID (example: FD-1) consists of "FD" (field duplicate) followed by sequential numbering (1).

TTLIC = Total Threshold Limit Concentration for defining a waste as a California hazardous waste. TTLIC values are from CCR, Title 22, Chapter 11, Article 3, Section 66261.24.

San Francisco Bay Sediment Ambient, 90% UTL = Ambient concentrations for San Francisco Bay sediments. San Francisco Estuary Institute (SFEI). Yee, D., Trowbridge, P., and J. Sun. 2015. Updated ambient concentrations of toxic chemicals in San Francisco Bay sediments.

Unpublished values were calculated based on data published in the Regional Monitoring Program for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

Marin County Ambient, 90% UTL = Calculated 90% UTL using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

San Francisco Bay and Marin County Ambient Average = Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

ER-L = Effects Range Low. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management Vol. 19, No. 1, pp. 81-97.

ER-M = Effects Range-Median. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management Vol. 19, No. 1, pp. 81-97.

ESLs = Environmental Screening Level for Direct Exposure (Residential Scenario). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table S-1. February 2016.

1. Sum calculated using detected value(s). In case of no detections for the analytes, the highest non-detect value was selected.

2. Primary and field duplicates were accounted for as one sample using the average value.

3. Maximum, minimum, average and 95% UCL values are compared to the respective ER-L, ER-M, and ESL.

4. 90% UTLs are compared to the respective San Francisco Bay Ambient 90% UTL and Marin County Ambient 90% UTL.

Comparative Value Formatting Key for Individual Samples

Bolded indicates an individual sample location result exceeds either the ER-L and/or the San Francisco Bay Ambient Average (the higher of the two being selected for comparison).

Comparative Value Formatting Key for Statistics

Blue Bolded indicates a 90% Upper Threshold Limit exceeds the Marin County Ambient, 90% UTL.

Highlighted indicates a 90% Upper Threshold Limit exceeds the San Francisco Bay Ambient 90% UTL.

Green Bolded indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the San Francisco Ambient.

Highlighted indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the ER-L.

Highlighted indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the ER-M.

Red Bolded indicates a maximum, minimum, average or 95% Upper Confidence Limit value exceeds the Residential Direct Exposure ESLs.

TABLE 12
Comparative Screening Values

Constituent	San Francisco Estuary Institute ¹										National Oceanic and Atmospheric Association ¹		Florida Department of Environmental Protection ¹		San Francisco Bay Regional Water Quality Control Board ¹	Department of Toxic Substances Control
	San Francisco Bay Ambient 90th Percentile 90% UTL ²	Marin County Ambient 90th Percentile 90% UTL ³	San Francisco Bay Ambient Average ⁴	Marin County Ambient Average ⁴	San Francisco Bay Ambient Minimum ⁴	San Francisco Bay Ambient Maximum ⁴	Marin County Ambient Minimum ⁴	Marin County Ambient Maximum ⁴	Bioaccumulation Trigger ⁵	Total Maximum Daily Load Limit ⁵	Effects Range - Low (ER-L) ⁶	Effects Range - Median (ER-M) ⁷	Threshold Effects Levels (TELS) Marine Sediments ⁸	Probable Effects Levels (PELs) Marine Sediments ⁸	2016 Residential Human Health Direct Exposure ESLs ⁹	TTL ¹⁰
Metals (mg/kg)																
Antimony	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	31.0	500
Arsenic	13.9	18.1	8.7	12.2	0.77	33.3	7.2	24.1	ne	ne	8.2	70	7.2	41.6	0.067	500
Barium	103 ^a	77.0	66.8	51.1	24.9	161	31.7	54.6	ne	ne	ne	ne	130	ne	15,000	10,000
Beryllium	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	150	75.0
Cadmium	0.33	0.34	0.21	0.21	ND	0.73	0.07	0.47	ne	ne	1.2	9.6	0.68	4.2	39	100
Chromium	141 ^b	129 ^c	98.0 ^d	86.8 ^d	38.2 ^d	238 ^d	47.6 ^d	126 ^d	ne	ne	81.0	370	52.3	160	ne	2,500
Cobalt	20.1 ^a	20.2	14.7	14.4	6.1	27.8	10.9	17.5	ne	ne	ne	ne	ne	ne	23.0	8,000
Copper	53.9	1,570	39.0 ^c	368	5.1	2,970	15.0	2970	ne	ne	34	270	18.7	108	3,100	2500
Hexavalent Chromium	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	0.3	500
Lead	25.1	29.3	19.5	20.7	2.9	87.1	6.02	33.2	ne	ne	46.7	218	30.2	112	80.0	1,000
Mercury	0.33	0.34	0.33	0.28	ND	13.2	0.04	0.49	0.33	0.47	0.15	0.71	0.13	0.70	13.0	20.0
Molybdenum	0.75 ^a	0.92	0.50	0.48	ND	1.0	ND	0.83	ne	ne	ne	ne	ne	ne	390	3,500
Nickel	98.3	110	78.5	87.3	9.3	301	52.7	120	ne	ne	20.9	51.6	15.9	42.8	820	2,000
Selenium	0.36	0.36	0.23	0.27	ND	1.7	ND	1.7	ne	ne	ne	ne	ne	ne	390	100
Silver	0.32	0.30	0.19	0.16	ND	0.70	ND	0.36	ne	ne	1.0	3.7	0.73	1.8	390	500
Thallium	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	0.78	700
Vanadium	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	140,000	2,400
Zinc	136	ne	104	114	24.0	233	51.9	154	ne	ne	150	410	124	271	23,000	5,000
Polychlorinated Biphenyls (µg/kg)																
Aroclor-1016	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Aroclor-1221	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Aroclor-1232	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Aroclor-1242	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Aroclor-1248	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Aroclor-1254	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	63.3	709	ne	ne
Aroclor-1260	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Total PCBs (sum of Aroclors)	18.3	8.7	9.0	6.4	0.01	29.8	0.59	9.0	18.0	29.6	22.7	180	21.6	189	250	50,000
Total Petroleum Hydrocarbons (mg/kg)																
TPH as diesel	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	230	ne
TPH as motor oil	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	11,000	ne
Polyaromatic Hydrocarbons (µg/kg)																
Acenaphthene	13.5	--	7.29	3.9	ND	503	ND	7.4	ne	ne	16.0	500	6.7	88.9	3,600,000	ne
Acenaphthylene	32.6	--	18.9	7.7	ND	1,530	ND	21.9	ne	ne	44.0	640	5.9	128	ne	ne
Anthracene	80.1	--	38.0	20.2	ND	2,260	ND	51.8	ne	ne	85.3	1,100	46.9	245	18,000,000	ne
Benzo(a)anthracene	212	--	95.7	62.1	ND	2,020	2.3	118	ne	ne	261	1,600	74.8	693	160	ne
Benzo(a)pyrene	428	--	175	114	ND	2,720	5.4	236	ne	ne	430	1,600	88.8	763	16.0	ne
Benzo(b)fluoranthene	227	--	125	89.4	ND	1,580	6.4	172	ne	ne	ne	ne	ne	ne	160	ne
Benzo(g,h,i)perylene	416	--	209	144	ND	4,700	5.5	299	ne	ne	ne	ne	ne	ne	ne	ne
Benzo(k)fluoranthene	231	--	94.6	68.5	ND	1,590	4.9	127	ne	ne	ne	ne	ne	ne	1,600	ne
Chrysene	252	--	108	76.6	ND	2,040	3.8	141	ne	ne	384	2,800	108	846	15,000	ne
Dibenz(a,h)anthracene	49.9	--	20.8	13.7	ND	626	1.1	26.7	ne	ne	63.4	260	6.2	135	16	ne
Fluoranthene	620	--	282	186	1.3	3,970	11.0	422	ne	ne	600	5,100	113	1,494	2,400,000	ne
Fluorene	27.1	--	13.8	10.5	ND	551	1.5	18.4	ne	ne	19	540	21.2	144	2,400,000	ne
Indeno(1,2,3-cd)pyrene	337	--	178	116	ND	4,540	3.2	239	ne	ne	ne	ne	ne	ne	160	ne
Naphthalene	56.4	--	33.2	25.3	2.3	694	3.8	40.7	ne	ne	160	2,100	34.6	391	1,800	ne
Phenanthrene	176	--	102	63.0	0.99	2,570	5.7	123	ne	ne	240	1,500	86.7	544	ne	ne
Perylene	216	--	146	169	3.5	1,820	27.7	322	ne	ne	ne	ne	ne	ne	ne	ne
Pyrene	791	--	366	244	1.8	5,920	14.2	557	ne	ne	665	2,600	153	1,398	1,800,000	ne

**TABLE 12
Comparative Screening Values**

Constituent	San Francisco Estuary Institute ¹										National Oceanic and Atmospheric Association ¹		Florida Department of Environmental Protection ¹		San Francisco Bay Regional Water Quality Control Board ¹	Department of Toxic Substances Control
	San Francisco Bay Ambient 90th Percentile 90% UTL ²	Marin County Ambient 90th Percentile 90% UTL ³	San Francisco Bay Ambient Average ⁴	Marin County Ambient Average ⁴	San Francisco Bay Ambient Minimum ⁴	San Francisco Bay Ambient Maximum ⁴	Marin County Ambient Minimum ⁴	Marin County Ambient Maximum ⁴	Bioaccumulation Trigger ⁵	Total Maximum Daily Load Limit ⁵	Effects Range - Low (ER-L) ⁶	Effects Range - Median (ER-M) ⁷	Threshold Effects Levels (TELS) Marine Sediments ⁸	Probable Effects Levels (PELs) Marine Sediments ⁸	2016 Residential Human Health Direct Exposure ESLs ⁹	TTLIC ¹⁰
Pesticides (µg/kg)																
4,4'-DDD	2.0	--	1.2	1.4	ND	6.3	0.10	2.8	ne	ne	2.0	20.0	1.2	7.8	2,700	1,000
4,4'-DDE	2.0	--	1.4	1.5	ND	3.1	0.10	2.3	ne	ne	2.2	27.0	2.1	374	1,900	1,000
4,4'-DDT	0.27	--	0.17	0.29	ND	4.1	0.05	1.3	ne	ne	1.0	7.0	1.2	4.8	1,900	1,000
Total DDTs	4.7	5.5	3.0	3.6	ND	13.3	0.28	7.3	50.0	ne	1.6	46.1	3.9	51.7	ne	ne
Sum of DDTs	4.7	5.5	3.0	3.6	ND	13.3	0.28	7.3	50.0	ne	1.6	46.1	3.9	51.7	ne	ne
Aldrin	0.03	--	0.01	0.01	ND	0.10	ND	0.05	ne	ne	ne	ne	ne	ne	36.0	1,400
alpha-BHC	ne	--	0.01	0.01	ND	0.06	ND	0.01	ne	ne	ne	ne	ne	ne	ne	ne
beta-BHC	ne	--	0.01	0.01	ND	0.03	ND	0.03	ne	ne	ne	ne	ne	ne	ne	ne
delta-BHC	ne	--	0.001	0.001	ND	0.15	ND	0.004	ne	ne	ne	ne	ne	ne	ne	ne
gamma-BHC	ne	--	0.003	0.004	ND	0.02	ND	0.01	ne	ne	ne	ne	0.32	0.99	550	4,000
Total BHCs	0.05	--	0.02	0.03	ND	0.10	ND	0.03	ne	ne	ne	ne	ne	ne	ne	ne
alpha-Chlordane	ne	--	0.07	0.06	ND	0.44	ND	0.14	ne	ne	ne	ne	ne	ne	ne	ne
gamma-Chlordane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Chlordane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	0.50	6.0	2.3	4.8	480	2,500
Total Chlordanes	0.34	0.33	0.22	0.20	ND	1.3	0.03	0.35	37.0	ne	0.50	6.0	2.3	4.8	ne	ne
Sum of Chlordanes	0.34	0.33	0.22	0.20	ND	1.3	0.03	0.35	37.0	ne	0.50	6.0	2.3	4.8	ne	ne
Dieldrin	0.16	--	0.08	0.08	ND	0.27	ND	0.13	1.9	ne	0.02	8.0	0.72	4.3	38.0	8,000
Endosulfan I	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	420,000	ne
Endosulfan II	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	420,000	ne
Endosulfan sulfate	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Endrin	0.01	--	0.01	0.04	ND	0.79	ND	0.79	ne	ne	ne	ne	ne	ne	21,000	200
Endrin aldehyde	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Heptachlor	ne	--	0.001	0.001	ND	0.04	ND	0.004	ne	ne	ne	ne	ne	ne	140	4,700
Heptachlor epoxide	ne	--	0.002	0.003	ND	0.02	ND	0.01	ne	ne	ne	ne	ne	ne	67.0	ne
Methoxychlor	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	350,000	100,000
Toxaphene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	0.10	ne	510	5,000

Notes and Abbreviations:

mg/kg = Milligrams per kilogram

µg/kg = Micrograms per kilogram

-- = Not calculated

ne = Not established

UTL = Upper Tolerance Limit

TPH = Total Petroleum Hydrocarbon

PCB = Polychlorinated Biphenyls

PAH = Polyaromatic Hydrocarbons

ND = Not Detected

TTLIC = Total Threshold Limit Concentration for defining a waste as a California hazardous waste. TTLIC values are from CCR, Title 22, Chapter 11, Article 3, Section 66261.24.

¹ Values are listed as dry weight unless otherwise noted.

² SF Bay Sediment Ambient = Ambient concentrations for San Francisco Bay sediments. Regional Water Quality Control Board (RWQCB). 2000. Draft Staff Report: Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines.

³ A 90% UTL calculated in ProUCL v5.0 using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

⁴ Average ambient concentrations for Marin County Sediments 2007-2012. Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

⁵ San Francisco Estuary Institute (SFEI; <http://www.sfei.org/content/dmno-ambient-sediment-conditions>). The Bioaccumulation Trigger and Total Maximum Daily Load thresholds are effective through 2015.

⁶ ER-L = Effects Range Low. Long, E.R., D.D. MacDonald, S. L. Smith, and F.D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management Vol. 19, No. 1, pp. 81-97.

⁷ ER-M = Effects Range-Median. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management Vol. 19, No. 1, pp. 81-97.

⁸ Florida Department of Environmental Protection. 1994. Approach to the Assessment of Sediment Quality in Florida Coastal Waters. Vol. 1. Development and Evaluation of Sediment Quality Assessment Guidelines. Prepared by MacDonald Environmental Sciences Ltd.

⁹ ESLs = Environmental Screening Level for Direct Exposure (Residential Scenario). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table S-1. February 2016.

¹⁰ TTLIC values are listed as wet weight.

a) A 90% UTL was calculated in ProUCL v5.0 using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>) as a San Francisco Bay 90% UTL has not been published.

b) A 90% UTL was calculated in ProUCL v5.0 using the 1993-2002 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>) as a San Francisco Bay 90% UTL has not been published.

c) The 90% UTL was calculated based on data ranging from years 1993-2002 due to lack of data collected in the years 2003-2012.

d) Average, maximum, and minimum based on data ranging from years 1993-2002 due to lack of data collected in years 2003-2012.

e) SF Ambient Average value was recalculated to omit statistical outliers.

TABLE 13
Summary of Results

Analyte ¹	Frequency of ER-L or San Francisco Ambient Average Exceedances in Individual Samples (%)	Unit	Comparison to Ambient Values						Comparison to ER-L/ER-M Values				
			Site-Specific Upper Tolerance Limits			Comparative Ambient Values			Site-Specific Upper Confidence Limits			Comparative ER-L/ER-M Values	
			90% UTL Total	90% UTL of Cut Material	90% UTL of Marsh Surface Material	San Francisco Bay Ambient Average ²	San Francisco Bay 90% UTL ³	Marin County Regional 90% UTL ⁴	95% UCL Total	95% UCL of Cut Material	95% UCL of Marsh Surface Material	ER-L ⁵	ER-M ⁶
Metals													
Arsenic	89%	mg/kg	12.6	12.3	13.8	8.7	13.9	18.1	10.7	10.9	11.0	8.2	70
Barium	36%	mg/kg	110	90	160	51.1	103 ^a	77.0	73.6	68.7	89.6	ne	ne
Cadmium	0%	mg/kg	0.65	0.66	0.70	0.21	0.33	0.34	0.50	0.49	0.54	1.2	9.6
Chromium	50%	mg/kg	110	117	220	98.0	140 ^b	129.1 ^c	107.1	98	130	81	370
Cobalt	43%	mg/kg	21.7	19.6	25.9	14.7	20.1 ^a	20.2	15.9	14.6	19.1	ne	ne
Copper	21%	mg/kg	50.7	48.3	59.8	39.0	53.9	1,570	36.5	35.5	41.5	34	270
Lead	0%	mg/kg	32.0	31.1	39.5	19.5	25.1	29.3	19.9	20.1	23.5	46.7	218
Mercury	7%	mg/kg	0.31	0.36	0.25	0.33	0.33	0.34	0.19	0.23	0.16	0.15	0.71
Molybdenum	93%	mg/kg	1.56	1.53	1.78	0.50	0.75 ^a	0.92	1.01	1.02	1.17	ne	ne
Nickel	79%	mg/kg	130	118	330	78.5	98.3	110	115	94.7	158	20.9	51.6
Selenium	100%	mg/kg	0.70	0.73	0.75	0.23	0.36	0.36	0.55	0.57	0.58	ne	ne
Silver	0%	mg/kg	0.50	0.52	0.56	0.19	0.32	0.30	0.32	0.35	0.33	1.0	3.7
Polychlorinated Biphenyls (PCBs)													
Total PCBs	7%	µg/kg	22.2	30.6	12.0	9.0	18.3	8.7	13.6	22.0	9.1	22.7	180
Pesticides													
Total DDTs	89%	µg/kg	27.0	25.3	24.0	3.0	4.7	5.5	11.5	12.8	12.7	1.6	46.1
Dieldrin	82%	µg/kg	1.54	1.87	1.06	0.08	0.16	ne	0.76	1.0	0.54	0.02	8.0
Total Chlordanes	57%	µg/kg	2.20	2.60	2.03	0.22	0.34	0.33	1.02	1.3	1.03	0.50	6.0

Notes and Abbreviations:

UCL = Upper Confidence Limit

UTL = Upper Tolerance Limit

mg/kg = Milligrams per kilogram

µg/kg = Micrograms per kilogram

ne = Not established

% = Percentage

¹ Only analytes with sample result concentrations exceeding ER-Ls or San Francisco Bay Ambient Averages are shown.

² San Francisco Bay Ambient Average = Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

³ San Francisco Bay 90% UTL = Ambient concentrations for San Francisco Bay sediments. Regional Water Quality Control Board (RWQCB). 2000. Draft Staff Report: Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines.

⁴ A 90% UTL calculated in ProUCL v5.0 using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

⁵ ER-L = Effects Range Low. Long, E.R., D.D. MacDonald, S. L. Smith, and F.D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management Vol. 19, No. 1, pp. 81-97.

⁶ ER-M = Effects Range-Median. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management Vol. 19, No. 1, pp. 81-97.

a) A 90% UTL was calculated in ProUCL v5.0 using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>) as a San Francisco Bay 90% UTL has not been published.

b) A 90% UTL was calculated in ProUCL v5.0 using the 1993-2002 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>) as a San Francisco Bay 90% UTL has not been published.

c) The 90% UTL was calculated based on data ranging from years 1993-2002 due to lack of data collected in the years 2003-2012.

Bolded indicates a 90% UTL exceeds the San Francisco Bay Ambient 90% UTL or the 95% UCL exceeds the ER-L.

TABLE 14
Comparison of 2015 and 2018 Results

Analyte ¹	Unit	Site-Specific Upper Tolerance Limits			Site-Specific Upper Confidence Limits		
		90% UTL Total - 2015/2016 Data	90% UTL Total - 2018 Data	Percent Difference	95% UCL Total - 2015/2016 Data	95% UCL Total - 2018 Data	Percent Difference
Metals							
Arsenic	mg/kg	12.7	12.6	-0.7%	9.8	10.7	9.2%
Barium	mg/kg	91.6	110.0	20.1%	68.5	73.6	7.5%
Cadmium	mg/kg	1.5	0.65	-56.5%	1.2	0.50	-58.8%
Chromium	mg/kg	110	110	0.0%	97.0	107.1	10.4%
Cobalt	mg/kg	19.8	21.7	9.4%	14.4	15.9	10.3%
Copper	mg/kg	54.0	50.7	-6.0%	39.6	36.5	-7.9%
Lead	mg/kg	30.0	32.0	6.8%	22.9	19.9	-13.1%
Mercury	mg/kg	0.35	0.31	-10.4%	0.21	0.19	-8.3%
Molybdenum	mg/kg	1.1	1.56	42.1%	0.82	1.01	23.3%
Nickel	mg/kg	117	130	11.0%	91.7	115	25.8%
Selenium	mg/kg	0.42	0.70	67.4%	0.22	0.55	151.6%
Silver	mg/kg	0.87	0.50	-42.3%	0.30	0.32	7.6%
Polychlorinated Biphenyls (PCBs)							
Total PCBs	µg/kg	67.0	22.2	-66.8%	34.1	13.6	-60.1%
Pesticides							
Total DDTs	µg/kg	24.0	27.0	12.5%	12.4	11.5	-6.9%
Dieldrin	µg/kg	--	1.54	--	--	0.76	--
Total Chlordanes	µg/kg	3.2	2.20	-31.2%	1.8	1.02	-44.4%

Notes and Abbreviations:

UCL = Upper Confidence Limit

UTL = Upper Tolerance Limit

mg/kg = Milligrams per kilogram

µg/kg = Micrograms per kilogram

ne = Not established

% = Percentage

-- = Not calculated

¹ Only analytes with sample result concentrations exceeding ER-Ls or San Francisco Bay Ambient Averages are shown.

Bolded indicates a 90% UTL exceeds the San Francisco Bay Ambient 90% UTL or the 95% UCL exceeds the ER-L.

TABLE 15
Comparative Site Summary

Constituent	Site 95% UCL	San Francisco Estuary Institute ¹	National Oceanic and Atmospheric Association ¹		Comparative Sites ¹								SFRWQCB 2016 Residential Direct Exposure ESLs ¹³
			Effects Range Low (ER-L) ³	Effects Range Median (ER-M) ⁴	Based on Ambient Levels or ER-L/ER-M				Based on Ambient values, ER-Ls, and Risk Assessments	Based on Ecological Risk Assessment			
					Montezuma Wetland Restoration Project Dredged Material Acceptance Criteria (3-foot Surface Cover; 95% UCL) ⁵	Bair Island Wetland Restoration, Proposed Sediment Criteria (Wetland Surface Material; 95% UCL) ⁶	Winter Island Levee Rehabilitation (Wetland Cover; 95% UCL) ⁷	Yosemite Slough Wetland Upper Cover (upper foot; 95% UCL) ⁸	Hamilton Action Goals (Coastal Marsh Surface; 3-foot cover) ⁹	Presidio Non-Special Status Species Remediation Goals for Marine Sediments (95% UCL) ¹⁰	Mare Island Non-Tidal Wetland Areas Cleanup Level (0 to 2 feet; 95% UCL) ¹¹	Yosemite Creek Remedial Goals for Sediments (95% UCL) ¹²	
Metals (mg/kg)													
Arsenic	10.70	13.9	8.2	70	15.3	15.30	15.30	15.3	23	39	36	ne	0.067
Barium	73.6	103 ^a	ne	ne	ne	ne	ne	ne	188	3,100	116	ne	15,000
Cadmium	0.50	0.33	1.2	9.6	0.33	1.2	0.33	1.2	1.8	1.6 - 1.7 ^d	5.2	ne	39.0
Chromium	107.1	140 ^b	81	370	112	112	112	112	149	42 - 140 ^d	140	ne	ne
Cobalt	15.9	20.1 ^a	ne	ne	ne	ne	ne	ne	26.7	38,088	120,000	ne	23.0
Copper	36.5	53.9	34	270	68.1	68.1	68.1	68.1	89	152	120	ne	3,100
Lead	19.9	25.1	46.7	218	43.2	43.2	43.2	47	47	132	59	218 ^h and 436 ⁱ	80.0
Mercury	0.19	0.33	0.15	0.71	0.43	0.43	0.43	0.43	0.58	0.43	2	ne	13.0
Molybdenum	1.01	0.75 ^a	ne	ne	ne	ne	ne	ne	ne	522	46,000	ne	390
Nickel	115	98.3	20.9	51.6	112	112	112	112	132	70 - 110 ^d	130	ne	820
Selenium	0.55	0.36	ne	ne	0.64	0.64	0.64	0.64 (1.4) ^c	ne	4.5	2.8	ne	390
Silver	0.32	0.32	1.0	3.7	0.58	0.58	0.58	0.58	1.0	2.4	46,000	ne	390
Polychlorinated Biphenyls (µg/kg)													
Total PCBs	13.59	18.3	22.7	180	22.7	22.7	23.0	22.7	90	100 ^e	430	386 ^h and 1,240 ⁱ	250
Pesticides (µg/kg)													
Total DDTs	11.50	4.68	1.58	46.1	7.0	7.0	7.0	7.0	30	30 ^f	ne	ne	ne
Dieldrin	0.76	0.16	0.02	8.0	0.72	0.72	ne	0.72	ne	26	ne	ne	38
Total Chlordanes	1.02	0.34	0.50	6.0	2.3	2.3	ne	2.3	4.79	3.3 ^g	ne	ne	480

Notes and Abbreviations:

mg/kg = Milligrams per kilogram
µg/kg = Micrograms per kilogram
ne = Not established

UCL = Upper confidence limit of the mean
PCBs = Polychlorinated biphenyls

Highlighted cell indicates that the Corte Madera site-specific 95 % Upper Confidence Limit exceeds the respective comparative value.

¹ Values are listed as dry weight unless otherwise noted.

² SF Bay Sediment Ambient = Ambient concentrations for San Francisco Bay sediments. Regional Water Quality Control Board (RWQCB). 2000. Draft Staff Report: Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines.

³ ER-L = Effects Range Low. Long, E.R., D.D. MacDonald, S. L. Smith, and F.D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management Vol. 19, No. 1, pp. 81-97.

⁴ ER-M = Effects Range-Median. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management Vol. 19, No. 1, pp. 81-97.

⁵ RWQCB. Order No. R2-2012-0087. Updated Waste Discharge Requirements, Water Quality Certification, and Rescission of Order No. 00-061 for: Montezuma Wetlands LLC, Montezuma Wetlands Restoration Project, Solano County.

⁶ Bair Island Wetland Restoration, Proposed Sediment Criteria (Wetland Surface Material) (Table 2: Bair Island Wetland Restoration Site, Proposed Sediment Criteria (June 2007)). RWQCB. 2008. Revised Tentative Order Waste Discharge Requirements and Water Quality Certification for: U.S. Fish and Wildlife Service, Bair Island Restoration Project, Redwood City, San Mateo County, Attachment 4: Quality Assurance Project Plan for Inner Bair Island Fill and Import Placement.

⁷ RWQCB. Order No. 01-061. Waste Discharge Requirements and Water Quality Certification for: Winter Island Levee Rehabilitation Reclamation District 2122 (RD 2122), Contra Costa County.

⁸ Yosemite Slough Wetland Upper Cover (upper foot) Average Values (Table 1: Proposed Action Goals for Soil Reuse Options). Northgate Environmental Management, Inc.(Northgate) 2009 Work Plan for WDRs, Yosemite Slough Wetland Restoration, San Francisco, California, September 21.

⁹ Hamilton Action Goals (Table 3: Environmental Action Goals). Site Cleanup Requirements in Order No. R2-2003-0076, 2003, California Regional Water Quality Control Board. Per Section 2.2 of the Hamilton ROD/RAP (RWQCB and DTSC, Record of Decision/Remedial Action Plan, August 2003), the 95% UCL (or maximum if fewer than 5 samples) is compared to the Hamilton Action Goals.

¹⁰ Presidio: Non-Special Status Species PRGs for Marine Sediments (Table 7-4, Ecological Cleanup Levels for Non-Petroleum Compounds in Sediment at the Presidio of San Francisco (Marine)). Erler & Kalinowski. 2002. Development of Presidio-wide Cleanup Levels for Soil, Sediment, Groundwater, and Surface Water; Presidio of San Francisco, California, October.

¹¹ Mare Island Non-Tidal Wetland Areas Cleanup Level (0 to 2 feet) (Table 7-6: Development of Cleanup Levels for Sediment (0 to 2 feet) Non-Tidal Wetland. Weston Solutions, Inc. 2006. August 2006 Final Remedial Action Plan Record of Decision RCRA Closure Plan, Investigation Area H1, Mare Island, Vallejo, California. Areas).

¹² Yosemite Creek Remedial Goals for Sediments (Table 6-1: Remedial Goals for Sediments at Yosemite Slough). United States Environmental Protection Agency and Ecology and the Environment, Inc. 2013. Working Draft Engineering Evaluation/Cost Analysis, Yosemite Slough, San Francisco, California, April.

¹³ ESLs = Environmental Screening Level for Direct Exposure (Residential Scenario). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table S-1. February 2016.

a) A 90% UTL was calculated in ProUCL v5.0 using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>) as a San Francisco Bay 90% UTL has not been published.

b) A 90% UTL was calculated in ProUCL v5.0 using the 1993-2002 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>) as a San Francisco Bay 90% UTL has not been published.

c) Selenium action value was modified to be 1.4 mg/kg per May 4, 2012 "Request for Retroactive Approval of Imported Bay Mud" letter from Northgate to RWQCB.

d) Range includes background levels identified for different geological units (not including serpentinite) at the Presidio of San Francisco, California.

FIGURES



M:\01 - Projects\1116\116_09\ArcMap_Version\Figure 1.mxd 11/29/2018; Data Driven Pages:



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community



FIGURE 1
Site Location Map
 Supplemental Characterization Report
 Corté Madera Ecological Reserve
 Corté Madera, California

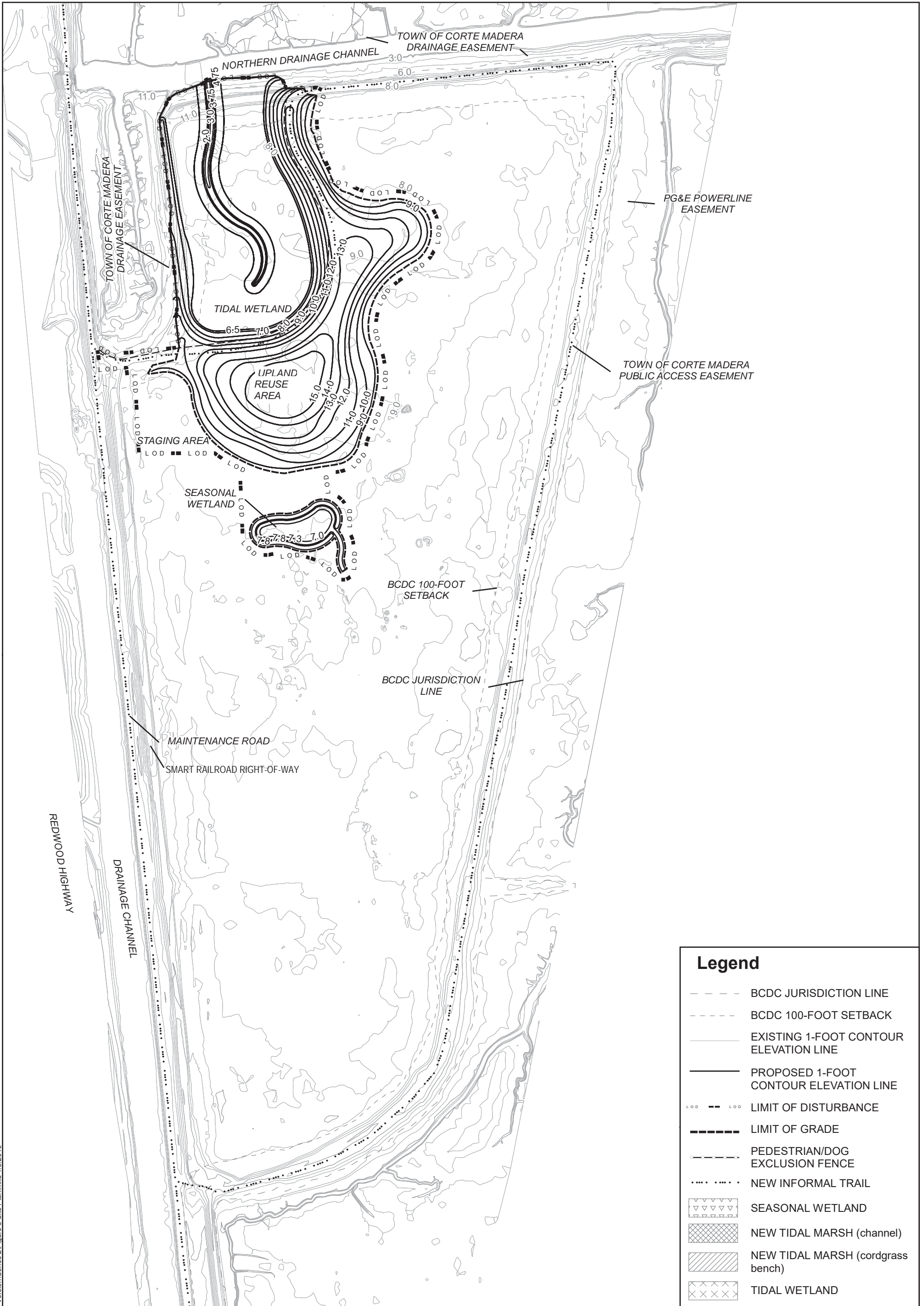


Project No. 1116.09

M:\01 Projects\1116\1116.09\ArcMap_Version\Figure 2.mxd 1/9/2019; Data Driven Pages:



FIGURE 2
Regional Location Map
Supplemental Characterization Report
Corte Madera Ecological Reserve
Corte Madera, California
Project No. 1116.09



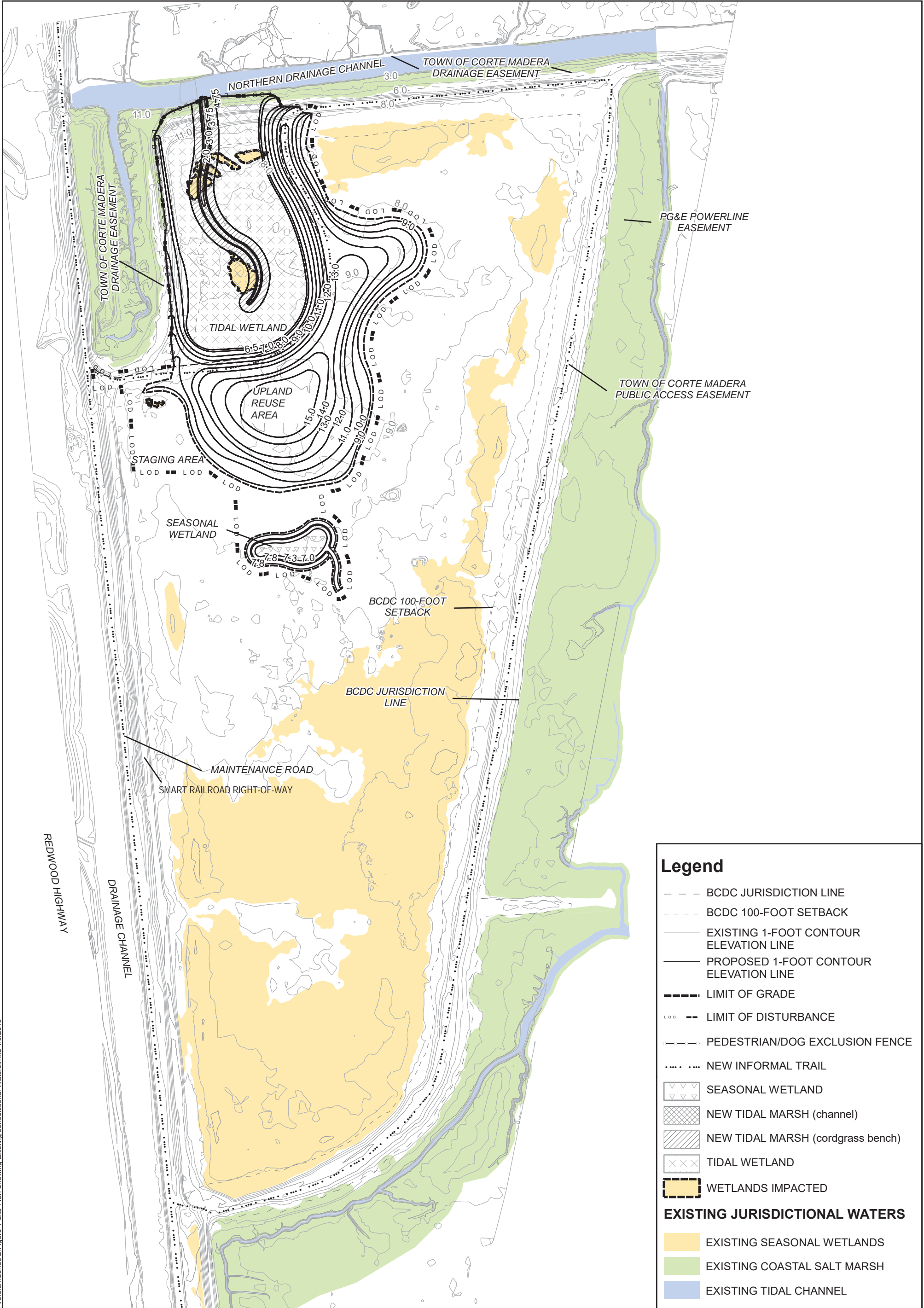
Legend	
---	BCDC JURISDICTION LINE
---	BCDC 100-FOOT SETBACK
---	EXISTING 1-FOOT CONTOUR ELEVATION LINE
---	PROPOSED 1-FOOT CONTOUR ELEVATION LINE
LOD - - - LOD	LIMIT OF DISTURBANCE
---	LIMIT OF GRADE
---	PEDESTRIAN/DOG EXCLUSION FENCE
...	NEW INFORMAL TRAIL
▽▽▽▽	SEASONAL WETLAND
▨	NEW TIDAL MARSH (channel)
▨	NEW TIDAL MARSH (cordgrass bench)
×	TIDAL WETLAND



FIGURE 3
Site Plan Showing 4-Acre Tidal Marsh Restoration Grading Plan
 Supplemental Characterization Report
 Corte Madera Ecological Reserve
 Corte Madera, California
 Project No. 1116.09



M:\01_Projects\1116\116.09\Ar\Map_Verson\Series 2\Figure 3_Site Plan.mxd 1/9/2019



Legend

- BCDC JURISDICTION LINE
- BCDC 100-FOOT SETBACK
- EXISTING 1-FOOT CONTOUR ELEVATION LINE
- PROPOSED 1-FOOT CONTOUR ELEVATION LINE
- LIMIT OF GRADE
- LOD --- LIMIT OF DISTURBANCE
- PEDESTRIAN/DOG EXCLUSION FENCE
- NEW INFORMAL TRAIL
- ▽▽▽ SEASONAL WETLAND
- ▨ NEW TIDAL MARSH (channel)
- ▨ NEW TIDAL MARSH (cordgrass bench)
- ××× TIDAL WETLAND
- WETLANDS IMPACTED

EXISTING JURISDICTIONAL WATERS

- EXISTING SEASONAL WETLANDS
- EXISTING COASTAL SALT MARSH
- EXISTING TIDAL CHANNEL

M:\01_Projects\1116\116.09\Ar\Map_Version\Series 2\Figure 4 Site Plan Showing Existing Jurisdictional Waters.mxd 1/9/2019

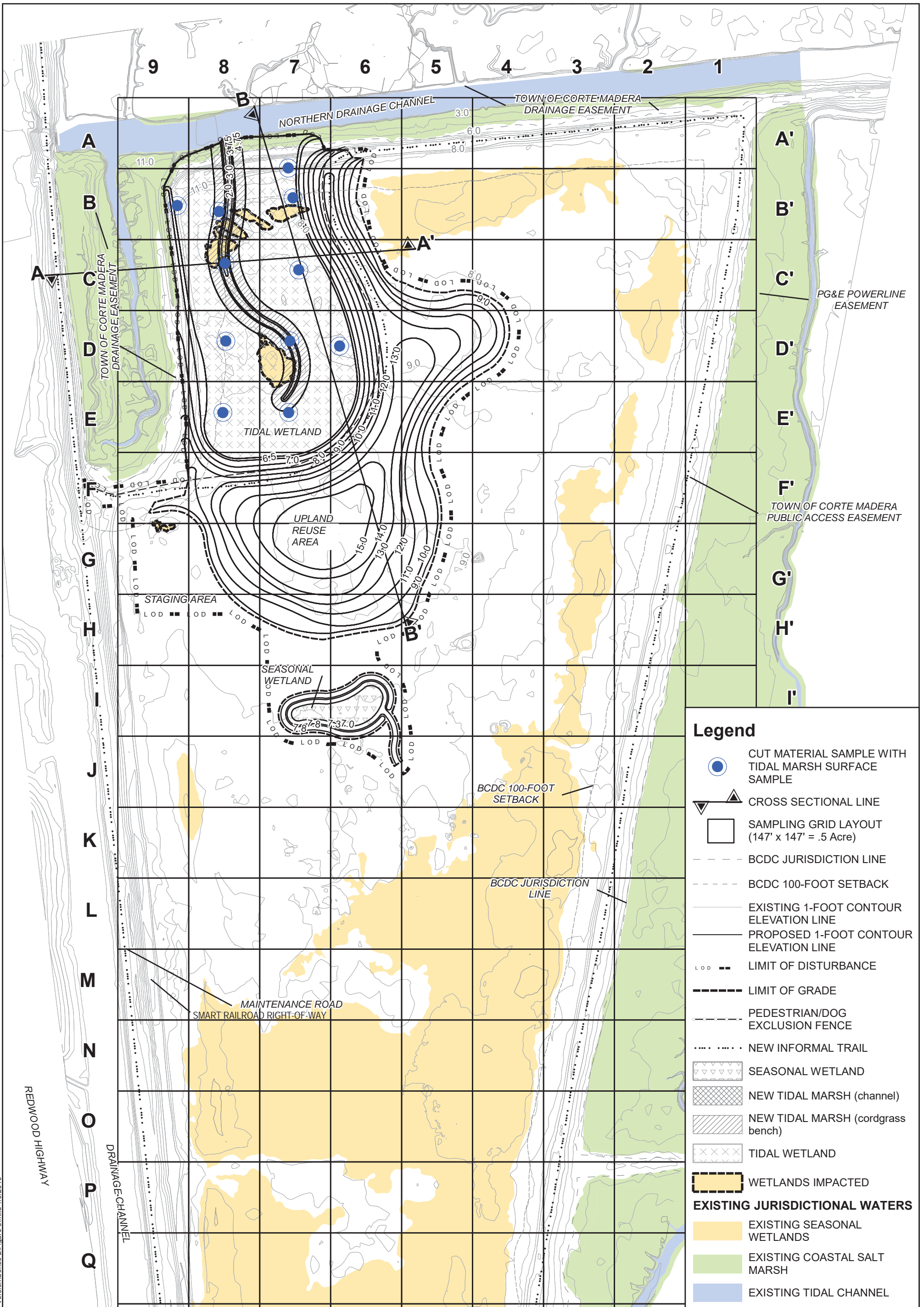


FIGURE 4
Site Plan Showing Existing Jurisdictional Waters



Supplemental Characterization Report
 Corte Madera Ecological Reserve
 Corte Madera, California

Project No. 1116.09



Legend

- CUT MATERIAL SAMPLE WITH TIDAL MARSH SURFACE SAMPLE
- CROSS SECTIONAL LINE
- SAMPLING GRID LAYOUT (147' x 147' = .5 Acre)
- BCDC JURISDICTION LINE
- BCDC 100-FOOT SETBACK
- EXISTING 1-FOOT CONTOUR ELEVATION LINE
- PROPOSED 1-FOOT CONTOUR ELEVATION LINE
- LIMIT OF DISTURBANCE
- LIMIT OF GRADE
- PEDESTRIAN/DOG EXCLUSION FENCE
- NEW INFORMAL TRAIL
- SEASONAL WETLAND
- NEW TIDAL MARSH (channel)
- NEW TIDAL MARSH (cordgrass bench)
- TIDAL WETLAND
- WETLANDS IMPACTED
- EXISTING JURISDICTIONAL WATERS**
- EXISTING SEASONAL WETLANDS
- EXISTING COASTAL SALT MARSH
- EXISTING TIDAL CHANNEL

FIGURE 5
Sampling Grid Layout - 4-Acre Tidal Marsh Restoration
 Supplemental Characterization Report
 Corte Madera Ecological Reserve
 Corte Madera, California

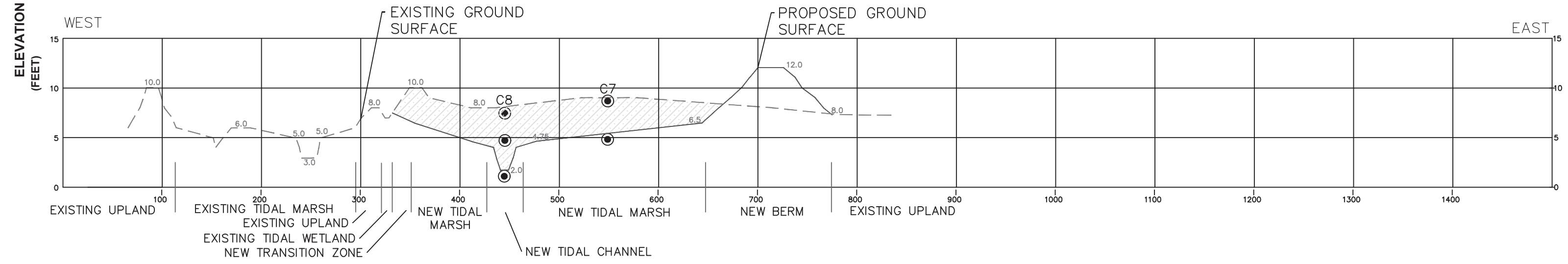


Project No. 1116.09

M:\01_Projects\1116\116.09\ArchMap_Version\Series 2\Figure 5.mxd 1/9/2019

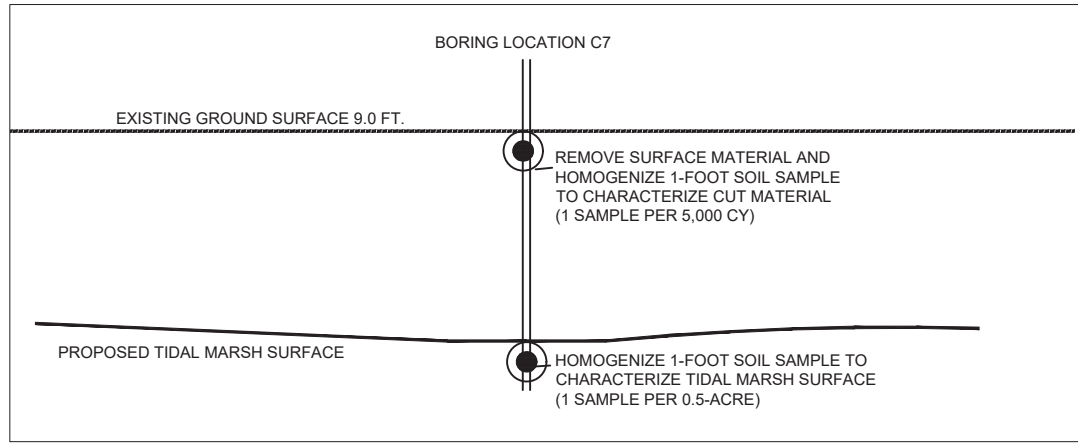
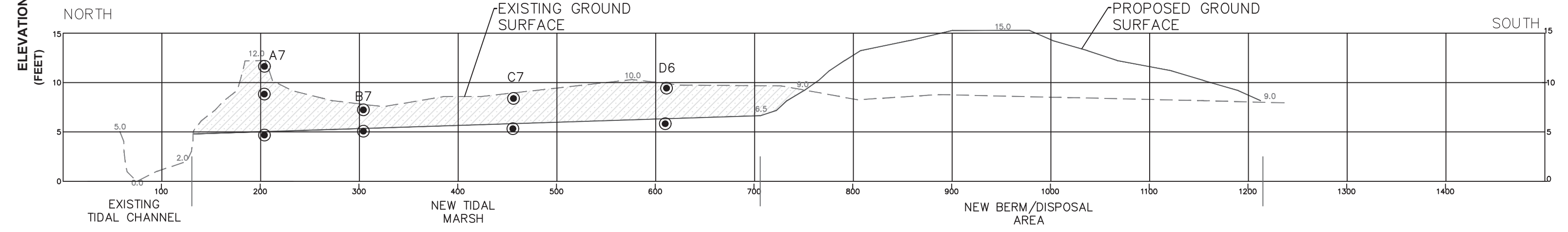
SECTION A-A'

SCALE: HORZ. 1"=100' VERT. 1"=10'



SECTION B-B'

SCALE: HORZ. 1"=100' VERT. 1"=10'



SAMPLING METHODOLOGY
NOT TO SCALE

LEGEND

- APPROXIMATE AREA OF CUT
- BORING/SAMPLE LOCATION

NOTES:
SAMPLE LOCATIONS HAVE BEEN PROJECTED ONTO THE CROSS SECTION AND ARE APPROXIMATE.
NOT ALL SAMPLE LOCATIONS ARE SHOWN ON THIS FIGURE.
CROSS SECTION LOCATIONS ARE SHOWN ON FIGURE 5.

FIGURE 6
Schematic Cross Sectional Views

Supplemental Characterization Report
Corte Madera Ecological Reserve
Corte Madera, California



M:\01_Projects\1116\116.09\ArchMap_Version\Figure 6 - Schematic Cross Sectional Views.dwg Layout: Figure 6 User: andrew.middleton, Jan 10, 2019 - 9:28am

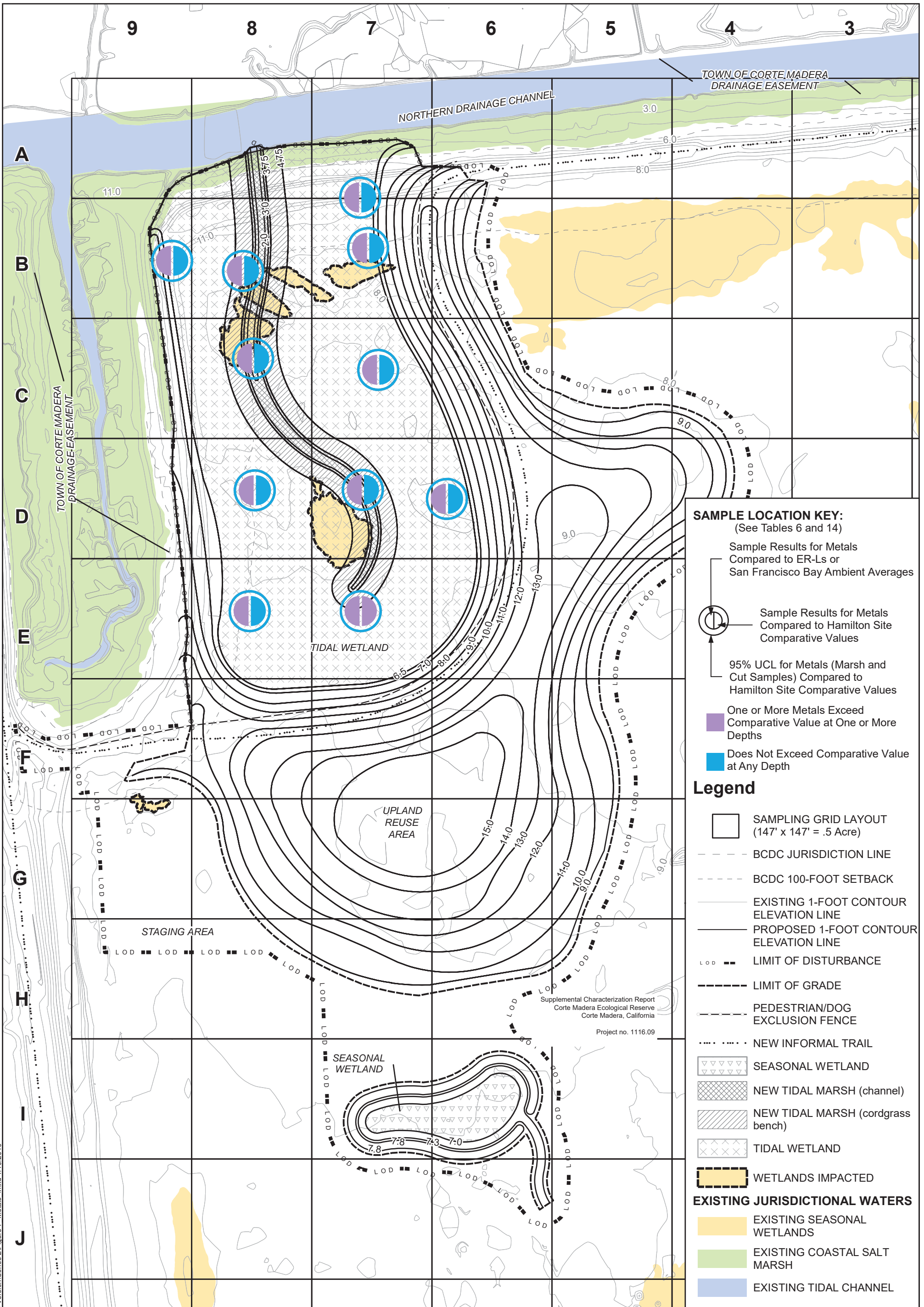
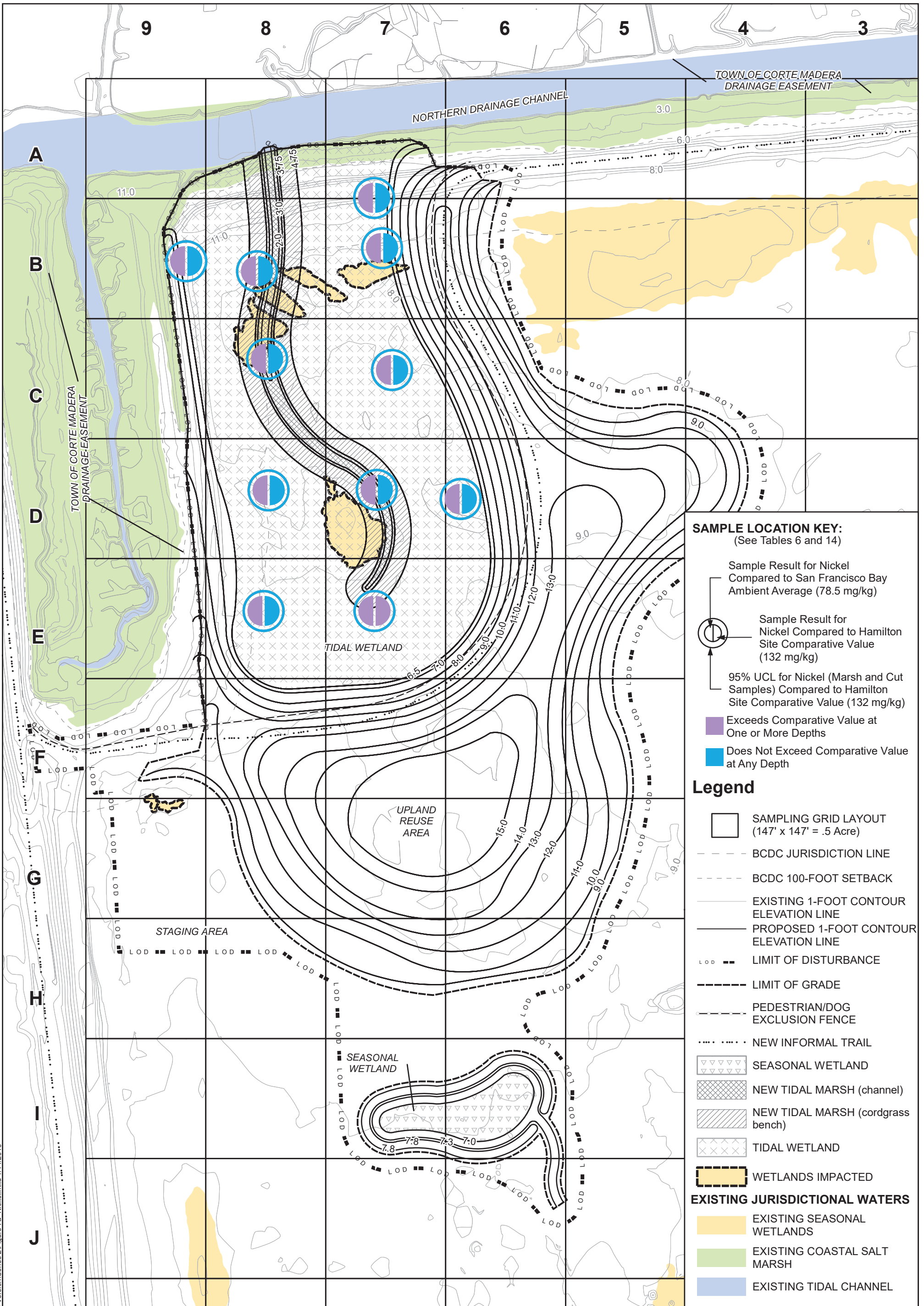


FIGURE 7
Summary of Sample Results - Metals



M:\01_Projects\1116\116.09\Archi\Map_Version\Series 2\Figure 7_Metals.mxd 1/10/2019



SAMPLE LOCATION KEY:
(See Tables 6 and 14)

Sample Result for Nickel Compared to San Francisco Bay Ambient Average (78.5 mg/kg)

Sample Result for Nickel Compared to Hamilton Site Comparative Value (132 mg/kg)

95% UCL for Nickel (Marsh and Cut Samples) Compared to Hamilton Site Comparative Value (132 mg/kg)

Exceeds Comparative Value at One or More Depths

Does Not Exceed Comparative Value at Any Depth

Legend

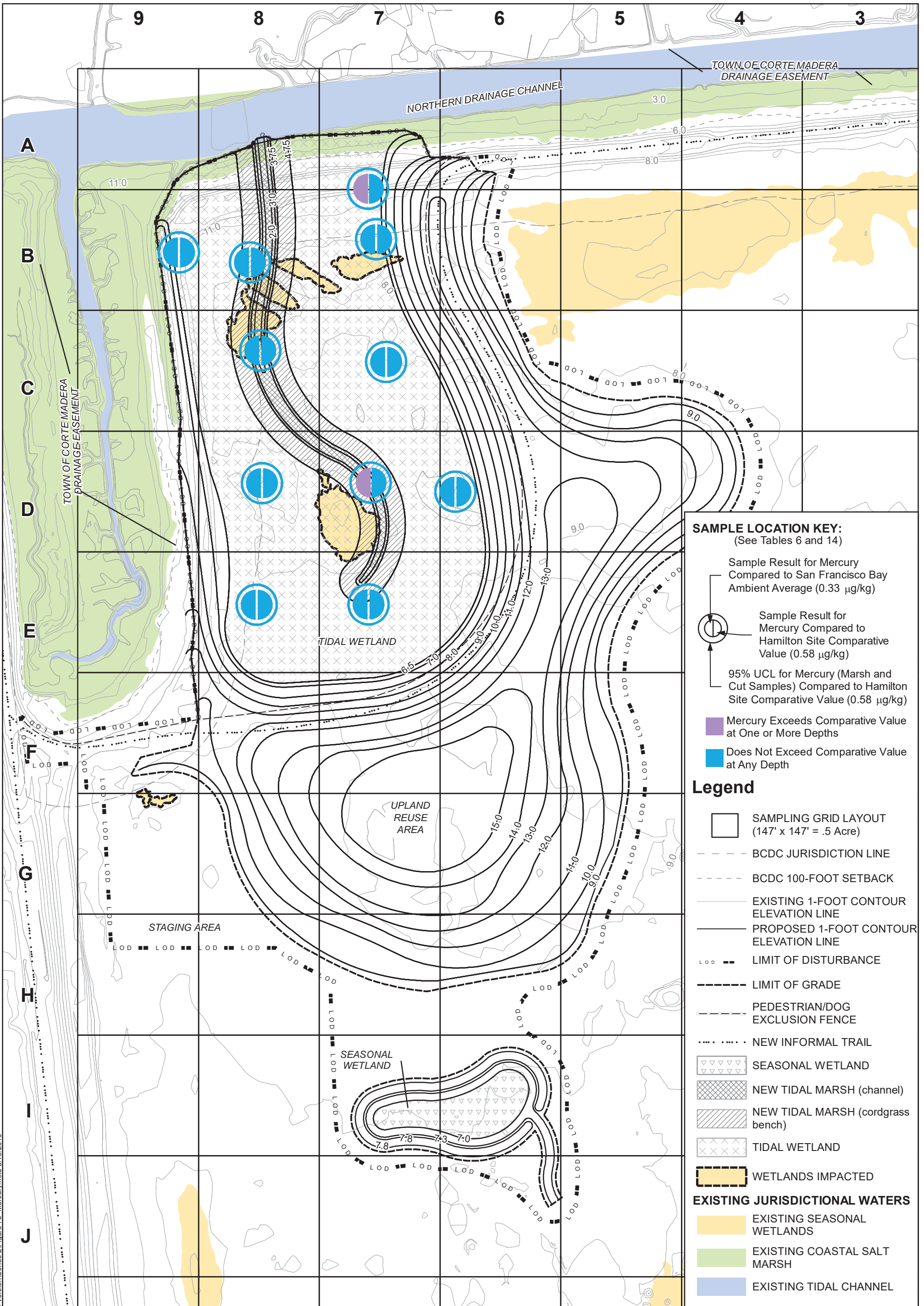
- SAMPLING GRID LAYOUT (147' x 147' = .5 Acre)
- BCDC JURISDICTION LINE
- BCDC 100-FOOT SETBACK
- EXISTING 1-FOOT CONTOUR ELEVATION LINE
- PROPOSED 1-FOOT CONTOUR ELEVATION LINE
- LIMIT OF DISTURBANCE
- LIMIT OF GRADE
- PEDESTRIAN/DOG EXCLUSION FENCE
- NEW INFORMAL TRAIL
- SEASONAL WETLAND
- NEW TIDAL MARSH (channel)
- NEW TIDAL MARSH (cordgrass bench)
- TIDAL WETLAND
- WETLANDS IMPACTED

EXISTING JURISDICTIONAL WATERS

- EXISTING SEASONAL WETLANDS
- EXISTING COASTAL SALT MARSH
- EXISTING TIDAL CHANNEL

M:\01_Projects\1116\116.09\Ar\Map_Version\Series 2\Figure 7a_Nickel.mxd 1/14/2019





SAMPLE LOCATION KEY:
(See Tables 6 and 14)

Sample Result for Mercury Compared to San Francisco Bay Ambient Average (0.33 µg/kg)

Sample Result for Mercury Compared to Hamilton Site Comparative Value (0.58 µg/kg)

95% UCL for Mercury (Marsh and Cut Samples) Compared to Hamilton Site Comparative Value (0.58 µg/kg)

Mercury Exceeds Comparative Value at One or More Depths

Does Not Exceed Comparative Value at Any Depth

Legend

- SAMPLING GRID LAYOUT (147' x 147' = .5 Acre)
- BCDC JURISDICTION LINE
- BCDC 100-FOOT SETBACK
- EXISTING 1-FOOT CONTOUR ELEVATION LINE
- PROPOSED 1-FOOT CONTOUR ELEVATION LINE
- LIMIT OF DISTURBANCE
- LIMIT OF GRADE
- PEDESTRIAN/DOG EXCLUSION FENCE
- NEW INFORMAL TRAIL
- SEASONAL WETLAND
- NEW TIDAL MARSH (channel)
- NEW TIDAL MARSH (cordgrass bench)
- TIDAL WETLAND
- WETLANDS IMPACTED

EXISTING JURISDICTIONAL WATERS

- EXISTING SEASONAL WETLANDS
- EXISTING COASTAL SALT MARSH
- EXISTING TIDAL CHANNEL

M:\01_Projects\1116\116_09\Arch\Map_Version\Series_2\Figure 7b_Mercury.mxd 3/19/2019

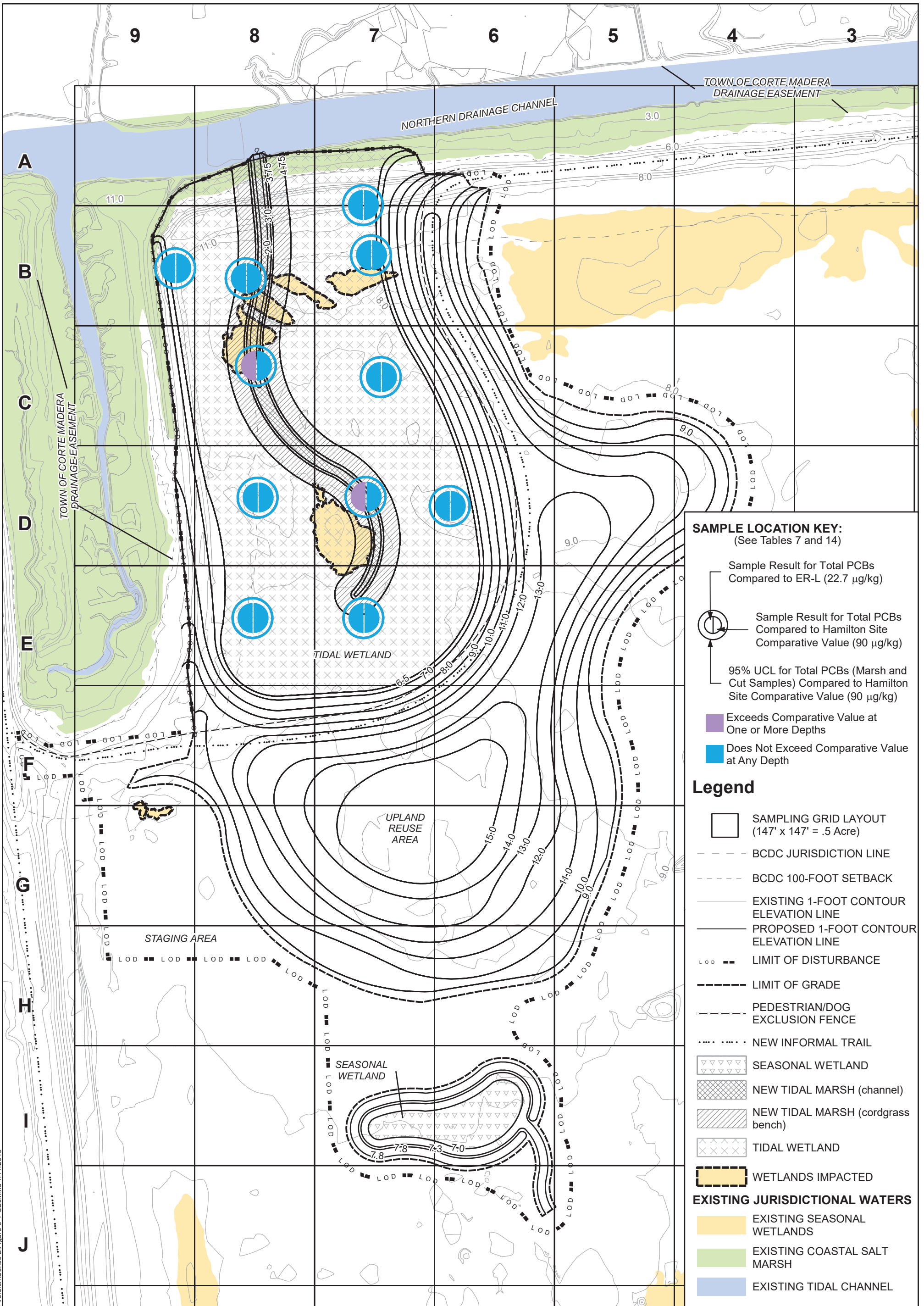


FIGURE 7b
Summary of Sample Results - Mercury



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Corte Madera Ecological Reserve
Corte Madera, California

Project No. 1116.09



SAMPLE LOCATION KEY:
(See Tables 7 and 14)

Sample Result for Total PCBs Compared to ER-L (22.7 µg/kg)

Sample Result for Total PCBs Compared to Hamilton Site Comparative Value (90 µg/kg)

95% UCL for Total PCBs (Marsh and Cut Samples) Compared to Hamilton Site Comparative Value (90 µg/kg)

Exceeds Comparative Value at One or More Depths

Does Not Exceed Comparative Value at Any Depth

Legend

SAMPLING GRID LAYOUT (147' x 147' = .5 Acre)

BCDC JURISDICTION LINE

BCDC 100-FOOT SETBACK

EXISTING 1-FOOT CONTOUR ELEVATION LINE

PROPOSED 1-FOOT CONTOUR ELEVATION LINE

LIMIT OF DISTURBANCE

LIMIT OF GRADE

PEDESTRIAN/DOG EXCLUSION FENCE

NEW INFORMAL TRAIL

SEASONAL WETLAND

NEW TIDAL MARSH (channel)

NEW TIDAL MARSH (cordgrass bench)

TIDAL WETLAND

WETLANDS IMPACTED

EXISTING JURISDICTIONAL WATERS

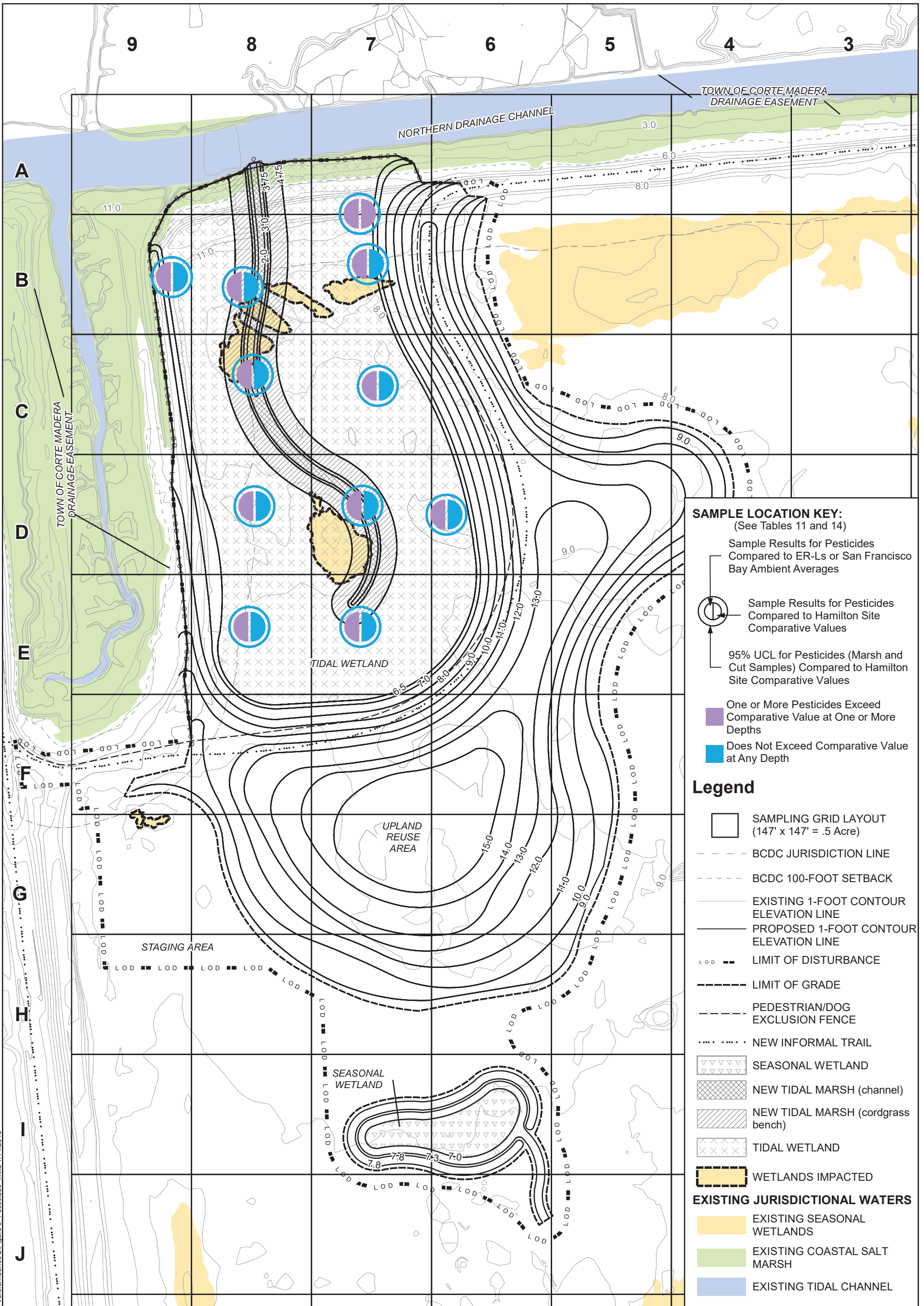
EXISTING SEASONAL WETLANDS

EXISTING COASTAL SALT MARSH

EXISTING TIDAL CHANNEL

M:\01_Projects\1116\116.09\Ar\Map_Version\Series 2\Figure 8_PCBs.mxd 1/11/2019





M:\01_Projects\1116\116.09\ArchiMap_Version\Series 2\Figure 9_Pesticides.mxd 1/14/2019

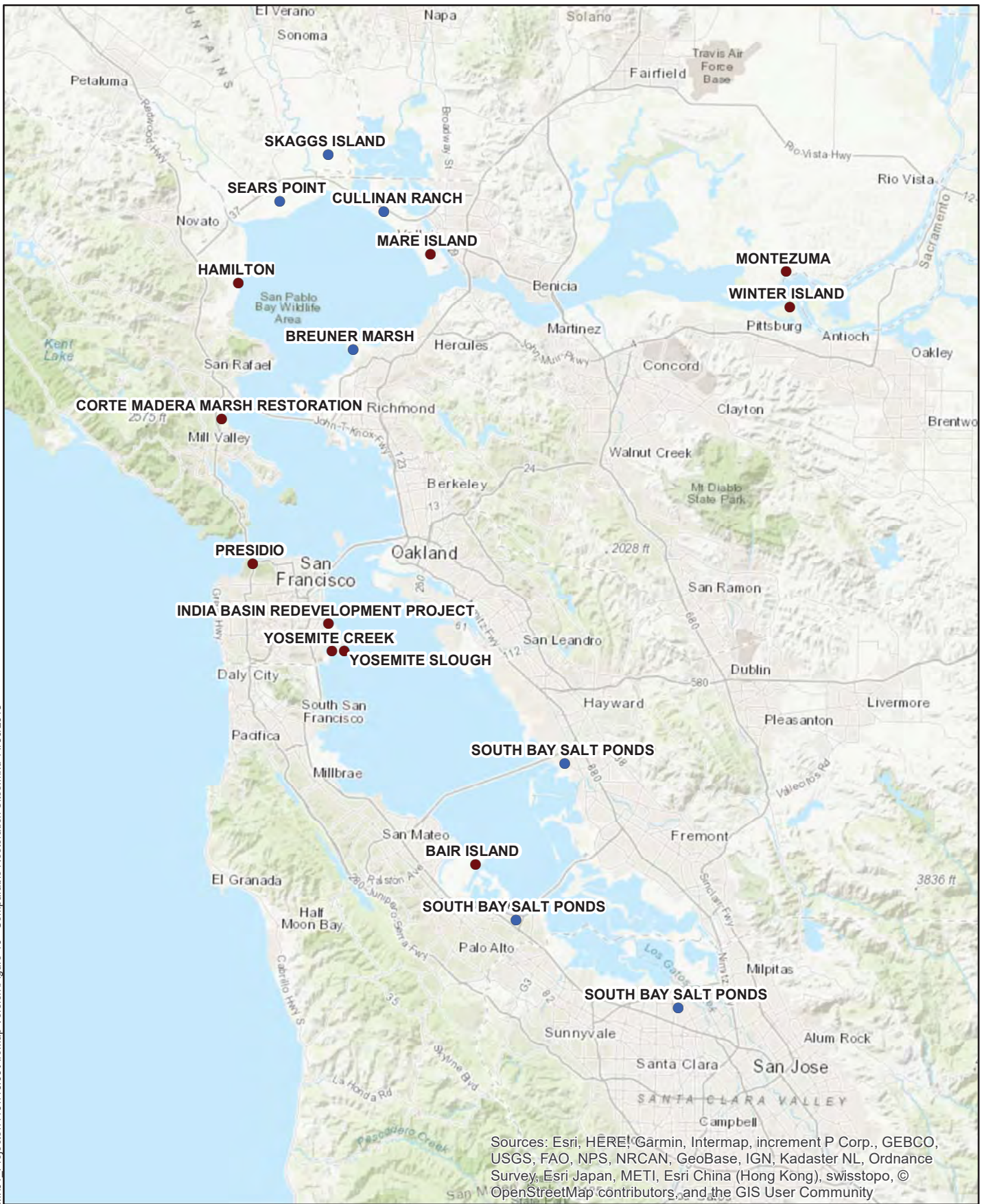


FIGURE 9
Summary of Sample Results - Pesticides



Supplemental Characterization Report
 Corte Madera Ecological Reserve
 Corte Madera, California
 Project No. 1116.09

M:\01_Proj\0116116.09\ArcMap_Version\Figure_10 - Comparable Restoration Sites.mxd 11/30/2018



Sources: Esri, HERE!, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community

Legend

- Sites With Published Action Goals
- Sites Without Published Action Goals

0 2.5 5 10 Miles

FIGURE 10
Comparable Restoration Sites in the San Francisco Bay

northgate
 environmental management, inc.

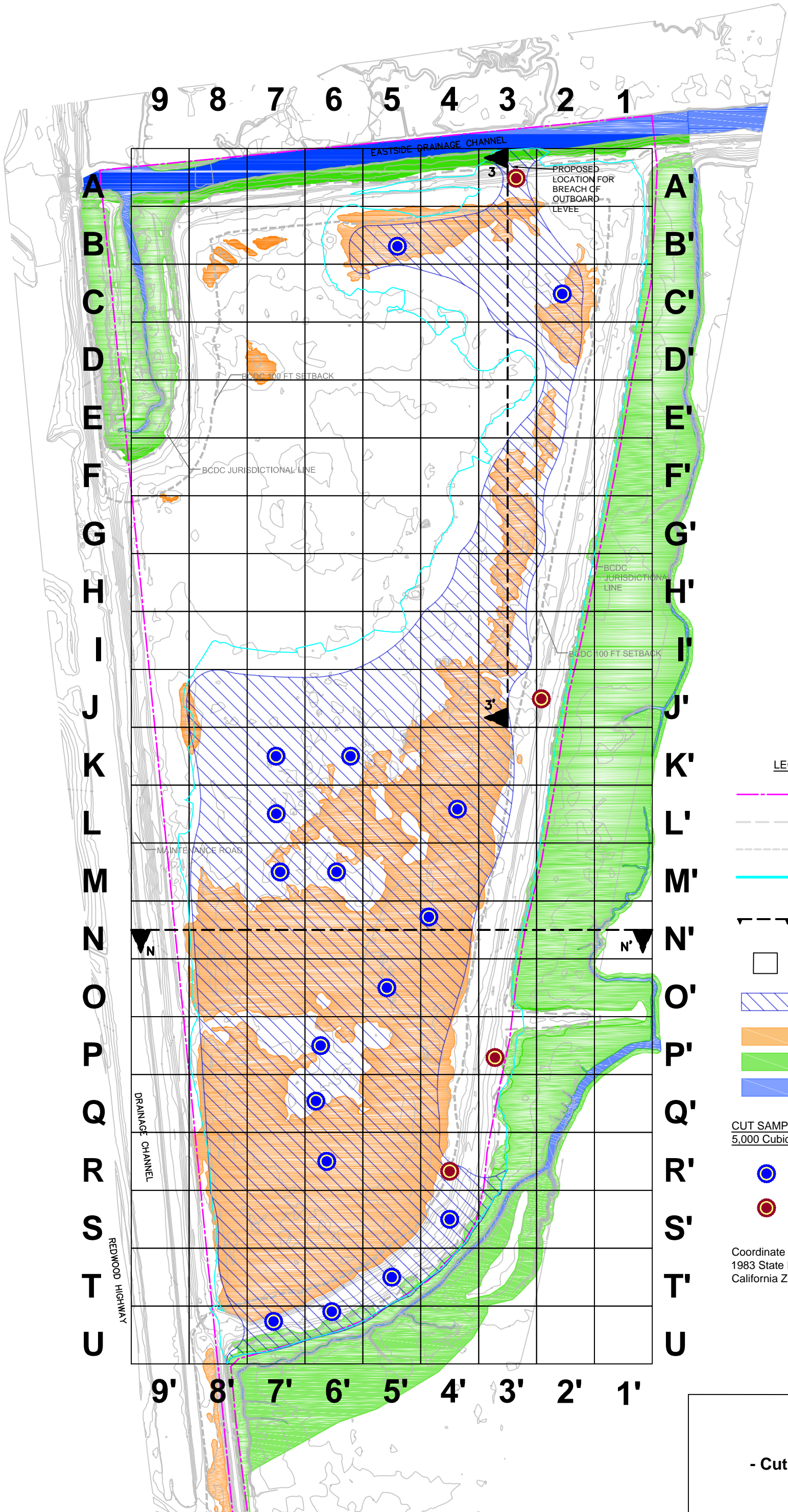
Supplemental Characterization Report
 Corte Madera Ecological Reserve
 Corte Madera, California
 Project no. 1116.09

APPENDIX A

SAMPLE LOCATION FIGURES – 2015/2016 CHARACTERIZATION



G:\Projects\Temp\1116 WRA Environmental\1116.08 CMER\Preim Report\Figures\Figure 5-6 - Sample Grid - Sample Locations.dwg Layout: Figure 5 User: oleg Apr 06, 2016 - 10:38am



LEGEND:

- Property Boundary
- BCDC Jurisdiction Line
- BCDC 100-Foot Setback
- Maximum Limit of Cut Material (Alternative 2B)
- Cross-Sectional Line (See Figure 6)
- Sampling Grid Layout (147' x 147' = 0.5-Acre)
- Proposed Tidal Marsh Area - Alternative 2B
- Existing Seasonal Wetlands
- Existing Coastal Salt Marsh
- Existing Tidal Channel

CUT SAMPLE LOCATION TYPES (1 Sample per 5,000 Cubic Yards):

- Cut Material Sample with Tidal Marsh Surface Sample
- Cut Material Sample

Coordinate System: North American Datum
1983 State Plan
California Zone III (FIPS 0430)

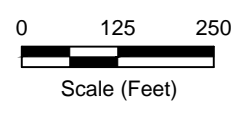
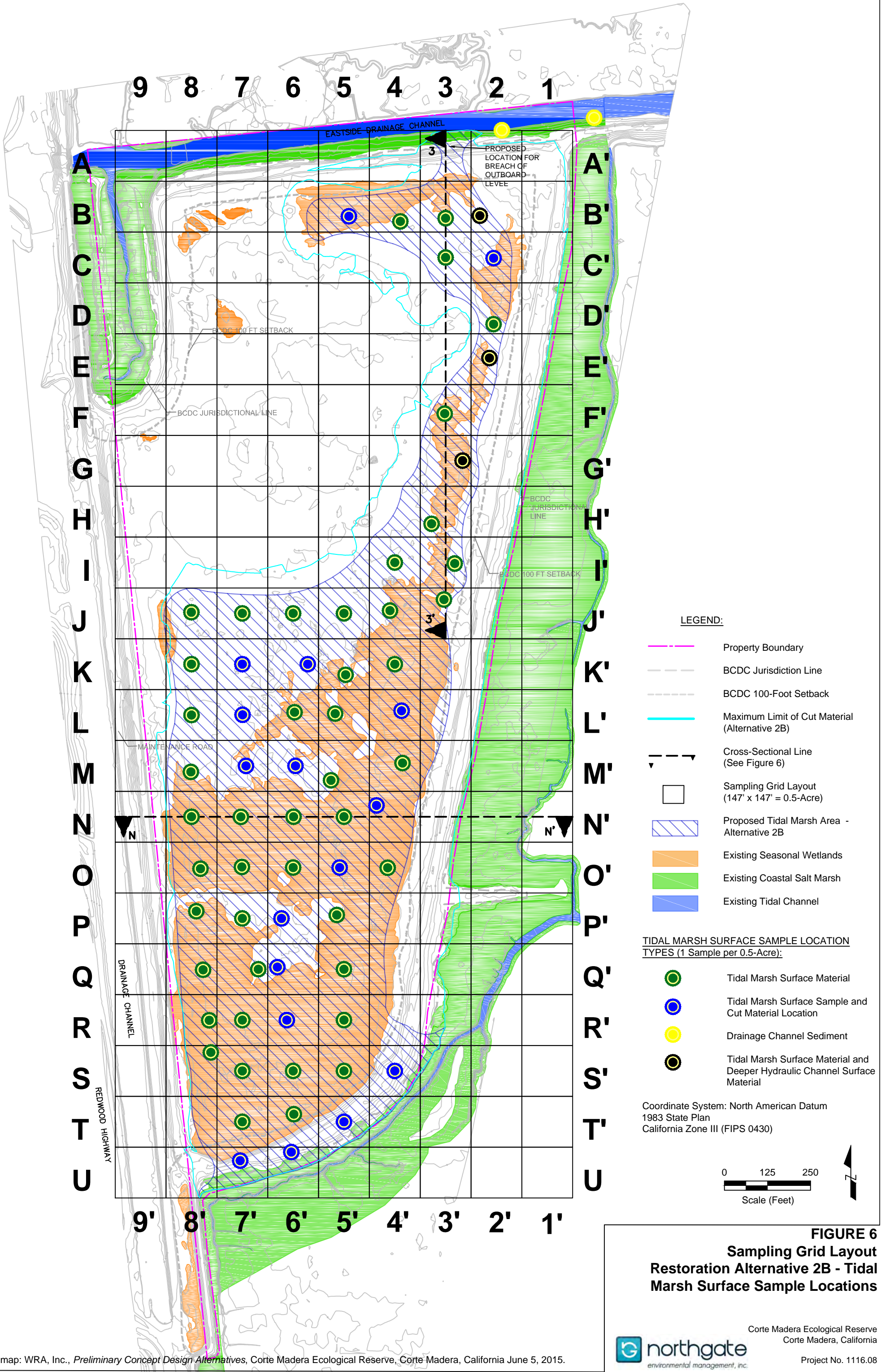


FIGURE 5
Sampling Grid Layout
Restoration Alternative 2B
- Cut Material Sample Locations

G:\Projects\Temp\1116 WRA Environmental\1116.08 CMER\PR Prelim Report\Figures\Figure 5-6 - Sample Grid - Sample Locations.dwg Layout: Figure 6 User: oleg Apr 06, 2016 - 10:36am



LEGEND:

- Property Boundary
- BCDC Jurisdiction Line
- BCDC 100-Foot Setback
- Maximum Limit of Cut Material (Alternative 2B)
- Cross-Sectional Line (See Figure 6)
- Sampling Grid Layout (147' x 147' = 0.5-Acre)
- Proposed Tidal Marsh Area - Alternative 2B
- Existing Seasonal Wetlands
- Existing Coastal Salt Marsh
- Existing Tidal Channel

TIDAL MARSH SURFACE SAMPLE LOCATION TYPES (1 Sample per 0.5-Acre):

- Tidal Marsh Surface Material
- Tidal Marsh Surface Sample and Cut Material Location
- Drainage Channel Sediment
- Tidal Marsh Surface Material and Deeper Hydraulic Channel Surface Material

Coordinate System: North American Datum
1983 State Plan
California Zone III (FIPS 0430)

0 125 250
Scale (Feet)

FIGURE 6
Sampling Grid Layout
Restoration Alternative 2B - Tidal
Marsh Surface Sample Locations

APPENDIX B
PHOTOGRAPHS





Photograph 1: View of a field team member GPS locating and marking a proposed soil boring in sample grid cell C8, looking northeast. October, 2018.



Photograph 2: View of a field team member GPS locating and marking a proposed soil boring location in sample grid cell A7, looking southwest. October, 2018.





Photograph 3: View of a field team member GPS locating and marking a proposed soil boring location in sample grid cell D8, looking south. October, 2018.



Photograph 4: View of utility locator scanning for subsurface utilities at a proposed soil boring location in sample grid cell B9, looking south. October, 2018.





Photograph 5: View of field team members advancing a soil boring using a hand auger in sample grid cell D8, looking southeast. October, 2018.



Photograph 6: View of a field team member field mixing soil from a soil boring advanced in sample grid cell C8, looking northeast. October, 2018.





Photograph 7: View of pedestrian path along outboard levee; looking northeast from eastern boundary of the Site. December 2015.



Photograph 8: View of Site; looking north from southwestern portion of the Site. December, 2015.





Photograph 9: View of Site; looking northeast from middle of the Site. December, 2015

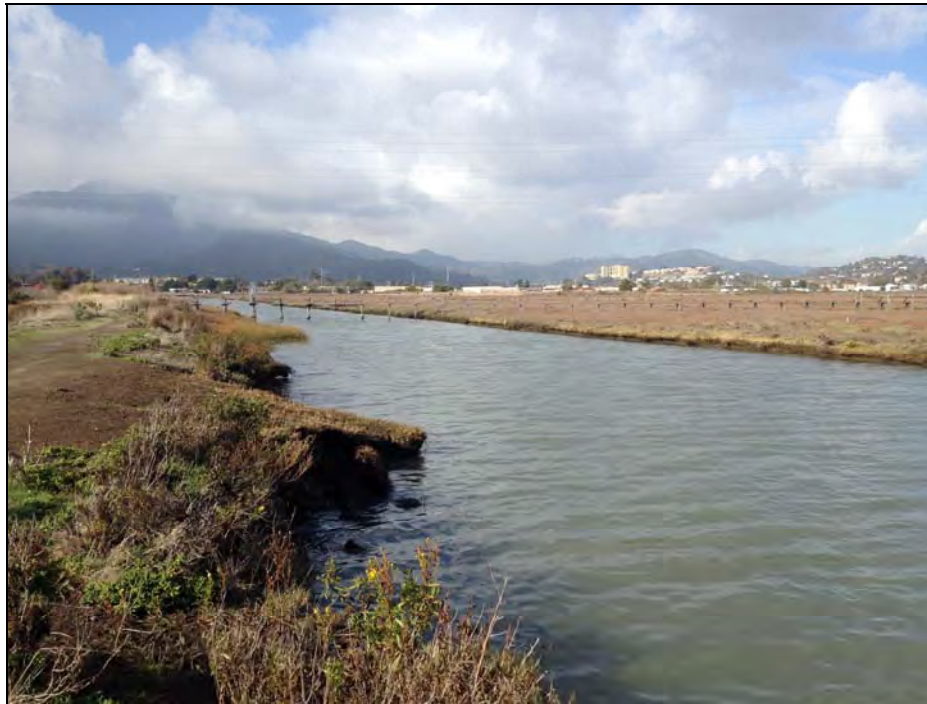


Photograph 10: View of tidal marsh, channel, and San Francisco Bay; looking east from beyond eastern boundary of the Site. December, 2015.





Photograph 11: View of the drainage channel located north of the Site; looking east from northern boundary of the Site. December, 2015.



Photograph 12: View of the drainage channel located north of the Site; looking west from beyond the northeastern corner of the Site. December, 2015.





Photograph 13: View of San Francisco Bay (left) and drainage channel (right); looking west from beyond the northeastern corner of the Site. December, 2015.



Photograph 14: View of San Francisco Bay; looking northeast from beyond the northeastern corner of the Site. December, 2015.



APPENDIX C
DATA QUALITY ASSESSMENT CHECKLISTS



DATA REVIEW CHECKLIST

Lab Report 304507

The data quality of the following laboratory analytical report was assessed and any necessary qualifiers were applied following the US Environmental Protection Agency (EPA) Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, August 2014.

Laboratory Report:	304507		
Sample Date(s):	October 24, 2018		
Analyses:	EPA 8081A, EPA 8082, EPA 8270C-SIM, EPA 8015B, EPA 6020/7471A, ASTM D2216-98/CLP, Walkley-Black		
Analytical Laboratory:	Enthalpy Analytical, LLC		
Sampling Team:	Gabriel Fuson		
Sample Identification(s): <i>Soil</i>	D7-9.0 D7-6.0 D7-4.0 D7-2.5 D6-8.0 D6-6.0	E7-9.5 E7-7.0 E7-5.0 FD-1 E8-9.5 E8-6.0	D8-9.0 D8-5.5 C7-9.0 C7-6.0 B7-8.0 B7-6.5

ANALYTICAL DATA PACKAGE DOCUMENTATION

GENERAL INFORMATION

Report Contents	Reported		Performance Acceptable		Not Applicable
	No	Yes	No	Yes	
Sample results		✓		✓	
Parameters analyzed		✓		✓	
Methods of analysis		✓		✓	
Reporting limits of analysis		✓		✓	
Master tracking list		✓		✓	
Sample collection date		✓		✓	
Laboratory sample received date		✓		✓	
Sample preparation/extraction date		✓		✓	
Sample analysis date		✓		✓	
Copy of chain-of-custody form signed by lab sample custodian		✓		✓	
Narrative summary of QA or sample problems provided		✓		✓	

Notes and Abbreviations:

QA = quality assurance

HOLDING TIME AND PRESERVATION EVALUATION

The samples were prepared and analyzed within the method prescribed time period from the date of collection. No qualifications were required based on holding time exceedances.



The sample shipments were received on ice directly from the field and the cooling process had begun. Coolers were received at the laboratory with a temperature within the 2°C to 6°C range. No qualifications were required.

SURROGATE EVALUATION

Surrogates for sample C7-6.0 (lab # 304507-016) were diluted out. All other surrogate recoveries were within acceptable limits. No qualifications were required.

BLANK EVALUATION

No equipment blank samples were collected. The method blanks had no detected analytes with the exception of the following:

- Naphthalene was detected between the MDL and the RL in the method blank for batch 265085; this analyte was not detected in samples at or above the RL;
- Endosulfan I was detected between the MDL and the RL in the method blank for batch 265222; this analyte was not detected in samples at or above the RL; and,
- Barium and molybdenum were detected between the MDL and the RL in the method blank for batch 264914; these analytes were either not detected in samples at or above the RL, or detected in samples at a level at least 10 times that of the blank.

No qualifications were required.

BLANK AND MATRIX SPIKE EVALUATION

All batch spike (BS), batch spike duplicate (BSD), laboratory control sample (LCS), and laboratory control sample duplicate (LCSD) results were within laboratory quality control limits, indicating acceptable laboratory accuracy and precision. All matrix spike (MS) and matrix spike duplicate (MSD) results were within laboratory quality control limits with the exception of the following:

- Low recoveries were observed for antimony in the MS/MSD of sample D7-9.0 (lab # 304507-001); the BS/BSD were within limits, and the associated RPD was within limits;
- Low recoveries were observed for total organic carbon in the MS/MSD of sample D7-9.0 (lab # 304507-001); the LCS was within limits, and the associated RPD was within limits.
- Low recoveries were observed for antimony in the MS/MSD of sample D8-9.0 (lab # 304507-013); the BS/BSD were within limits, and the associated RPD was within limits;

Matrix spikes for batches 264940, 264958, and 265085 were not reported or analyzed because the parent samples required a dilution that would have diluted out the spikes.

No qualifications were required.

DUPLICATE EVALUATION

One sample was submitted in duplicate; primary sample, E7-5.0, and field duplicate, FD-1; Northgate calculated the relative percent difference (RPD) between detected results. The RPD is acceptable ($\leq 50\%$ for soil) with the exception of various pesticides, where RPDs ranged from 107% to 139%. Using



professional judgment and Region 9 Guidance for Data Review as recommended by the National Functional Guidelines (EPA 2008, 2010), field duplicate RPD exceedances were not qualified due to the common occurrence of non-homogenous bulk field sample matrix of soil. Each field duplicate result is quantitative and provides useful information. No further action was taken. Results are summarized in the attached Table 1.

OVERALL ASSESSMENT

No data required qualification or rejection. All of the data are usable.

REVIEW PERFORMED BY: Gabriel Fuson

DATE: January 16, 2019

PEER REVIEW BY: Elizabeth Nixon

DATE: January 23, 2019



TABLE 1
Field Duplicate Results and Calculated Relative Percent Differences - Lab Report 304507

Primary Sample ID	Duplicate Sample ID	Sample Date	Analysis Date	Compound ¹	Concentration		Sample RL	Duplicate RL	Units	RPD %		
					Primary	Duplicate						
E7-5.0	FD-1	10/24/18	10/31/18	Diesel C10-C24	3.5	Y	5.2	Y	0.38	0.38	mg/kg	39
			10/31/18	Motor Oil C24-C36	14		22		1.9	1.9	mg/kg	44
			10/29/18	Antimony	0.78	J	1.1	J	0.047	0.046	mg/kg	34
			10/29/18	Arsenic	8.9		8.9		0.049	0.048	mg/kg	0
			10/29/18	Barium	73		72		0.026	0.025	mg/kg	1
			10/29/18	Beryllium	0.71	J	0.62	J	0.076	0.074	mg/kg	14
			10/29/18	Cadmium	0.47	J	0.42	J	0.12	0.12	mg/kg	11
			10/29/18	Chromium	220		220		0.21	0.21	mg/kg	0
			10/29/18	Cobalt	29		27		0.13	0.13	mg/kg	7
			10/29/18	Copper	36		35		0.20	0.20	mg/kg	3
			10/29/18	Lead	13		10		0.092	0.090	mg/kg	26
			10/30/18	Mercury	0.16		0.16		0.0038	0.0034	mg/kg	0
			10/30/18	Molybdenum	0.63	J	0.63	J	0.032	0.031	mg/kg	0
			10/30/18	Nickel	330		330		0.96	0.94	mg/kg	0
			10/29/18	Selenium	0.53	J	0.52	J	0.28	0.27	mg/kg	2
			10/29/18	Silver	0.13	J	0.12	J	0.06	0.05	mg/kg	8
			10/29/18	Vanadium	62		59		0.27	0.26	mg/kg	5
			10/29/18	Zinc	98		79		0.80	0.78	mg/kg	21
			11/1/18	4,4'-DDD	2	CJ	0.61	CJ	0.19	0.19	µg/kg	107
			11/1/18	4,4'-DDE	0.29	CJ	1.4	CJ	0.12	0.10	µg/kg	131
			11/1/18	beta-BHC	0.18	CJ	1	J	0.08	0.14	µg/kg	139
			11/1/18	delta-BHC	0.16	CJ	0.19	ND	0.10	0.19	µg/kg	NC
			11/1/18	Dieldrin	0.13	CJ	0.16	J	0.10	0.11	µg/kg	21
			11/1/18	Heptachlor epoxide	0.11	CJ	0.095	ND	0.10	0.10	µg/kg	NC
			11/7/18	Acenaphthylene	1.2	ND	1.9	J	1.2	1.2	µg/kg	NC
			11/7/18	Anthracene	1.4	J	1.7	J	1.2	1.2	µg/kg	19
			11/7/18	Benzo(a)anthracene	8.2		8		1.2	1.2	µg/kg	2
			11/7/18	Benzo(a)pyrene	11		14		1.2	1.2	µg/kg	24
			11/7/18	Benzo(b)fluoranthene	26		26		1.2	1.2	µg/kg	0
			11/7/18	Benzo(g,h,i)perylene	14		15.0		1.2	1.2	µg/kg	7
			11/7/18	Benzo(k)fluoranthene	3.7	J	5.1	J	1.2	1.2	µg/kg	32
			11/7/18	Chrysene	22		21		1.2	1.2	µg/kg	5
			11/7/18	Dibenz(a,h)anthracene	3.6	J	2.9	J	1.2	1.2	µg/kg	22
			11/7/18	Fluoranthene	15		14		1.2	1.2	µg/kg	7
			11/7/18	Fluorene	9.2		7.6		1.2	1.2	µg/kg	19
			11/7/18	Indeno(1,2,3-cd)pyrene	8.7		9.8		1.2	1.2	µg/kg	12
			11/7/18	Naphthalene	22		20		1.2	1.2	µg/kg	10
			11/7/18	Phenanthrene	57.0		45		1.2	1.2	µg/kg	24
			11/7/18	Pyrene	20		20		1.2	1.2	µg/kg	0
			10/26/18	Moisture, Percent	19		19		1.0	1.0	%	0
11/9/18	Total Organic Carbon	0.77		0.77		0.04	0.04	%	0			

Notes and Abbreviations:

1. Only detected chemicals are shown.

Values in **bold** are over the quality control limit.

NC = Not calculated; compound was detected in one sample and not the other

mg/kg = Milligrams per kilogram

µg/kg = Micrograms per kilogram

RL = Reporting limit

RPD = Relative percent difference

J = Estimated value

C = Presence confirmed, but RPD between columns exceeds 40%

ND = Not detected

Y = Sample exhibits chromatographic pattern which does not resemble standard

DATA REVIEW CHECKLIST

Lab Report 304541

The data quality of the following laboratory analytical report was assessed and any necessary qualifiers were applied following the US Environmental Protection Agency (EPA) Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, August 2014.

Laboratory Report:	304541		
Sample Date(s):	October 25, 2018		
Analyses:	EPA 8081A, EPA 8082, EPA 8270C-SIM, EPA 8015B, EPA 6010B/7471A, ASTM D2216, Walkley-Black		
Analytical Laboratory:	Enthalpy Analytical, LLC		
Sampling Team:	Gabriel Fuson		
Sample Identification(s): <i>Soil</i>	C8-8.0 C8-5.0 C8-2.0 B8-8.5 B8-6.5	FD-2 B8-4.5 A7-12.0 A7-9.0	FD-3 A7-5.5 B9-8.5 B9-6.5

ANALYTICAL DATA PACKAGE DOCUMENTATION

GENERAL INFORMATION

Report Contents	Reported		Performance Acceptable		Not Applicable
	No	Yes	No	Yes	
Sample results		✓		✓	
Parameters analyzed		✓		✓	
Methods of analysis		✓		✓	
Reporting limits of analysis		✓		✓	
Master tracking list		✓		✓	
Sample collection date		✓		✓	
Laboratory sample received date		✓		✓	
Sample preparation/extraction date		✓		✓	
Sample analysis date		✓		✓	
Copy of chain-of-custody form signed by lab sample custodian		✓		✓	
Narrative summary of QA or sample problems provided		✓		✓	

Notes and Abbreviations:

QA = quality assurance

HOLDING TIME AND PRESERVATION EVALUATION

The samples were prepared and analyzed within the method prescribed time period from the date of collection. No qualifications were required based on holding time exceedances.

The sample shipments were received on ice directly from the field and the cooling process had begun. Coolers were received at the laboratory with a temperature of 0.0°C. No qualifications were required.



SURROGATE EVALUATION

All surrogate recoveries were within acceptable limits with the exception of the following:

- Low surrogate recoveries were observed for TCMX and decachlorobiphenyl in A7-5.5 (lab # 304541-011)
- Low surrogate recoveries were observed for decachlorobiphenyl in B8-4.5 (lab # 304541-004), FD-3 (lab # 304541-010), and the MSD of C8-8.0 (lab # 304541-001).

No qualifications were required.

BLANK EVALUATION

No equipment blank samples were collected. The method blanks had no detected analytes with the exception of the following:

- Gamma-chlordane was detected between the MDL and the RL in the method blank for batch 265233; this analyte was not detected at or above the RL in the sample;
- Gamma-chlordane was detected between the MDL and the RL in the method blank for batch 265246; this analyte was not detected at or above the RL in the samples;

No qualifications were required.

BLANK AND MATRIX SPIKE EVALUATION

All batch spike (BS), batch spike duplicate (BSD), laboratory control sample (LCS), and laboratory control sample duplicate (LCSD) results were within laboratory quality control limits, indicating acceptable laboratory accuracy and precision. All matrix spike (MS) and matrix spike duplicate (MSD) results were within laboratory quality control limits with the exception of the following:

- Low recoveries were observed for antimony in the MS/MSD of D8-9.0 (lab # 304507-013); the BS/BSD were within limits, and the associated RPD was within limits.
- Matrix spikes QC954618, QC954619 (batch 265233) were not analyzed because the parent sample required a dilution that would have diluted out the spikes.

No qualifications were required.

DUPLICATE EVALUATION

Two samples were submitted in duplicate; primary sample, B8-6.5, and field duplicate, FD-2; and primary sample, A7-12.0, and field duplicate, FD-3. Northgate calculated the relative percent difference (RPD) between detected results. The RPD is acceptable ($\leq 50\%$ for soil) with the exception of beta-BHC (a pesticide) and fluoranthene (a polyaromatic hydrocarbon [PAH]), in duplicate sample FD-2, where RPDs were 55% and 67%, respectively; and Aroclor-1260 (a polychlorinated biphenyl) and 4,4'-DDE (a type of pesticide) in duplicate sample FD-3, with RPDs of 64% and 179%, respectively. Using professional judgment and Region 9 Guidance for Data Review as recommended by the National Functional Guidelines (EPA 2008, 2010), field duplicate RPD exceedances were not qualified due to the common occurrence of non-homogenous bulk field sample matrix of soil. Each field duplicate result is quantitative and provides useful information. No further action was taken. Results are summarized in the attached Table 2.



OVERALL ASSESSMENT

No data required qualification or rejection. All of the data are usable.

REVIEW PERFORMED BY: Gabriel Fuson

DATE: January 16, 2019

PEER REVIEW BY: Elizabeth Nixon

DATE: January 23, 2019



TABLE 2
Field Duplicate Results and Calculated Relative Percent Differences - Lab Report 304541

Primary Sample ID	Duplicate Sample ID	Sample Date	Analysis Date	Compound ¹	Concentration		Sample RL	Duplicate RL	Units	RPD %					
					Primary	Duplicate									
A7-12.0	FD-3	10/25/18	11/2/18	Diesel C10-C24	6.5	Y	6.8	Y	0.37	0.37	mg/kg	5			
			11/2/18	Motor Oil C24-C36	53		65		1.8	1.8	mg/kg	20			
			10/29/18	Antimony	0.36	J	0.31	J	0.042	0.042	mg/kg	15			
			10/29/18	Arsenic	14		12		0.044	0.044	mg/kg	15			
			10/29/18	Barium	66		64		0.023	0.023	mg/kg	3			
			10/29/18	Beryllium	0.82		0.83		0.068	0.067	mg/kg	1			
			10/29/18	Cadmium	0.64	J	0.64	J	0.11	0.11	mg/kg	0			
			10/29/18	Chromium	110		110		0.19	0.19	mg/kg	0			
			10/29/18	Cobalt	16		16		0.12	0.11	mg/kg	0			
			10/30/18	Copper	60		54		0.18	0.18	mg/kg	11			
			10/29/18	Lead	37		34		0.082	0.082	mg/kg	8			
			10/30/18	Mercury	0.36		0.36		0.0033	0.0036	mg/kg	0			
			10/30/18	Molybdenum	1.10		1.1		0.029	0.028	mg/kg	0			
			10/29/18	Nickel	100		99		0.17	0.17	mg/kg	1			
			10/29/18	Selenium	0.81	J	0.85	J	0.25	0.25	mg/kg	5			
			10/29/18	Silver	0.41	J	0.42	J	0.05	0.05	mg/kg	2			
			10/29/18	Thallium	0.27	J	0.24	J	0.09	0.09	mg/kg	12			
			10/29/18	Vanadium	89		86		0.24	0.24	mg/kg	3			
			10/30/18	Zinc	140		130		0.71	0.71	mg/kg	7			
						11/3/18	Aroclor-1260	12	J	6.2	J	4.3	4.3	µg/kg	64
						11/2/18	4,4'-DDD	2.5	J	3.1		0.18	0.18	µg/kg	21
						11/2/18	4,4'-DDE	0.16	CJ	2.9	#	0.10	0.10	µg/kg	179
						11/2/18	4,4'-DDT	1.1	CJ	1	J	0.11	0.11	µg/kg	10
						11/2/18	alpha-BHC	0.17	J	0.15	CJ	0.11	0.12	µg/kg	13
						11/2/18	Dieldrin	0.22	CJ	0.21	J	0.11	0.10	µg/kg	5
						11/2/18	Endosulfan sulfate	0.4	CJ	0.59	CJ	0.09	0.09	µg/kg	38
						11/2/18	Endrin	0.63	J	0.75	J	0.08	0.08	µg/kg	17
						11/2/18	Heptachlor epoxide	0.1	ND	0.11	J	0.10	0.09	µg/kg	NC
						11/9/18	Benzo(a)anthracene	28	J	23	J	12	12	µg/kg	20
						11/9/18	Benzo(a)pyrene	41	J	37	J	12	12	µg/kg	10
						11/9/18	Benzo(b)fluoranthene	75		70		12	12	µg/kg	7
						11/9/18	Benzo(g,h,i)perylene	67		66.0		12	12	µg/kg	2
						11/9/18	Benzo(k)fluoranthene	20	J	18	J	12	12	µg/kg	11
						11/9/18	Chrysene	43	J	37	J	12	12	µg/kg	15
						11/9/18	Fluoranthene	70		57	J	12	12	µg/kg	20
						11/9/18	Indeno(1,2,3-cd)pyrene	44	J	43	J	12	12	µg/kg	2
						11/9/18	Phenanthrene	38.0	J	28	J	12	12	µg/kg	30
						11/9/18	Pyrene	85		73		12	12	µg/kg	15
						10/29/18	Moisture, Percent	17		17		1.0	1.0	%	0
						10/31/18	Total Organic Carbon	1.00		1.00		0.03	0.03	%	0

TABLE 2
Field Duplicate Results and Calculated Relative Percent Differences - Lab Report 304541

Primary Sample ID	Duplicate Sample ID	Sample Date	Analysis Date	Compound ¹	Concentration		Sample RL	Duplicate RL	Units	RPD %		
					Primary	Duplicate						
B8-6.5	FD-2	10/25/18	11/2/18	Diesel C10-C24	1.6	Y	1.8	Y	0.43	0.43	mg/kg	12
			11/2/18	Motor Oil C24-C36	18		21		2.1	2.1	mg/kg	15
			10/29/18	Antimony	0.41	J	0.41	J	0.051	0.052	mg/kg	0
			10/29/18	Arsenic	9.5		9.8		0.053	0.054	mg/kg	3
			10/29/18	Barium	60		77		0.028	0.028	mg/kg	25
			10/29/18	Beryllium	0.71	J	0.54	J	0.082	0.083	mg/kg	27
			10/29/18	Cadmium	0.54	J	0.36	J	0.13	0.14	mg/kg	40
			10/29/18	Chromium	96		100		0.23	0.23	mg/kg	4
			10/29/18	Cobalt	15		14		0.14	0.14	mg/kg	7
			10/30/18	Copper	34		34		0.22	0.22	mg/kg	0
			10/29/18	Lead	11		12		0.100	0.100	mg/kg	9
			10/30/18	Mercury	0.11		0.1		0.0040	0.0041	mg/kg	10
			10/30/18	Molybdenum	0.87		0.92		0.035	0.035	mg/kg	6
			10/29/18	Nickel	92		96		0.21	0.21	mg/kg	4
			10/29/18	Selenium	0.58	J	0.63	J	0.30	0.31	mg/kg	8
			10/29/18	Silver	0.19	J	0.18	J	0.06	0.06	mg/kg	5
			10/29/18	Thallium	0.14	J	0.14	J	0.11	0.11	mg/kg	0
			10/29/18	Vanadium	69		69		0.29	0.29	mg/kg	0
			10/30/18	Zinc	85		80		0.86	0.88	mg/kg	6
			11/2/18	4,4'-DDD	0.21	ND	0.22	CJ	0.21	0.11	µg/kg	NC
			11/2/18	4,4'-DDE	0.14	ND	0.32	CJ	0.14	0.11	µg/kg	NC
			11/2/18	4,4'-DDT	0.48	ND	0.48	J	0.48	0.47	µg/kg	NC
			11/2/18	beta-BHC	0.37	CJ	0.21	CJ	0.16	0.16	µg/kg	55
			11/2/18	gamma-Chlordane	0.19	ND	0.63	J	0.19	0.19	µg/kg	NC
			11/2/18	Dieldrin	0.13	ND	0.16	CJ	0.13	0.11	µg/kg	NC
			11/9/18	Benzo(a)anthracene	14	J	14	ND	14	14	µg/kg	NC
			11/9/18	Benzo(a)pyrene	20	J	14	ND	14	14	µg/kg	NC
			11/9/18	Benzo(b)fluoranthene	24	J	15	J	14	14	µg/kg	46
			11/9/18	Benzo(g,h,i)perylene	22	J	20.0	J	14	14	µg/kg	10
			11/9/18	Chrysene	15	J	14	ND	14	14	µg/kg	NC
			11/9/18	Fluoranthene	32	J	16	J	14	14	µg/kg	67
			11/9/18	Phenanthrene	17.0	J	14	ND	14	14	µg/kg	NC
			11/9/18	Pyrene	40	J	24	J	14	14	µg/kg	50
			10/29/18	Moisture, Percent	28		29		1.0	1.0	%	4
			10/31/18	Total Organic Carbon	0.73		0.77		0.03	0.03	%	5

Notes and Abbreviations:

1. Only detected chemicals are shown.

Values in **bold** are over the quality control limit.

NC = Not calculated; compound was detected in one sample and not the other

mg/kg = Milligrams per kilogram

µg/kg = Micrograms per kilogram

RL = Reporting limit

RPD = Relative percent difference

J = Estimated value

C = Presence confirmed, but RPD between columns exceeds 40%

ND = Not detected

Y = Sample exhibits chromatographic pattern which does not resemble standard

= Continuing Calibration Verification (CCV) drift outside limits; average CCV drift within limits per method requirement

APPENDIX D

LABORATORY ANALYTICAL REPORTS





ENTHALPY

ANALYTICAL



Enthalpy Analytical

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

Laboratory Job Number 304507 ANALYTICAL REPORT

Northgate Environmental Management
428 13th Street
Oakland, CA 94612

Project : 1116.09
Location : Corte Madera Ecological Reserve
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
D7-9.0	304507-001
D7-6.0	304507-002
D7-4.0	304507-003
D7-2.5	304507-004
D6-8.0	304507-005
D6-6.0	304507-006
E7-9.5	304507-007
E7-7.0	304507-008
E7-5.0	304507-009
FD-1	304507-010
E8-9.5	304507-011
E8-6.0	304507-012
D8-9.0	304507-013
D8-5.5	304507-014
C7-9.0	304507-015
C7-6.0	304507-016
B7-8.0	304507-017
B7-6.5	304507-018

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Date: 11/09/2018

Will Rice
Project Manager
will.rice@enthalpy.com
(510) 204-2221 Ext 13102

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number: 304507
Client: Northgate Environmental Management
Project: 1116.09
Location: Corte Madera Ecological Reserve
Request Date: 10/24/18
Samples Received: 10/24/18

This data package contains sample and QC results for eighteen soil samples, requested for the above referenced project on 10/24/18. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Semivolatile Organics by GC/MS SIM (EPA 8270C-SIM):

Matrix spikes QC953405, QC953406 (batch 264940) were not reported because the parent sample required a dilution that would have diluted out the spikes. Matrix spikes QC954006, QC954007 (batch 265085) were not reported because the parent sample required a dilution that would have diluted out the spikes. Naphthalene was detected between the MDL and the RL in the method blank for batch 265085; this analyte was not detected in samples at or above the RL. Many samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

Pesticides (EPA 8081A):

All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. All samples underwent florisol cleanup using EPA Method 3620C. Matrix spikes QC953477, QC953478 (batch 264958) were not analyzed because the parent sample required a dilution that would have diluted out the spikes. Endosulfan I was detected between the MDL and the RL in the method blank for batch 265222; this analyte was not detected in the sample at or above the RL. C7-6.0 (lab # 304507-016) was diluted due to the color of the sample extract. No other analytical problems were encountered.

PCBs (EPA 8082):

All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. Matrix spikes QC953477, QC953478 (batch 264958) were not analyzed because the parent sample required a dilution that would have diluted out the spikes. No other analytical problems were encountered.

Metals (EPA 6020 and EPA 7471A):

Low recoveries were observed for antimony in the MS/MSD of D7-9.0 (lab # 304507-001); the BS/BSD were within limits, and the associated RPD was within limits. Low recoveries were observed for antimony in the MS/MSD of D8-9.0 (lab # 304507-013); the BS/BSD were within limits, and the associated RPD was within limits. Barium and molybdenum were detected between the MDL and the RL in the method blank for batch 264914; these analytes were either not detected

CASE NARRATIVE

Laboratory number: 304507
Client: Northgate Environmental Management
Project: 1116.09
Location: Corte Madera Ecological Reserve
Request Date: 10/24/18
Samples Received: 10/24/18

Metals (EPA 6020 and EPA 7471A):

in samples at or above the RL, or detected at a level at least 10 times that of the blank. No other analytical problems were encountered.

Moisture (ASTM D2216-98/CLP):

No analytical problems were encountered.

Total Organic Carbon (TOC) (WALKLEY-BLACK):

Low recoveries were observed for total organic carbon in the MS/MSD of D7-9.0 (lab # 304507-001); the LCS was within limits, and the associated RPD was within limits. No other analytical problems were encountered.

304507



CHAIN OF CUSTODY/ANALYSIS REQUEST FORM

No 3108

Project No.: 1116.09		Project Location: Corte Madera, CA		Date: 10/24/18		Serial No.: 1 of 2	
Project Name: Corte Madera Ecological Reserve		Field Logbook No.:				Samplers: Gabriel Fuson	
Sampler (Signature): Gabriel Fuson		Samples		ANALYSES		REMARKS	
Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	ANALYSES	REMARKS
DF-9.0	10/24/18	0916		1	S	Pesticides (EPA 8081A) PCBs (EPA 8082) PAHs (EPA 8270 SIM) TPH-d, wo (EPA 815B) (S6) CAM 17 Metals (610B/6020/4471) TOC (Walkley-Black) (ASTM D2216) Moisture Content	* Homogenize entire volume of each jar prior to subsampling.
DF-6.0		0924					
DF-4.0		0933					
DF-2.5		0948					
D6-8.0		1006					
D6-6.0		1028					
E7-9.5		1214					
E7-7.0		1046					
E7-5.0		1048					
FD-1		1050					
E8-8.5		1235					
E8-6.0		1242					
D8-9.0		1258					
D8-5.5		1301					
C7-9.0		1318					
C7-6.0		1323					
Relinquished by: Gabriel Fuson	Date: 10/24/18	Time: 1441	Received By: Charles R. McQuinn	Date: 10/24/18	Time: 2:11 pm		
Relinquished by: Gabriel Fuson	Date: 10/24/18	Time: 1441	Received By: Standard TAT	Date: 10/24/18	Time: 3:20 pm		
Method of Shipment: Courier			Comments: Returns to: elizabeth.nixon@ngem.com and gabriel.fuson@ngem.com				
Sample Collector: Northgate Environmental Management, Inc.			Analytical Laboratory: Enthelpy				
300 Frank H Ogawa Plaza, Suite 510		428 13th St.,					
Oakland, California 94612		ph - (510) 839 0688 / fax - (510) 839-4350 4th Floor					

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

301507



CHAIN OF CUSTODY/ANALYSIS REQUEST FORM

No 3110

Project No.: 116.09	Project Location: Corte Madera, CA	Date: 10/24/18	Serial No.: 2 of 2						
Sampler (Signature): Gabriel Fuson	Field Logbook No.:	Samplers: Gabriel Fuson							
Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	ANALYSES	HOLD	RUSH	REMARKS
B7-8.0	10/24/18	1403		1	S	<input checked="" type="checkbox"/> Pesticides (EPA 8081A) <input checked="" type="checkbox"/> PCBs (EPA 8082) <input checked="" type="checkbox"/> PAHs <input checked="" type="checkbox"/> (EPA 8270C SEM) <input checked="" type="checkbox"/> TPH-d-me <input checked="" type="checkbox"/> (EPA 8015B W/SGC) <input checked="" type="checkbox"/> CAM 17 Metals <input checked="" type="checkbox"/> (6108/6030/7474) <input checked="" type="checkbox"/> TOC <input checked="" type="checkbox"/> (Makley-Black) <input checked="" type="checkbox"/> Moisture content <input checked="" type="checkbox"/> (ASTM D2216)			* Homogenize entire volume of each jar prior to selecting aliquots * Report results in both dry and wet weights. * ATTN: Will Rice ^{10/24/18} Reporting limit
Relinquished by: Gabriel Fuson	Date: 10/24/18	Time: 1441	Received By: [Signature]	Date: 10/28/18	Time: 2:41 PM				
Relinquished by: [Signature]	Date: 10/24/18	Time: 1441	Received By: Charles L. Meares	Date: 10/24/18	Time: 3:30 PM				
Method of Shipment: Courier	Comments: Results to: elizabeth.nixon@nygem.com and gabriel.fuson@nygem.com Standard TAT Analytical Laboratory: Enthalpy								
Sample Collector: Northgate Environmental Management, Inc.	300 Frank H Ogawa Plaza, Suite 510 428 13th St., Oakland, California 94612 ph - (510) 839 0688 / fax - (510) 839-4350 4th Floor								

17
18

SAMPLE RECEIPT CHECKLIST



Section 1: Login # 304507
 Date Received: 10/24/18

Client: MATHG.ME
 Project: _____

Section 2: Samples received in a cooler? Yes, how many? 1 No (skip Section 3 below)
 If no cooler Sample Temp (°C): _____ using IR Gun # A, or B
 Samples received on ice directly from the field. Cooling process had begun
 If in cooler: Date Opened 10/24/18 By (print) AL (sign) [Signature]
 Shipping info (if applicable) _____
 Are custody seals present? No, or Yes. If yes, where? on cooler, on samples, on package
 Date: _____ How many _____ Signature, Initials, None
 Were custody seals intact upon arrival? Yes No N/A

Section 3: **Important : Notify PM if temperature exceeds 6°C or arrive frozen.**

Packing in cooler: (if other, describe) _____
 Bubble Wrap, Foam blocks, Bags, None, Cloth material, Cardboard, Styrofoam, Paper towels
 Samples received on ice directly from the field. Cooling process had begun
 Type of ice used : Wet, Blue/Gel, None Temperature blank(s) included? Yes, No
 Temperature measured using Thermometer ID: _____, or IR Gun # A B
 Cooler Temp (°C): #1: 4.4, #2: _____, #3: _____, #4: _____, #5: _____, #6: _____, #7: _____

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable	X		
Were Method 5035 sampling containers present?		X	
If YES, what time were they transferred to freezer?			
Did all bottles arrive unbroken/unopened?	X		
Are there any missing / extra samples?		X	
Are samples in the appropriate containers for indicated tests?	X		
Are sample labels present, in good condition and complete?	X		
Does the container count match the COC?	X		
Do the sample labels agree with custody papers?	X		
Was sufficient amount of sample sent for tests requested?	X		
Did you change the hold time in LIMS for unpreserved VOAs?			X
Did you change the hold time in LIMS for preserved terracores?			X
Are bubbles > 6mm absent in VOA samples?			X
Was the client contacted concerning this sample delivery?		X	
If YES, who was called? _____ By _____ Date: _____			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)			X
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check?			
pH strip lot# _____, pH strip lot# _____, pH strip lot# _____			
Preservative added:			
<input type="checkbox"/> H2SO4 lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> HCL lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> HNO3 lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> NaOH lot# _____ added to samples _____ on/at _____			

Section 6:
 Explanations/Comments: _____

Date Logged In 10/25/18 By (print) VB (sign) [Signature]
 Date Labeled 10/25/18 By (print) DE (sign) [Signature]

Detections Summary for 304507

Results for any subcontracted analyses are not included in this summary.

Client : Northgate Environmental Management
Project : 1116.09
Location : Corte Madera Ecological Reserve

Client Sample ID : D7-9.0

Laboratory Sample ID :

304507-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.9	Y	1.2	0.36	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	36		5.9	1.8	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Naphthalene	6.0	J	18	3.5	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	20		18	3.5	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	23		18	3.5	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Pyrene	33		18	3.5	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	10	J	18	3.5	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Chrysene	19		18	3.5	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	29		18	3.5	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	7.9	J	18	3.5	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	16	J	18	3.5	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	17	J	18	3.5	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	4.1	J	18	3.5	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	29		18	3.5	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.26	C,J	1.3	0.13	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.25	J	1.3	0.098	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	0.69	C,J	2.6	0.092	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	2.4	C,J	2.6	0.092	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endrin	0.39	C,J	2.6	0.076	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.60	C,J	2.6	0.085	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	1.8	J	2.6	0.092	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endrin aldehyde	0.81	C,J	2.6	0.79	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.58	C,J	2.6	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.19	C,J	1.3	0.16	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	0.38	J	2.3	0.046	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	9.5		0.77	0.048	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	60		0.77	0.025	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.50	J	0.77	0.074	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.40	J	0.77	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	110		0.77	0.21	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	14		0.77	0.13	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	31		0.77	0.20	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	17		0.77	0.091	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.16		0.020	0.0035	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.69	J	0.77	0.031	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	120		0.77	0.19	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.53	J	2.3	0.28	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.36	J	0.77	0.054	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.12	J	0.39	0.10	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	54		0.78	0.26	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	80		2.4	0.78	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	14		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.3		0.04		%	Dry	3.289	WALKLEY-BLACK	METHOD

Client Sample ID : D7-6.0

Laboratory Sample ID :

304507-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	28	Y	1.3	0.40	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	99		6.5	2.0	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Acenaphthylene	8.2	J	19	3.9	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	24		19	3.9	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Anthracene	8.5	J	19	3.9	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	61		19	3.9	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Pyrene	71		19	3.9	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	32		19	3.9	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Chrysene	50		19	3.9	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	65		19	3.9	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	21		19	3.9	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	45		19	3.9	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	34		19	3.9	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	9.4	J	19	3.9	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	39		19	3.9	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.25	C,J	1.4	0.14	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
delta-BHC	0.26	C,J	1.4	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.57	C,J	1.4	0.097	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	2.3	C,J	2.8	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	3.9	#	2.8	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endrin	0.37	C,J	2.8	0.084	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	1.2	J	2.8	0.22	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	9.6	#	2.8	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endrin aldehyde	1.0	C,J	2.8	0.86	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.46	C,J	1.4	0.18	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
gamma-Chlordane	1.0	C,J	1.4	0.17	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Aroclor-1254	47		15	4.2	ug/Kg	Dry	1.000	EPA 8082	EPA 3546
Aroclor-1260	14	J	15	4.0	ug/Kg	Dry	1.000	EPA 8082	EPA 3546
Antimony	0.27	J	2.6	0.049	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	8.8		0.82	0.051	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	48		0.82	0.027	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.44	J	0.82	0.079	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.60	J	0.82	0.13	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	70		0.82	0.22	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	13		0.82	0.13	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	32		0.82	0.21	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	14		0.82	0.096	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.46		0.022	0.0040	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.75	J	0.82	0.033	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	73		0.82	0.20	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.45	J	2.6	0.29	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.51	J	0.82	0.057	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.16	J	0.41	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	46		0.83	0.28	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	84		2.5	0.83	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	22		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.84		0.04		%	Dry	3.268	WALKLEY-BLACK	METHOD

Client Sample ID : D7-4.0

Laboratory Sample ID :

304507-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.8	Y	1.3	0.40	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	14		6.5	2.0	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Phenanthrene	5.2	J	6.6	1.3	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Anthracene	1.3	J	6.6	1.3	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	8.9		6.6	1.3	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Pyrene	11		6.6	1.3	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	4.2	J	6.6	1.3	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Chrysene	5.7	J	6.6	1.3	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	7.0		6.6	1.3	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	1.9	J	6.6	1.3	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	5.7	J	6.6	1.3	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	3.7	J	6.6	1.3	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	5.6	J	6.6	1.3	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
alpha-BHC	0.23	J	1.5	0.12	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
beta-BHC	0.45	C,J	1.5	0.15	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Aldrin	0.26	C,J	1.5	0.12	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.69	C,J	1.5	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endosulfan I	0.34	C,J	1.5	0.14	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	0.34	J	2.9	0.13	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.29	C,J	2.9	0.098	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	0.36	J	2.6	0.050	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	10		0.83	0.052	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	40		0.83	0.027	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.48	J	0.83	0.080	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.62	J	0.83	0.13	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	74		0.83	0.22	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	14		0.83	0.14	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	22		0.83	0.21	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	7.6		0.83	0.097	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.10		0.022	0.0038	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.53	J	0.83	0.034	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	74		0.83	0.20	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.47	J	2.6	0.29	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.13	J	0.83	0.058	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.19	J	0.41	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	49		0.84	0.28	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	55		2.5	0.84	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	23		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.90		0.04		%	Dry	3.268	WALKLEY-BLACK	METHOD

Client Sample ID : D7-2.5

Laboratory Sample ID :

304507-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	9.5	Y	1.6	0.49	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	26		8.0	2.4	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Phenanthrene	11	J	40	8.0	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	19	J	40	8.0	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Pyrene	28	J	40	8.0	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	8.0	J	40	8.0	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Chrysene	11	J	40	8.0	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	20	J	40	8.0	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	16	J	40	8.0	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	12	J	40	8.0	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	23	J	40	8.0	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Dieldrin	0.19	C,J	3.4	0.12	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	4.3	#	3.4	0.12	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.28	C,J	3.4	0.27	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	8.4	#	3.4	0.12	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.83	C,J	3.4	0.14	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	0.17	J	3.1	0.059	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	8.0		0.98	0.062	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	74		0.98	0.032	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.63	J	0.98	0.094	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.43	J	0.98	0.15	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	110		0.98	0.26	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	14		0.98	0.16	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	40		0.98	0.25	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	17		0.98	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.21		0.025	0.0044	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.96	J	0.98	0.040	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	100		0.98	0.24	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.57	J	3.1	0.35	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.26	J	0.98	0.069	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.14	J	0.49	0.13	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	72		1.0	0.33	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	80		3.0	1.0	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	37		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.4		0.05		%	Dry	3.279	WALKLEY-BLACK	METHOD

Client Sample ID : D6-8.0

Laboratory Sample ID :

304507-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.8	Y,Z	1.1	0.34	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	14		5.6	1.7	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Phenanthrene	2.3	J	5.6	1.1	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	3.0	J	5.6	1.1	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Pyrene	3.4	J	5.6	1.1	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	1.3	J	5.6	1.1	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Chrysene	2.4	J	5.6	1.1	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	3.9	J	5.6	1.1	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	2.1	J	5.6	1.1	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	2.1	J	5.6	1.1	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	3.2	J	5.6	1.1	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.46	J	1.2	0.12	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	0.33	C,J	2.4	0.087	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endosulfan II	0.15	C,J	2.4	0.087	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.25	C,J	2.4	0.098	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	1.1	J	2.2	0.043	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	10		0.72	0.045	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	110		0.72	0.023	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.64	J	0.72	0.069	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.49	J	0.72	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	75		0.72	0.19	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	21		0.72	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	20		0.72	0.18	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	9.8		0.72	0.084	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.080		0.019	0.0034	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.48	J	0.72	0.029	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	97		0.72	0.18	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.45	J	2.2	0.25	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.16	J	0.72	0.050	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	40		0.73	0.24	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	53		2.2	0.73	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	10		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.77		0.04		%	Dry	3.236	WALKLEY-BLACK	METHOD

Client Sample ID : D6-6.0

Laboratory Sample ID :

304507-006

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	0.54	J,Y	1.2	0.35	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	5.7	J	5.8	1.8	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Phenanthrene	1.6	J	5.7	1.1	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	1.7	J	5.7	1.1	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Pyrene	2.2	J	5.7	1.1	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Chrysene	1.4	J	5.7	1.1	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	2.3	J	5.7	1.1	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	1.5	J	5.7	1.1	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	1.2	J	5.7	1.1	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	2.2	J	5.7	1.1	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.34	J	1.3	0.13	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.13	C,J	1.3	0.088	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	1.5	J	2.3	0.047	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	12		0.79	0.049	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	160		0.79	0.026	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.65	J	0.79	0.076	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.31	J	0.79	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	81		0.79	0.21	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	21		0.79	0.13	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	18		0.79	0.20	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	9.7		0.79	0.092	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.054		0.019	0.0034	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.38	J	0.79	0.032	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	93		0.79	0.19	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.34	J	2.3	0.28	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.069	J	0.79	0.055	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	46		0.80	0.27	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	38		2.4	0.80	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	13		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.54		0.04		%	Dry	3.289	WALKLEY-BLACK	METHOD

Client Sample ID : E7-9.5

Laboratory Sample ID :

304507-007

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	35	Y	1.1	0.35	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	310		5.7	1.7	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Naphthalene	4.5	J	17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	26		17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Anthracene	5.1	J	17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	42		17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Pyrene	47		17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	21		17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Chrysene	30		17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	47		17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	13	J	17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	29		17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	24		17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	7.3	J	17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	34		17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
delta-BHC	0.34	J	1.2	0.089	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.23	C,J	1.2	0.086	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	0.78	C,J	2.5	0.089	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	2.7	#	2.5	0.089	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endrin	0.27	C,J	2.5	0.074	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.50	C,J	2.5	0.083	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	2.0	J	2.5	0.089	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.96	C,J	2.5	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.59	C,J	1.2	0.16	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Aroclor-1260	4.9	J	14	3.6	ug/Kg	Dry	1.000	EPA 8082	EPA 3546
Antimony	0.27	J	2.3	0.044	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	10		0.73	0.046	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	56		0.73	0.024	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.32	J	0.73	0.070	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.32	J	0.73	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	81		0.73	0.20	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	8.7		0.73	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	29		0.73	0.19	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	16		0.73	0.086	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.20		0.020	0.0034	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.62	J	0.73	0.030	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	71		0.73	0.18	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.35	J	2.3	0.26	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.43	J	0.73	0.051	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.12	J	0.37	0.094	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	48		0.74	0.25	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	75		2.2	0.74	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	12		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.4		0.04		%	Dry	3.300	WALKLEY-BLACK	METHOD

Client Sample ID : E7-7.0

Laboratory Sample ID :

304507-008

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.1	Y	1.2	0.36	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	28		5.9	1.8	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Naphthalene	1.3	J	5.9	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	7.1		5.9	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	11		5.9	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Pyrene	15		5.9	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	4.8	J	5.9	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Chrysene	7.8		5.9	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	12		5.9	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	2.8	J	5.9	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	8.5		5.9	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	6.8		5.9	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	1.4	J	5.9	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	11		5.9	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Dieldrin	0.093	C,J	2.6	0.092	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	0.27	J	2.6	0.092	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	0.19	J	2.4	0.047	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	9.6		0.78	0.049	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	46		0.78	0.025	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.46	J	0.78	0.075	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.30	J	0.78	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	75		0.78	0.21	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	13		0.78	0.13	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	25		0.78	0.20	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	8.9		0.78	0.092	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.075		0.020	0.0034	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.53	J	0.78	0.032	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	66		0.78	0.19	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.45	J	2.4	0.28	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.12	J	0.78	0.055	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.12	J	0.39	0.10	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	49		0.79	0.26	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	60		2.4	0.79	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	15		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.95		0.04		%	Dry	3.236	WALKLEY-BLACK	METHOD

Client Sample ID : E7-5.0

Laboratory Sample ID :

304507-009

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.5	Y	1.2	0.38	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	14		6.2	1.9	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Naphthalene	22		6.2	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Fluorene	9.2		6.2	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	57		6.2	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Anthracene	1.4	J	6.2	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	15		6.2	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Pyrene	20		6.2	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	8.2		6.2	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Chrysene	22		6.2	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	26		6.2	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	3.7	J	6.2	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	11		6.2	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	8.7		6.2	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	3.6	J	6.2	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	14		6.2	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.18	C,J	1.4	0.079	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
delta-BHC	0.16	C,J	1.4	0.098	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.11	C,J	1.4	0.095	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	0.13	C,J	2.7	0.098	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	0.29	C,J	2.7	0.12	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	2.0	C,J	2.7	0.19	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	0.78	J	2.5	0.047	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	8.9		0.79	0.049	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	73		0.79	0.026	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.71	J	0.79	0.076	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.47	J	0.79	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	220		0.79	0.21	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	29		0.79	0.13	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	36		0.79	0.20	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	13		0.79	0.092	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.16		0.022	0.0038	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.63	J	0.79	0.032	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	330		3.9	0.96	mg/Kg	Dry	125.0	EPA 6020	EPA 3050B
Selenium	0.53	J	2.5	0.28	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.13	J	0.79	0.055	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	62		0.80	0.27	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	98		2.4	0.80	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	19		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.77		0.04		%	Dry	3.155	WALKLEY-BLACK	METHOD

Client Sample ID : FD-1

Laboratory Sample ID :

304507-010

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.2	Y	1.2	0.38	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	22		6.2	1.9	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Naphthalene	20		6.1	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Acenaphthylene	1.9	J	6.1	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Fluorene	7.6		6.1	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	45		6.1	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Anthracene	1.7	J	6.1	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	14		6.1	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Pyrene	20		6.1	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	8.0		6.1	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Chrysene	21		6.1	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	26		6.1	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	5.1	J	6.1	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	14		6.1	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	9.8		6.1	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	2.9	J	6.1	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	15		6.1	1.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	1.0	J	1.4	0.14	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	0.16	J	2.7	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	1.4	C,J	2.7	0.099	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	0.61	C,J	2.7	0.19	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	1.1	J	2.5	0.046	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	8.9		0.77	0.048	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	72		0.77	0.025	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.62	J	0.77	0.074	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.42	J	0.77	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	220		0.77	0.21	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	27		0.77	0.13	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	35		0.77	0.20	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	10		0.77	0.090	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.16		0.020	0.0034	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.63	J	0.77	0.031	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	330		3.9	0.94	mg/Kg	Dry	125.0	EPA 6020	EPA 3050B
Selenium	0.52	J	2.5	0.27	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.12	J	0.77	0.054	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	59		0.78	0.26	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	79		2.3	0.78	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	19		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.77		0.04		%	Dry	3.115	WALKLEY-BLACK	METHOD

Client Sample ID : E8-9.5

Laboratory Sample ID :

304507-011

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	6.4	Y	1.2	0.35	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	40		5.8	1.8	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Naphthalene	4.3	J	17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Acenaphthylene	3.5	J	17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	27		17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Anthracene	4.2	J	17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	41		17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Pyrene	54		17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	17	J	17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Chrysene	30		17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	45		17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	12	J	17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	25		17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	23		17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	4.8	J	17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	32		17	3.4	ug/Kg	Dry	3.000	EPA 8270C-SIM	EPA 3550C
Heptachlor epoxide	0.29	C,J	1.3	0.087	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	1.1	C,J	2.5	0.090	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	3.2	#	2.5	0.090	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endrin	0.47	C,J	2.5	0.075	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.48	C,J	2.5	0.084	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	2.8	#	2.5	0.090	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	1.8	C,J	2.5	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.64	C,J	1.3	0.16	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Aroclor-1260	10	J	14	3.6	ug/Kg	Dry	1.000	EPA 8082	EPA 3546
Antimony	0.17	J	2.2	0.041	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	11		0.69	0.043	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	53		0.69	0.022	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.33	J	0.69	0.066	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.34	J	0.69	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	85		0.69	0.19	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	8.8		0.69	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	33		0.69	0.18	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	17		0.69	0.081	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.17		0.019	0.0033	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.64	J	0.69	0.028	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	70		0.69	0.17	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.43	J	2.2	0.25	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.34	J	0.69	0.049	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.14	J	0.35	0.089	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	56		0.70	0.23	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	68		2.1	0.70	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	13		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.2		0.04		%	Dry	3.115	WALKLEY-BLACK	METHOD

Client Sample ID : E8-6.0

Laboratory Sample ID :

304507-012

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.3	Y	1.3	0.41	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	31		6.7	2.0	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Naphthalene	6.9	J	34	6.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	13	J	34	6.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	21	J	34	6.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Pyrene	31	J	34	6.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	12	J	34	6.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Chrysene	17	J	34	6.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	25	J	34	6.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	7.1	J	34	6.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	20	J	34	6.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	13	J	34	6.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	22	J	34	6.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.80	C,J	1.5	0.087	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
delta-BHC	0.59	C,J	1.5	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Aldrin	0.21	C,J	1.5	0.082	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.30	C,J	1.5	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	0.17	C,J	3.0	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	4.2	#	3.0	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	9.7	#	3.0	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	1.8	C,J	3.0	0.12	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.44	C,J	1.5	0.19	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	0.15	J	2.6	0.049	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	7.7		0.81	0.051	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	66		0.81	0.026	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.55	J	0.81	0.078	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.47	J	0.81	0.13	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	100		0.81	0.22	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	11		0.81	0.13	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	35		0.81	0.21	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	21		0.81	0.095	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.084		0.023	0.0041	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.71	J	0.81	0.033	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	82		0.81	0.20	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.51	J	2.6	0.29	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.27	J	0.81	0.057	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.12	J	0.41	0.10	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	62		0.82	0.27	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	72		2.5	0.82	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	26		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.0		0.04		%	Dry	3.135	WALKLEY-BLACK	METHOD

Client Sample ID : D8-9.0

Laboratory Sample ID :

304507-013

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2.9	Y	1.1	0.35	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	35		5.6	1.7	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Naphthalene	4.2	J	11	2.2	ug/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	11		11	2.2	ug/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	17		11	2.2	ug/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Pyrene	21		11	2.2	ug/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	7.3	J	11	2.2	ug/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Chrysene	13		11	2.2	ug/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	20		11	2.2	ug/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	4.3	J	11	2.2	ug/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	11	J	11	2.2	ug/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	11	J	11	2.2	ug/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	2.3	J	11	2.2	ug/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	16		11	2.2	ug/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Heptachlor epoxide	0.087	C,J	1.2	0.085	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	0.68	C,J	2.4	0.088	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	2.1	J	2.4	0.088	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endrin	0.18	C,J	2.4	0.073	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	1.3	J	2.4	0.088	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	1.4	C,J	2.4	0.099	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.73	C,J	1.2	0.20	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Aroclor-1260	6.6	J	13	3.5	ug/Kg	Dry	1.000	EPA 8082	EPA 3546
Antimony	1.3	J	2.1	0.040	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	9.7		0.66	0.042	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	59		0.66	0.022	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.45	J	0.66	0.064	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.37	J	0.66	0.10	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	90		0.66	0.18	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	10		0.66	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	27		0.66	0.17	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	13		0.66	0.078	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.14		0.018	0.0031	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.65	J	0.66	0.027	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	83		0.66	0.16	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.43	J	2.1	0.24	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.27	J	0.66	0.047	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.16	J	0.33	0.085	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	50		0.67	0.22	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	65		2.0	0.67	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	11		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.1		0.03		%	Dry	3.067	WALKLEY-BLACK	METHOD

Client Sample ID : D8-5.5

Laboratory Sample ID :

304507-014

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2.1	Y	1.4	0.43	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	12		7.1	2.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Naphthalene	1.9	J	7.0	1.4	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Acenaphthylene	1.4	J	7.0	1.4	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Fluorene	1.5	J	7.0	1.4	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	13		7.0	1.4	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Anthracene	2.3	J	7.0	1.4	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	15		7.0	1.4	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Pyrene	22		7.0	1.4	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	8.0		7.0	1.4	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Chrysene	10		7.0	1.4	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	12		7.0	1.4	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	4.0	J	7.0	1.4	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	11		7.0	1.4	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	6.2	J	7.0	1.4	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	1.5	J	7.0	1.4	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	9.1		7.0	1.4	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	2.6		1.5	0.089	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
gamma-BHC	0.17	C,J	1.5	0.17	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	0.13	C,J	3.1	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	0.76	C,J	3.1	0.14	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	0.42	J	3.1	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	0.31	J	2.7	0.051	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	9.8		0.85	0.053	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	46		0.85	0.028	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.54	J	0.85	0.081	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.46	J	0.85	0.13	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	85		0.85	0.23	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	16		0.85	0.14	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	27		0.85	0.22	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	8.1		0.85	0.099	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.081		0.024	0.0043	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.86		0.85	0.034	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	84		0.85	0.21	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.55	J	2.7	0.30	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.16	J	0.85	0.059	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.14	J	0.42	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	72		0.86	0.29	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	67		2.6	0.86	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	29		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.93		0.05		%	Dry	3.236	WALKLEY-BLACK	METHOD

Client Sample ID : C7-9.0

Laboratory Sample ID :

304507-015

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.5	Y	1.1	0.35	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	31		5.6	1.7	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Naphthalene	6.8	J	28	5.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	16	J	28	5.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	20	J	28	5.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Pyrene	26	J	28	5.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	9.5	J	28	5.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Chrysene	15	J	28	5.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	25	J	28	5.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	15	J	28	5.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	13	J	28	5.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	22	J	28	5.7	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.65	C,J	1.2	0.13	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
delta-BHC	0.14	C,J	1.2	0.088	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.18	C,J	1.2	0.085	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	0.68	C,J	2.5	0.088	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	1.6	C,J	2.5	0.088	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endrin	0.31	J	2.5	0.23	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	0.84	C,J	2.5	0.17	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.60	C,J	2.5	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	0.83	J	2.3	0.045	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	11		0.75	0.047	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	63		0.75	0.024	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.43	J	0.75	0.072	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.32	J	0.75	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	100		0.75	0.20	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	12		0.75	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	28		0.75	0.19	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	13		0.75	0.088	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.16		0.017	0.0031	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.90		0.75	0.030	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	110		0.75	0.18	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.47	J	2.3	0.27	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.30	J	0.75	0.053	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.12	J	0.37	0.096	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	55		0.76	0.25	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	65		2.3	0.76	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	12		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.3		0.04		%	Dry	3.106	WALKLEY-BLACK	METHOD

Client Sample ID : C7-6.0

Laboratory Sample ID :

304507-016

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	17	Y	1.3	0.39	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	88		6.3	1.9	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Naphthalene	22	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Phenanthrene	27	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	26	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	39	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	20	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	29	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	21	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	17	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	31	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.43	C,J	2.8	0.28	ug/Kg	Dry	2.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.56	C,J	2.8	0.19	ug/Kg	Dry	2.000	EPA 8081A	EPA 3546
Dieldrin	1.1	C,J	5.5	0.20	ug/Kg	Dry	2.000	EPA 8081A	EPA 3546
4,4'-DDE	3.7	J	5.5	0.20	ug/Kg	Dry	2.000	EPA 8081A	EPA 3546
4,4'-DDD	7.5	#	5.5	0.20	ug/Kg	Dry	2.000	EPA 8081A	EPA 3546
4,4'-DDT	2.2	C,J	5.5	0.22	ug/Kg	Dry	2.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.79	C,J	2.8	0.36	ug/Kg	Dry	2.000	EPA 8081A	EPA 3546
Aroclor-1260	12	J	15	4.0	ug/Kg	Dry	1.000	EPA 8082	EPA 3546
Antimony	1.7	J	2.4	0.045	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	11		0.76	0.048	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	72		0.76	0.025	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.61	J	0.76	0.073	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.48	J	0.76	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	100		0.76	0.20	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	15		0.76	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	33		0.76	0.19	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	44		0.76	0.089	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.22		0.023	0.0040	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.6		0.76	0.031	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	130		0.76	0.19	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.48	J	2.4	0.27	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.51	J	0.76	0.053	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.14	J	0.38	0.098	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	55		0.77	0.26	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	89		2.3	0.77	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	21		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.77		0.04		%	Dry	3.215	WALKLEY-BLACK	METHOD

Client Sample ID : B7-8.0

Laboratory Sample ID :

304507-017

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	12	Y	1.2	0.35	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	81		5.8	1.8	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Naphthalene	7.0	J	29	5.8	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	14	J	29	5.8	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	24	J	29	5.8	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Pyrene	31		29	5.8	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	17	J	29	5.8	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Chrysene	26	J	29	5.8	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	32		29	5.8	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	10	J	29	5.8	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	19	J	29	5.8	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	12	J	29	5.8	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	18	J	29	5.8	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
delta-BHC	0.23	C,J	1.3	0.091	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.16	C,J	1.3	0.097	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	0.52	C,J	2.5	0.091	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	2.0	C,J	2.5	0.091	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endrin	0.39	C,J	2.5	0.076	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	1.7	J	2.5	0.091	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.14	C,J	2.5	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	0.27	J	2.3	0.046	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	11		0.77	0.048	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	55		0.77	0.025	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.27	J	0.77	0.074	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.21	J	0.77	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	85		0.77	0.21	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	7.0		0.77	0.13	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	23		0.77	0.20	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	8.8		0.77	0.091	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.093		0.020	0.0035	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.94		0.77	0.031	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	68		0.77	0.19	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.43	J	2.3	0.28	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.26	J	0.77	0.054	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.15	J	0.39	0.10	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	53		0.78	0.26	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	56		2.4	0.78	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	14		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.3		0.04		%	Dry	3.058	WALKLEY-BLACK	METHOD

Client Sample ID : B7-6.5

Laboratory Sample ID :

304507-018

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	16	Y	1.3	0.39	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	70		6.4	1.9	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Naphthalene	13	J	32	6.4	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	30	J	32	6.4	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Anthracene	6.6	J	32	6.4	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	38		32	6.4	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Pyrene	57		32	6.4	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	19	J	32	6.4	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Chrysene	29	J	32	6.4	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	41		32	6.4	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	13	J	32	6.4	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	24	J	32	6.4	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	19	J	32	6.4	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	28	J	32	6.4	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.62	C,J	1.4	0.14	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
delta-BHC	0.30	C,J	1.4	0.099	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.11	C,J	1.4	0.096	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	0.86	C,J	2.8	0.099	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	5.1		2.8	0.12	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endrin	0.91	C,J	2.8	0.26	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	1.2	J	2.8	0.092	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	1.2	C,J	2.8	0.099	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.28	C,J	1.4	0.18	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Aroclor-1260	5.4	J	15	4.0	ug/Kg	Dry	1.000	EPA 8082	EPA 3546
Antimony	0.54	J	2.4	0.044	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	14		0.74	0.046	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	62		0.74	0.024	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.49	J	0.74	0.071	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.71	J	0.74	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	100		0.74	0.20	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	16		0.74	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	29		0.74	0.19	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	15		0.74	0.086	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.17		0.021	0.0037	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.95		0.74	0.030	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	120		0.74	0.18	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.58	J	2.4	0.26	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.39	J	0.74	0.052	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.15	J	0.37	0.095	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	58		0.75	0.25	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	80		2.2	0.75	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	22		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.1		0.04		%	Dry	3.012	WALKLEY-BLACK	METHOD

= CCV drift outside limits; average CCV drift within limits per method requirements

C = Presence confirmed, but RPD between columns exceeds 40%

J = Estimated value

Y = Sample exhibits chromatographic pattern which does not resemble standard

Z = Sample exhibits unknown single peak or peaks

Total Extractable Hydrocarbons			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	10/24/18
Basis:	dry	Received:	10/24/18

Field ID:	D7-9.0	Batch#:	264980
Type:	SAMPLE	Prepared:	10/30/18
Lab ID:	304507-001	Analyzed:	10/31/18
Moisture:	14%	Cleanup Method:	EPA 3630C

Analyte	Result	RL	MDL
Diesel C10-C24	4.9 Y	1.2	0.36
Motor Oil C24-C36	36	5.9	1.8

Surrogate	%REC	Limits
o-Terphenyl	59	59-130

Field ID:	D7-6.0	Batch#:	264980
Type:	SAMPLE	Prepared:	10/30/18
Lab ID:	304507-002	Analyzed:	10/31/18
Moisture:	22%	Cleanup Method:	EPA 3630C

Analyte	Result	RL	MDL
Diesel C10-C24	28 Y	1.3	0.40
Motor Oil C24-C36	99	6.5	2.0

Surrogate	%REC	Limits
o-Terphenyl	98	59-130

Field ID:	D7-4.0	Batch#:	264980
Type:	SAMPLE	Prepared:	10/30/18
Lab ID:	304507-003	Analyzed:	10/31/18
Moisture:	23%	Cleanup Method:	EPA 3630C

Analyte	Result	RL	MDL
Diesel C10-C24	3.8 Y	1.3	0.40
Motor Oil C24-C36	14	6.5	2.0

Surrogate	%REC	Limits
o-Terphenyl	71	59-130

J= Estimated value
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 Z= Sample exhibits unknown single peak or peaks
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Total Extractable Hydrocarbons

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8015B
Matrix: Soil	Diln Fac: 1.000
Units: mg/Kg	Sampled: 10/24/18
Basis: dry	Received: 10/24/18

Field ID: D7-2.5	Batch#: 264980
Type: SAMPLE	Prepared: 10/30/18
Lab ID: 304507-004	Analyzed: 10/31/18
Moisture: 37%	Cleanup Method: EPA 3630C

Analyte	Result	RL	MDL
Diesel C10-C24	9.5 Y	1.6	0.49
Motor Oil C24-C36	26	8.0	2.4

Surrogate	%REC	Limits
o-Terphenyl	64	59-130

Field ID: D6-8.0	Batch#: 264980
Type: SAMPLE	Prepared: 10/30/18
Lab ID: 304507-005	Analyzed: 10/31/18
Moisture: 10%	Cleanup Method: EPA 3630C

Analyte	Result	RL	MDL
Diesel C10-C24	3.8 Y Z	1.1	0.34
Motor Oil C24-C36	14	5.6	1.7

Surrogate	%REC	Limits
o-Terphenyl	76	59-130

Field ID: D6-6.0	Batch#: 265171
Type: SAMPLE	Prepared: 11/05/18
Lab ID: 304507-006	Analyzed: 11/06/18
Moisture: 13%	Cleanup Method: EPA 3630C

Analyte	Result	RL	MDL
Diesel C10-C24	0.54 J Y	1.2	0.35
Motor Oil C24-C36	5.7 J	5.8	1.8

Surrogate	%REC	Limits
o-Terphenyl	85	59-130

J= Estimated value
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 Z= Sample exhibits unknown single peak or peaks
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Total Extractable Hydrocarbons

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8015B
Matrix: Soil	Diln Fac: 1.000
Units: mg/Kg	Sampled: 10/24/18
Basis: dry	Received: 10/24/18

Field ID: E7-9.5	Batch#: 264980
Type: SAMPLE	Prepared: 10/30/18
Lab ID: 304507-007	Analyzed: 11/06/18
Moisture: 12%	Cleanup Method: EPA 3630C

Analyte	Result	RL	MDL
Diesel C10-C24	35 Y	1.1	0.35
Motor Oil C24-C36	310	5.7	1.7

Surrogate	%REC	Limits
o-Terphenyl	73	59-130

Field ID: E7-7.0	Batch#: 264980
Type: SAMPLE	Prepared: 10/30/18
Lab ID: 304507-008	Analyzed: 11/06/18
Moisture: 15%	Cleanup Method: EPA 3630C

Analyte	Result	RL	MDL
Diesel C10-C24	3.1 Y	1.2	0.36
Motor Oil C24-C36	28	5.9	1.8

Surrogate	%REC	Limits
o-Terphenyl	83	59-130

Field ID: E7-5.0	Batch#: 264980
Type: SAMPLE	Prepared: 10/30/18
Lab ID: 304507-009	Analyzed: 10/31/18
Moisture: 19%	Cleanup Method: EPA 3630C

Analyte	Result	RL	MDL
Diesel C10-C24	3.5 Y	1.2	0.38
Motor Oil C24-C36	14	6.2	1.9

Surrogate	%REC	Limits
o-Terphenyl	59	59-130

J= Estimated value
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Total Extractable Hydrocarbons			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	10/24/18
Basis:	dry	Received:	10/24/18

Field ID:	FD-1	Batch#:	264980
Type:	SAMPLE	Prepared:	10/30/18
Lab ID:	304507-010	Analyzed:	10/31/18
Moisture:	19%	Cleanup Method:	EPA 3630C

Analyte	Result	RL	MDL
Diesel C10-C24	5.2 Y	1.2	0.38
Motor Oil C24-C36	22	6.2	1.9

Surrogate	%REC	Limits
o-Terphenyl	101	59-130

Field ID:	E8-9.5	Batch#:	264980
Type:	SAMPLE	Prepared:	10/30/18
Lab ID:	304507-011	Analyzed:	10/31/18
Moisture:	13%	Cleanup Method:	EPA 3630C

Analyte	Result	RL	MDL
Diesel C10-C24	6.4 Y	1.2	0.35
Motor Oil C24-C36	40	5.8	1.8

Surrogate	%REC	Limits
o-Terphenyl	62	59-130

Field ID:	E8-6.0	Batch#:	264980
Type:	SAMPLE	Prepared:	10/30/18
Lab ID:	304507-012	Analyzed:	10/31/18
Moisture:	26%	Cleanup Method:	EPA 3630C

Analyte	Result	RL	MDL
Diesel C10-C24	5.3 Y	1.3	0.41
Motor Oil C24-C36	31	6.7	2.0

Surrogate	%REC	Limits
o-Terphenyl	73	59-130

J= Estimated value
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 Z= Sample exhibits unknown single peak or peaks
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC953640	Batch#:	264980
Matrix:	Soil	Prepared:	10/30/18
Units:	mg/Kg	Analyzed:	10/31/18

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	37.64	75	56-137

Surrogate	%REC	Limits
o-Terphenyl	67	59-130

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	264980
MSS Lab ID:	304544-006	Sampled:	10/24/18
Matrix:	Soil	Received:	10/25/18
Units:	mg/Kg	Prepared:	10/30/18
Basis:	as received	Analyzed:	10/30/18
Diln Fac:	1.000		

Type: MS Lab ID: QC953641

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	9.360	50.45	45.02	71	52-128

Surrogate	%REC	Limits
o-Terphenyl	85	59-130

Type: MSD Lab ID: QC953642

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.13	56.50	94	52-128	23	42

Surrogate	%REC	Limits
o-Terphenyl	104	59-130

RPD= Relative Percent Difference

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC954369	Batch#:	265171
Matrix:	Soil	Prepared:	11/05/18
Units:	mg/Kg	Analyzed:	11/05/18

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	35.34	71	56-137

Surrogate	%REC	Limits
o-Terphenyl	74	59-130

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	265171
MSS Lab ID:	304641-001	Sampled:	10/25/18
Matrix:	Soil	Received:	10/30/18
Units:	mg/Kg	Prepared:	11/05/18
Basis:	as received	Analyzed:	11/05/18
Diln Fac:	1.000		

Type: MS Lab ID: QC954370

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	3.169	50.32	52.73	98	52-128

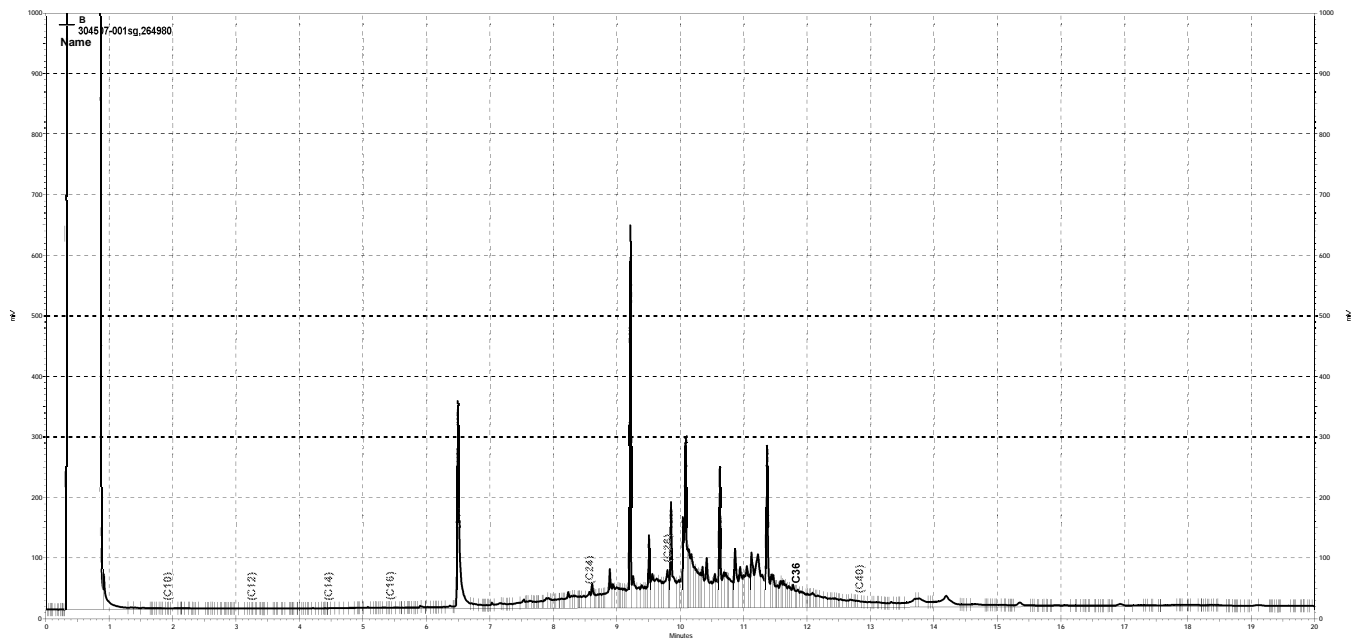
Surrogate	%REC	Limits
o-Terphenyl	106	59-130

Type: MSD Lab ID: QC954371

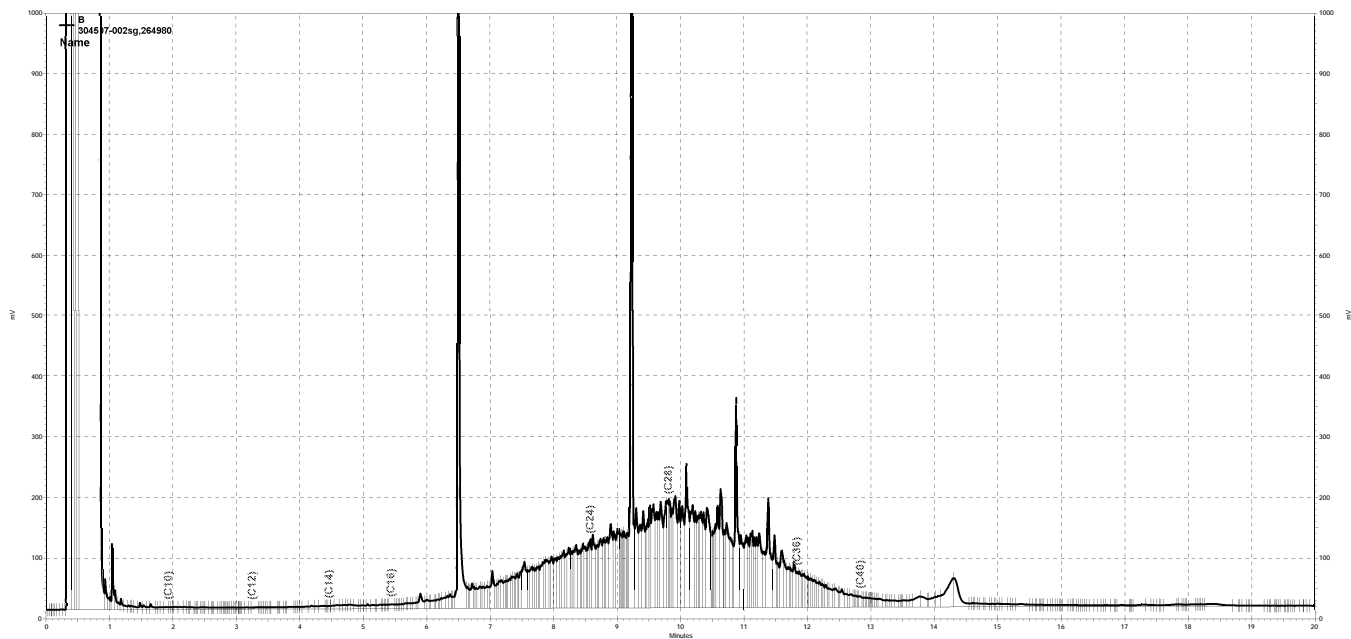
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.66	62.99	120	52-128	19	42

Surrogate	%REC	Limits
o-Terphenyl	119	59-130

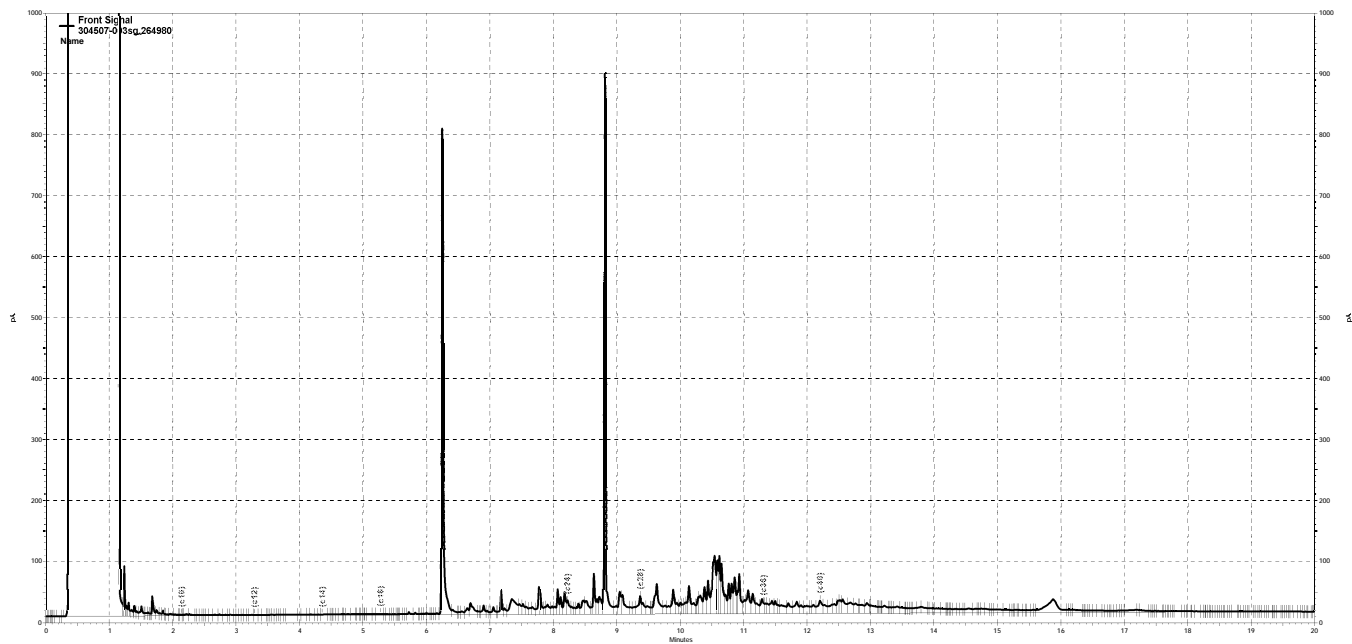
RPD= Relative Percent Difference



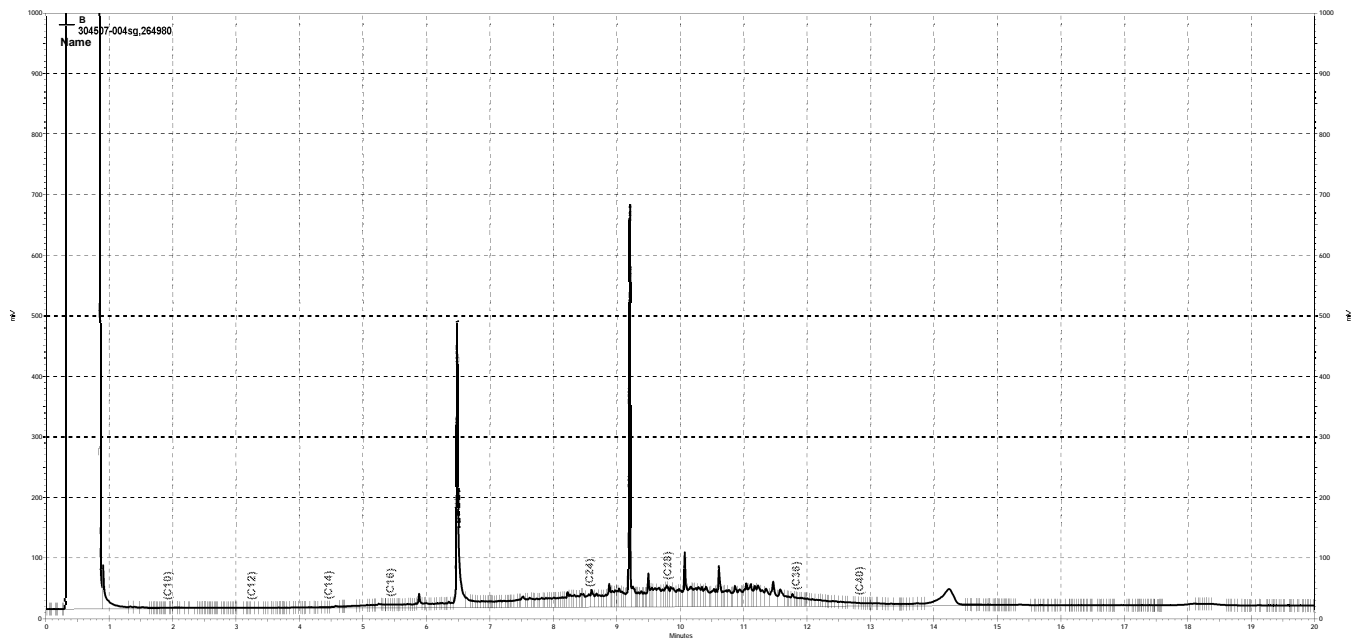
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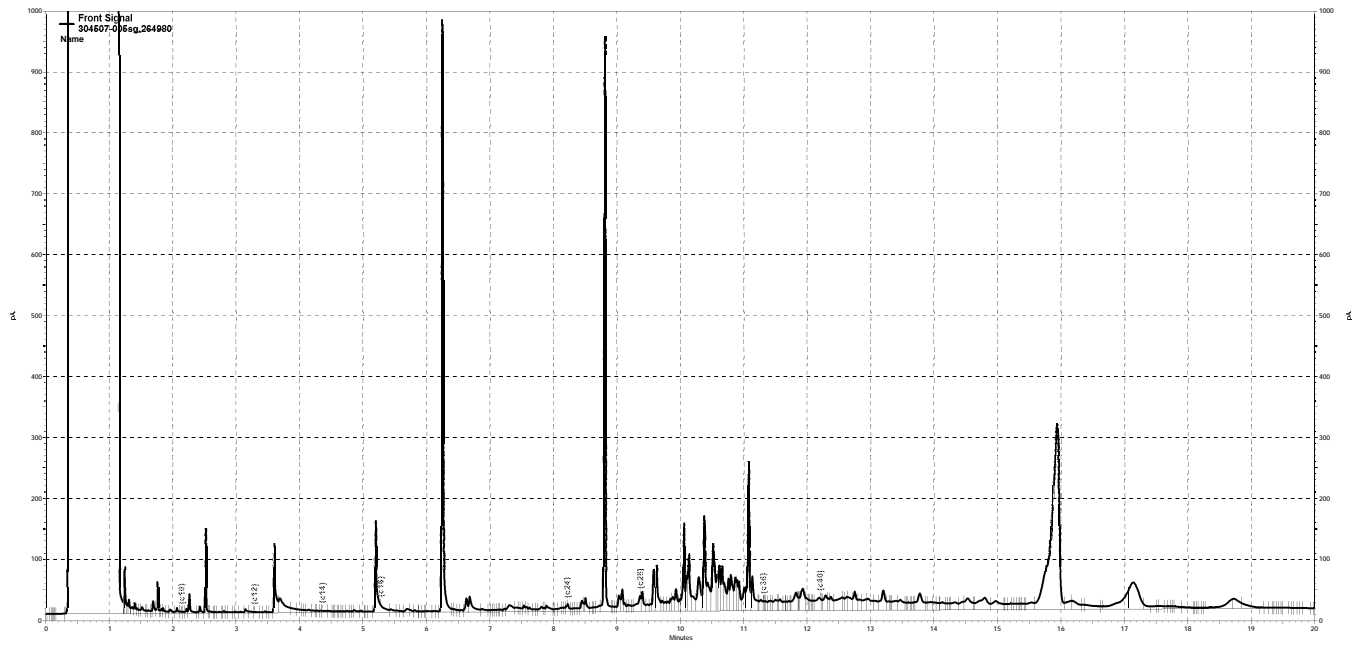
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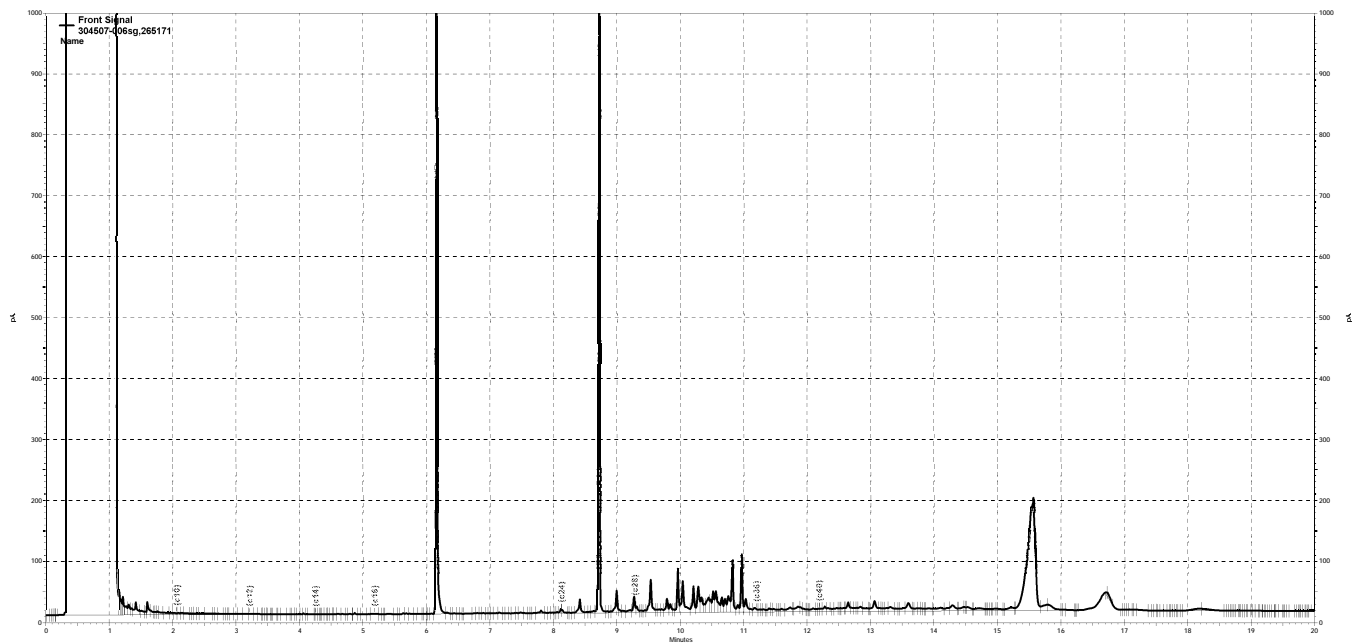
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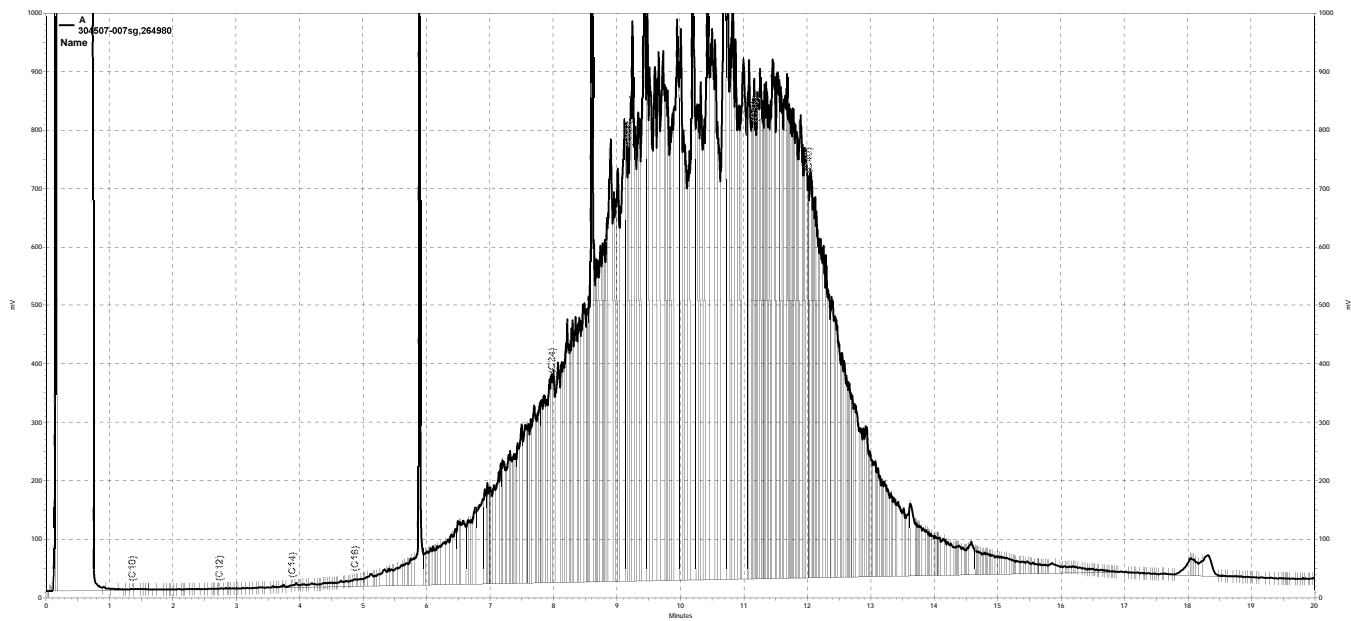
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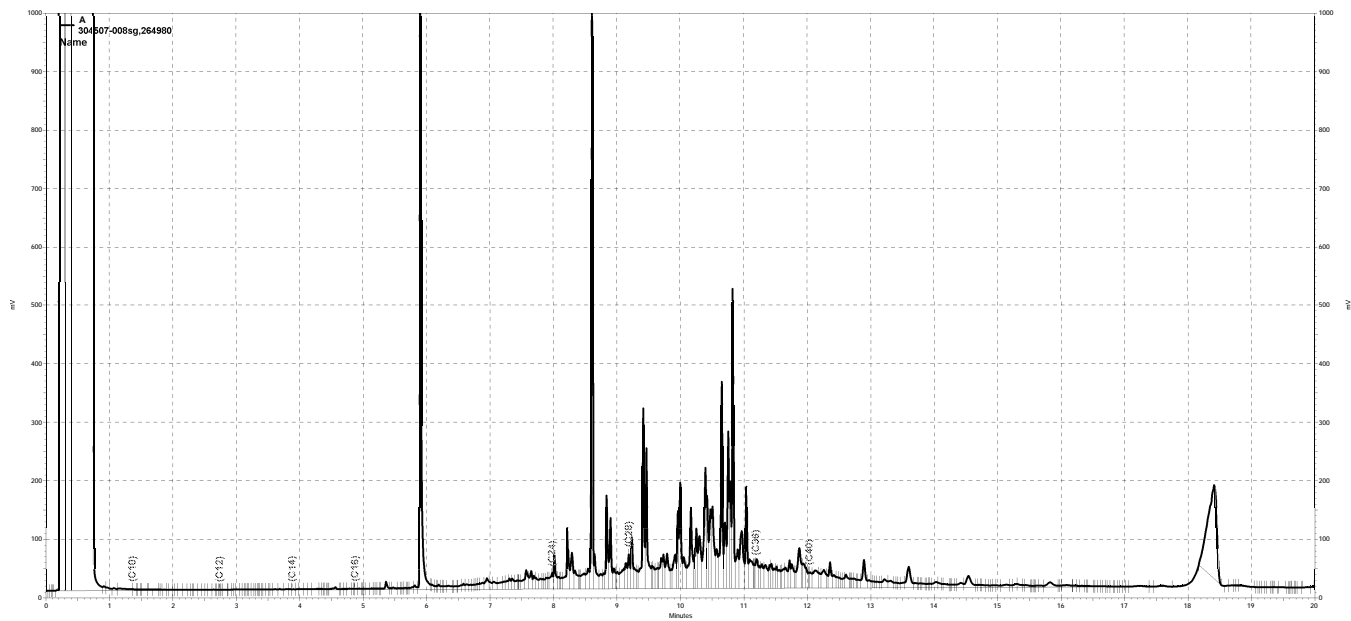
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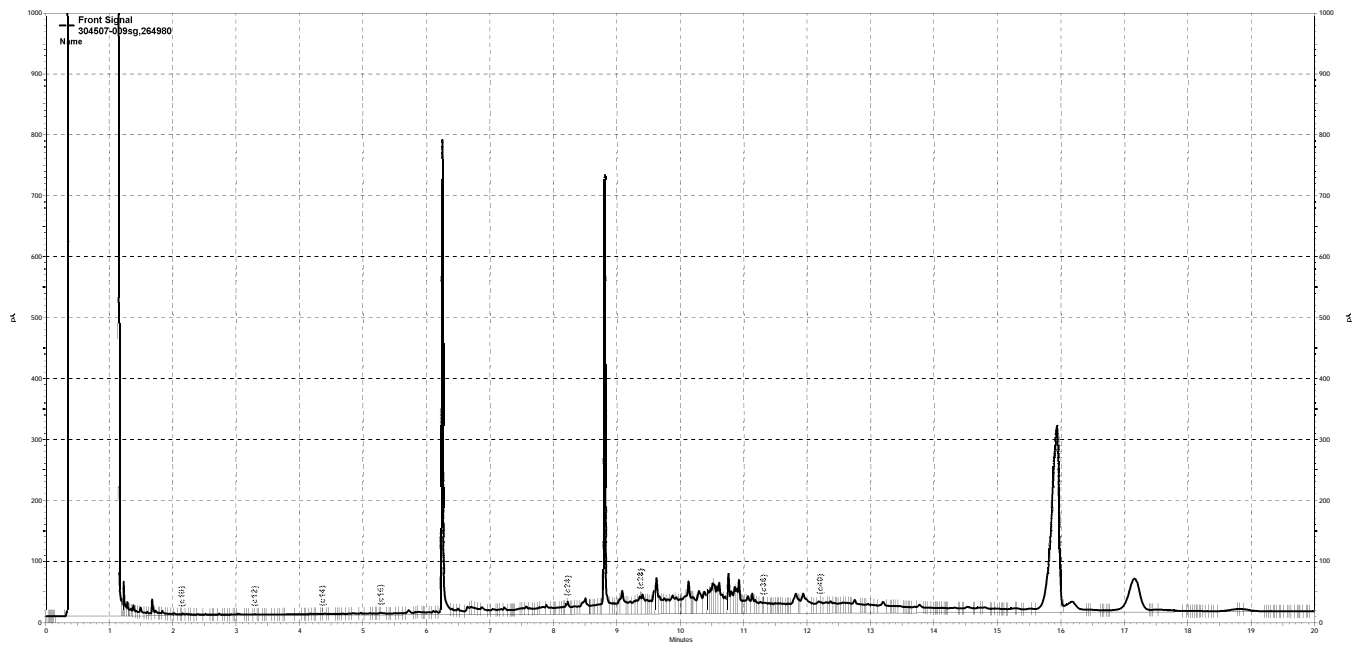
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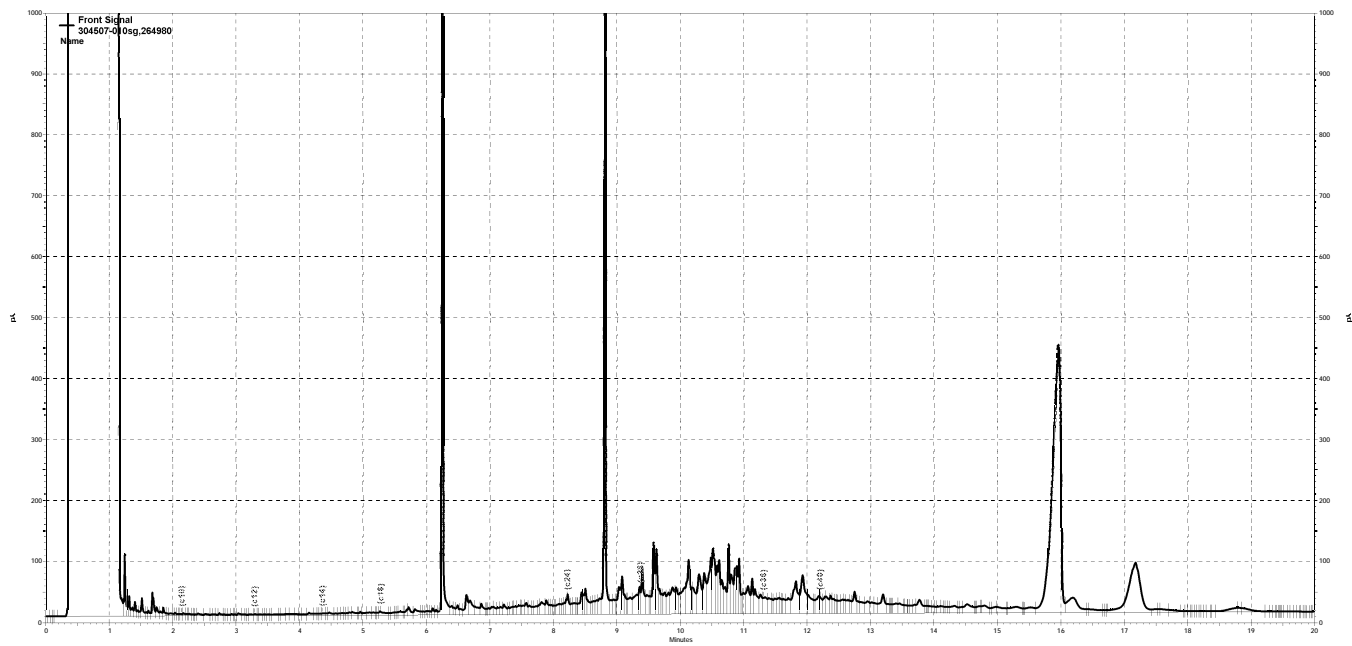
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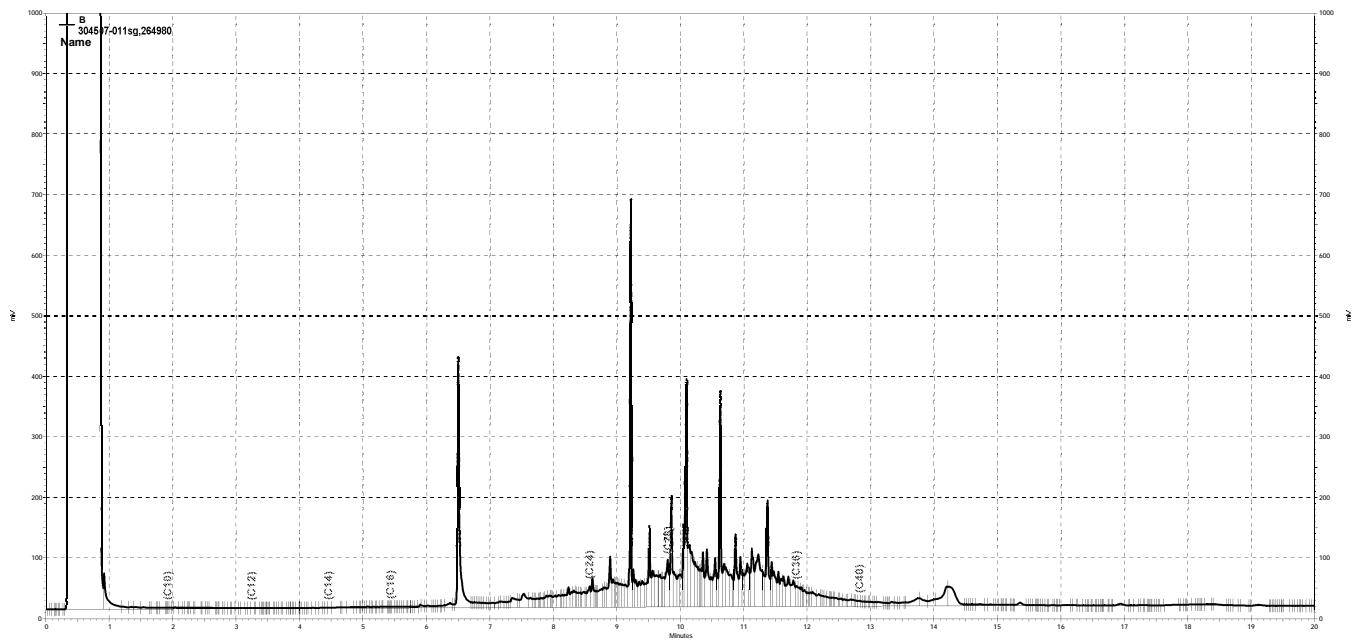
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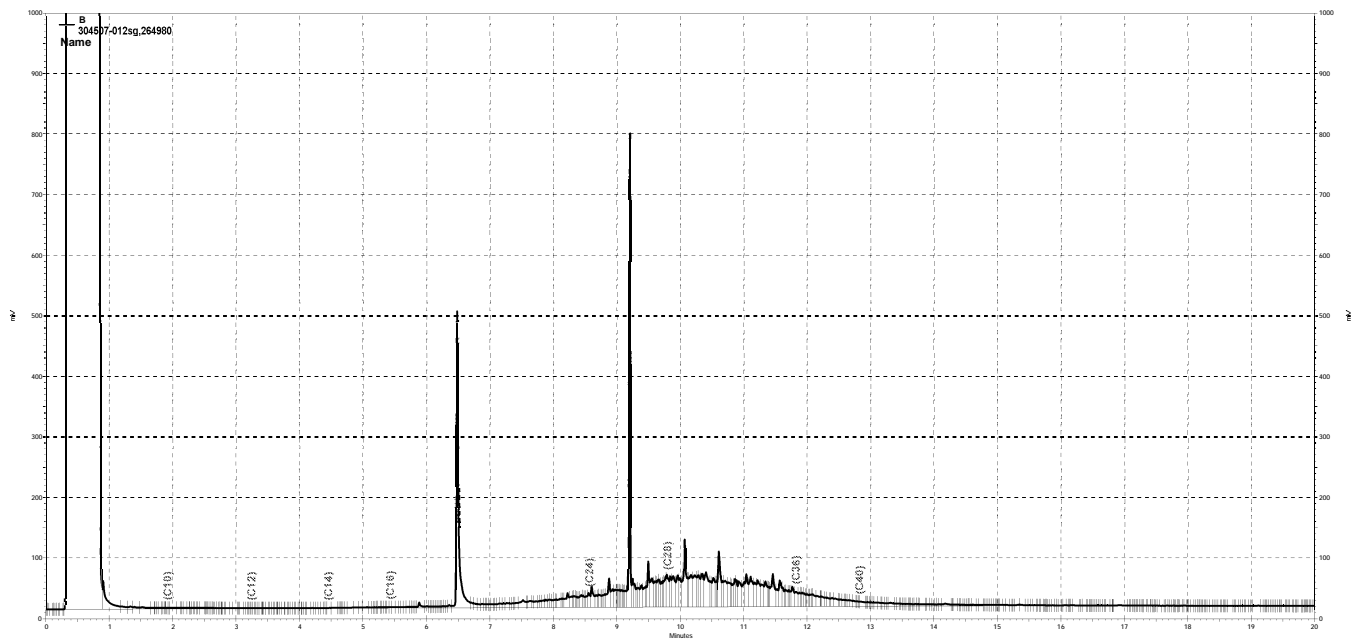
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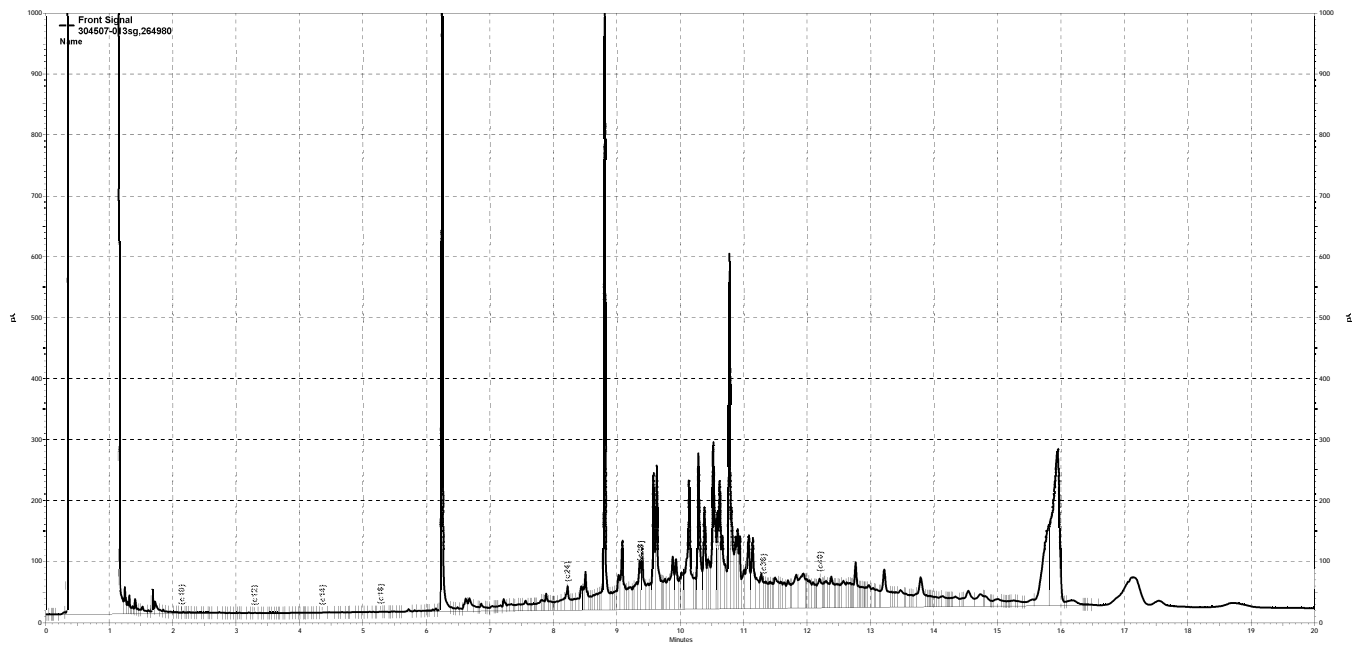
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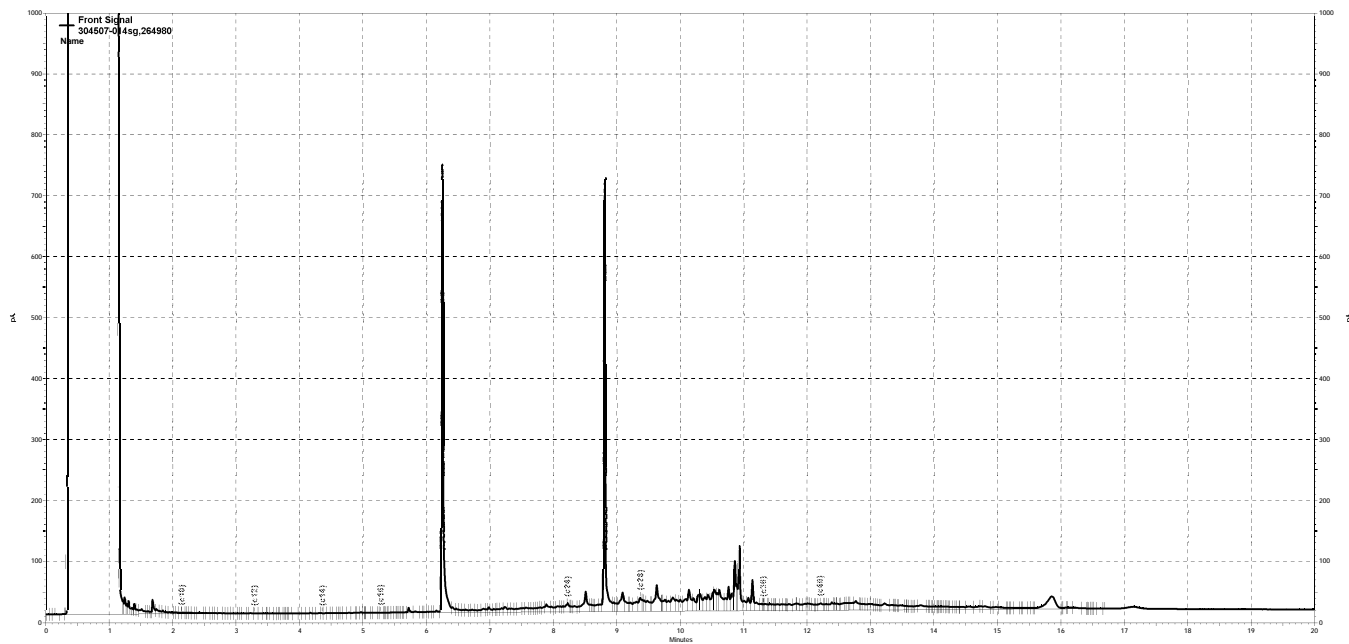
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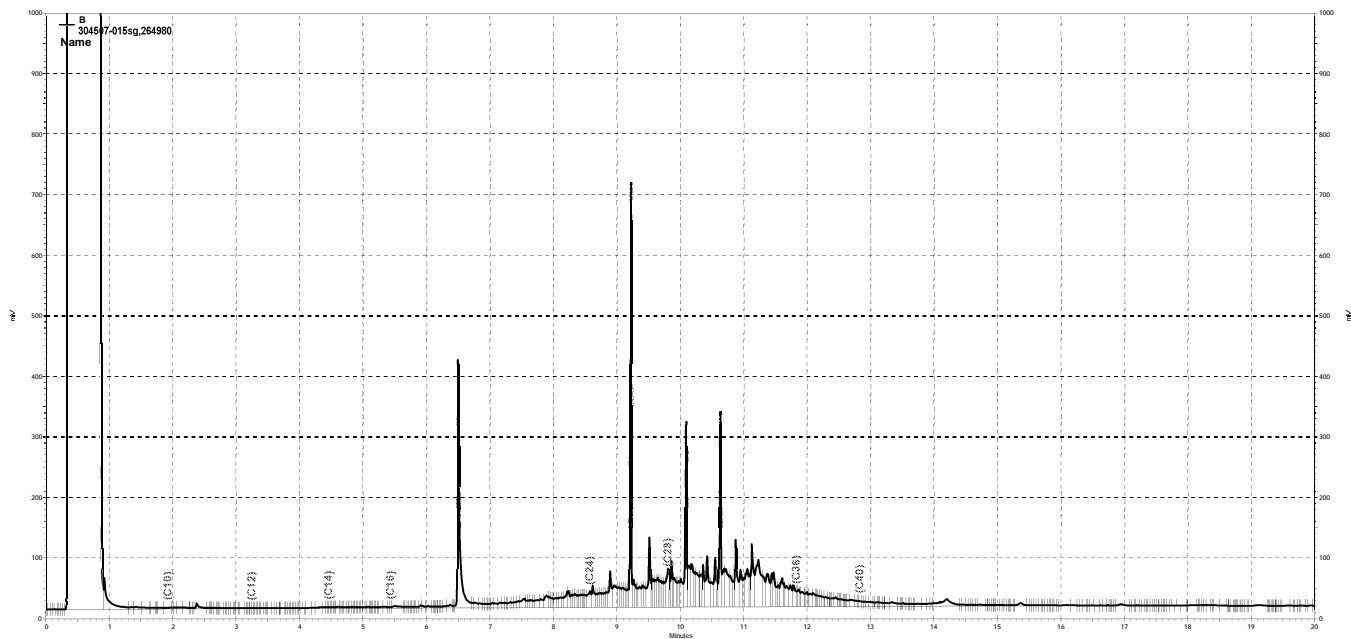
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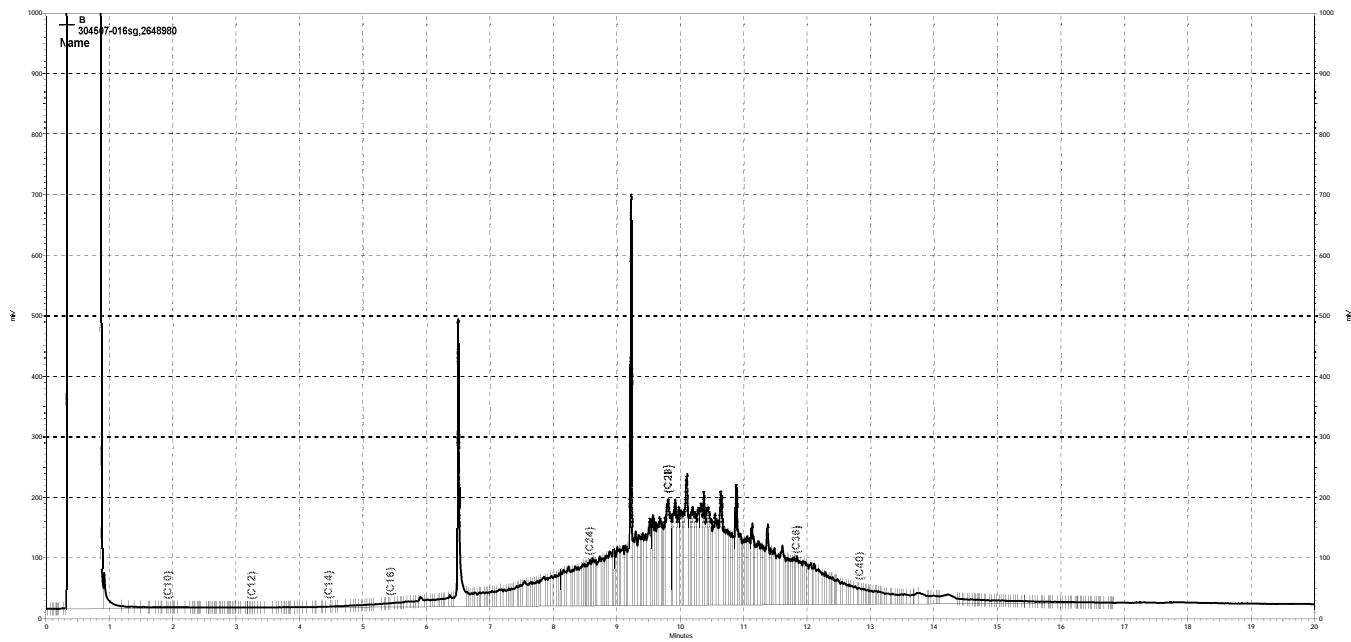
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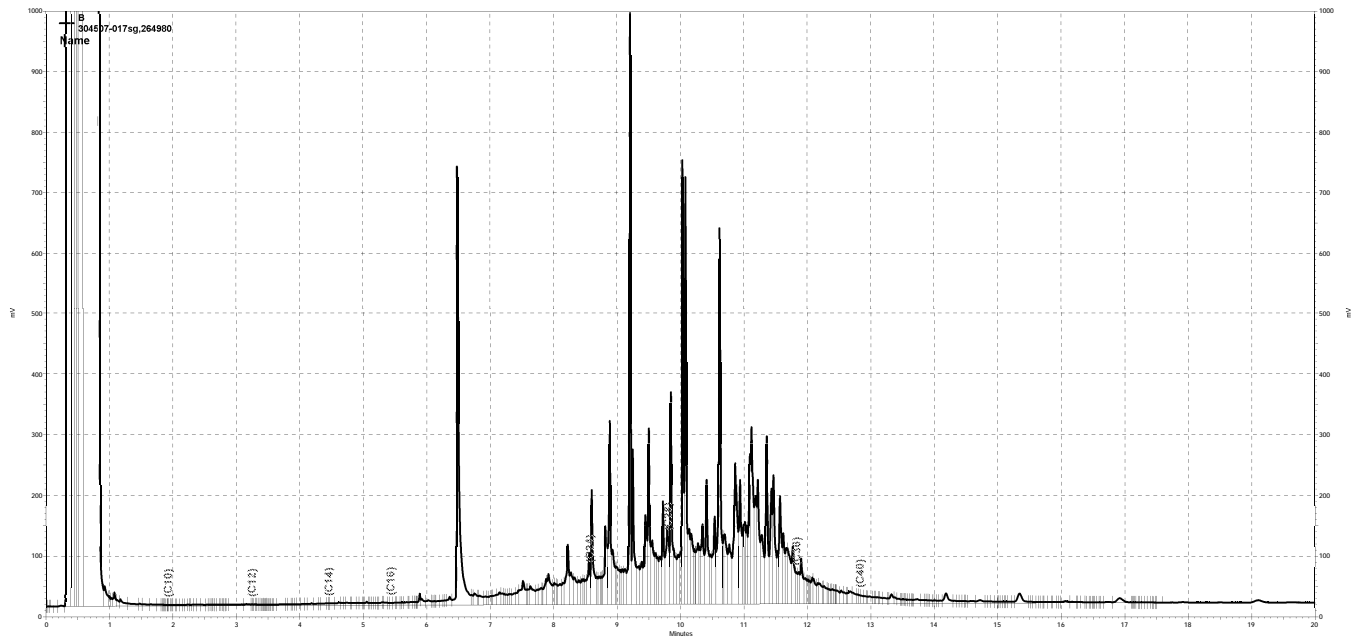
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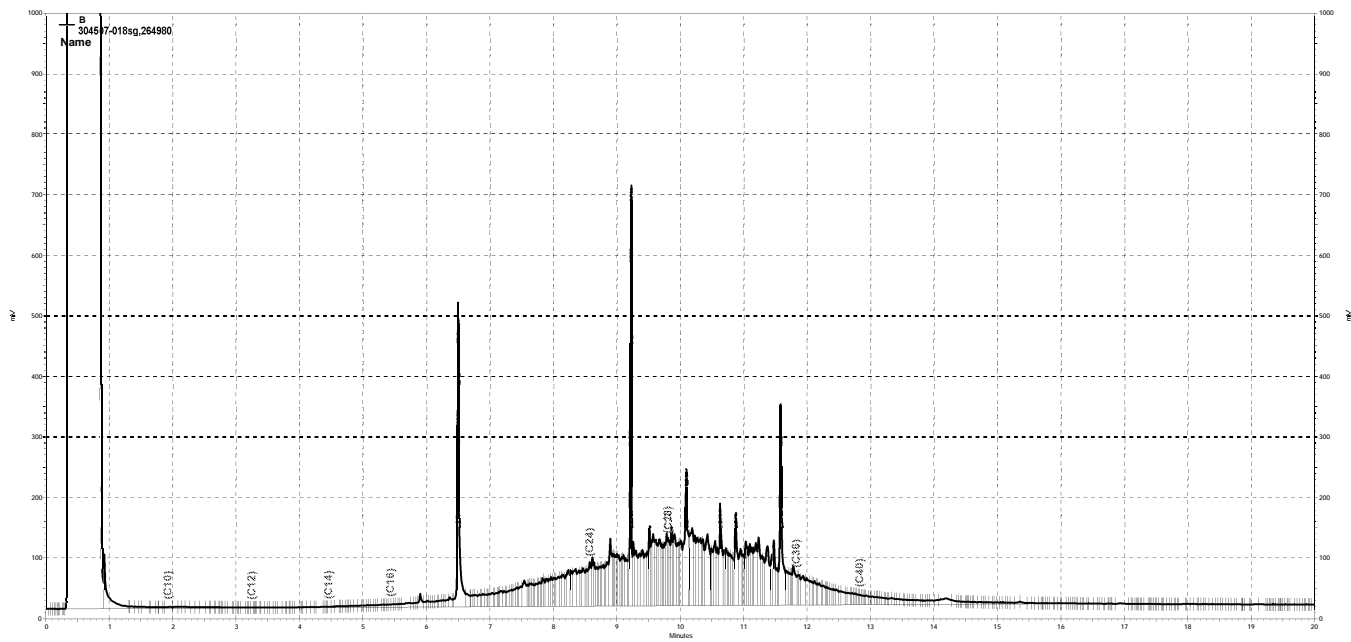
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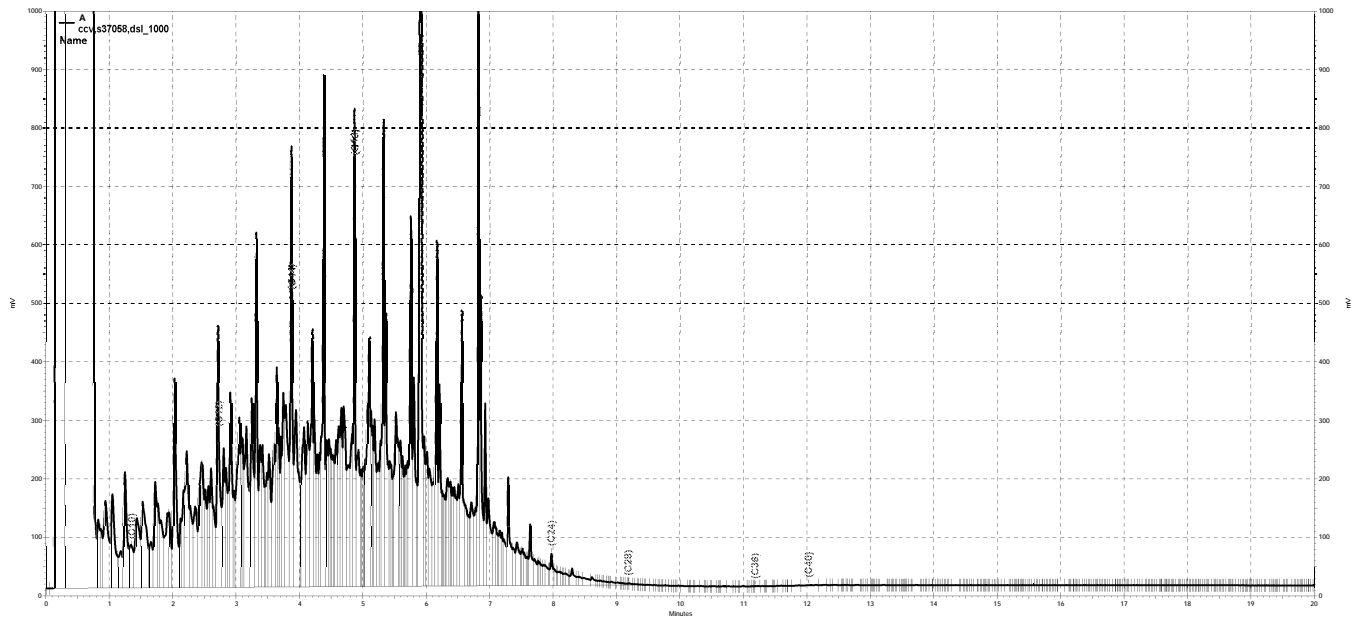
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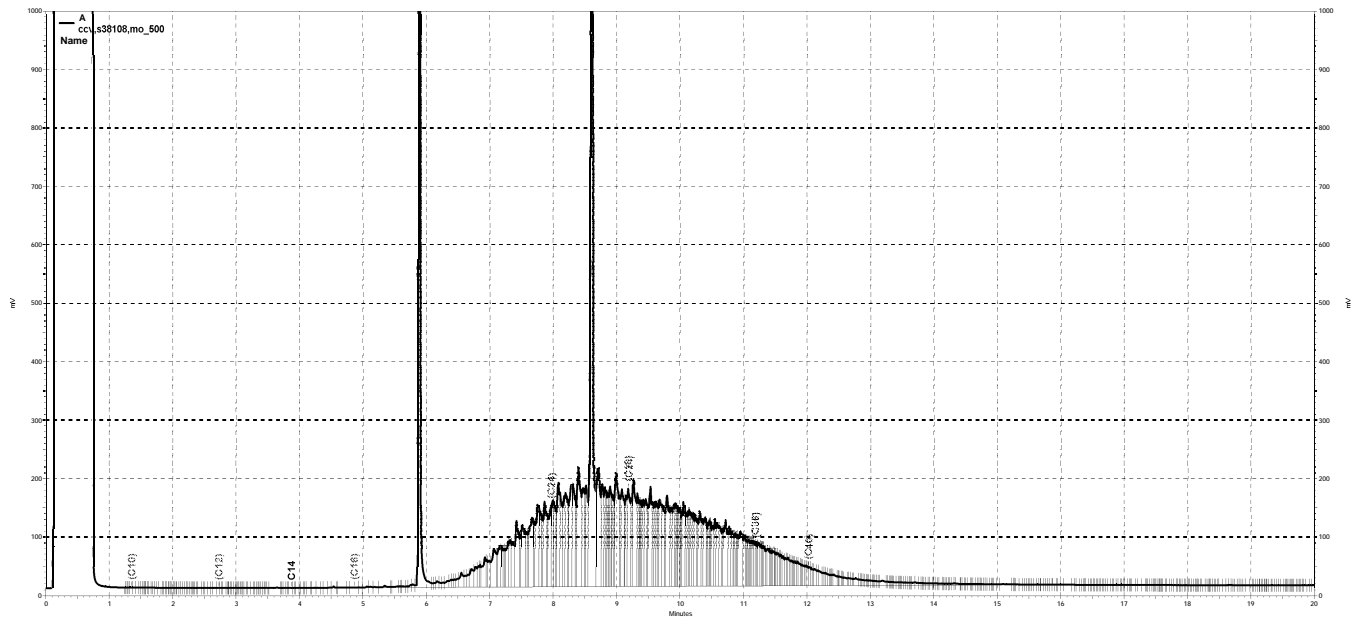
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Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	D7-9.0	Batch#:	264940
Lab ID:	304507-001	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	dry	Analyzed:	11/07/18
Diln Fac:	3.000		

Moisture: 14%

Analyte	Result	RL	MDL
Naphthalene	6.0 J	18	3.5
Acenaphthylene	ND	18	3.5
Acenaphthene	ND	18	3.5
Fluorene	ND	18	3.5
Phenanthrene	20	18	3.5
Anthracene	ND	18	3.5
Fluoranthene	23	18	3.5
Pyrene	33	18	3.5
Benzo(a)anthracene	10 J	18	3.5
Chrysene	19	18	3.5
Benzo(b)fluoranthene	29	18	3.5
Benzo(k)fluoranthene	7.9 J	18	3.5
Benzo(a)pyrene	16 J	18	3.5
Indeno(1,2,3-cd)pyrene	17 J	18	3.5
Dibenz(a,h)anthracene	4.1 J	18	3.5
Benzo(g,h,i)perylene	29	18	3.5

Surrogate	%REC	Limits
Nitrobenzene-d5	109	43-120
2-Fluorobiphenyl	85	36-120
Terphenyl-d14	98	56-120

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: D7-6.0	Batch#: 264940
Lab ID: 304507-002	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: ug/Kg	Prepared: 10/29/18
Basis: dry	Analyzed: 11/07/18
Diln Fac: 3.000	

Moisture: 22%

Analyte	Result	RL	MDL
Naphthalene	ND	19	3.9
Acenaphthylene	8.2 J	19	3.9
Acenaphthene	ND	19	3.9
Fluorene	ND	19	3.9
Phenanthrene	24	19	3.9
Anthracene	8.5 J	19	3.9
Fluoranthene	61	19	3.9
Pyrene	71	19	3.9
Benzo(a)anthracene	32	19	3.9
Chrysene	50	19	3.9
Benzo(b)fluoranthene	65	19	3.9
Benzo(k)fluoranthene	21	19	3.9
Benzo(a)pyrene	45	19	3.9
Indeno(1,2,3-cd)pyrene	34	19	3.9
Dibenz(a,h)anthracene	9.4 J	19	3.9
Benzo(g,h,i)perylene	39	19	3.9

Surrogate	%REC	Limits
Nitrobenzene-d5	107	43-120
2-Fluorobiphenyl	83	36-120
Terphenyl-d14	95	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: D7-4.0	Batch#: 264940
Lab ID: 304507-003	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: ug/Kg	Prepared: 10/29/18
Basis: dry	Analyzed: 11/07/18
Diln Fac: 1.000	

Moisture: 23%

Analyte	Result	RL	MDL
Naphthalene	ND	6.6	1.3
Acenaphthylene	ND	6.6	1.3
Acenaphthene	ND	6.6	1.3
Fluorene	ND	6.6	1.3
Phenanthrene	5.2 J	6.6	1.3
Anthracene	1.3 J	6.6	1.3
Fluoranthene	8.9	6.6	1.3
Pyrene	11	6.6	1.3
Benzo(a)anthracene	4.2 J	6.6	1.3
Chrysene	5.7 J	6.6	1.3
Benzo(b)fluoranthene	7.0	6.6	1.3
Benzo(k)fluoranthene	1.9 J	6.6	1.3
Benzo(a)pyrene	5.7 J	6.6	1.3
Indeno(1,2,3-cd)pyrene	3.7 J	6.6	1.3
Dibenz(a,h)anthracene	ND	6.6	1.3
Benzo(g,h,i)perylene	5.6 J	6.6	1.3

Surrogate	%REC	Limits
Nitrobenzene-d5	92	43-120
2-Fluorobiphenyl	64	36-120
Terphenyl-d14	73	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	D7-2.5	Batch#:	264940
Lab ID:	304507-004	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	dry	Analyzed:	11/07/18
Diln Fac:	5.000		

Moisture: 37%

Analyte	Result	RL	MDL
Naphthalene	ND	40	8.0
Acenaphthylene	ND	40	8.0
Acenaphthene	ND	40	8.0
Fluorene	ND	40	8.0
Phenanthrene	11 J	40	8.0
Anthracene	ND	40	8.0
Fluoranthene	19 J	40	8.0
Pyrene	28 J	40	8.0
Benzo(a)anthracene	8.0 J	40	8.0
Chrysene	11 J	40	8.0
Benzo(b)fluoranthene	20 J	40	8.0
Benzo(k)fluoranthene	ND	40	8.0
Benzo(a)pyrene	16 J	40	8.0
Indeno(1,2,3-cd)pyrene	12 J	40	8.0
Dibenz(a,h)anthracene	ND	40	8.0
Benzo(g,h,i)perylene	23 J	40	8.0

Surrogate	%REC	Limits
Nitrobenzene-d5	76	43-120
2-Fluorobiphenyl	59	36-120
Terphenyl-d14	68	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	D6-8.0	Batch#:	264940
Lab ID:	304507-005	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	dry	Analyzed:	11/07/18
Diln Fac:	1.000		

Moisture: 10%

Analyte	Result	RL	MDL
Naphthalene	ND	5.6	1.1
Acenaphthylene	ND	5.6	1.1
Acenaphthene	ND	5.6	1.1
Fluorene	ND	5.6	1.1
Phenanthrene	2.3 J	5.6	1.1
Anthracene	ND	5.6	1.1
Fluoranthene	3.0 J	5.6	1.1
Pyrene	3.4 J	5.6	1.1
Benzo(a)anthracene	1.3 J	5.6	1.1
Chrysene	2.4 J	5.6	1.1
Benzo(b)fluoranthene	3.9 J	5.6	1.1
Benzo(k)fluoranthene	ND	5.6	1.1
Benzo(a)pyrene	2.1 J	5.6	1.1
Indeno(1,2,3-cd)pyrene	2.1 J	5.6	1.1
Dibenz(a,h)anthracene	ND	5.6	1.1
Benzo(g,h,i)perylene	3.2 J	5.6	1.1

Surrogate	%REC	Limits
Nitrobenzene-d5	100	43-120
2-Fluorobiphenyl	71	36-120
Terphenyl-d14	75	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	D6-6.0	Batch#:	264940
Lab ID:	304507-006	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	dry	Analyzed:	11/07/18
Diln Fac:	1.000		

Moisture: 13%

Analyte	Result	RL	MDL
Naphthalene	ND	5.7	1.1
Acenaphthylene	ND	5.7	1.1
Acenaphthene	ND	5.7	1.1
Fluorene	ND	5.7	1.1
Phenanthrene	1.6 J	5.7	1.1
Anthracene	ND	5.7	1.1
Fluoranthene	1.7 J	5.7	1.1
Pyrene	2.2 J	5.7	1.1
Benzo(a)anthracene	ND	5.7	1.1
Chrysene	1.4 J	5.7	1.1
Benzo(b)fluoranthene	2.3 J	5.7	1.1
Benzo(k)fluoranthene	ND	5.7	1.1
Benzo(a)pyrene	1.5 J	5.7	1.1
Indeno(1,2,3-cd)pyrene	1.2 J	5.7	1.1
Dibenz(a,h)anthracene	ND	5.7	1.1
Benzo(g,h,i)perylene	2.2 J	5.7	1.1

Surrogate	%REC	Limits
Nitrobenzene-d5	102	43-120
2-Fluorobiphenyl	71	36-120
Terphenyl-d14	77	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: E7-9.5	Batch#: 264940
Lab ID: 304507-007	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: ug/Kg	Prepared: 10/29/18
Basis: dry	Analyzed: 11/07/18
Diln Fac: 3.000	

Moisture: 12%

Analyte	Result	RL	MDL
Naphthalene	4.5 J	17	3.4
Acenaphthylene	ND	17	3.4
Acenaphthene	ND	17	3.4
Fluorene	ND	17	3.4
Phenanthrene	26	17	3.4
Anthracene	5.1 J	17	3.4
Fluoranthene	42	17	3.4
Pyrene	47	17	3.4
Benzo(a)anthracene	21	17	3.4
Chrysene	30	17	3.4
Benzo(b)fluoranthene	47	17	3.4
Benzo(k)fluoranthene	13 J	17	3.4
Benzo(a)pyrene	29	17	3.4
Indeno(1,2,3-cd)pyrene	24	17	3.4
Dibenz(a,h)anthracene	7.3 J	17	3.4
Benzo(g,h,i)perylene	34	17	3.4

Surrogate	%REC	Limits
Nitrobenzene-d5	109	43-120
2-Fluorobiphenyl	79	36-120
Terphenyl-d14	85	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	E7-7.0	Batch#:	264940
Lab ID:	304507-008	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	dry	Analyzed:	11/07/18
Diln Fac:	1.000		

Moisture: 15%

Analyte	Result	RL	MDL
Naphthalene	1.3 J	5.9	1.2
Acenaphthylene	ND	5.9	1.2
Acenaphthene	ND	5.9	1.2
Fluorene	ND	5.9	1.2
Phenanthrene	7.1	5.9	1.2
Anthracene	ND	5.9	1.2
Fluoranthene	11	5.9	1.2
Pyrene	15	5.9	1.2
Benzo(a)anthracene	4.8 J	5.9	1.2
Chrysene	7.8	5.9	1.2
Benzo(b)fluoranthene	12	5.9	1.2
Benzo(k)fluoranthene	2.8 J	5.9	1.2
Benzo(a)pyrene	8.5	5.9	1.2
Indeno(1,2,3-cd)pyrene	6.8	5.9	1.2
Dibenz(a,h)anthracene	1.4 J	5.9	1.2
Benzo(g,h,i)perylene	11	5.9	1.2

Surrogate	%REC	Limits
Nitrobenzene-d5	108	43-120
2-Fluorobiphenyl	76	36-120
Terphenyl-d14	85	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	E7-5.0	Batch#:	264940
Lab ID:	304507-009	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	dry	Analyzed:	11/07/18
Diln Fac:	1.000		

Moisture: 19%

Analyte	Result	RL	MDL
Naphthalene	22	6.2	1.2
Acenaphthylene	ND	6.2	1.2
Acenaphthene	ND	6.2	1.2
Fluorene	9.2	6.2	1.2
Phenanthrene	57	6.2	1.2
Anthracene	1.4 J	6.2	1.2
Fluoranthene	15	6.2	1.2
Pyrene	20	6.2	1.2
Benzo(a)anthracene	8.2	6.2	1.2
Chrysene	22	6.2	1.2
Benzo(b)fluoranthene	26	6.2	1.2
Benzo(k)fluoranthene	3.7 J	6.2	1.2
Benzo(a)pyrene	11	6.2	1.2
Indeno(1,2,3-cd)pyrene	8.7	6.2	1.2
Dibenz(a,h)anthracene	3.6 J	6.2	1.2
Benzo(g,h,i)perylene	14	6.2	1.2

Surrogate	%REC	Limits
Nitrobenzene-d5	114	43-120
2-Fluorobiphenyl	78	36-120
Terphenyl-d14	90	56-120

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: FD-1	Batch#: 264940
Lab ID: 304507-010	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: ug/Kg	Prepared: 10/29/18
Basis: dry	Analyzed: 11/07/18
Diln Fac: 1.000	

Moisture: 19%

Analyte	Result	RL	MDL
Naphthalene	20	6.1	1.2
Acenaphthylene	1.9 J	6.1	1.2
Acenaphthene	ND	6.1	1.2
Fluorene	7.6	6.1	1.2
Phenanthrene	45	6.1	1.2
Anthracene	1.7 J	6.1	1.2
Fluoranthene	14	6.1	1.2
Pyrene	20	6.1	1.2
Benzo(a)anthracene	8.0	6.1	1.2
Chrysene	21	6.1	1.2
Benzo(b)fluoranthene	26	6.1	1.2
Benzo(k)fluoranthene	5.1 J	6.1	1.2
Benzo(a)pyrene	14	6.1	1.2
Indeno(1,2,3-cd)pyrene	9.8	6.1	1.2
Dibenz(a,h)anthracene	2.9 J	6.1	1.2
Benzo(g,h,i)perylene	15	6.1	1.2

Surrogate	%REC	Limits
Nitrobenzene-d5	108	43-120
2-Fluorobiphenyl	75	36-120
Terphenyl-d14	82	56-120

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	E8-9.5	Batch#:	264940
Lab ID:	304507-011	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	dry	Analyzed:	11/07/18
Diln Fac:	3.000		

Moisture: 13%

Analyte	Result	RL	MDL
Naphthalene	4.3 J	17	3.4
Acenaphthylene	3.5 J	17	3.4
Acenaphthene	ND	17	3.4
Fluorene	ND	17	3.4
Phenanthrene	27	17	3.4
Anthracene	4.2 J	17	3.4
Fluoranthene	41	17	3.4
Pyrene	54	17	3.4
Benzo(a)anthracene	17 J	17	3.4
Chrysene	30	17	3.4
Benzo(b)fluoranthene	45	17	3.4
Benzo(k)fluoranthene	12 J	17	3.4
Benzo(a)pyrene	25	17	3.4
Indeno(1,2,3-cd)pyrene	23	17	3.4
Dibenz(a,h)anthracene	4.8 J	17	3.4
Benzo(g,h,i)perylene	32	17	3.4

Surrogate	%REC	Limits
Nitrobenzene-d5	114	43-120
2-Fluorobiphenyl	86	36-120
Terphenyl-d14	93	56-120

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	E8-6.0	Batch#:	265085
Lab ID:	304507-012	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/01/18
Basis:	dry	Analyzed:	11/08/18
Diln Fac:	5.000		

Moisture: 26%

Analyte	Result	RL	MDL
Naphthalene	6.9 J	34	6.7
Acenaphthylene	ND	34	6.7
Acenaphthene	ND	34	6.7
Fluorene	ND	34	6.7
Phenanthrene	13 J	34	6.7
Anthracene	ND	34	6.7
Fluoranthene	21 J	34	6.7
Pyrene	31 J	34	6.7
Benzo(a)anthracene	12 J	34	6.7
Chrysene	17 J	34	6.7
Benzo(b)fluoranthene	25 J	34	6.7
Benzo(k)fluoranthene	7.1 J	34	6.7
Benzo(a)pyrene	20 J	34	6.7
Indeno(1,2,3-cd)pyrene	13 J	34	6.7
Dibenz(a,h)anthracene	ND	34	6.7
Benzo(g,h,i)perylene	22 J	34	6.7

Surrogate	%REC	Limits
Nitrobenzene-d5	94	43-120
2-Fluorobiphenyl	78	36-120
Terphenyl-d14	86	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	D8-9.0	Batch#:	265085
Lab ID:	304507-013	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/01/18
Basis:	dry	Analyzed:	11/08/18
Diln Fac:	2.000		

Moisture: 11%

Analyte	Result	RL	MDL
Naphthalene	4.2 J	11	2.2
Acenaphthylene	ND	11	2.2
Acenaphthene	ND	11	2.2
Fluorene	ND	11	2.2
Phenanthrene	11	11	2.2
Anthracene	ND	11	2.2
Fluoranthene	17	11	2.2
Pyrene	21	11	2.2
Benzo(a)anthracene	7.3 J	11	2.2
Chrysene	13	11	2.2
Benzo(b)fluoranthene	20	11	2.2
Benzo(k)fluoranthene	4.3 J	11	2.2
Benzo(a)pyrene	11 J	11	2.2
Indeno(1,2,3-cd)pyrene	11 J	11	2.2
Dibenz(a,h)anthracene	2.3 J	11	2.2
Benzo(g,h,i)perylene	16	11	2.2

Surrogate	%REC	Limits
Nitrobenzene-d5	91	43-120
2-Fluorobiphenyl	67	36-120
Terphenyl-d14	79	56-120

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	D8-5.5	Batch#:	265085
Lab ID:	304507-014	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/01/18
Basis:	dry	Analyzed:	11/08/18
Diln Fac:	1.000		

Moisture: 29%

Analyte	Result	RL	MDL
Naphthalene	1.9 J	7.0	1.4
Acenaphthylene	1.4 J	7.0	1.4
Acenaphthene	ND	7.0	1.4
Fluorene	1.5 J	7.0	1.4
Phenanthrene	13	7.0	1.4
Anthracene	2.3 J	7.0	1.4
Fluoranthene	15	7.0	1.4
Pyrene	22	7.0	1.4
Benzo(a)anthracene	8.0	7.0	1.4
Chrysene	10	7.0	1.4
Benzo(b)fluoranthene	12	7.0	1.4
Benzo(k)fluoranthene	4.0 J	7.0	1.4
Benzo(a)pyrene	11	7.0	1.4
Indeno(1,2,3-cd)pyrene	6.2 J	7.0	1.4
Dibenz(a,h)anthracene	1.5 J	7.0	1.4
Benzo(g,h,i)perylene	9.1	7.0	1.4

Surrogate	%REC	Limits
Nitrobenzene-d5	87	43-120
2-Fluorobiphenyl	58	36-120
Terphenyl-d14	78	56-120

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	C7-9.0	Batch#:	265085
Lab ID:	304507-015	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/01/18
Basis:	dry	Analyzed:	11/08/18
Diln Fac:	5.000		

Moisture: 12%

Analyte	Result	RL	MDL
Naphthalene	6.8 J	28	5.7
Acenaphthylene	ND	28	5.7
Acenaphthene	ND	28	5.7
Fluorene	ND	28	5.7
Phenanthrene	16 J	28	5.7
Anthracene	ND	28	5.7
Fluoranthene	20 J	28	5.7
Pyrene	26 J	28	5.7
Benzo(a)anthracene	9.5 J	28	5.7
Chrysene	15 J	28	5.7
Benzo(b)fluoranthene	25 J	28	5.7
Benzo(k)fluoranthene	ND	28	5.7
Benzo(a)pyrene	15 J	28	5.7
Indeno(1,2,3-cd)pyrene	13 J	28	5.7
Dibenz(a,h)anthracene	ND	28	5.7
Benzo(g,h,i)perylene	22 J	28	5.7

Surrogate	%REC	Limits
Nitrobenzene-d5	89	43-120
2-Fluorobiphenyl	67	36-120
Terphenyl-d14	72	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	C7-6.0	Batch#:	265085
Lab ID:	304507-016	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/01/18
Basis:	dry	Analyzed:	11/08/18
Diln Fac:	10.00		

Moisture: 21%

Analyte	Result	RL	MDL
Naphthalene	22 J	63	13
Acenaphthylene	ND	63	13
Acenaphthene	ND	63	13
Fluorene	ND	63	13
Phenanthrene	27 J	63	13
Anthracene	ND	63	13
Fluoranthene	26 J	63	13
Pyrene	39 J	63	13
Benzo(a)anthracene	ND	63	13
Chrysene	20 J	63	13
Benzo(b)fluoranthene	29 J	63	13
Benzo(k)fluoranthene	ND	63	13
Benzo(a)pyrene	21 J	63	13
Indeno(1,2,3-cd)pyrene	17 J	63	13
Dibenz(a,h)anthracene	ND	63	13
Benzo(g,h,i)perylene	31 J	63	13

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	B7-8.0	Batch#:	265085
Lab ID:	304507-017	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/01/18
Basis:	dry	Analyzed:	11/08/18
Diln Fac:	5.000		

Moisture: 14%

Analyte	Result	RL	MDL
Naphthalene	7.0 J	29	5.8
Acenaphthylene	ND	29	5.8
Acenaphthene	ND	29	5.8
Fluorene	ND	29	5.8
Phenanthrene	14 J	29	5.8
Anthracene	ND	29	5.8
Fluoranthene	24 J	29	5.8
Pyrene	31	29	5.8
Benzo(a)anthracene	17 J	29	5.8
Chrysene	26 J	29	5.8
Benzo(b)fluoranthene	32	29	5.8
Benzo(k)fluoranthene	10 J	29	5.8
Benzo(a)pyrene	19 J	29	5.8
Indeno(1,2,3-cd)pyrene	12 J	29	5.8
Dibenz(a,h)anthracene	ND	29	5.8
Benzo(g,h,i)perylene	18 J	29	5.8

Surrogate	%REC	Limits
Nitrobenzene-d5	98	43-120
2-Fluorobiphenyl	73	36-120
Terphenyl-d14	81	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	B7-6.5	Batch#:	265085
Lab ID:	304507-018	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/01/18
Basis:	dry	Analyzed:	11/08/18
Diln Fac:	5.000		

Moisture: 22%

Analyte	Result	RL	MDL
Naphthalene	13 J	32	6.4
Acenaphthylene	ND	32	6.4
Acenaphthene	ND	32	6.4
Fluorene	ND	32	6.4
Phenanthrene	30 J	32	6.4
Anthracene	6.6 J	32	6.4
Fluoranthene	38	32	6.4
Pyrene	57	32	6.4
Benzo(a)anthracene	19 J	32	6.4
Chrysene	29 J	32	6.4
Benzo(b)fluoranthene	41	32	6.4
Benzo(k)fluoranthene	13 J	32	6.4
Benzo(a)pyrene	24 J	32	6.4
Indeno(1,2,3-cd)pyrene	19 J	32	6.4
Dibenz(a,h)anthracene	ND	32	6.4
Benzo(g,h,i)perylene	28 J	32	6.4

Surrogate	%REC	Limits
Nitrobenzene-d5	120	43-120
2-Fluorobiphenyl	91	36-120
Terphenyl-d14	104	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC953403	Batch#:	264940
Matrix:	Soil	Prepared:	10/29/18
Units:	ug/Kg	Analyzed:	11/02/18

Analyte	Result	RL	MDL
Naphthalene	ND	5.0	1.0
Acenaphthylene	ND	5.0	1.0
Acenaphthene	ND	5.0	1.0
Fluorene	ND	5.0	1.0
Phenanthrene	ND	5.0	1.0
Anthracene	ND	5.0	1.0
Fluoranthene	ND	5.0	1.0
Pyrene	ND	5.0	1.0
Benzo(a)anthracene	ND	5.0	1.0
Chrysene	ND	5.0	1.0
Benzo(b)fluoranthene	ND	5.0	1.0
Benzo(k)fluoranthene	ND	5.0	1.0
Benzo(a)pyrene	ND	5.0	1.0
Indeno(1,2,3-cd)pyrene	ND	5.0	1.0
Dibenz(a,h)anthracene	ND	5.0	1.0
Benzo(g,h,i)perylene	ND	5.0	1.0

Surrogate	%REC	Limits
Nitrobenzene-d5	83	43-120
2-Fluorobiphenyl	74	36-120
Terphenyl-d14	82	56-120

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC953404	Batch#:	264940
Matrix:	Soil	Prepared:	10/29/18
Units:	ug/Kg	Analyzed:	11/02/18

Analyte	Spiked	Result	%REC	Limits
Acenaphthene	33.33	26.22	79	54-120
Pyrene	33.33	27.31	82	65-120

Surrogate	%REC	Limits
Nitrobenzene-d5	83	43-120
2-Fluorobiphenyl	72	36-120
Terphenyl-d14	78	56-120

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC954004	Batch#:	265085
Matrix:	Soil	Prepared:	11/01/18
Units:	ug/Kg	Analyzed:	11/05/18

Analyte	Result	RL	MDL
Naphthalene	1.1 J	5.0	1.0
Acenaphthylene	ND	5.0	1.0
Acenaphthene	ND	5.0	1.0
Fluorene	ND	5.0	1.0
Phenanthrene	ND	5.0	1.0
Anthracene	ND	5.0	1.0
Fluoranthene	ND	5.0	1.0
Pyrene	ND	5.0	1.0
Benzo(a)anthracene	ND	5.0	1.0
Chrysene	ND	5.0	1.0
Benzo(b)fluoranthene	ND	5.0	1.0
Benzo(k)fluoranthene	ND	5.0	1.0
Benzo(a)pyrene	ND	5.0	1.0
Indeno(1,2,3-cd)pyrene	ND	5.0	1.0
Dibenz(a,h)anthracene	ND	5.0	1.0
Benzo(g,h,i)perylene	ND	5.0	1.0

Surrogate	%REC	Limits
Nitrobenzene-d5	88	43-120
2-Fluorobiphenyl	77	36-120
Terphenyl-d14	78	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC954005	Batch#:	265085
Matrix:	Soil	Prepared:	11/01/18
Units:	ug/Kg	Analyzed:	11/05/18

Analyte	Spiked	Result	%REC	Limits
Acenaphthene	33.33	27.92	84	54-120
Pyrene	33.33	28.01	84	65-120

Surrogate	%REC	Limits
Nitrobenzene-d5	97	43-120
2-Fluorobiphenyl	79	36-120
Terphenyl-d14	79	56-120

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	D7-9.0	Batch#:	264958
Lab ID:	304507-001	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	dry	Analyzed:	11/01/18
Diln Fac:	1.000		

Moisture: 14%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.3	0.12
beta-BHC	0.26 C J	1.3	0.13
gamma-BHC	ND	1.3	0.14
delta-BHC	ND	1.3	0.092
Heptachlor	ND	1.3	0.092
Aldrin	ND	1.3	0.070
Heptachlor epoxide	0.25 J	1.3	0.098
Endosulfan I	ND	1.3	0.12
Dieldrin	0.69 C J	2.6	0.092
4,4'-DDE	2.4 C J	2.6	0.092
Endrin	0.39 C J	2.6	0.076
Endosulfan II	ND	2.6	0.092
Endosulfan sulfate	0.60 C J	2.6	0.085
4,4'-DDD	1.8 J	2.6	0.092
Endrin aldehyde	0.81 C J	2.6	0.79
4,4'-DDT	0.58 C J	2.6	0.10
alpha-Chlordane	0.19 C J	1.3	0.16
gamma-Chlordane	ND	1.3	0.16
Methoxychlor	ND	13	1.8
Toxaphene	ND	46	15

Surrogate	%REC	Limits
TCMX	81	28-136
Decachlorobiphenyl	61	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	D7-6.0	Batch#:	264958
Lab ID:	304507-002	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	dry	Analyzed:	11/01/18
Diln Fac:	1.000		

Moisture: 22%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.4	0.13
beta-BHC	0.25 C J	1.4	0.14
gamma-BHC	ND	1.4	0.10
delta-BHC	0.26 C J	1.4	0.10
Heptachlor	ND	1.4	0.10
Aldrin	ND	1.4	0.077
Heptachlor epoxide	0.57 C J	1.4	0.097
Endosulfan I	ND	1.4	0.10
Dieldrin	2.3 C J	2.8	0.10
4,4'-DDE	3.9 #	2.8	0.10
Endrin	0.37 C J	2.8	0.084
Endosulfan II	ND	2.8	0.10
Endosulfan sulfate	1.2 J	2.8	0.22
4,4'-DDD	9.6 #	2.8	0.10
Endrin aldehyde	1.0 C J	2.8	0.86
4,4'-DDT	ND	2.8	0.42
alpha-Chlordane	0.46 C J	1.4	0.18
gamma-Chlordane	1.0 C J	1.4	0.17
Methoxychlor	ND	14	1.9
Toxaphene	ND	50	17

Surrogate	%REC	Limits
TCMX	82	28-136
Decachlorobiphenyl	79	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	D7-4.0	Batch#:	265222
Lab ID:	304507-003	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/06/18
Basis:	dry	Analyzed:	11/07/18
Diln Fac:	1.000		

Moisture: 23%

Cleanup Method: EPA 3620

Analyte	Result	RL	MDL
alpha-BHC	0.23 J	1.5	0.12
beta-BHC	0.45 C J	1.5	0.15
gamma-BHC	ND	1.5	0.11
delta-BHC	ND	1.5	0.11
Heptachlor	ND	1.5	0.16
Aldrin	0.26 C J	1.5	0.12
Heptachlor epoxide	0.69 C J	1.5	0.10
Endosulfan I	0.34 C J	1.5	0.14
Dieldrin	ND	2.9	0.11
4,4'-DDE	0.34 J	2.9	0.13
Endrin	ND	2.9	0.088
Endosulfan II	ND	2.9	0.11
Endosulfan sulfate	0.29 C J	2.9	0.098
4,4'-DDD	ND	2.9	0.11
Endrin aldehyde	ND	2.9	0.78
4,4'-DDT	ND	2.9	0.12
alpha-Chlordane	ND	1.5	0.24
gamma-Chlordane	ND #	1.5	0.15
Methoxychlor	ND	15	2.0
Toxaphene	ND	53	18

Surrogate	%REC	Limits
TCMX	75	28-136
Decachlorobiphenyl	69	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	D7-2.5	Batch#:	264958
Lab ID:	304507-004	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	dry	Analyzed:	11/01/18
Diln Fac:	1.000		

Moisture: 37%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.7	0.16
beta-BHC	ND	1.7	0.10
gamma-BHC	ND	1.7	0.12
delta-BHC	ND	1.7	0.24
Heptachlor	ND	1.7	0.12
Aldrin	ND	1.7	0.14
Heptachlor epoxide	ND	1.7	0.13
Endosulfan I	ND	1.7	0.17
Dieldrin	0.19 C J	3.4	0.12
4,4'-DDE	4.3 #	3.4	0.12
Endrin	ND	3.4	0.10
Endosulfan II	ND	3.4	0.12
Endosulfan sulfate	0.28 C J	3.4	0.27
4,4'-DDD	8.4 #	3.4	0.12
Endrin aldehyde	ND	3.4	0.91
4,4'-DDT	0.83 C J	3.4	0.14
alpha-Chlordane	ND	1.7	0.28
gamma-Chlordane	ND	1.7	0.21
Methoxychlor	ND	17	2.4
Toxaphene	ND	62	21

Surrogate	%REC	Limits
TCMX	51	28-136
Decachlorobiphenyl	44	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8081A
Field ID: D6-8.0	Batch#: 264958
Lab ID: 304507-005	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: ug/Kg	Prepared: 10/29/18
Basis: dry	Analyzed: 11/01/18
Diln Fac: 1.000	

Moisture: 10%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.2	0.11
beta-BHC	0.46 J	1.2	0.12
gamma-BHC	ND	1.2	0.088
delta-BHC	ND	1.2	0.087
Heptachlor	ND	1.2	0.087
Aldrin	ND	1.2	0.10
Heptachlor epoxide	ND	1.2	0.093
Endosulfan I	ND	1.2	0.087
Dieldrin	ND	2.4	0.087
4,4'-DDE	0.33 C J	2.4	0.087
Endrin	ND	2.4	0.23
Endosulfan II	0.15 C J	2.4	0.087
Endosulfan sulfate	ND	2.4	0.081
4,4'-DDD	ND	2.4	0.16
Endrin aldehyde	ND	2.4	0.64
4,4'-DDT	0.25 C J	2.4	0.098
alpha-Chlordane	ND	1.2	0.16
gamma-Chlordane	ND	1.2	0.15
Methoxychlor	ND	12	1.7
Toxaphene	ND	44	15

Surrogate	%REC	Limits
TCMX	89	28-136
Decachlorobiphenyl	91	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	D6-6.0	Batch#:	264958
Lab ID:	304507-006	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	dry	Analyzed:	11/01/18
Diln Fac:	1.000		

Moisture: 13%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.3	0.11
beta-BHC	0.34 J	1.3	0.13
gamma-BHC	ND	1.3	0.092
delta-BHC	ND	1.3	0.091
Heptachlor	ND	1.3	0.091
Aldrin	ND	1.3	0.11
Heptachlor epoxide	0.13 C J	1.3	0.088
Endosulfan I	ND	1.3	0.091
Dieldrin	ND	2.5	0.091
4,4'-DDE	ND	2.5	0.11
Endrin	ND	2.5	0.076
Endosulfan II	ND	2.5	0.091
Endosulfan sulfate	ND	2.5	0.20
4,4'-DDD	ND	2.5	0.17
Endrin aldehyde	ND	2.5	0.67
4,4'-DDT	ND	2.5	0.38
alpha-Chlordane	ND	1.3	0.16
gamma-Chlordane	ND	1.3	0.13
Methoxychlor	ND	13	1.7
Toxaphene	ND	45	15

Surrogate	%REC	Limits
TCMX	90	28-136
Decachlorobiphenyl	84	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	E7-9.5	Batch#:	264958
Lab ID:	304507-007	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	dry	Analyzed:	11/01/18
Diln Fac:	1.000		

Moisture: 12%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.2	0.11
beta-BHC	ND	1.2	0.13
gamma-BHC	ND	1.2	0.090
delta-BHC	0.34 J	1.2	0.089
Heptachlor	ND	1.2	0.089
Aldrin	ND	1.2	0.10
Heptachlor epoxide	0.23 C J	1.2	0.086
Endosulfan I	ND	1.2	0.12
Dieldrin	0.78 C J	2.5	0.089
4,4'-DDE	2.7 #	2.5	0.089
Endrin	0.27 C J	2.5	0.074
Endosulfan II	ND	2.5	0.089
Endosulfan sulfate	0.50 C J	2.5	0.083
4,4'-DDD	2.0 J	2.5	0.089
Endrin aldehyde	ND	2.5	0.76
4,4'-DDT	0.96 C J	2.5	0.10
alpha-Chlordane	0.59 C J	1.2	0.16
gamma-Chlordane	ND	1.2	0.15
Methoxychlor	ND	12	1.7
Toxaphene	ND	45	15

Surrogate	%REC	Limits
TCMX	46	28-136
Decachlorobiphenyl	47	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	E7-7.0	Batch#:	264958
Lab ID:	304507-008	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	dry	Analyzed:	11/01/18
Diln Fac:	1.000		

Moisture: 15%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.3	0.12
beta-BHC	ND	1.3	0.13
gamma-BHC	ND	1.3	0.094
delta-BHC	ND	1.3	0.092
Heptachlor	ND	1.3	0.092
Aldrin	ND	1.3	0.071
Heptachlor epoxide	ND	1.3	0.089
Endosulfan I	ND	1.3	0.092
Dieldrin	0.093 C J	2.6	0.092
4,4'-DDE	0.27 J	2.6	0.092
Endrin	ND	2.6	0.077
Endosulfan II	ND	2.6	0.092
Endosulfan sulfate	ND	2.6	0.086
4,4'-DDD	ND	2.6	0.17
Endrin aldehyde	ND	2.6	0.68
4,4'-DDT	ND	2.6	0.39
alpha-Chlordane	ND	1.3	0.21
gamma-Chlordane	ND	1.3	0.13
Methoxychlor	ND	13	1.8
Toxaphene	ND	46	15

Surrogate	%REC	Limits
TCMX	37	28-136
Decachlorobiphenyl	42	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8081A
Field ID: E7-5.0	Batch#: 264958
Lab ID: 304507-009	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: ug/Kg	Prepared: 10/29/18
Basis: dry	Analyzed: 11/01/18
Diln Fac: 1.000	

Moisture: 19%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.4	0.12
beta-BHC	0.18 C J	1.4	0.079
gamma-BHC	ND	1.4	0.10
delta-BHC	0.16 C J	1.4	0.098
Heptachlor	ND	1.4	0.15
Aldrin	ND	1.4	0.12
Heptachlor epoxide	0.11 C J	1.4	0.095
Endosulfan I	ND	1.4	0.098
Dieldrin	0.13 C J	2.7	0.098
4,4'-DDE	0.29 C J	2.7	0.12
Endrin	ND	2.7	0.082
Endosulfan II	ND	2.7	0.098
Endosulfan sulfate	ND	2.7	0.22
4,4'-DDD	2.0 C J	2.7	0.19
Endrin aldehyde	ND	2.7	0.73
4,4'-DDT	ND	2.7	0.41
alpha-Chlordane	ND	1.4	0.18
gamma-Chlordane	ND	1.4	0.17
Methoxychlor	ND	14	1.9
Toxaphene	ND	49	16

Surrogate	%REC	Limits
TCMX	87	28-136
Decachlorobiphenyl	81	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8081A
Field ID: FD-1	Batch#: 264958
Lab ID: 304507-010	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: ug/Kg	Prepared: 10/29/18
Basis: dry	Analyzed: 11/01/18
Diln Fac: 1.000	

Moisture: 19%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.4	0.12
beta-BHC	1.0 J	1.4	0.14
gamma-BHC	ND	1.4	0.10
delta-BHC	ND	1.4	0.19
Heptachlor	ND	1.4	0.15
Aldrin	ND	1.4	0.12
Heptachlor epoxide	ND	1.4	0.095
Endosulfan I	ND	1.4	0.099
Dieldrin	0.16 J	2.7	0.11
4,4'-DDE	1.4 C J	2.7	0.099
Endrin	ND	2.7	0.082
Endosulfan II	ND	2.7	0.099
Endosulfan sulfate	ND	2.7	0.092
4,4'-DDD	0.61 C J	2.7	0.19
Endrin aldehyde	ND	2.7	0.73
4,4'-DDT	ND	2.7	0.11
alpha-Chlordane	ND	1.4	0.18
gamma-Chlordane	ND	1.4	0.17
Methoxychlor	ND	14	1.9
Toxaphene	ND	49	16

Surrogate	%REC	Limits
TCMX	102	28-136
Decachlorobiphenyl	91	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	E8-9.5	Batch#:	264958
Lab ID:	304507-011	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	dry	Analyzed:	11/01/18
Diln Fac:	1.000		

Moisture: 13%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.3	0.11
beta-BHC	ND	1.3	0.13
gamma-BHC	ND	1.3	0.091
delta-BHC	ND	1.3	0.090
Heptachlor	ND	1.3	0.090
Aldrin	ND	1.3	0.069
Heptachlor epoxide	0.29 C J	1.3	0.087
Endosulfan I	ND	1.3	0.090
Dieldrin	1.1 C J	2.5	0.090
4,4'-DDE	3.2 #	2.5	0.090
Endrin	0.47 C J	2.5	0.075
Endosulfan II	ND	2.5	0.090
Endosulfan sulfate	0.48 C J	2.5	0.084
4,4'-DDD	2.8 #	2.5	0.090
Endrin aldehyde	ND	2.5	0.67
4,4'-DDT	1.8 C J	2.5	0.10
alpha-Chlordane	0.64 C J	1.3	0.16
gamma-Chlordane	ND	1.3	0.16
Methoxychlor	ND	13	1.7
Toxaphene	ND	45	15

Surrogate	%REC	Limits
TCMX	64	28-136
Decachlorobiphenyl	66	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	E8-6.0	Batch#:	264958
Lab ID:	304507-012	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	dry	Analyzed:	11/01/18
Diln Fac:	1.000		

Moisture: 26%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.5	0.14
beta-BHC	0.80 C J	1.5	0.087
gamma-BHC	ND	1.5	0.11
delta-BHC	0.59 C J	1.5	0.11
Heptachlor	ND	1.5	0.11
Aldrin	0.21 C J	1.5	0.082
Heptachlor epoxide	0.30 C J	1.5	0.10
Endosulfan I	ND	1.5	0.11
Dieldrin	0.17 C J	3.0	0.11
4,4'-DDE	4.2 #	3.0	0.11
Endrin	ND	3.0	0.089
Endosulfan II	ND	3.0	0.11
Endosulfan sulfate	ND	3.0	0.24
4,4'-DDD	9.7 #	3.0	0.11
Endrin aldehyde	ND	3.0	0.79
4,4'-DDT	1.8 C J	3.0	0.12
alpha-Chlordane	0.44 C J	1.5	0.19
gamma-Chlordane	ND	1.5	0.18
Methoxychlor	ND	15	2.0
Toxaphene	ND	54	18

Surrogate	%REC	Limits
TCMX	82	28-136
Decachlorobiphenyl	66	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	D8-9.0	Batch#:	265002
Lab ID:	304507-013	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/30/18
Basis:	dry	Analyzed:	10/31/18
Diln Fac:	1.000		

Moisture: 11%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.2	0.11
beta-BHC	ND	1.2	0.071
gamma-BHC	ND	1.2	0.089
delta-BHC	ND	1.2	0.088
Heptachlor	ND	1.2	0.088
Aldrin	ND	1.2	0.067
Heptachlor epoxide	0.087 C J	1.2	0.085
Endosulfan I	ND	1.2	0.088
Dieldrin	0.68 C J	2.4	0.088
4,4'-DDE	2.1 J	2.4	0.088
Endrin	0.18 C J	2.4	0.073
Endosulfan II	ND	2.4	0.088
Endosulfan sulfate	ND	2.4	0.20
4,4'-DDD	1.3 J	2.4	0.088
Endrin aldehyde	ND	2.4	0.76
4,4'-DDT	1.4 C J	2.4	0.099
alpha-Chlordane	0.73 C J	1.2	0.20
gamma-Chlordane	ND	1.2	0.15
Methoxychlor	ND	12	1.7
Toxaphene	ND	44	15

Surrogate	%REC	Limits
TCMX	63	28-136
Decachlorobiphenyl	82	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8081A
Field ID: D8-5.5	Batch#: 265002
Lab ID: 304507-014	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: ug/Kg	Prepared: 10/30/18
Basis: dry	Analyzed: 11/01/18
Diln Fac: 1.000	

Moisture: 29%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.5	0.14
beta-BHC	2.6	1.5	0.089
gamma-BHC	0.17 C J	1.5	0.17
delta-BHC	ND	1.5	0.22
Heptachlor	ND	1.5	0.17
Aldrin	ND	1.5	0.13
Heptachlor epoxide	ND	1.5	0.12
Endosulfan I	ND	1.5	0.11
Dieldrin	0.13 C J	3.1	0.11
4,4'-DDE	0.76 C J	3.1	0.14
Endrin	ND	3.1	0.29
Endosulfan II	ND	3.1	0.11
Endosulfan sulfate	ND	3.1	0.10
4,4'-DDD	0.42 J	3.1	0.11
Endrin aldehyde	ND	3.1	0.82
4,4'-DDT	ND	3.1	0.12
alpha-Chlordane	ND	1.5	0.25
gamma-Chlordane	ND	1.5	0.19
Methoxychlor	ND	15	2.1
Toxaphene	ND	55	18

Surrogate	%REC	Limits
TCMX	74	28-136
Decachlorobiphenyl	74	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	C7-9.0	Batch#:	265002
Lab ID:	304507-015	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/30/18
Basis:	dry	Analyzed:	11/01/18
Diln Fac:	1.000		

Moisture: 12%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.2	0.11
beta-BHC	0.65 C J	1.2	0.13
gamma-BHC	ND	1.2	0.090
delta-BHC	0.14 C J	1.2	0.088
Heptachlor	ND	1.2	0.088
Aldrin	ND	1.2	0.068
Heptachlor epoxide	0.18 C J	1.2	0.085
Endosulfan I	ND	1.2	0.12
Dieldrin	0.68 C J	2.5	0.088
4,4'-DDE	1.6 C J	2.5	0.088
Endrin	0.31 J	2.5	0.23
Endosulfan II	ND	2.5	0.088
Endosulfan sulfate	ND	2.5	0.20
4,4'-DDD	0.84 C J	2.5	0.17
Endrin aldehyde	ND	2.5	0.65
4,4'-DDT	0.60 C J	2.5	0.10
alpha-Chlordane	ND	1.2	0.16
gamma-Chlordane	ND	1.2	0.15
Methoxychlor	ND	12	1.7
Toxaphene	ND	44	15

Surrogate	%REC	Limits
TCMX	62	28-136
Decachlorobiphenyl	48	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	C7-6.0	Batch#:	265002
Lab ID:	304507-016	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/30/18
Basis:	dry	Analyzed:	11/01/18
Diln Fac:	2.000		

Moisture: 21%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	2.8	0.25
beta-BHC	0.43 C J	2.8	0.28
gamma-BHC	ND	2.8	0.20
delta-BHC	ND	2.8	0.20
Heptachlor	ND	2.8	0.20
Aldrin	ND	2.8	0.15
Heptachlor epoxide	0.56 C J	2.8	0.19
Endosulfan I	ND	2.8	0.20
Dieldrin	1.1 C J	5.5	0.20
4,4'-DDE	3.7 J	5.5	0.20
Endrin	ND	5.5	0.52
Endosulfan II	ND	5.5	0.20
Endosulfan sulfate	ND	5.5	0.19
4,4'-DDD	7.5 #	5.5	0.20
Endrin aldehyde	ND	5.5	1.5
4,4'-DDT	2.2 C J	5.5	0.22
alpha-Chlordane	0.79 C J	2.8	0.36
gamma-Chlordane	ND	2.8	0.34
Methoxychlor	ND	28	3.8
Toxaphene	ND	100	33

Surrogate	%REC	Limits
TCMX	91	28-136
Decachlorobiphenyl	81	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8081A
Field ID: B7-8.0	Batch#: 265002
Lab ID: 304507-017	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: ug/Kg	Prepared: 10/30/18
Basis: dry	Analyzed: 11/01/18
Diln Fac: 1.000	

Moisture: 14%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.3	0.11
beta-BHC	ND	1.3	0.073
gamma-BHC	ND	1.3	0.092
delta-BHC	0.23 C J	1.3	0.091
Heptachlor	ND	1.3	0.091
Aldrin	ND	1.3	0.070
Heptachlor epoxide	0.16 C J	1.3	0.097
Endosulfan I	ND	1.3	0.091
Dieldrin	0.52 C J	2.5	0.091
4,4'-DDE	2.0 C J	2.5	0.091
Endrin	0.39 C J	2.5	0.076
Endosulfan II	ND	2.5	0.091
Endosulfan sulfate	ND	2.5	0.20
4,4'-DDD	1.7 J	2.5	0.091
Endrin aldehyde	ND	2.5	0.67
4,4'-DDT	0.14 C J	2.5	0.10
alpha-Chlordane	ND	1.3	0.16
gamma-Chlordane	ND	1.3	0.16
Methoxychlor	ND	13	1.7
Toxaphene	ND	45	15

Surrogate	%REC	Limits
TCMX	75	28-136
Decachlorobiphenyl	70	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	B7-6.5	Batch#:	265002
Lab ID:	304507-018	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/30/18
Basis:	dry	Analyzed:	11/01/18
Diln Fac:	1.000		

Moisture: 22%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.4	0.13
beta-BHC	0.62 C J	1.4	0.14
gamma-BHC	ND	1.4	0.10
delta-BHC	0.30 C J	1.4	0.099
Heptachlor	ND	1.4	0.099
Aldrin	ND	1.4	0.12
Heptachlor epoxide	0.11 C J	1.4	0.096
Endosulfan I	ND	1.4	0.099
Dieldrin	0.86 C J	2.8	0.099
4,4'-DDE	5.1	2.8	0.12
Endrin	0.91 C J	2.8	0.26
Endosulfan II	ND	2.8	0.099
Endosulfan sulfate	1.2 J	2.8	0.092
4,4'-DDD	1.2 C J	2.8	0.099
Endrin aldehyde	ND	2.8	0.73
4,4'-DDT	ND	2.8	0.42
alpha-Chlordane	0.28 C J	1.4	0.18
gamma-Chlordane	ND	1.4	0.17
Methoxychlor	ND	14	1.9
Toxaphene	ND	50	17

Surrogate	%REC	Limits
TCMX	76	28-136
Decachlorobiphenyl	69	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Organochlorine Pesticides		
Lab #:	304507	Location: Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep: EPA 3546
Project#:	1116.09	Analysis: EPA 8081A
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC953476	Batch#: 264958
Matrix:	Soil	Prepared: 10/29/18
Units:	ug/Kg	Analyzed: 10/31/18

Cleanup Method: EPA 3620B

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	10.00	10.96	110	45-141
Heptachlor	10.00	10.65	106	43-144
Aldrin	10.00	10.95	110	43-137
Dieldrin	10.00	11.04 #	110	51-149
Endrin	10.00	12.06 #	121	40-165
4,4'-DDT	10.00	12.07	121	50-145

Surrogate	%REC	Limits
TCMX	78	28-136
Decachlorobiphenyl	94	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

Batch QC Report

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC953521	Batch#:	264958
Matrix:	Soil	Prepared:	10/29/18
Units:	ug/Kg	Analyzed:	10/31/18

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.83	0.076
beta-BHC	ND	0.83	0.048
gamma-BHC	ND	0.83	0.061
delta-BHC	ND	0.83	0.060
Heptachlor	ND	0.83	0.060
Aldrin	ND	0.83	0.046
Heptachlor epoxide	ND	0.83	0.058
Endosulfan I	ND	0.83	0.060
Dieldrin	ND	1.7	0.060
4,4'-DDE	ND	1.7	0.060
Endrin	ND	1.7	0.050
Endosulfan II	ND	1.7	0.060
Endosulfan sulfate	ND	1.7	0.056
4,4'-DDD	ND	1.7	0.060
Endrin aldehyde	ND	1.7	0.44
4,4'-DDT	ND	1.7	0.068
alpha-Chlordane	ND	0.83	0.13
gamma-Chlordane	ND	0.83	0.083
Methoxychlor	ND	8.3	1.1
Toxaphene	ND	30	10

Surrogate	%REC	Limits
TCMX	95	28-136
Decachlorobiphenyl	85	41-142

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC953661	Batch#:	265002
Matrix:	Soil	Prepared:	10/30/18
Units:	ug/Kg	Analyzed:	10/31/18

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.83	0.076
beta-BHC	ND	0.83	0.048
gamma-BHC	ND	0.83	0.061
delta-BHC	ND	0.83	0.060
Heptachlor	ND	0.83	0.060
Aldrin	ND	0.83	0.046
Heptachlor epoxide	ND	0.83	0.058
Endosulfan I	ND	0.83	0.060
Dieldrin	ND	1.7	0.060
4,4'-DDE	ND	1.7	0.060
Endrin	ND	1.7	0.050
Endosulfan II	ND	1.7	0.060
Endosulfan sulfate	ND	1.7	0.056
4,4'-DDD	ND	1.7	0.060
Endrin aldehyde	ND	1.7	0.44
4,4'-DDT	ND	1.7	0.068
alpha-Chlordane	ND	0.83	0.13
gamma-Chlordane	ND	0.83	0.083
Methoxychlor	ND	8.3	1.1
Toxaphene	ND	30	10

Surrogate	%REC	Limits
TCMX	77	28-136
Decachlorobiphenyl	92	41-142

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Organochlorine Pesticides		
Lab #:	304507	Location: Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep: EPA 3546
Project#:	1116.09	Analysis: EPA 8081A
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC953662	Batch#: 265002
Matrix:	Soil	Prepared: 10/30/18
Units:	ug/Kg	Analyzed: 10/31/18

Cleanup Method: EPA 3620B

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	10.00	10.79	108	45-141
Heptachlor	10.00	10.51	105	43-144
Aldrin	10.00	10.25	102	43-137
Dieldrin	10.00	10.97	110	51-149
Endrin	10.00	11.70 #	117	40-165
4,4'-DDT	10.00	12.49	125	50-145

Surrogate	%REC	Limits
TCMX	80	28-136
Decachlorobiphenyl	93	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

Batch QC Report

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	D8-9.0	Batch#:	265002
MSS Lab ID:	304507-013	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/30/18
Basis:	dry	Analyzed:	10/31/18
Diln Fac:	1.000		

Type: MS
 Lab ID: QC953663
 Moisture: 11%
 Cleanup Method: EPA 3620B

Analyte	MSS Result	Spiked	Result	%REC	Limits
gamma-BHC	<0.08921	14.81	12.10	82	50-135
Heptachlor	<0.08813	14.81	11.47	77	46-138
Aldrin	<0.06744	14.81	11.70	79	45-136
Dieldrin	0.6773	14.81	12.17	78	41-150
Endrin	0.1809	14.81	13.14 #	87	44-167
4,4'-DDT	1.377	14.81	14.83	91	41-148

Surrogate	%REC	Limits
TCMX	57	28-136
Decachlorobiphenyl	56	41-142

Type: MSD
 Lab ID: QC953664
 Moisture: 11%
 Cleanup Method: EPA 3620B

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
gamma-BHC	14.69	13.89	95	50-135	15	43
Heptachlor	14.69	12.93	88	46-138	13	47
Aldrin	14.69	13.17	90	45-136	13	42
Dieldrin	14.69	13.80	89	41-150	13	60
Endrin	14.69	15.06 #	101	44-167	14	56
4,4'-DDT	14.69	16.89	106	41-148	14	52

Surrogate	%REC	Limits
TCMX	70	28-136
Decachlorobiphenyl	64	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements
 RPD= Relative Percent Difference

Batch QC Report

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC954589	Batch#:	265222
Matrix:	Soil	Prepared:	11/06/18
Units:	ug/Kg	Analyzed:	11/07/18

Cleanup Method: EPA 3620

Analyte	Result	RL	MDL
alpha-BHC	ND	0.83	0.076
beta-BHC	ND	0.83	0.048
gamma-BHC	ND	0.83	0.061
delta-BHC	ND	0.83	0.060
Heptachlor	ND #	0.83	0.060
Aldrin	ND	0.83	0.046
Heptachlor epoxide	ND	0.83	0.058
Endosulfan I	0.69 C J	0.83	0.060
Dieldrin	ND	1.7	0.060
4,4'-DDE	ND	1.7	0.060
Endrin	ND	1.7	0.050
Endosulfan II	ND	1.7	0.060
Endosulfan sulfate	ND	1.7	0.056
4,4'-DDD	ND	1.7	0.060
Endrin aldehyde	ND	1.7	0.44
4,4'-DDT	ND	1.7	0.068
alpha-Chlordane	ND	0.83	0.13
gamma-Chlordane	ND #	0.83	0.083
Methoxychlor	ND	8.3	1.1
Toxaphene	ND	30	10

Surrogate	%REC	Limits
TCMX	71	28-136
Decachlorobiphenyl	65	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Organochlorine Pesticides		
Lab #:	304507	Location: Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep: EPA 3546
Project#:	1116.09	Analysis: EPA 8081A
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC954590	Batch#: 265222
Matrix:	Soil	Prepared: 11/06/18
Units:	ug/Kg	Analyzed: 11/07/18

Cleanup Method: EPA 3620

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	10.00	6.913	69	45-141
Heptachlor	10.00	6.450 #	64	43-144
Aldrin	10.00	6.910	69	43-137
Dieldrin	10.00	7.072 #	71	51-149
Endrin	10.00	7.756 #	78	40-165
4,4'-DDT	10.00	7.801 #	78	50-145

Surrogate	%REC	Limits
TCMX	45	28-136
Decachlorobiphenyl	48	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: dry	Received: 10/24/18

Field ID: D7-9.0	Batch#: 264958
Type: SAMPLE	Prepared: 10/29/18
Lab ID: 304507-001	Analyzed: 10/31/18
Moisture: 14%	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	14	5.1
Aroclor-1221	ND	28	8.8
Aroclor-1232	ND	14	4.3
Aroclor-1242	ND	14	4.5
Aroclor-1248	ND	14	1.9
Aroclor-1254	ND	14	3.9
Aroclor-1260	ND	14	3.7

Surrogate	%REC	Limits
Decachlorobiphenyl	70	37-170

Field ID: D7-6.0	Batch#: 264958
Type: SAMPLE	Prepared: 10/29/18
Lab ID: 304507-002	Analyzed: 10/31/18
Moisture: 22%	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	15	5.5
Aroclor-1221	ND	31	9.6
Aroclor-1232	ND	15	4.7
Aroclor-1242	ND	15	4.9
Aroclor-1248	ND	15	2.1
Aroclor-1254	47	15	4.2
Aroclor-1260	14 J	15	4.0

Surrogate	%REC	Limits
Decachlorobiphenyl	99	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: dry	Received: 10/24/18

Field ID: D7-4.0	Batch#: 265127
Type: SAMPLE	Prepared: 11/02/18
Lab ID: 304507-003	Analyzed: 11/02/18
Moisture: 23%	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	11	1.8
Aroclor-1221	ND	21	2.9
Aroclor-1232	ND	11	2.4
Aroclor-1242	ND	11	3.2
Aroclor-1248	ND	11	3.4
Aroclor-1254	ND	11	1.8
Aroclor-1260	ND	11	2.3

Surrogate	%REC	Limits
Decachlorobiphenyl	60	37-170

Field ID: D7-2.5	Batch#: 264958
Type: SAMPLE	Prepared: 10/29/18
Lab ID: 304507-004	Analyzed: 10/31/18
Moisture: 37%	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	19	6.8
Aroclor-1221	ND	38	12
Aroclor-1232	ND	19	5.8
Aroclor-1242	ND	19	6.0
Aroclor-1248	ND	19	2.5
Aroclor-1254	ND	19	5.2
Aroclor-1260	ND	19	5.0

Surrogate	%REC	Limits
Decachlorobiphenyl	56	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: dry	Received: 10/24/18

Field ID: D6-8.0	Batch#: 264958
Type: SAMPLE	Prepared: 10/29/18
Lab ID: 304507-005	Analyzed: 10/31/18
Moisture: 10%	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	13	4.8
Aroclor-1221	ND	27	8.4
Aroclor-1232	ND	13	4.1
Aroclor-1242	ND	13	4.3
Aroclor-1248	ND	13	1.8
Aroclor-1254	ND	13	3.7
Aroclor-1260	ND	13	3.5

Surrogate	%REC	Limits
Decachlorobiphenyl	124	37-170

Field ID: D6-6.0	Batch#: 264958
Type: SAMPLE	Prepared: 10/29/18
Lab ID: 304507-006	Analyzed: 10/31/18
Moisture: 13%	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	14	5.0
Aroclor-1221	ND	28	8.7
Aroclor-1232	ND	14	4.3
Aroclor-1242	ND	14	4.4
Aroclor-1248	ND	14	1.9
Aroclor-1254	ND	14	3.8
Aroclor-1260	ND	14	3.6

Surrogate	%REC	Limits
Decachlorobiphenyl	121	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: dry	Received: 10/24/18

Field ID: E7-9.5	Batch#: 264958
Type: SAMPLE	Prepared: 10/29/18
Lab ID: 304507-007	Analyzed: 10/29/18
Moisture: 12%	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	14	4.9
Aroclor-1221	ND	27	8.5
Aroclor-1232	ND	14	4.2
Aroclor-1242	ND	14	4.3
Aroclor-1248	ND	14	1.8
Aroclor-1254	ND	14	3.7
Aroclor-1260	4.9 J	14	3.6

Surrogate	%REC	Limits
Decachlorobiphenyl	44	37-170

Field ID: E7-7.0	Batch#: 264958
Type: SAMPLE	Prepared: 10/29/18
Lab ID: 304507-008	Analyzed: 10/31/18
Moisture: 15%	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	14	5.1
Aroclor-1221	ND	28	8.9
Aroclor-1232	ND	14	4.3
Aroclor-1242	ND	14	4.5
Aroclor-1248	ND	14	1.9
Aroclor-1254	ND	14	3.9
Aroclor-1260	ND	14	3.7

Surrogate	%REC	Limits
Decachlorobiphenyl	47	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: dry	Received: 10/24/18

Field ID: E7-5.0	Batch#: 264958
Type: SAMPLE	Prepared: 10/29/18
Lab ID: 304507-009	Analyzed: 10/31/18
Moisture: 19%	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	15	5.4
Aroclor-1221	ND	30	9.4
Aroclor-1232	ND	15	4.6
Aroclor-1242	ND	15	4.8
Aroclor-1248	ND	15	2.0
Aroclor-1254	ND	15	4.1
Aroclor-1260	ND	15	4.0

Surrogate	%REC	Limits
Decachlorobiphenyl	118	37-170

Field ID: FD-1	Batch#: 264958
Type: SAMPLE	Prepared: 10/29/18
Lab ID: 304507-010	Analyzed: 10/31/18
Moisture: 19%	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	15	5.4
Aroclor-1221	ND	30	9.5
Aroclor-1232	ND	15	4.6
Aroclor-1242	ND	15	4.8
Aroclor-1248	ND	15	2.0
Aroclor-1254	ND	15	4.1
Aroclor-1260	ND	15	4.0

Surrogate	%REC	Limits
Decachlorobiphenyl	115	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: dry	Received: 10/24/18

Field ID: E8-9.5	Batch#: 264958
Type: SAMPLE	Prepared: 10/29/18
Lab ID: 304507-011	Analyzed: 10/29/18
Moisture: 13%	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	14	5.0
Aroclor-1221	ND	28	8.6
Aroclor-1232	ND	14	4.2
Aroclor-1242	ND	14	4.4
Aroclor-1248	ND	14	1.9
Aroclor-1254	ND	14	3.8
Aroclor-1260	10 J	14	3.6

Surrogate	%REC	Limits
Decachlorobiphenyl	75	37-170

Field ID: E8-6.0	Batch#: 264958
Type: SAMPLE	Prepared: 10/29/18
Lab ID: 304507-012	Analyzed: 10/29/18
Moisture: 26%	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	16	5.9
Aroclor-1221	ND	32	10
Aroclor-1232	ND	16	5.0
Aroclor-1242	ND	16	5.2
Aroclor-1248	ND	16	2.2
Aroclor-1254	ND	16	4.5
Aroclor-1260	ND	16	4.3

Surrogate	%REC	Limits
Decachlorobiphenyl	84	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: dry	Received: 10/24/18

Field ID: D8-9.0	Batch#: 265002
Type: SAMPLE	Prepared: 10/30/18
Lab ID: 304507-013	Analyzed: 11/01/18
Moisture: 11%	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	13	4.9
Aroclor-1221	ND	27	8.5
Aroclor-1232	ND	13	4.1
Aroclor-1242	ND	13	4.3
Aroclor-1248	ND	13	1.8
Aroclor-1254	ND	13	3.7
Aroclor-1260	6.6 J	13	3.5

Surrogate	%REC	Limits
Decachlorobiphenyl	92	37-170

Field ID: D8-5.5	Batch#: 265002
Type: SAMPLE	Prepared: 10/30/18
Lab ID: 304507-014	Analyzed: 11/01/18
Moisture: 29%	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	17	6.1
Aroclor-1221	ND	34	11
Aroclor-1232	ND	17	5.2
Aroclor-1242	ND	17	5.4
Aroclor-1248	ND	17	2.3
Aroclor-1254	ND	17	4.6
Aroclor-1260	ND	17	4.4

Surrogate	%REC	Limits
Decachlorobiphenyl	91	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: dry	Received: 10/24/18

Field ID: C7-9.0	Batch#: 265002
Type: SAMPLE	Prepared: 10/30/18
Lab ID: 304507-015	Analyzed: 11/01/18
Moisture: 12%	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	14	4.9
Aroclor-1221	ND	27	8.5
Aroclor-1232	ND	14	4.2
Aroclor-1242	ND	14	4.3
Aroclor-1248	ND	14	1.8
Aroclor-1254	ND	14	3.7
Aroclor-1260	ND	14	3.6

Surrogate	%REC	Limits
Decachlorobiphenyl	42	37-170

Field ID: C7-6.0	Batch#: 265002
Type: SAMPLE	Prepared: 10/30/18
Lab ID: 304507-016	Analyzed: 11/01/18
Moisture: 21%	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	15	5.5
Aroclor-1221	ND	30	9.6
Aroclor-1232	ND	15	4.7
Aroclor-1242	ND	15	4.9
Aroclor-1248	ND	15	2.0
Aroclor-1254	ND	15	4.2
Aroclor-1260	12 J	15	4.0

Surrogate	%REC	Limits
Decachlorobiphenyl	97	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: dry	Received: 10/24/18

Field ID: B7-8.0 Batch#: 265002
 Type: SAMPLE Prepared: 10/30/18
 Lab ID: 304507-017 Analyzed: 11/01/18
 Moisture: 14% Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	14	5.0
Aroclor-1221	ND	28	8.7
Aroclor-1232	ND	14	4.3
Aroclor-1242	ND	14	4.4
Aroclor-1248	ND	14	1.9
Aroclor-1254	ND	14	3.8
Aroclor-1260	ND	14	3.6

Surrogate	%REC	Limits
Decachlorobiphenyl	70	37-170

Field ID: B7-6.5 Batch#: 265002
 Type: SAMPLE Prepared: 10/30/18
 Lab ID: 304507-018 Analyzed: 11/01/18
 Moisture: 22% Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	15	5.5
Aroclor-1221	ND	31	9.5
Aroclor-1232	ND	15	4.7
Aroclor-1242	ND	15	4.8
Aroclor-1248	ND	15	2.0
Aroclor-1254	ND	15	4.2
Aroclor-1260	5.4 J	15	4.0

Surrogate	%REC	Limits
Decachlorobiphenyl	86	37-170

Type: BLANK Prepared: 10/29/18
 Lab ID: QC953475 Analyzed: 10/29/18
 Batch#: 264958 Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	3.3
Aroclor-1221	ND	24	5.8
Aroclor-1232	ND	12	2.8
Aroclor-1242	ND	12	2.9
Aroclor-1248	ND	12	1.2
Aroclor-1254	ND	12	2.5
Aroclor-1260	ND	12	2.4

Surrogate	%REC	Limits
Decachlorobiphenyl	95	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: dry	Received: 10/24/18

Type: BLANK	Prepared: 10/30/18
Lab ID: QC953661	Analyzed: 11/01/18
Batch#: 265002	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	3.3
Aroclor-1221	ND	24	5.8
Aroclor-1232	ND	12	2.8
Aroclor-1242	ND	12	2.9
Aroclor-1248	ND	12	1.2
Aroclor-1254	ND	12	2.5
Aroclor-1260	ND	12	2.4

Surrogate	%REC	Limits
Decachlorobiphenyl	122	37-170

Type: BLANK	Prepared: 11/02/18
Lab ID: QC954174	Analyzed: 11/02/18
Batch#: 265127	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	8.0	1.4
Aroclor-1221	ND	16	2.2
Aroclor-1232	ND	8.0	1.8
Aroclor-1242	ND	8.0	2.4
Aroclor-1248	ND	8.0	2.6
Aroclor-1254	ND	8.0	1.4
Aroclor-1260	ND	8.0	1.8

Surrogate	%REC	Limits
Decachlorobiphenyl	43	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304507	Location:	Corte Madera Ecological Reserve	
Client:	Northgate Environmental Management	Prep:	EPA 3546	
Project#:	1116.09	Analysis:	EPA 8082	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC953479	Batch#:	264958	
Matrix:	Soil	Prepared:	10/29/18	
Units:	ug/Kg	Analyzed:	10/29/18	

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	125.0	116.3	93	59-160
Aroclor-1260	125.0	127.8	102	59-170

Surrogate	%REC	Limits
Decachlorobiphenyl	115	37-170

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304507	Location:	Corte Madera Ecological Reserve	
Client:	Northgate Environmental Management	Prep:	EPA 3546	
Project#:	1116.09	Analysis:	EPA 8082	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC953665	Batch#:	265002	
Matrix:	Soil	Prepared:	10/30/18	
Units:	ug/Kg	Analyzed:	11/01/18	

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	125.0	110.7	89	59-160
Aroclor-1260	125.0	111.3	89	59-170

Surrogate	%REC	Limits
Decachlorobiphenyl	92	37-170

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304507	Location:	Corte Madera Ecological Reserve	
Client:	Northgate Environmental Management	Prep:	EPA 3546	
Project#:	1116.09	Analysis:	EPA 8082	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC954175	Batch#:	265127	
Matrix:	Soil	Prepared:	11/02/18	
Units:	ug/Kg	Analyzed:	11/02/18	

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	83.33	68.29	82	59-160
Aroclor-1260	83.33	68.12	82	59-170

Surrogate	%REC	Limits
Decachlorobiphenyl	64	37-170

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: D7-9.0	Basis: dry
Lab ID: 304507-001	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Moisture: 14%

Analyte	Result	RL	MDL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.38 J	2.3	0.046	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	9.5	0.77	0.048	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	60	0.77	0.025	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.50 J	0.77	0.074	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.40 J	0.77	0.12	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	110	0.77	0.21	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	14	0.77	0.13	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	31	0.77	0.20	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	17	0.77	0.091	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.16	0.020	0.0035	1.000		264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.69 J	0.77	0.031	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Nickel	120	0.77	0.19	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.53 J	2.3	0.28	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.36 J	0.77	0.054	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.12 J	0.39	0.10	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	54	0.78	0.26	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	80	2.4	0.78	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: D7-6.0	Basis: dry
Lab ID: 304507-002	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Moisture: 22%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.27 J	2.6	0.049	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	8.8	0.82	0.051	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	48	0.82	0.027	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.44 J	0.82	0.079	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.60 J	0.82	0.13	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	70	0.82	0.22	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	13	0.82	0.13	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	32	0.82	0.21	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	14	0.82	0.096	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.46	0.022	0.0040	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.75 J	0.82	0.033	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Nickel	73	0.82	0.20	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.45 J	2.6	0.29	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.51 J	0.82	0.057	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.16 J	0.41	0.11	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	46	0.83	0.28	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	84	2.5	0.83	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: D7-4.0	Basis: dry
Lab ID: 304507-003	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Moisture: 23%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.36 J	2.6	0.050	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	10	0.83	0.052	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	40	0.83	0.027	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.48 J	0.83	0.080	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.62 J	0.83	0.13	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	74	0.83	0.22	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	14	0.83	0.14	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	22	0.83	0.21	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	7.6	0.83	0.097	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.10	0.022	0.0038	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.53 J	0.83	0.034	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Nickel	74	0.83	0.20	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.47 J	2.6	0.29	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.13 J	0.83	0.058	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.19 J	0.41	0.11	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	49	0.84	0.28	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	55	2.5	0.84	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: D7-2.5	Basis: dry
Lab ID: 304507-004	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Moisture: 37%

Analyte	Result	RL	MDL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.17 J	3.1	0.059	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	8.0	0.98	0.062	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	74	0.98	0.032	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.63 J	0.98	0.094	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.43 J	0.98	0.15	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	110	0.98	0.26	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	14	0.98	0.16	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	40	0.98	0.25	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	17	0.98	0.12	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.21	0.025	0.0044	1.000		264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.96 J	0.98	0.040	25.00		264914	10/26/18	10/30/18	EPA 3050B	EPA 6020
Nickel	100	0.98	0.24	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.57 J	3.1	0.35	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.26 J	0.98	0.069	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.14 J	0.49	0.13	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	72	1.0	0.33	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	80	3.0	1.0	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: D6-8.0	Basis: dry
Lab ID: 304507-005	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Moisture: 10%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.1 J	2.2	0.043	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	10	0.72	0.045	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	110	0.72	0.023	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.64 J	0.72	0.069	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.49 J	0.72	0.11	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	75	0.72	0.19	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	21	0.72	0.12	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	20	0.72	0.18	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	9.8	0.72	0.084	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.080	0.019	0.0034	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.48 J	0.72	0.029	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Nickel	97	0.72	0.18	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.45 J	2.2	0.25	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.16 J	0.72	0.050	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	ND	0.36	0.092	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	40	0.73	0.24	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	53	2.2	0.73	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: D6-6.0	Basis: dry
Lab ID: 304507-006	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Moisture: 13%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.5 J	2.3	0.047	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	12	0.79	0.049	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	160	0.79	0.026	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.65 J	0.79	0.076	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.31 J	0.79	0.12	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	81	0.79	0.21	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	21	0.79	0.13	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	18	0.79	0.20	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	9.7	0.79	0.092	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.054	0.019	0.0034	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.38 J	0.79	0.032	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Nickel	93	0.79	0.19	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.34 J	2.3	0.28	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.069 J	0.79	0.055	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	ND	0.39	0.10	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	46	0.80	0.27	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	38	2.4	0.80	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals			
Lab #: 304507	Project#: 1116.09		
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve		
Field ID: E7-9.5	Basis:	dry	
Lab ID: 304507-007	Sampled:	10/24/18	
Matrix: Soil	Received:	10/24/18	
Units: mg/Kg			

Moisture: 12%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.27 J	2.3	0.044	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	10	0.73	0.046	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	56	0.73	0.024	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.32 J	0.73	0.070	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.32 J	0.73	0.12	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	81	0.73	0.20	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	8.7	0.73	0.12	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	29	0.73	0.19	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	16	0.73	0.086	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.20	0.020	0.0034	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.62 J	0.73	0.030	25.00	264914	10/26/18	10/30/18	EPA 3050B	EPA 6020
Nickel	71	0.73	0.18	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.35 J	2.3	0.26	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.43 J	0.73	0.051	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.12 J	0.37	0.094	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	48	0.74	0.25	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	75	2.2	0.74	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: E7-7.0	Basis: dry
Lab ID: 304507-008	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Moisture: 15%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.19 J	2.4	0.047	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	9.6	0.78	0.049	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	46	0.78	0.025	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.46 J	0.78	0.075	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.30 J	0.78	0.12	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	75	0.78	0.21	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	13	0.78	0.13	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	25	0.78	0.20	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	8.9	0.78	0.092	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.075	0.020	0.0034	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.53 J	0.78	0.032	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Nickel	66	0.78	0.19	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.45 J	2.4	0.28	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.12 J	0.78	0.055	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.12 J	0.39	0.10	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	49	0.79	0.26	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	60	2.4	0.79	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: E7-5.0	Basis: dry
Lab ID: 304507-009	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Moisture: 19%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.78 J	2.5	0.047	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	8.9	0.79	0.049	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	73	0.79	0.026	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.71 J	0.79	0.076	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.47 J	0.79	0.12	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	220	0.79	0.21	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	29	0.79	0.13	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	36	0.79	0.20	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	13	0.79	0.092	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.16	0.022	0.0038	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.63 J	0.79	0.032	25.00	264914	10/26/18	10/30/18	EPA 3050B	EPA 6020
Nickel	330	3.9	0.96	125.0	264914	10/26/18	10/30/18	EPA 3050B	EPA 6020
Selenium	0.53 J	2.5	0.28	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.13 J	0.79	0.055	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	ND	0.39	0.10	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	62	0.80	0.27	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	98	2.4	0.80	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: FD-1	Basis: dry
Lab ID: 304507-010	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Moisture: 19%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.1 J	2.5	0.046	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	8.9	0.77	0.048	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	72	0.77	0.025	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.62 J	0.77	0.074	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.42 J	0.77	0.12	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	220	0.77	0.21	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	27	0.77	0.13	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	35	0.77	0.20	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	10	0.77	0.090	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.16	0.020	0.0034	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.63 J	0.77	0.031	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Nickel	330	3.9	0.94	125.0	264914	10/26/18	10/30/18	EPA 3050B	EPA 6020
Selenium	0.52 J	2.5	0.27	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.12 J	0.77	0.054	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	ND	0.39	0.099	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	59	0.78	0.26	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	79	2.3	0.78	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: E8-9.5	Basis: dry
Lab ID: 304507-011	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Moisture: 13%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.17 J	2.2	0.041	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	11	0.69	0.043	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	53	0.69	0.022	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.33 J	0.69	0.066	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.34 J	0.69	0.11	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	85	0.69	0.19	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	8.8	0.69	0.11	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	33	0.69	0.18	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	17	0.69	0.081	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.17	0.019	0.0033	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.64 J	0.69	0.028	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Nickel	70	0.69	0.17	25.00	264914	10/26/18	10/30/18	EPA 3050B	EPA 6020
Selenium	0.43 J	2.2	0.25	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.34 J	0.69	0.049	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.14 J	0.35	0.089	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	56	0.70	0.23	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	68	2.1	0.70	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: E8-6.0	Basis: dry
Lab ID: 304507-012	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Moisture: 26%

Analyte	Result	RL	MDL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.15 J	2.6	0.049	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	7.7	0.81	0.051	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	66	0.81	0.026	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.55 J	0.81	0.078	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.47 J	0.81	0.13	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	100	0.81	0.22	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	11	0.81	0.13	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	35	0.81	0.21	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	21	0.81	0.095	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.084	0.023	0.0041	1.000		264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.71 J	0.81	0.033	25.00		264914	10/26/18	10/30/18	EPA 3050B	EPA 6020
Nickel	82	0.81	0.20	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.51 J	2.6	0.29	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.27 J	0.81	0.057	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.12 J	0.41	0.10	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	62	0.82	0.27	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	72	2.5	0.82	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: D8-9.0	Basis: dry
Lab ID: 304507-013	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Moisture: 11%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.3 J	2.1	0.040	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	9.7	0.66	0.042	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	59	0.66	0.022	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.45 J	0.66	0.064	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.37 J	0.66	0.10	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	90	0.66	0.18	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	10	0.66	0.11	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	27	0.66	0.17	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	13	0.66	0.078	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.14	0.018	0.0031	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.65 J	0.66	0.027	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	83	0.66	0.16	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.43 J	2.1	0.24	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.27 J	0.66	0.047	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.16 J	0.33	0.085	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	50	0.67	0.22	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	65	2.0	0.67	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals			
Lab #: 304507	Project#: 1116.09		
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve		
Field ID: D8-5.5	Basis:	dry	
Lab ID: 304507-014	Sampled:	10/24/18	
Matrix: Soil	Received:	10/24/18	
Units: mg/Kg			

Moisture: 29%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.31 J	2.7	0.051	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	9.8	0.85	0.053	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	46	0.85	0.028	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.54 J	0.85	0.081	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.46 J	0.85	0.13	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	85	0.85	0.23	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	16	0.85	0.14	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	27	0.85	0.22	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	8.1	0.85	0.099	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.081	0.024	0.0043	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.86	0.85	0.034	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	84	0.85	0.21	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.55 J	2.7	0.30	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.16 J	0.85	0.059	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.14 J	0.42	0.11	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	72	0.86	0.29	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	67	2.6	0.86	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: C7-9.0	Basis: dry
Lab ID: 304507-015	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Moisture: 12%

Analyte	Result	RL	MDL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.83 J	2.3	0.045	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	11	0.75	0.047	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	63	0.75	0.024	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.43 J	0.75	0.072	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.32 J	0.75	0.12	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	100	0.75	0.20	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	12	0.75	0.12	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	28	0.75	0.19	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	13	0.75	0.088	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.16	0.017	0.0031	1.000		264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.90	0.75	0.030	25.00		264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	110	0.75	0.18	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.47 J	2.3	0.27	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.30 J	0.75	0.053	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.12 J	0.37	0.096	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	55	0.76	0.25	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	65	2.3	0.76	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: C7-6.0	Basis: dry
Lab ID: 304507-016	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Moisture: 21%

Analyte	Result	RL	MDL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.7 J	2.4	0.045	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	11	0.76	0.048	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	72	0.76	0.025	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.61 J	0.76	0.073	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.48 J	0.76	0.12	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	100	0.76	0.20	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	15	0.76	0.12	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	33	0.76	0.19	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	44	0.76	0.089	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.22	0.023	0.0040	1.000		264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	1.6	0.76	0.031	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Nickel	130	0.76	0.19	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.48 J	2.4	0.27	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.51 J	0.76	0.053	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.14 J	0.38	0.098	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	55	0.77	0.26	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	89	2.3	0.77	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: B7-8.0	Basis: dry
Lab ID: 304507-017	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Moisture: 14%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.27 J	2.3	0.046	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	11	0.77	0.048	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	55	0.77	0.025	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.27 J	0.77	0.074	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.21 J	0.77	0.12	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	85	0.77	0.21	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	7.0	0.77	0.13	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	23	0.77	0.20	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	8.8	0.77	0.091	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.093	0.020	0.0035	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.94	0.77	0.031	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	68	0.77	0.19	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.43 J	2.3	0.28	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.26 J	0.77	0.054	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.15 J	0.39	0.10	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	53	0.78	0.26	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	56	2.4	0.78	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: B7-6.5	Basis: dry
Lab ID: 304507-018	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Moisture: 22%

Analyte	Result	RL	MDL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.54 J	2.4	0.044	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	14	0.74	0.046	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	62	0.74	0.024	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.49 J	0.74	0.071	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.71 J	0.74	0.12	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	100	0.74	0.20	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	16	0.74	0.12	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	29	0.74	0.19	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	15	0.74	0.086	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.17	0.021	0.0037	1.000		264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.95	0.74	0.030	25.00		264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	120	0.74	0.18	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.58 J	2.4	0.26	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.39 J	0.74	0.052	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.15 J	0.37	0.095	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	58	0.75	0.25	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	80	2.2	0.75	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

California Title 22 Metals			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3050B
Project#:	1116.09	Analysis:	EPA 6020
Type:	BLANK	Diln Fac:	25.00
Lab ID:	QC953305	Batch#:	264914
Matrix:	Soil	Prepared:	10/26/18
Units:	mg/Kg	Analyzed:	10/29/18

Analyte	Result	RL	MDL
Antimony	ND	2.0	0.037
Arsenic	ND	0.62	0.039
Barium	0.021 J	0.62	0.020
Beryllium	ND	0.62	0.059
Cadmium	ND	0.62	0.097
Chromium	ND	0.62	0.17
Cobalt	ND	0.62	0.10
Copper	ND	0.62	0.16
Lead	ND	0.62	0.072
Molybdenum	0.036 J	0.62	0.025
Nickel	ND	0.62	0.15
Selenium	ND	2.0	0.22
Silver	ND	0.62	0.043
Thallium	ND	0.31	0.080
Vanadium	ND	0.63	0.21
Zinc	ND	1.9	0.63

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

California Title 22 Metals			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3050B
Project#:	1116.09	Analysis:	EPA 6020
Matrix:	Soil	Batch#:	264914
Units:	mg/Kg	Prepared:	10/26/18
Diln Fac:	25.00	Analyzed:	10/29/18

Type: BS Lab ID: QC953306

Analyte	Spiked	Result	%REC	Limits
Antimony	54.35	52.51	97	80-120
Arsenic	54.35	53.89	99	80-120
Barium	54.35	53.84	99	80-120
Beryllium	27.17	27.05	100	80-120
Cadmium	54.35	55.58	102	80-120
Chromium	54.35	55.07	101	80-120
Cobalt	54.35	55.52	102	80-120
Copper	54.35	57.59	106	80-120
Lead	54.35	51.73	95	80-120
Molybdenum	54.35	52.22	96	80-120
Nickel	54.35	56.87	105	80-120
Selenium	54.35	54.58	100	80-120
Silver	5.435	5.563	102	80-120
Thallium	54.35	52.43	96	80-120
Vanadium	54.35	53.69	99	80-120
Zinc	54.35	57.09	105	80-120

Type: BSD Lab ID: QC953307

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	46.73	43.84	94	80-120	3	20
Arsenic	46.73	46.97	101	80-120	1	20
Barium	46.73	45.08	96	80-120	3	20
Beryllium	23.36	22.64	97	80-120	3	25
Cadmium	46.73	46.23	99	80-120	3	20
Chromium	46.73	46.84	100	80-120	1	20
Cobalt	46.73	47.44	102	80-120	1	20
Copper	46.73	48.10	103	80-120	3	21
Lead	46.73	44.21	95	80-120	1	20
Molybdenum	46.73	44.28	95	80-120	1	20
Nickel	46.73	48.47	104	80-120	1	20
Selenium	46.73	48.16	103	80-120	3	25
Silver	4.673	4.657	100	80-120	3	21
Thallium	46.73	44.45	95	80-120	1	20
Vanadium	46.73	45.98	98	80-120	0	27
Zinc	46.73	48.17	103	80-120	2	28

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals					
Lab #:	304507	Location:	Corte Madera Ecological Reserve		
Client:	Northgate Environmental Management	Prep:	EPA 3050B		
Project#:	1116.09	Analysis:	EPA 6020		
Field ID:	D7-9.0	Batch#:	264914		
MSS Lab ID:	304507-001	Sampled:	10/24/18		
Matrix:	Soil	Received:	10/24/18		
Units:	mg/Kg	Prepared:	10/26/18		
Basis:	dry	Analyzed:	10/29/18		
Diln Fac:	25.00				

Type: MS Moisture: 14%
 Lab ID: QC953308

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	0.3822	60.56	15.73	25 *	75-125
Arsenic	9.542	60.56	65.55	92	75-125
Barium	59.69	60.56	123.6	106	75-125
Beryllium	0.5021	30.28	30.02	97	75-125
Cadmium	0.3957	60.56	60.48	99	75-125
Chromium	106.9	60.56	172.2	108	75-125
Cobalt	14.04	60.56	71.50	95	75-125
Copper	31.20	60.56	89.68	97	75-125
Lead	16.88	60.56	75.06	96	75-125
Molybdenum	0.6924	60.56	50.85	83	75-125
Nickel	120.1	60.56	177.1	94	75-125
Selenium	0.5305	60.56	57.99	95	75-125
Silver	0.3621	6.056	6.355	99	75-125
Thallium	0.1218	60.56	57.51	95	75-125
Vanadium	54.16	60.56	111.8	95	75-125
Zinc	80.01	60.56	136.0	92	75-125

Type: MSD Moisture: 14%
 Lab ID: QC953309

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	60.56	15.72	25 *	75-125	0	20
Arsenic	60.56	64.85	91	75-125	1	20
Barium	60.56	120.3	100	75-125	3	20
Beryllium	30.28	29.68	96	75-125	1	20
Cadmium	60.56	59.04	97	75-125	2	20
Chromium	60.56	169.9	104	75-125	1	20
Cobalt	60.56	74.98	101	75-125	5	20
Copper	60.56	88.11	94	75-125	2	20
Lead	60.56	74.42	95	75-125	1	20
Molybdenum	60.56	49.90	81	75-125	2	20
Nickel	60.56	175.8	92	75-125	1	20
Selenium	60.56	55.39	91	75-125	5	20
Silver	6.056	6.193	96	75-125	3	20
Thallium	60.56	56.93	94	75-125	1	20
Vanadium	60.56	114.4	99	75-125	2	20
Zinc	60.56	135.4	91	75-125	0	20

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3050B
Project#:	1116.09	Analysis:	EPA 6020
Type:	BLANK	Diln Fac:	25.00
Lab ID:	QC953350	Batch#:	264926
Matrix:	Soil	Prepared:	10/29/18
Units:	mg/Kg	Analyzed:	10/29/18

Analyte	Result	RL	MDL
Antimony	ND	2.0	0.037
Arsenic	ND	0.63	0.039
Barium	ND	0.63	0.020
Beryllium	ND	0.63	0.060
Cadmium	ND	0.63	0.098
Chromium	ND	0.63	0.17
Cobalt	ND	0.63	0.10
Copper	ND	0.63	0.16
Lead	ND	0.63	0.073
Molybdenum	ND	0.63	0.025
Nickel	ND	0.63	0.15
Selenium	ND	2.0	0.22
Silver	ND	0.63	0.044
Thallium	ND	0.31	0.080
Vanadium	ND	0.63	0.21
Zinc	ND	1.9	0.63

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

California Title 22 Metals			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3050B
Project#:	1116.09	Analysis:	EPA 6020
Matrix:	Soil	Batch#:	264926
Units:	mg/Kg	Prepared:	10/29/18
Diln Fac:	25.00	Analyzed:	10/29/18

Type: BS Lab ID: QC953351

Analyte	Spiked	Result	%REC	Limits
Antimony	45.87	45.11	98	80-120
Arsenic	45.87	48.39	105	80-120
Barium	45.87	47.18	103	80-120
Beryllium	22.94	23.79	104	80-120
Cadmium	45.87	47.42	103	80-120
Chromium	45.87	47.51	104	80-120
Cobalt	45.87	47.66	104	80-120
Copper	45.87	49.12	107	80-120
Lead	45.87	45.06	98	80-120
Molybdenum	45.87	46.14	101	80-120
Nickel	45.87	48.99	107	80-120
Selenium	45.87	49.14	107	80-120
Silver	4.587	4.823	105	80-120
Thallium	45.87	45.59	99	80-120
Vanadium	45.87	46.46	101	80-120
Zinc	45.87	48.34	105	80-120

Type: BSD Lab ID: QC953352

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	45.45	46.51	102	80-120	4	20
Arsenic	45.45	49.17	108	80-120	3	20
Barium	45.45	48.83	107	80-120	4	20
Beryllium	22.73	23.89	105	80-120	1	25
Cadmium	45.45	48.91	108	80-120	4	20
Chromium	45.45	48.88	108	80-120	4	20
Cobalt	45.45	49.24	108	80-120	4	20
Copper	45.45	49.97	110	80-120	3	21
Lead	45.45	46.49	102	80-120	4	20
Molybdenum	45.45	47.11	104	80-120	3	20
Nickel	45.45	49.42	109	80-120	2	20
Selenium	45.45	49.17	108	80-120	1	25
Silver	4.545	4.940	109	80-120	3	21
Thallium	45.45	46.81	103	80-120	4	20
Vanadium	45.45	47.78	105	80-120	4	27
Zinc	45.45	50.04	110	80-120	4	28

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	264987
Lab ID:	QC953594	Prepared:	10/30/18
Matrix:	Soil	Analyzed:	10/30/18
Units:	mg/Kg		

Result	RL	MDL
ND	0.017	0.0029

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

California Title 22 Metals			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	264987
Matrix:	Soil	Prepared:	10/30/18
Units:	mg/Kg	Analyzed:	10/30/18
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC953595	0.1613	0.1612	100	80-120		
BSD	QC953596	0.1538	0.1520	99	80-120	1	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	D7-9.0	Batch#:	264987
MSS Lab ID:	304507-001	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	mg/Kg	Prepared:	10/30/18
Basis:	dry	Analyzed:	10/30/18

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	Moisture	RPD	Lim
MS	QC953597	0.1607	0.2076	0.4038	117	80-120	14%		
MSD	QC953598		0.1938	0.3606	103	80-120	14%	8	20

RPD= Relative Percent Difference

Moisture			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	ASTM D2216-98/CLP
Analyte:	Moisture, Percent	Batch#:	264884
Matrix:	Soil	Sampled:	10/24/18
Units:	%	Received:	10/24/18
Diln Fac:	1.000	Analyzed:	10/26/18

Field ID	Lab ID	Result	RL
D7-9.0	304507-001	14	1
D7-6.0	304507-002	22	1
D7-4.0	304507-003	23	1
D7-2.5	304507-004	37	1
D6-8.0	304507-005	10	1
D6-6.0	304507-006	13	1
E7-9.5	304507-007	12	1
E7-7.0	304507-008	15	1
E7-5.0	304507-009	19	1
FD-1	304507-010	19	1
E8-9.5	304507-011	13	1
E8-6.0	304507-012	26	1
D8-9.0	304507-013	11	1
D8-5.5	304507-014	29	1
C7-9.0	304507-015	12	1
C7-6.0	304507-016	21	1
B7-8.0	304507-017	14	1
B7-6.5	304507-018	22	1

RL= Reporting Limit

Batch QC Report

Moisture			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	ASTM D2216-98/CLP
Analyte:	Moisture, Percent	Units:	%
Field ID:	B7-6.5	Diln Fac:	1.000
Type:	SDUP	Batch#:	264884
MSS Lab ID:	304507-018	Sampled:	10/24/18
Lab ID:	QC953183	Received:	10/24/18
Matrix:	Soil	Analyzed:	10/26/18

MSS Result	Result	RL	RPD	Lim
21.52	20.97	1.000	3	26

RL= Reporting Limit

RPD= Relative Percent Difference

Total Organic Carbon (TOC)			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	WALKLEY-BLACK
Analyte:	Total Organic Carbon	Batch#:	265348
Matrix:	Soil	Sampled:	10/24/18
Units:	%	Received:	10/24/18
Basis:	dry	Analyzed:	11/09/18

Field ID	Type	Lab ID	Result	RL	Moisture	Diln Fac
D7-9.0	SAMPLE	304507-001	1.3	0.04	14%	3.289
D7-6.0	SAMPLE	304507-002	0.84	0.04	22%	3.268
D7-4.0	SAMPLE	304507-003	0.90	0.04	23%	3.268
D7-2.5	SAMPLE	304507-004	1.4	0.05	37%	3.279
D6-8.0	SAMPLE	304507-005	0.77	0.04	10%	3.236
D6-6.0	SAMPLE	304507-006	0.54	0.04	13%	3.289
E7-9.5	SAMPLE	304507-007	1.4	0.04	12%	3.300
E7-7.0	SAMPLE	304507-008	0.95	0.04	15%	3.236
E7-5.0	SAMPLE	304507-009	0.77	0.04	19%	3.155
FD-1	SAMPLE	304507-010	0.77	0.04	19%	3.115
E8-9.5	SAMPLE	304507-011	1.2	0.04	13%	3.115
E8-6.0	SAMPLE	304507-012	1.0	0.04	26%	3.135
D8-9.0	SAMPLE	304507-013	1.1	0.03	11%	3.067
D8-5.5	SAMPLE	304507-014	0.93	0.05	29%	3.236
C7-9.0	SAMPLE	304507-015	1.3	0.04	12%	3.106
C7-6.0	SAMPLE	304507-016	0.77	0.04	21%	3.215
B7-8.0	SAMPLE	304507-017	1.3	0.04	14%	3.058
B7-6.5	SAMPLE	304507-018	1.1	0.04	22%	3.012
	BLANK	QC955079	ND	0.01		1.000

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Organic Carbon (TOC)			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	WALKLEY-BLACK
Analyte:	Total Organic Carbon	Basis:	dry
Field ID:	D7-9.0	Batch#:	265348
MSS Lab ID:	304507-001	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	%	Analyzed:	11/09/18

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	Moisture	RPD	Lim	Diln	Fac
LCS	QC955080		0.1300	0.1306	100	80-120					1.000
MS	QC955081	1.297	0.4972	1.443	29 *	57-127	14%				3.289
MSD	QC955082		0.4956	1.425	26 *	57-127	14%	1	20		3.279

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference



ENTHALPY

ANALYTICAL



Enthalpy Analytical

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

Laboratory Job Number 304507 ANALYTICAL REPORT

Northgate Environmental Management
428 13th Street
Oakland, CA 94612

Project : 1116.09
Location : Corte Madera Ecological Reserve
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
D7-9.0	304507-001
D7-6.0	304507-002
D7-4.0	304507-003
D7-2.5	304507-004
D6-8.0	304507-005
D6-6.0	304507-006
E7-9.5	304507-007
E7-7.0	304507-008
E7-5.0	304507-009
FD-1	304507-010
E8-9.5	304507-011
E8-6.0	304507-012
D8-9.0	304507-013
D8-5.5	304507-014
C7-9.0	304507-015
C7-6.0	304507-016
B7-8.0	304507-017
B7-6.5	304507-018

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Date: 11/14/2018

Will Rice
Project Manager
will.rice@enthalpy.com
(510) 204-2221 Ext 13102

CASE NARRATIVE

Laboratory number: 304507
Client: Northgate Environmental Management
Project: 1116.09
Location: Corte Madera Ecological Reserve
Request Date: 10/24/18
Samples Received: 10/24/18

This data package contains sample and QC results for eighteen soil samples, requested for the above referenced project on 10/24/18. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Semivolatile Organics by GC/MS SIM (EPA 8270C-SIM):

Matrix spikes QC953405, QC953406 (batch 264940) were not reported because the parent sample required a dilution that would have diluted out the spikes. Matrix spikes QC954006, QC954007 (batch 265085) were not reported because the parent sample required a dilution that would have diluted out the spikes. Naphthalene was detected between the MDL and the RL in the method blank for batch 265085; this analyte was not detected in samples at or above the RL. Many samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

Pesticides (EPA 8081A):

All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. All samples underwent florisol cleanup using EPA Method 3620C. Matrix spikes QC953477, QC953478 (batch 264958) were not analyzed because the parent sample required a dilution that would have diluted out the spikes. Endosulfan I was detected between the MDL and the RL in the method blank for batch 265222; this analyte was not detected in the sample at or above the RL. C7-6.0 (lab # 304507-016) was diluted due to the color of the sample extract. No other analytical problems were encountered.

PCBs (EPA 8082):

All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. Matrix spikes QC953477, QC953478 (batch 264958) were not analyzed because the parent sample required a dilution that would have diluted out the spikes. No other analytical problems were encountered.

Metals (EPA 6020 and EPA 7471A):

Low recoveries were observed for antimony in the MS/MSD of D7-9.0 (lab # 304507-001); the BS/BSD were within limits, and the associated RPD was within limits. Low recoveries were observed for antimony in the MS/MSD of D8-9.0 (lab # 304507-013); the BS/BSD were within limits, and the associated RPD was within limits. Barium and molybdenum were detected between the MDL and the RL in the method blank for batch 264914; these analytes were either not detected

CASE NARRATIVE

Laboratory number: 304507
Client: Northgate Environmental Management
Project: 1116.09
Location: Corte Madera Ecological Reserve
Request Date: 10/24/18
Samples Received: 10/24/18

Metals (EPA 6020 and EPA 7471A):

in samples at or above the RL, or detected at a level at least 10 times that of the blank. No other analytical problems were encountered.

Moisture (ASTM D2216-98/CLP):

No analytical problems were encountered.

Total Organic Carbon (TOC) (WALKLEY-BLACK):

Low recoveries were observed for total organic carbon in the MS/MSD of D7-9.0 (lab # 304507-001); the LCS was within limits, and the associated RPD was within limits. No other analytical problems were encountered.

304507



CHAIN OF CUSTODY/ANALYSIS REQUEST FORM

No 3108

Project No.: 1116.09		Project Location: Corte Madera, CA		Date: 10/24/18		Serial No.: 1 of 2	
Project Name: Corte Madera Ecological Reserve		Field Logbook No.:				Samplers: Gabriel Fuson	
Sampler (Signature): Gabriel Fuson		Samples		ANALYSES		REMARKS	
Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	ANALYSES	REMARKS
DF-9.0	10/24/18	0916		1	S	Pesticides (EPA 8081A) PCBs (EPA 8082) PAHs (EPA 8270 SIM) TPH-d, wo (EPA 815B) (S6) CAM 17 Metals (6010B/6020/4471) TOC (Walkley-Black) (ASTM D2216) Moisture Content	* Homogenize entire volume of each jar prior to subsampling.
DF-6.0		0924					
DF-4.0		0933					
DF-2.5		0948					
D6-8.0		1006					
D6-6.0		1028					
E7-9.5		1214					
E7-7.0		1046					
E7-5.0		1048					
FD-1		1050					
E8-8.5		1235					
E8-6.0		1242					
D8-9.0		1258					
D8-5.5		1301					
C7-9.0		1318					
C7-6.0		1323					
Relinquished by: Gabriel Fuson	Date: 10/24/18	Time: 1441	Received By: Charles R. McQuinn	Date: 10/24/18	Time: 2:11 pm		
Relinquished by: Gabriel Fuson	Date: 10/24/18	Time: 1441	Received By: Standard TAT	Date: 10/24/18	Time: 3:20 pm		
Method of Shipment: Courier	Comments: Results to: elizabeth.nixon@ngem.com and gabriel.fuson@ngem.com						
Sample Collector: Northgate Environmental Management, Inc.	Analytical Laboratory: Enthelpy						
300 Frank H Ogawa Plaza, Suite 510 428 13th St., Oakland, California 94612 ph - (510) 839 0688 / fax - (510) 839-4350 4th Floor							

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

301507



CHAIN OF CUSTODY/ANALYSIS REQUEST FORM

No 3110

Project No.: 116.09		Project Location: Corte Madera, CA		Date: 10/24/18		Serial No.: 2 of 2	
Sampler (Signature): Gabriel Fuson		Field Logbook No.:		ANALYSES		Samplers: Gabriel Fuson	
Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	ANALYSES	REMARKS
B7-8.0	10/24/18	1403		1	S	<input checked="" type="checkbox"/> Pesticides (EPA 8081A) <input checked="" type="checkbox"/> PCBs (EPA 8082) <input checked="" type="checkbox"/> PAHs <input checked="" type="checkbox"/> (EPA 8270C SEM) <input checked="" type="checkbox"/> TPH-d-me <input checked="" type="checkbox"/> (EPA 815B W/SGC) <input checked="" type="checkbox"/> CAM 17 Metals <input checked="" type="checkbox"/> (6108/6030/447) <input checked="" type="checkbox"/> TOC <input checked="" type="checkbox"/> (Makley-Black) <input checked="" type="checkbox"/> Moisture content <input checked="" type="checkbox"/> (ASTM D2216)	<p>* Homogenize entire volume of each jar prior to selecting aliquots</p> <p>* Report results in both dry and wet weights.</p> <p>* ATTN: Will Rice ^{10/24/18} Reporting limit</p>
B7-6.5	10/24/18	1403		1	S		
Relinquished by: Gabriel Fuson		Date: 10/24/18	Time: 1441	Received By: [Signature]	Date: 10/28/18	Time: 2:41 PM	
Relinquished by: [Signature]		Date: 10/24/18	Time: 1441	Received By: Charles L. Meares	Date: 10/24/18	Time: 3:30 PM	
Method of Shipment: Courier		Comments: Results to: elizabeth.nixon@nygem.com and gabriel.fuson@nygem.com					
Sample Collector: Northgate Environmental Management, Inc.		Analytical Laboratory: Standard TAT					
300 Frank H Ogawa Plaza, Suite 510 428 13th St., Oakland, California 94612		Enthalpy					
ph - (510) 839 0688 / fax - (510) 839-4350 4th Floor							

17 18

SAMPLE RECEIPT CHECKLIST



Section 1: Login # 304507
 Date Received: 10/24/18

Client: MATHG.ME
 Project: _____

Section 2: Samples received in a cooler? Yes, how many? 1 No (skip Section 3 below)
 If no cooler Sample Temp (°C): _____ using IR Gun # A, or B
 Samples received on ice directly from the field. Cooling process had begun
 If in cooler: Date Opened 10/24/18 By (print) AL (sign) [Signature]
 Shipping info (if applicable) _____
 Are custody seals present? No, or Yes. If yes, where? on cooler, on samples, on package
 Date: _____ How many _____ Signature, Initials, None
 Were custody seals intact upon arrival? Yes No N/A

Section 3: **Important : Notify PM if temperature exceeds 6°C or arrive frozen.**

Packing in cooler: (if other, describe) _____
 Bubble Wrap, Foam blocks, Bags, None, Cloth material, Cardboard, Styrofoam, Paper towels
 Samples received on ice directly from the field. Cooling process had begun
 Type of ice used : Wet, Blue/Gel, None Temperature blank(s) included? Yes, No
 Temperature measured using Thermometer ID: _____, or IR Gun # A B
 Cooler Temp (°C): #1: 4.4, #2: _____, #3: _____, #4: _____, #5: _____, #6: _____, #7: _____

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable	X		
Were Method 5035 sampling containers present?		X	
If YES, what time were they transferred to freezer?			
Did all bottles arrive unbroken/unopened?	X		
Are there any missing / extra samples?		X	
Are samples in the appropriate containers for indicated tests?	X		
Are sample labels present, in good condition and complete?	X		
Does the container count match the COC?	X		
Do the sample labels agree with custody papers?	X		
Was sufficient amount of sample sent for tests requested?	X		
Did you change the hold time in LIMS for unpreserved VOAs?			X
Did you change the hold time in LIMS for preserved terracores?			X
Are bubbles > 6mm absent in VOA samples?			X
Was the client contacted concerning this sample delivery?		X	
If YES, who was called? _____ By _____ Date: _____			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)			X
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check?			
pH strip lot# _____, pH strip lot# _____, pH strip lot# _____			
Preservative added:			
<input type="checkbox"/> H2SO4 lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> HCL lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> HNO3 lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> NaOH lot# _____ added to samples _____ on/at _____			

Section 6:
 Explanations/Comments: _____

Date Logged In 10/25/18 By (print) [Signature] (sign) [Signature]
 Date Labeled 10/25/18 By (print) [Signature] (sign) [Signature]

Detections Summary for 304507

Results for any subcontracted analyses are not included in this summary.

Client : Northgate Environmental Management
Project : 1116.09
Location : Corte Madera Ecological Reserve

Client Sample ID : D7-9.0

Laboratory Sample ID :

304507-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.2	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	31		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Naphthalene	5.2	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	17		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	20		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Pyrene	28		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	9.0	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Chrysene	17		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	25		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	6.8	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	14	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	15	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	3.6	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	25		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.22	C,J	1.1	0.11	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.22	J	1.1	0.084	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	0.59	C,J	2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	2.1	C,J	2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endrin	0.34	C,J	2.2	0.066	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.51	C,J	2.2	0.073	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	1.5	J	2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endrin aldehyde	0.69	C,J	2.2	0.68	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.50	C,J	2.2	0.089	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.16	C,J	1.1	0.14	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	0.33	J	2.0	0.040	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	8.2		0.66	0.042	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	51		0.66	0.022	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.43	J	0.66	0.064	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.34	J	0.66	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	92		0.66	0.18	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	12		0.66	0.11	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	27		0.66	0.17	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	15		0.66	0.078	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.14		0.017	0.0030	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.60	J	0.66	0.027	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	100		0.66	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.46	J	2.0	0.24	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.31	J	0.66	0.047	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.10	J	0.33	0.086	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	47		0.67	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	69		2.0	0.67	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	14		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.1		0.03		%	As Recd	3.289	WALKLEY-BLACK	METHOD

Client Sample ID : D7-6.0

Laboratory Sample ID :

304507-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	22	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	77		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Acenaphthylene	6.4	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	19		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Anthracene	6.7	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	47		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Pyrene	56		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	25		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Chrysene	39		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	51		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	17		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	35		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	26		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	7.4	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	31		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.20	C,J	1.1	0.11	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
delta-BHC	0.20	C,J	1.1	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.44	C,J	1.1	0.076	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	1.8	C,J	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	3.0	#	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endrin	0.29	C,J	2.2	0.065	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.90	J	2.2	0.17	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	7.5	#	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endrin aldehyde	0.79	C,J	2.2	0.67	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.36	C,J	1.1	0.14	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
gamma-Chlordane	0.79	C,J	1.1	0.13	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Aroclor-1254	36		12	3.3	ug/Kg	As Recd	1.000	EPA 8082	EPA 3546
Aroclor-1260	11	J	12	3.1	ug/Kg	As Recd	1.000	EPA 8082	EPA 3546
Antimony	0.21	J	2.0	0.038	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	6.9		0.64	0.040	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	38		0.64	0.021	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.35	J	0.64	0.061	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.46	J	0.64	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	54		0.64	0.17	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	10		0.64	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	25		0.64	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	11		0.64	0.075	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.36		0.018	0.0031	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.58	J	0.64	0.026	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	57		0.64	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.35	J	2.0	0.23	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.40	J	0.64	0.045	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.13	J	0.32	0.082	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	36		0.65	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	66		1.9	0.65	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	22		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.66		0.03		%	As Recd	3.268	WALKLEY-BLACK	METHOD

Client Sample ID : D7-4.0

Laboratory Sample ID :

304507-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2.9	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	11		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Phenanthrene	4.0	J	5.1	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Anthracene	1.0	J	5.1	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	6.9		5.1	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Pyrene	8.7		5.1	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	3.3	J	5.1	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Chrysene	4.4	J	5.1	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	5.4		5.1	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	1.4	J	5.1	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	4.4	J	5.1	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	2.9	J	5.1	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	4.3	J	5.1	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
alpha-BHC	0.17	J	1.1	0.091	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
beta-BHC	0.35	C,J	1.1	0.12	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Aldrin	0.20	C,J	1.1	0.095	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.53	C,J	1.1	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endosulfan I	0.26	C,J	1.1	0.11	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	0.26	J	2.3	0.10	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.22	C,J	2.3	0.076	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	0.28	J	2.0	0.038	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	7.8		0.64	0.040	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	31		0.64	0.021	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.37	J	0.64	0.061	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.48	J	0.64	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	57		0.64	0.17	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	11		0.64	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	17		0.64	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	5.8		0.64	0.075	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.080		0.017	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.41	J	0.64	0.026	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	57		0.64	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.36	J	2.0	0.23	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.10	J	0.64	0.045	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.15	J	0.32	0.082	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	37		0.65	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	42		1.9	0.65	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	23		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.69		0.03		%	As Recd	3.268	WALKLEY-BLACK	METHOD

Client Sample ID : D7-2.5

Laboratory Sample ID :

304507-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	6.0	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	16		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Phenanthrene	6.7	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	12	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Pyrene	18	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	5.0	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Chrysene	6.8	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	12	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	10	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	7.7	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	14	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Dieldrin	0.12	C,J	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	2.7	#	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.17	C,J	2.2	0.17	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	5.3	#	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.52	C,J	2.2	0.088	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	0.11	J	2.0	0.037	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	5.1		0.62	0.039	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	46		0.62	0.020	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.40	J	0.62	0.059	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.27	J	0.62	0.097	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	68		0.62	0.17	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	8.7		0.62	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	25		0.62	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	11		0.62	0.072	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.13		0.016	0.0027	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.61	J	0.62	0.025	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	66		0.62	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.36	J	2.0	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.16	J	0.62	0.043	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.087	J	0.31	0.080	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	45		0.63	0.21	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	51		1.9	0.63	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	37		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.86		0.03		%	As Recd	3.279	WALKLEY-BLACK	METHOD

Client Sample ID : D6-8.0

Laboratory Sample ID :

304507-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.5	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	12		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Phenanthrene	2.1	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	2.7	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Pyrene	3.1	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	1.2	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Chrysene	2.1	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	3.5	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	1.9	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	1.9	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	2.9	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.41	J	1.1	0.11	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	0.30	C,J	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endosulfan II	0.14	C,J	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.22	C,J	2.2	0.088	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	1.0	J	2.0	0.039	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	9.0		0.64	0.040	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	100		0.64	0.021	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.57	J	0.64	0.062	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.44	J	0.64	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	68		0.64	0.17	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	19		0.64	0.11	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	18		0.64	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	8.8		0.64	0.075	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.072		0.018	0.0031	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.43	J	0.64	0.026	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	88		0.64	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.41	J	2.0	0.23	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.14	J	0.64	0.045	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	36		0.65	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	48		2.0	0.65	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	10		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.69		0.03		%	As Recd	3.236	WALKLEY-BLACK	METHOD

Client Sample ID : D6-6.0

Laboratory Sample ID :

304507-006

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	0.47	J,Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	4.9	J	5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Phenanthrene	1.4	J	4.9	0.99	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	1.5	J	4.9	0.99	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Pyrene	1.9	J	4.9	0.99	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Chrysene	1.2	J	4.9	0.99	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	2.0	J	4.9	0.99	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	1.3	J	4.9	0.99	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	1.1	J	4.9	0.99	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	1.9	J	4.9	0.99	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.30	J	1.1	0.11	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.11	C,J	1.1	0.076	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	1.3	J	2.0	0.041	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	10		0.69	0.043	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	140		0.69	0.022	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.56	J	0.69	0.066	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.27	J	0.69	0.11	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	70		0.69	0.18	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	18		0.69	0.11	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	16		0.69	0.18	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	8.4		0.69	0.080	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.047		0.017	0.0030	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.33	J	0.69	0.028	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	81		0.69	0.17	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.30	J	2.0	0.24	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.060	J	0.69	0.048	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	40		0.70	0.23	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	33		2.1	0.70	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	13		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.47		0.03		%	As Recd	3.289	WALKLEY-BLACK	METHOD

Client Sample ID : E7-9.5

Laboratory Sample ID :

304507-007

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	31	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	280		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Naphthalene	3.9	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	23		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Anthracene	4.5	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	37		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Pyrene	41		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	19		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Chrysene	26		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	41		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	11	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	26		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	21		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	6.4	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	30		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
delta-BHC	0.30	J	1.1	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.21	C,J	1.1	0.076	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	0.69	C,J	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	2.4	#	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endrin	0.24	C,J	2.2	0.065	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.44	C,J	2.2	0.073	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	1.8	J	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.84	C,J	2.2	0.088	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.52	C,J	1.1	0.14	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Aroclor-1260	4.3	J	12	3.1	ug/Kg	As Recd	1.000	EPA 8082	EPA 3546
Antimony	0.24	J	2.0	0.039	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	8.8		0.64	0.040	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	49		0.64	0.021	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.28	J	0.64	0.062	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.28	J	0.64	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	71		0.64	0.17	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	7.7		0.64	0.11	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	26		0.64	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	14		0.64	0.075	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.18		0.017	0.0030	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.55	J	0.64	0.026	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	62		0.64	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.30	J	2.0	0.23	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.38	J	0.64	0.045	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.10	J	0.32	0.083	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	43		0.65	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	66		2.0	0.65	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	12		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.2		0.03		%	As Recd	3.300	WALKLEY-BLACK	METHOD

Client Sample ID : E7-7.0

Laboratory Sample ID :

304507-008

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2.6	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	24		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Naphthalene	1.1	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	6.1		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	9.0		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Pyrene	13		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	4.1	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Chrysene	6.6		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	10		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	2.4	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	7.2		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	5.8		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	1.2	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	9.1		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Dieldrin	0.079	C,J	2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	0.23	J	2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	0.16	J	2.0	0.040	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	8.1		0.66	0.042	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	39		0.66	0.022	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.39	J	0.66	0.064	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.25	J	0.66	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	64		0.66	0.18	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	11		0.66	0.11	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	21		0.66	0.17	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	7.5		0.66	0.078	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.063		0.017	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.45	J	0.66	0.027	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	56		0.66	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.39	J	2.0	0.24	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.10	J	0.66	0.047	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.10	J	0.33	0.086	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	42		0.67	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	51		2.0	0.67	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	15		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.81		0.03		%	As Recd	3.236	WALKLEY-BLACK	METHOD

Client Sample ID : E7-5.0

Laboratory Sample ID :

304507-009

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2.8	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	11		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Naphthalene	18		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Fluorene	7.4		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	46		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Anthracene	1.1	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	12		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Pyrene	16		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	6.6		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Chrysene	18		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	21		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	3.0	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	9.2		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	7.0		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	2.9	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	11		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.14	C,J	1.1	0.064	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
delta-BHC	0.13	C,J	1.1	0.080	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.093	C,J	1.1	0.077	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	0.10	C,J	2.2	0.080	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	0.23	C,J	2.2	0.099	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	1.6	C,J	2.2	0.15	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	0.63	J	2.0	0.038	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	7.2		0.64	0.040	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	59		0.64	0.021	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.58	J	0.64	0.061	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.38	J	0.64	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	180		0.64	0.17	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	23		0.64	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	29		0.64	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	10		0.64	0.075	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.13		0.018	0.0031	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.51	J	0.64	0.026	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	270		3.2	0.78	mg/Kg	As Recd	125.0	EPA 6020	EPA 3050B
Selenium	0.43	J	2.0	0.23	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.10	J	0.64	0.045	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	50		0.65	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	79		1.9	0.65	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	19		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.62		0.03		%	As Recd	3.155	WALKLEY-BLACK	METHOD

Client Sample ID : FD-1

Laboratory Sample ID :

304507-010

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.2	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	18		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Naphthalene	16		4.9	0.98	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Acenaphthylene	1.6	J	4.9	0.98	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Fluorene	6.2		4.9	0.98	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	36		4.9	0.98	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Anthracene	1.3	J	4.9	0.98	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	11		4.9	0.98	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Pyrene	17		4.9	0.98	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	6.5		4.9	0.98	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Chrysene	17		4.9	0.98	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	21		4.9	0.98	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	4.2	J	4.9	0.98	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	11		4.9	0.98	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	7.9		4.9	0.98	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	2.4	J	4.9	0.98	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	12		4.9	0.98	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.84	J	1.1	0.11	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	0.13	J	2.2	0.088	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	1.2	C,J	2.2	0.080	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	0.50	C,J	2.2	0.15	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	0.91	J	2.0	0.037	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	7.2		0.63	0.039	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	58		0.63	0.020	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.50	J	0.63	0.060	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.34	J	0.63	0.098	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	180		0.63	0.17	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	22		0.63	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	29		0.63	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	8.4		0.63	0.073	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.13		0.016	0.0028	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.51	J	0.63	0.025	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	270		3.1	0.76	mg/Kg	As Recd	125.0	EPA 6020	EPA 3050B
Selenium	0.43	J	2.0	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.096	J	0.63	0.044	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	47		0.63	0.21	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	64		1.9	0.63	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	19		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.62		0.03		%	As Recd	3.115	WALKLEY-BLACK	METHOD

Client Sample ID : E8-9.5

Laboratory Sample ID :

304507-011

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.6	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	35		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Naphthalene	3.8	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Acenaphthylene	3.0	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	24		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Anthracene	3.7	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	36		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Pyrene	47		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	15	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Chrysene	26		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	39		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	10	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	22		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	20		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	4.2	J	15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	27		15	3.0	ug/Kg	As Recd	3.000	EPA 8270C-SIM	EPA 3550C
Heptachlor epoxide	0.25	C,J	1.1	0.076	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	0.92	C,J	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	2.7	#	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endrin	0.41	C,J	2.2	0.065	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.42	C,J	2.2	0.073	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	2.5	#	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	1.6	C,J	2.2	0.088	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.56	C,J	1.1	0.14	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Aroclor-1260	8.7	J	12	3.2	ug/Kg	As Recd	1.000	EPA 8082	EPA 3546
Antimony	0.15	J	1.9	0.036	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	9.9		0.60	0.038	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	46		0.60	0.020	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.29	J	0.60	0.058	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.30	J	0.60	0.095	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	74		0.60	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	7.7		0.60	0.099	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	29		0.60	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	15		0.60	0.070	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.14		0.016	0.0028	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.56	J	0.60	0.024	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	61		0.60	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.38	J	1.9	0.21	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.29	J	0.60	0.042	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.12	J	0.30	0.077	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	49		0.61	0.20	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	60		1.8	0.61	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	13		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.0		0.03		%	As Recd	3.115	WALKLEY-BLACK	METHOD

Client Sample ID : E8-6.0

Laboratory Sample ID :

304507-012

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.9	Y	0.99	0.30	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	23		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Naphthalene	5.1	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	9.6	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	16	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Pyrene	23	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	8.9	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Chrysene	13	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	19	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	5.3	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	15	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	9.6	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	16	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.59	C,J	1.1	0.064	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
delta-BHC	0.43	C,J	1.1	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Aldrin	0.15	C,J	1.1	0.061	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.22	C,J	1.1	0.077	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	0.12	C,J	2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	3.1	#	2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	7.2	#	2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	1.4	C,J	2.2	0.089	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.32	C,J	1.1	0.14	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	0.11	J	1.9	0.036	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	5.7		0.60	0.038	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	49		0.60	0.020	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.40	J	0.60	0.058	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.35	J	0.60	0.095	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	75		0.60	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	8.4		0.60	0.099	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	26		0.60	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	16		0.60	0.070	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.062		0.017	0.0030	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.52	J	0.60	0.024	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	61		0.60	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.38	J	1.9	0.21	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.20	J	0.60	0.042	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.089	J	0.30	0.077	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	46		0.61	0.20	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	53		1.8	0.61	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	26		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.76		0.03		%	As Recd	3.135	WALKLEY-BLACK	METHOD

Client Sample ID : D8-9.0

Laboratory Sample ID :

304507-013

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2.6	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	31		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Naphthalene	3.7	J	10	2.0	ug/Kg	As Recd	2.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	10		10	2.0	ug/Kg	As Recd	2.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	15		10	2.0	ug/Kg	As Recd	2.000	EPA 8270C-SIM	EPA 3550C
Pyrene	19		10	2.0	ug/Kg	As Recd	2.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	6.5	J	10	2.0	ug/Kg	As Recd	2.000	EPA 8270C-SIM	EPA 3550C
Chrysene	11		10	2.0	ug/Kg	As Recd	2.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	17		10	2.0	ug/Kg	As Recd	2.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	3.8	J	10	2.0	ug/Kg	As Recd	2.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	10	J	10	2.0	ug/Kg	As Recd	2.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	10	J	10	2.0	ug/Kg	As Recd	2.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	2.0	J	10	2.0	ug/Kg	As Recd	2.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	15		10	2.0	ug/Kg	As Recd	2.000	EPA 8270C-SIM	EPA 3550C
Heptachlor epoxide	0.078	C,J	1.1	0.076	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	0.60	C,J	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	1.8	J	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endrin	0.16	C,J	2.2	0.065	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	1.2	J	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	1.2	C,J	2.2	0.088	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.65	C,J	1.1	0.18	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Aroclor-1260	5.9	J	12	3.2	ug/Kg	As Recd	1.000	EPA 8082	EPA 3546
Antimony	1.1	J	1.9	0.035	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	8.7		0.59	0.037	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	53		0.59	0.019	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.40	J	0.59	0.057	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.33	J	0.59	0.093	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	80		0.59	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	8.9		0.59	0.097	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	24		0.59	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	11		0.59	0.069	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.12		0.016	0.0028	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.58	J	0.59	0.024	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	74		0.59	0.14	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.39	J	1.9	0.21	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.24	J	0.59	0.041	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.14	J	0.29	0.076	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	45		0.60	0.20	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	58		1.8	0.60	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	11		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.93		0.03		%	As Recd	3.067	WALKLEY-BLACK	METHOD

Client Sample ID : D8-5.5

Laboratory Sample ID :

304507-014

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.5	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	8.6		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Naphthalene	1.4	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Acenaphthylene	1.0	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Fluorene	1.0	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	9.2		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Anthracene	1.6	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	11		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Pyrene	15		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	5.7		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Chrysene	7.4		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	8.4		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	2.8	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	7.5		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	4.4	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Dibenz(a,h)anthracene	1.1	J	5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	6.5		5.0	1.0	ug/Kg	As Recd	1.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	1.8		1.1	0.063	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
gamma-BHC	0.12	C,J	1.1	0.12	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	0.090	C,J	2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	0.54	C,J	2.2	0.098	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	0.30	J	2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	0.22	J	1.9	0.036	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	7.0		0.60	0.038	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	33		0.60	0.020	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.39	J	0.60	0.058	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.33	J	0.60	0.095	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	60		0.60	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	11		0.60	0.099	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	19		0.60	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	5.7		0.60	0.070	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.058		0.017	0.0030	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.61		0.60	0.024	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	60		0.60	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.39	J	1.9	0.21	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.11	J	0.60	0.042	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.10	J	0.30	0.077	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	51		0.61	0.20	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	47		1.8	0.61	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	29		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.66		0.03		%	As Recd	3.236	WALKLEY-BLACK	METHOD

Client Sample ID : C7-9.0

Laboratory Sample ID :

304507-015

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.9	Y	0.99	0.30	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	28		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Naphthalene	6.0	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	14	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	17	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Pyrene	23	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	8.4	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Chrysene	13	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	22	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	13	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	12	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	19	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.58	C,J	1.1	0.11	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
delta-BHC	0.13	C,J	1.1	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.16	C,J	1.1	0.075	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	0.60	C,J	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	1.4	C,J	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endrin	0.27	J	2.2	0.20	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	0.74	C,J	2.2	0.15	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.53	C,J	2.2	0.088	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	0.73	J	2.0	0.039	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	9.5		0.66	0.041	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	55		0.66	0.021	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.38	J	0.66	0.063	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.28	J	0.66	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	89		0.66	0.18	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	10		0.66	0.11	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	24		0.66	0.17	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	12		0.66	0.077	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.14		0.015	0.0027	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.79		0.66	0.027	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	94		0.66	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.41	J	2.0	0.23	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.26	J	0.66	0.046	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.10	J	0.33	0.085	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	48		0.67	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	57		2.0	0.67	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	12		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.1		0.03		%	As Recd	3.106	WALKLEY-BLACK	METHOD

Client Sample ID : C7-6.0

Laboratory Sample ID :

304507-016

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	14	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	69		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Naphthalene	17	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Phenanthrene	22	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	21	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	31	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	16	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	23	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	17	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	13	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	24	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.34	C,J	2.2	0.22	ug/Kg	As Recd	2.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.44	C,J	2.2	0.15	ug/Kg	As Recd	2.000	EPA 8081A	EPA 3546
Dieldrin	0.89	C,J	4.4	0.16	ug/Kg	As Recd	2.000	EPA 8081A	EPA 3546
4,4'-DDE	3.0	J	4.4	0.16	ug/Kg	As Recd	2.000	EPA 8081A	EPA 3546
4,4'-DDD	5.9	#	4.4	0.16	ug/Kg	As Recd	2.000	EPA 8081A	EPA 3546
4,4'-DDT	1.7	C,J	4.4	0.18	ug/Kg	As Recd	2.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.63	C,J	2.2	0.28	ug/Kg	As Recd	2.000	EPA 8081A	EPA 3546
Aroclor-1260	9.3	J	12	3.2	ug/Kg	As Recd	1.000	EPA 8082	EPA 3546
Antimony	1.3	J	1.9	0.036	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	9.0		0.60	0.038	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	57		0.60	0.020	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.48	J	0.60	0.058	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.38	J	0.60	0.095	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	82		0.60	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	12		0.60	0.099	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	26		0.60	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	35		0.60	0.070	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.18		0.018	0.0031	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	1.3		0.60	0.024	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	100		0.60	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.38	J	1.9	0.21	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.40	J	0.60	0.042	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.11	J	0.30	0.077	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	44		0.61	0.20	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	70		1.8	0.61	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	21		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.61		0.03		%	As Recd	3.215	WALKLEY-BLACK	METHOD

Client Sample ID : B7-8.0

Laboratory Sample ID :

304507-017

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	11	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	69		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Naphthalene	6.0	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	12	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	20	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Pyrene	27		25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	15	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Chrysene	22	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	28		25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	8.8	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	16	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	11	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	16	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
delta-BHC	0.19	C,J	1.1	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.14	C,J	1.1	0.083	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	0.45	C,J	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	1.8	C,J	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endrin	0.33	C,J	2.2	0.065	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	1.5	J	2.2	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.12	C,J	2.2	0.088	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	0.23	J	2.0	0.040	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	9.9		0.66	0.042	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	47		0.66	0.022	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.23	J	0.66	0.064	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.18	J	0.66	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	73		0.66	0.18	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	6.0		0.66	0.11	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	20		0.66	0.17	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	7.6		0.66	0.078	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.080		0.017	0.0030	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.81		0.66	0.027	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	58		0.66	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.37	J	2.0	0.24	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.22	J	0.66	0.047	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.13	J	0.33	0.086	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	45		0.67	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	48		2.0	0.67	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	14		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.1		0.03		%	As Recd	3.058	WALKLEY-BLACK	METHOD

Client Sample ID : B7-6.5

Laboratory Sample ID :

304507-018

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	13	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	55		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Naphthalene	10	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Phenanthrene	23	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Anthracene	5.2	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	30		25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Pyrene	45		25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	15	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Chrysene	22	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	32		25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	10	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	19	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	15	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	22	J	25	5.0	ug/Kg	As Recd	5.000	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.48	C,J	1.1	0.11	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
delta-BHC	0.23	C,J	1.1	0.077	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.089	C,J	1.1	0.075	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	0.67	C,J	2.2	0.077	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	4.0		2.2	0.096	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endrin	0.71	C,J	2.2	0.20	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.96	J	2.2	0.072	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	0.91	C,J	2.2	0.077	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.22	C,J	1.1	0.14	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Aroclor-1260	4.2	J	12	3.1	ug/Kg	As Recd	1.000	EPA 8082	EPA 3546
Antimony	0.42	J	1.8	0.034	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	11		0.57	0.036	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	48		0.57	0.019	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.38	J	0.57	0.055	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.56	J	0.57	0.090	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	81		0.57	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	13		0.57	0.094	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	23		0.57	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	12		0.57	0.067	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.13		0.016	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.74		0.57	0.023	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	91		0.57	0.14	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.45	J	1.8	0.20	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.31	J	0.57	0.040	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.11	J	0.29	0.074	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	45		0.58	0.19	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	62		1.7	0.58	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	22		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.83		0.03		%	As Recd	3.012	WALKLEY-BLACK	METHOD

= CCV drift outside limits; average CCV drift within limits per method requirements

C = Presence confirmed, but RPD between columns exceeds 40%

J = Estimated value

Y = Sample exhibits chromatographic pattern which does not resemble standard

Z = Sample exhibits unknown single peak or peaks

Total Extractable Hydrocarbons			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	10/24/18
Basis:	as received	Received:	10/24/18

Field ID: D7-9.0
 Type: SAMPLE
 Lab ID: 304507-001
 Batch#: 264980

Prepared: 10/30/18
 Analyzed: 10/31/18
 Cleanup Method: EPA 3630C

Analyte	Result	RL	MDL
Diesel C10-C24	4.2 Y	1.0	0.31
Motor Oil C24-C36	31	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	59	59-130

Field ID: D7-6.0
 Type: SAMPLE
 Lab ID: 304507-002
 Batch#: 264980

Prepared: 10/30/18
 Analyzed: 10/31/18
 Cleanup Method: EPA 3630C

Analyte	Result	RL	MDL
Diesel C10-C24	22 Y	1.0	0.31
Motor Oil C24-C36	77	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	98	59-130

Field ID: D7-4.0
 Type: SAMPLE
 Lab ID: 304507-003
 Batch#: 264980

Prepared: 10/30/18
 Analyzed: 10/31/18
 Cleanup Method: EPA 3630C

Analyte	Result	RL	MDL
Diesel C10-C24	2.9 Y	1.0	0.31
Motor Oil C24-C36	11	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	71	59-130

J= Estimated value
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 Z= Sample exhibits unknown single peak or peaks
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Total Extractable Hydrocarbons			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	10/24/18
Basis:	as received	Received:	10/24/18

Field ID:	D7-2.5	Prepared:	10/30/18
Type:	SAMPLE	Analyzed:	10/31/18
Lab ID:	304507-004	Cleanup Method:	EPA 3630C
Batch#:	264980		

Analyte	Result	RL	MDL
Diesel C10-C24	6.0 Y	1.0	0.31
Motor Oil C24-C36	16	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	64	59-130

Field ID:	D6-8.0	Prepared:	10/30/18
Type:	SAMPLE	Analyzed:	10/31/18
Lab ID:	304507-005	Cleanup Method:	EPA 3630C
Batch#:	264980		

Analyte	Result	RL	MDL
Diesel C10-C24	3.5 Y Z	1.0	0.31
Motor Oil C24-C36	12	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	76	59-130

Field ID:	D6-6.0	Prepared:	11/05/18
Type:	SAMPLE	Analyzed:	11/06/18
Lab ID:	304507-006	Cleanup Method:	EPA 3630C
Batch#:	265171		

Analyte	Result	RL	MDL
Diesel C10-C24	0.47 J Y	1.0	0.31
Motor Oil C24-C36	4.9 J	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	85	59-130

J= Estimated value
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 Z= Sample exhibits unknown single peak or peaks
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Total Extractable Hydrocarbons			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	10/24/18
Basis:	as received	Received:	10/24/18

Field ID: E7-9.5 Prepared: 10/30/18
 Type: SAMPLE Analyzed: 11/06/18
 Lab ID: 304507-007 Cleanup Method: EPA 3630C
 Batch#: 264980

Analyte	Result	RL	MDL
Diesel C10-C24	31 Y	1.0	0.31
Motor Oil C24-C36	280	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	73	59-130

Field ID: E7-7.0 Prepared: 10/30/18
 Type: SAMPLE Analyzed: 11/06/18
 Lab ID: 304507-008 Cleanup Method: EPA 3630C
 Batch#: 264980

Analyte	Result	RL	MDL
Diesel C10-C24	2.6 Y	1.0	0.31
Motor Oil C24-C36	24	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	83	59-130

Field ID: E7-5.0 Prepared: 10/30/18
 Type: SAMPLE Analyzed: 10/31/18
 Lab ID: 304507-009 Cleanup Method: EPA 3630C
 Batch#: 264980

Analyte	Result	RL	MDL
Diesel C10-C24	2.8 Y	1.0	0.31
Motor Oil C24-C36	11	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	59	59-130

J= Estimated value
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 Z= Sample exhibits unknown single peak or peaks
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Total Extractable Hydrocarbons			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	10/24/18
Basis:	as received	Received:	10/24/18

Field ID:	FD-1	Prepared:	10/30/18
Type:	SAMPLE	Analyzed:	10/31/18
Lab ID:	304507-010	Cleanup Method:	EPA 3630C
Batch#:	264980		

Analyte	Result	RL	MDL
Diesel C10-C24	4.2 Y	1.0	0.31
Motor Oil C24-C36	18	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	101	59-130

Field ID:	E8-9.5	Prepared:	10/30/18
Type:	SAMPLE	Analyzed:	10/31/18
Lab ID:	304507-011	Cleanup Method:	EPA 3630C
Batch#:	264980		

Analyte	Result	RL	MDL
Diesel C10-C24	5.6 Y	1.0	0.31
Motor Oil C24-C36	35	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	62	59-130

Field ID:	E8-6.0	Prepared:	10/30/18
Type:	SAMPLE	Analyzed:	10/31/18
Lab ID:	304507-012	Cleanup Method:	EPA 3630C
Batch#:	264980		

Analyte	Result	RL	MDL
Diesel C10-C24	3.9 Y	0.99	0.30
Motor Oil C24-C36	23	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	73	59-130

J= Estimated value
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 Z= Sample exhibits unknown single peak or peaks
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Total Extractable Hydrocarbons

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8015B
Matrix: Soil	Diln Fac: 1.000
Units: mg/Kg	Sampled: 10/24/18
Basis: as received	Received: 10/24/18

Field ID: D8-9.0	Prepared: 10/30/18
Type: SAMPLE	Analyzed: 11/01/18
Lab ID: 304507-013	Cleanup Method: EPA 3630C
Batch#: 264980	

Analyte	Result	RL	MDL
Diesel C10-C24	2.6 Y	1.0	0.31
Motor Oil C24-C36	31	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	81	59-130

Field ID: D8-5.5	Prepared: 10/30/18
Type: SAMPLE	Analyzed: 11/01/18
Lab ID: 304507-014	Cleanup Method: EPA 3630C
Batch#: 264980	

Analyte	Result	RL	MDL
Diesel C10-C24	1.5 Y	1.0	0.31
Motor Oil C24-C36	8.6	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	68	59-130

Field ID: C7-9.0	Prepared: 10/30/18
Type: SAMPLE	Analyzed: 10/31/18
Lab ID: 304507-015	Cleanup Method: EPA 3630C
Batch#: 264980	

Analyte	Result	RL	MDL
Diesel C10-C24	4.9 Y	0.99	0.30
Motor Oil C24-C36	28	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	61	59-130

J= Estimated value
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 Z= Sample exhibits unknown single peak or peaks
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Total Extractable Hydrocarbons

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	10/24/18
Basis:	as received	Received:	10/24/18

Field ID:	C7-6.0	Prepared:	10/30/18
Type:	SAMPLE	Analyzed:	10/31/18
Lab ID:	304507-016	Cleanup Method:	EPA 3630C
Batch#:	264980		

Analyte	Result	RL	MDL
Diesel C10-C24	14 Y	1.0	0.31
Motor Oil C24-C36	69	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	59	59-130

Field ID:	B7-8.0	Prepared:	10/30/18
Type:	SAMPLE	Analyzed:	11/01/18
Lab ID:	304507-017	Cleanup Method:	EPA 3630C
Batch#:	264980		

Analyte	Result	RL	MDL
Diesel C10-C24	11 Y	1.0	0.31
Motor Oil C24-C36	69	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	109	59-130

Field ID:	B7-6.5	Prepared:	10/30/18
Type:	SAMPLE	Analyzed:	10/31/18
Lab ID:	304507-018	Cleanup Method:	EPA 3630C
Batch#:	264980		

Analyte	Result	RL	MDL
Diesel C10-C24	13 Y	1.0	0.31
Motor Oil C24-C36	55	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	60	59-130

J= Estimated value
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 Z= Sample exhibits unknown single peak or peaks
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Total Extractable Hydrocarbons

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	10/24/18
Basis:	as received	Received:	10/24/18

Type:	BLANK	Prepared:	10/30/18
Lab ID:	QC953639	Analyzed:	10/31/18
Batch#:	264980	Cleanup Method:	EPA 3630C

Analyte	Result	RL	MDL
Diesel C10-C24	ND	1.0	0.31
Motor Oil C24-C36	ND	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	65	59-130

Type:	BLANK	Prepared:	11/05/18
Lab ID:	QC954368	Analyzed:	11/05/18
Batch#:	265171	Cleanup Method:	EPA 3630C

Analyte	Result	RL	MDL
Diesel C10-C24	ND	1.0	0.31
Motor Oil C24-C36	ND	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	82	59-130

J= Estimated value
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 Z= Sample exhibits unknown single peak or peaks
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC953640	Batch#:	264980
Matrix:	Soil	Prepared:	10/30/18
Units:	mg/Kg	Analyzed:	10/31/18

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	37.64	75	56-137

Surrogate	%REC	Limits
o-Terphenyl	67	59-130

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	264980
MSS Lab ID:	304544-006	Sampled:	10/24/18
Matrix:	Soil	Received:	10/25/18
Units:	mg/Kg	Prepared:	10/30/18
Basis:	as received	Analyzed:	10/30/18
Diln Fac:	1.000		

Type: MS Lab ID: QC953641

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	9.360	50.45	45.02	71	52-128

Surrogate	%REC	Limits
o-Terphenyl	85	59-130

Type: MSD Lab ID: QC953642

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.13	56.50	94	52-128	23	42

Surrogate	%REC	Limits
o-Terphenyl	104	59-130

RPD= Relative Percent Difference

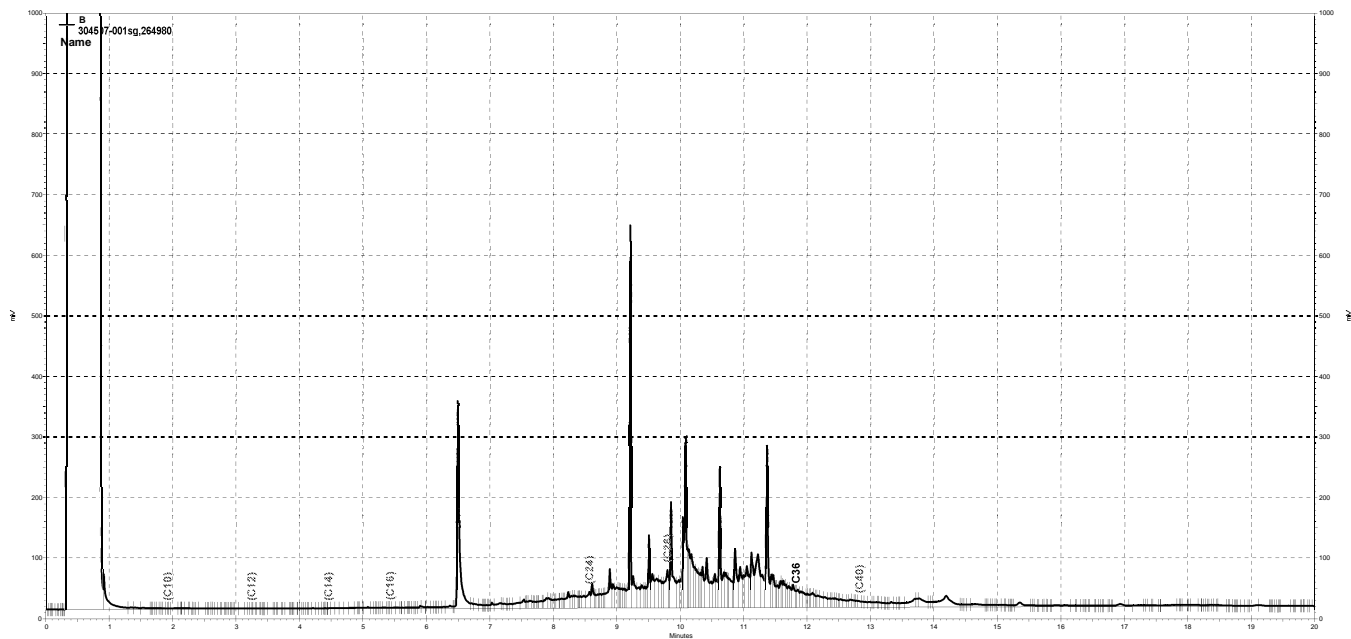
Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC954369	Batch#:	265171
Matrix:	Soil	Prepared:	11/05/18
Units:	mg/Kg	Analyzed:	11/05/18

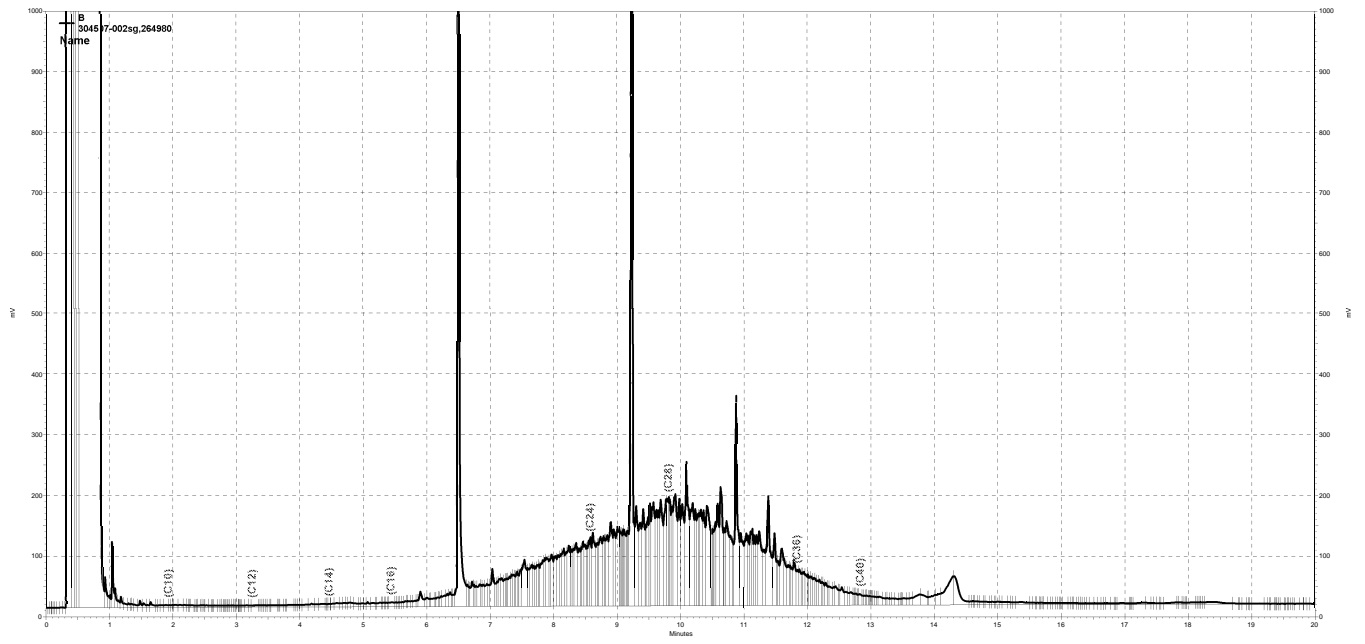
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	35.34	71	56-137

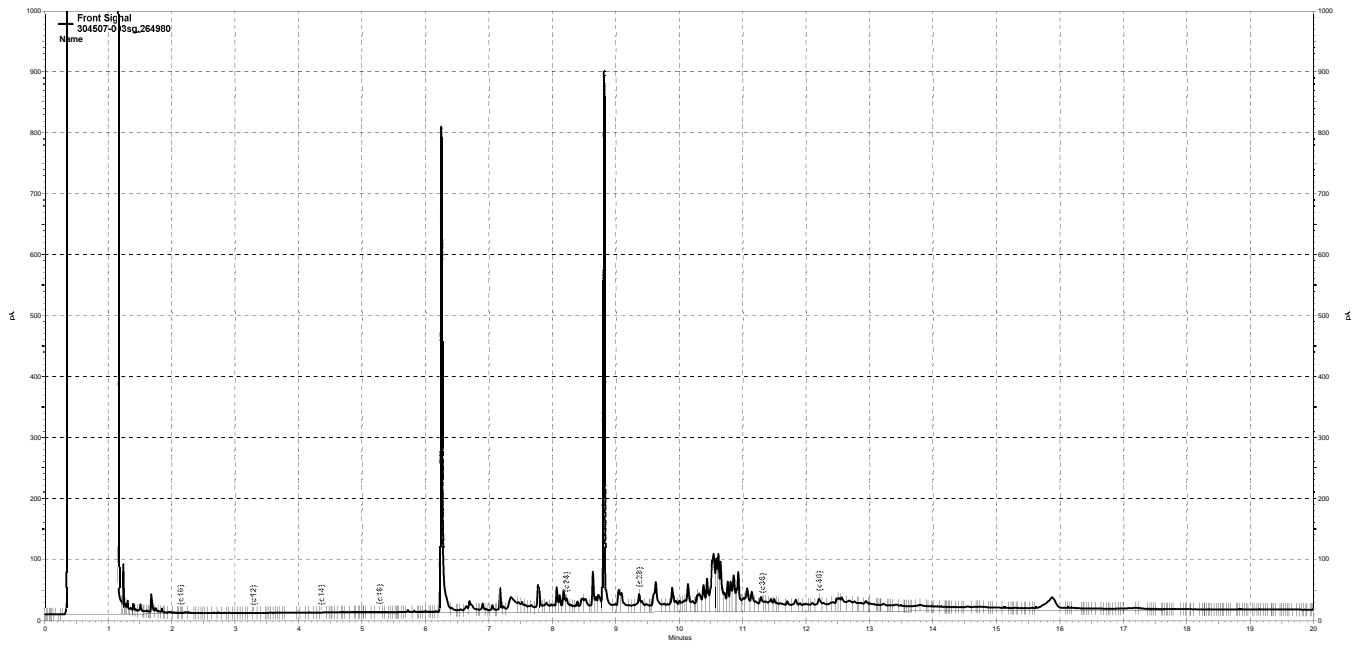
Surrogate	%REC	Limits
o-Terphenyl	74	59-130



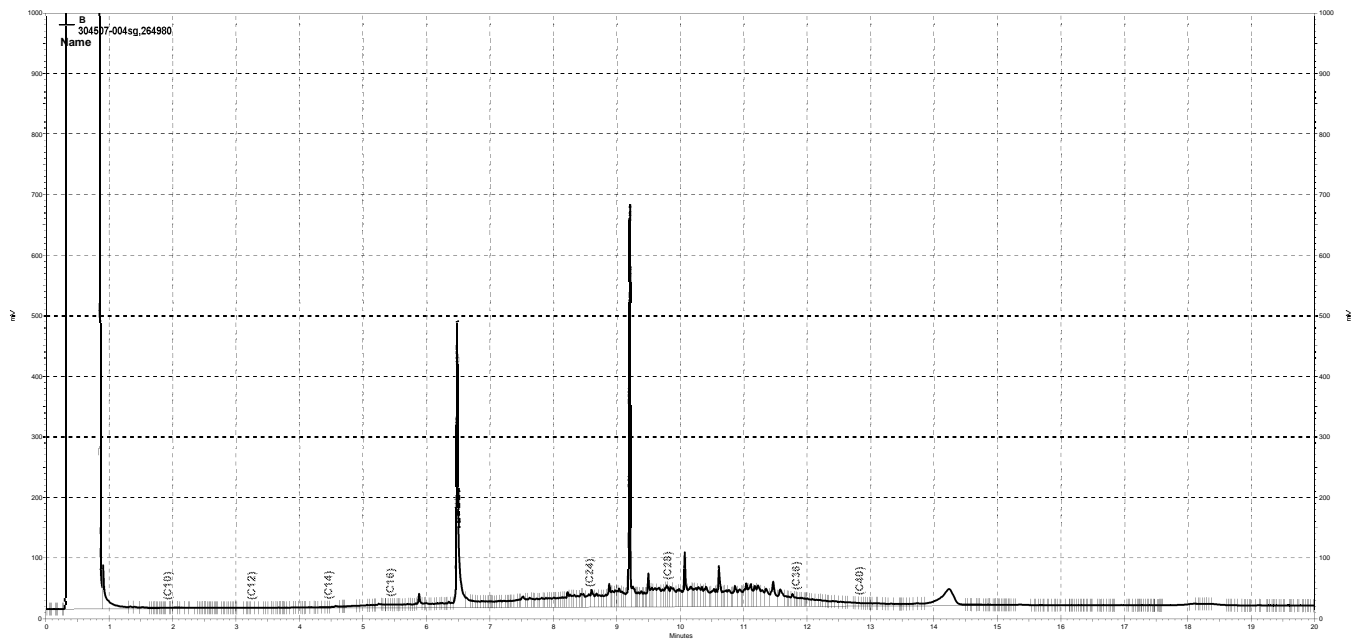
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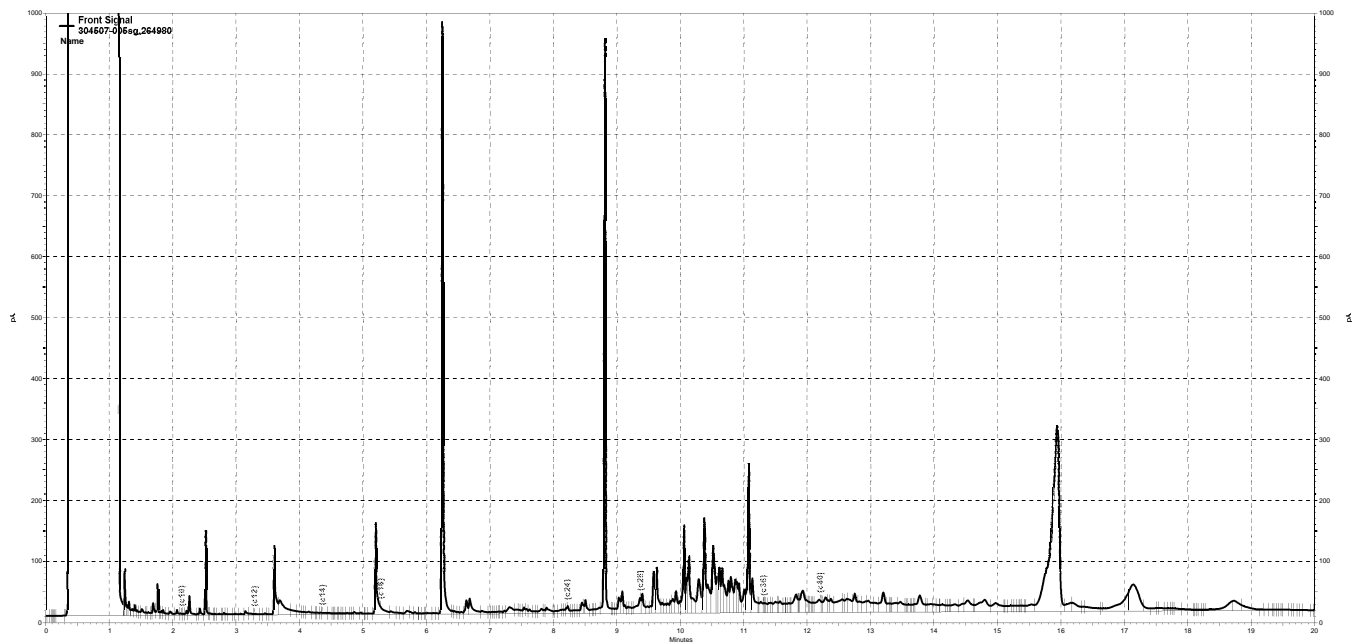
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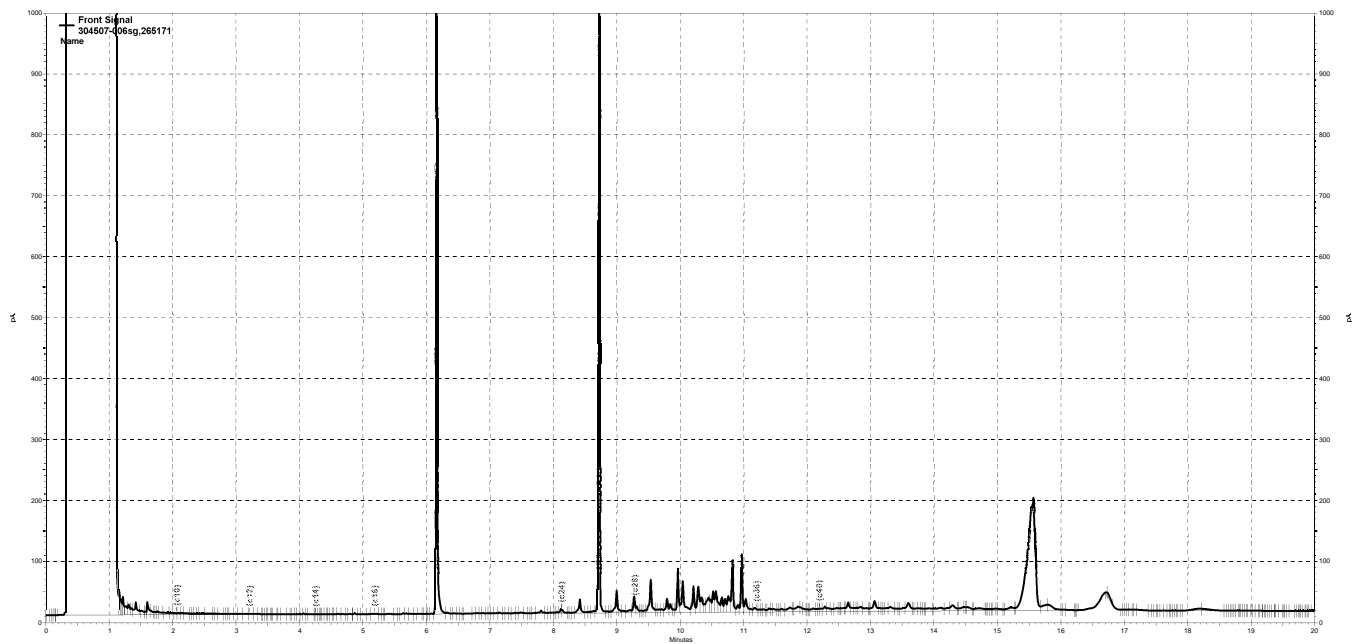
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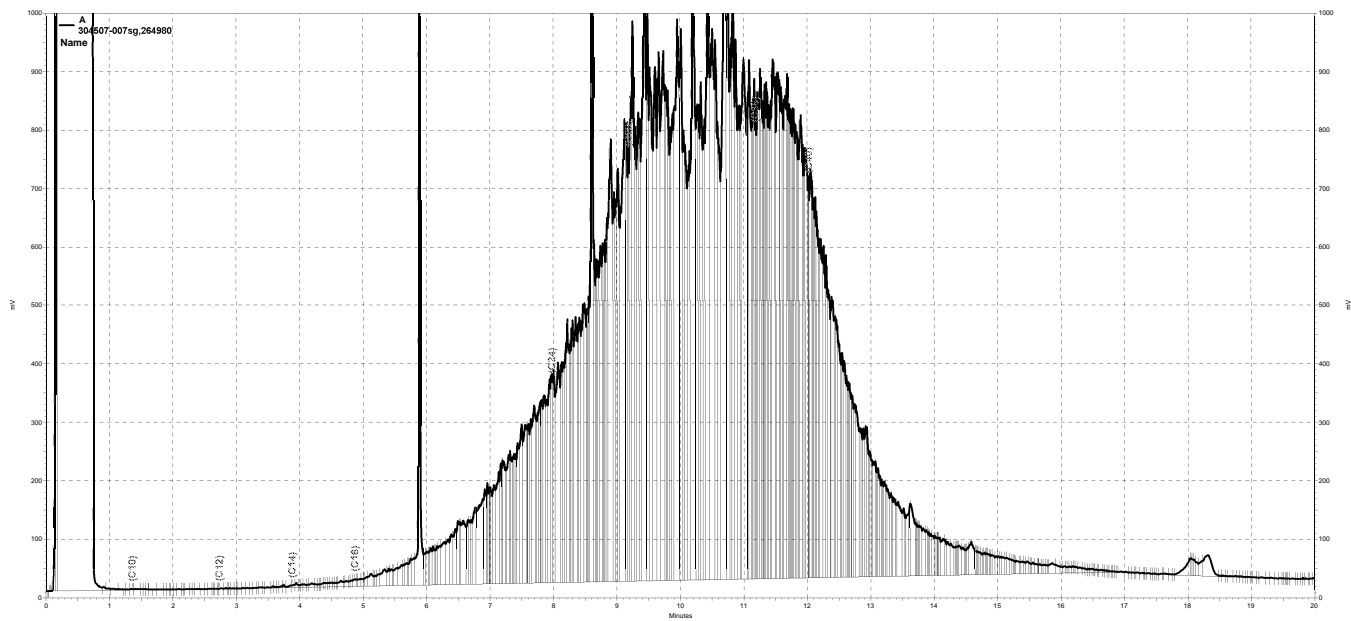
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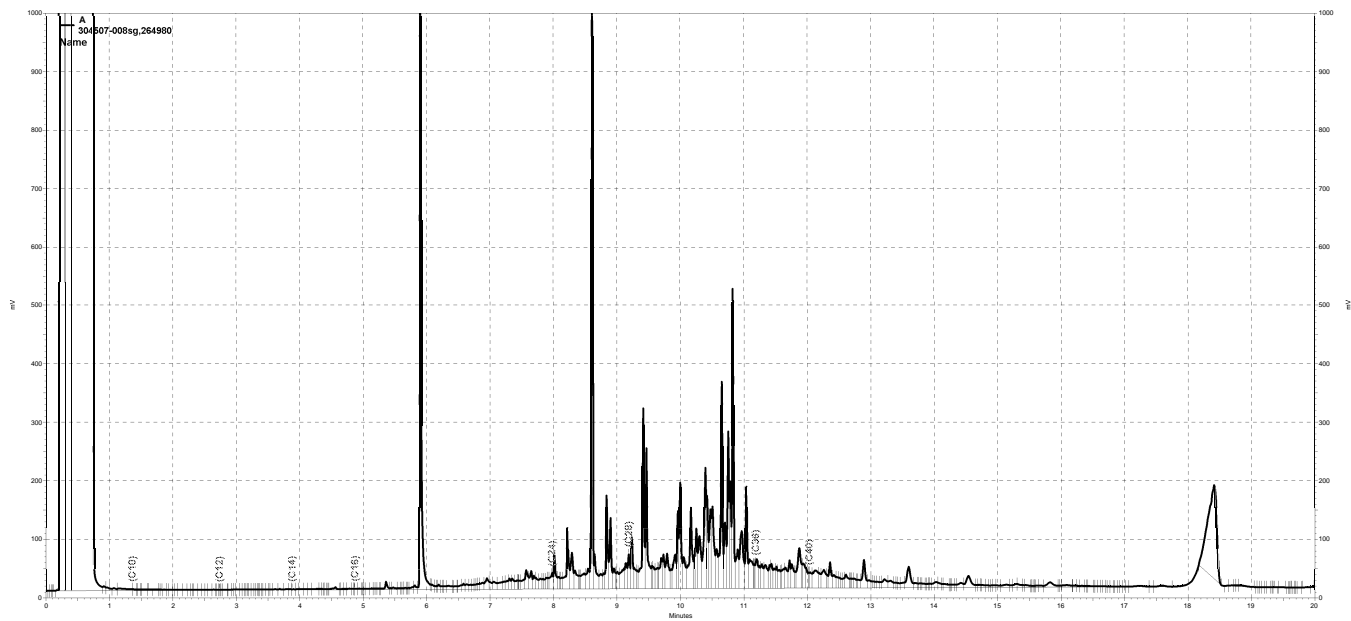
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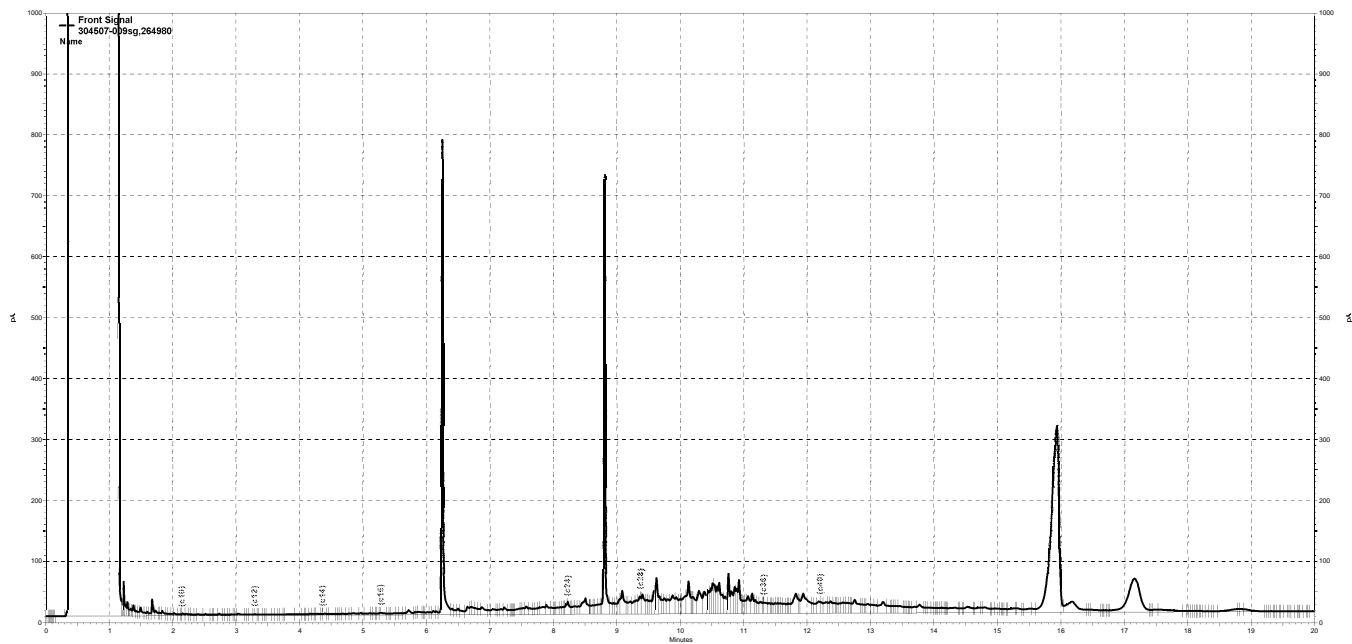
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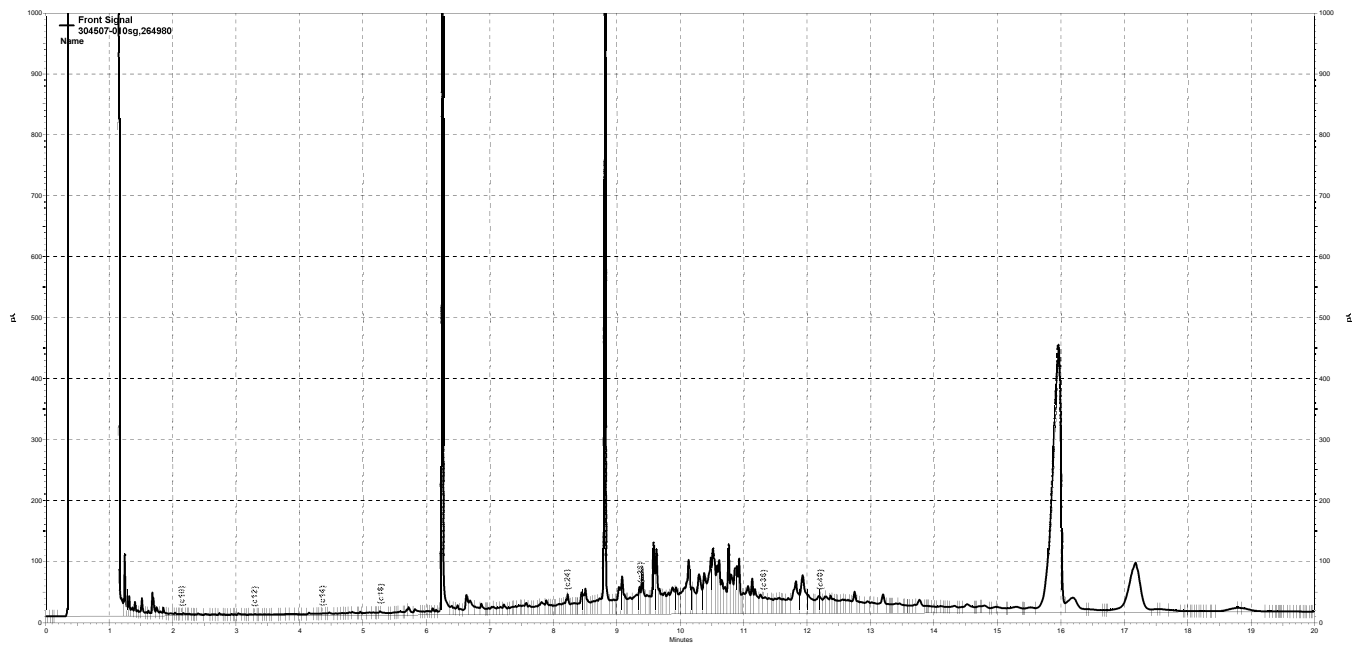
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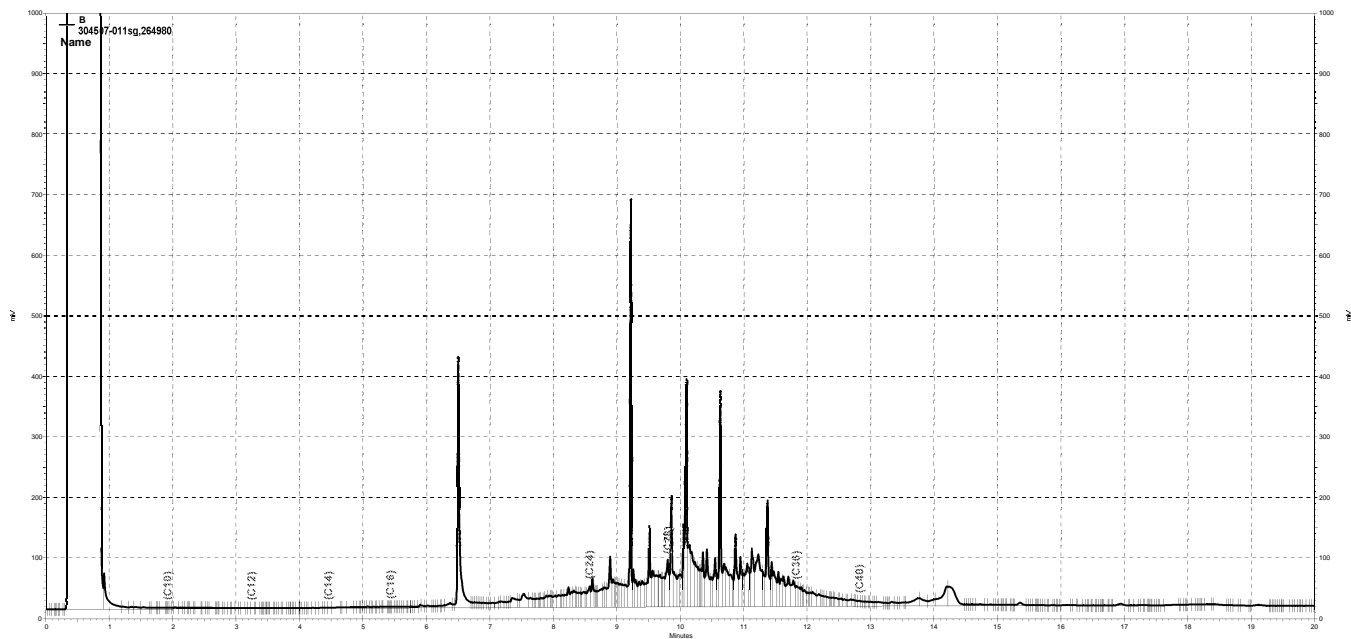
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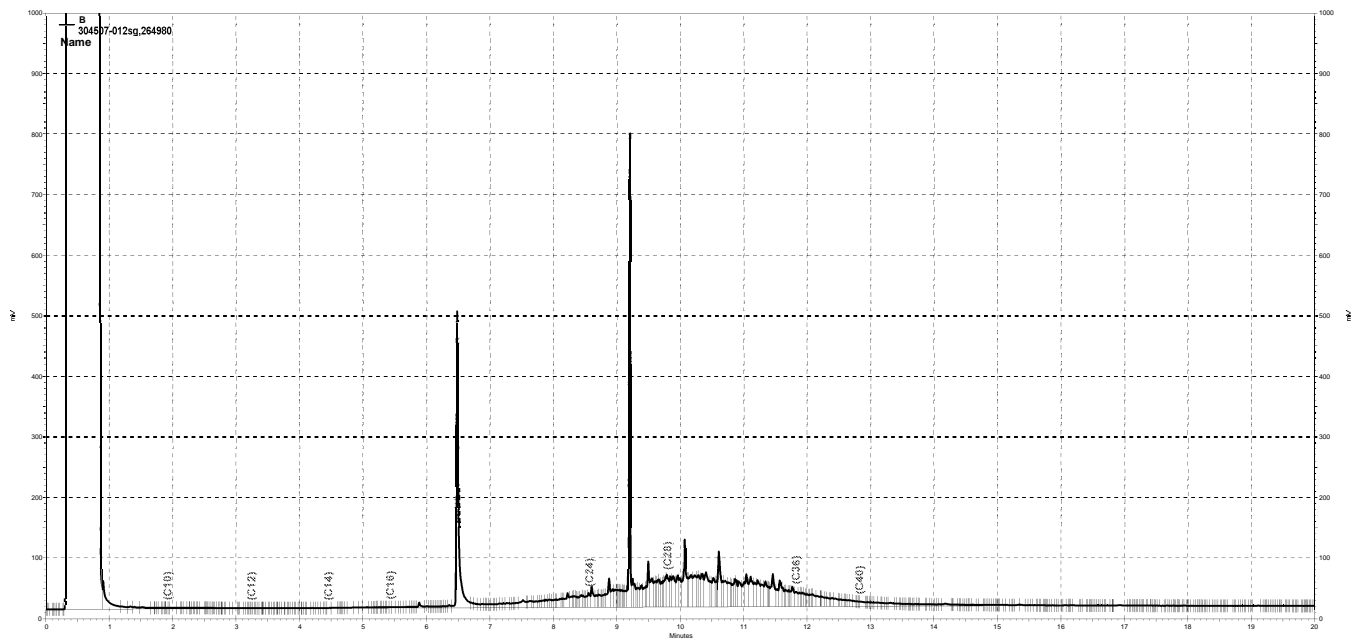
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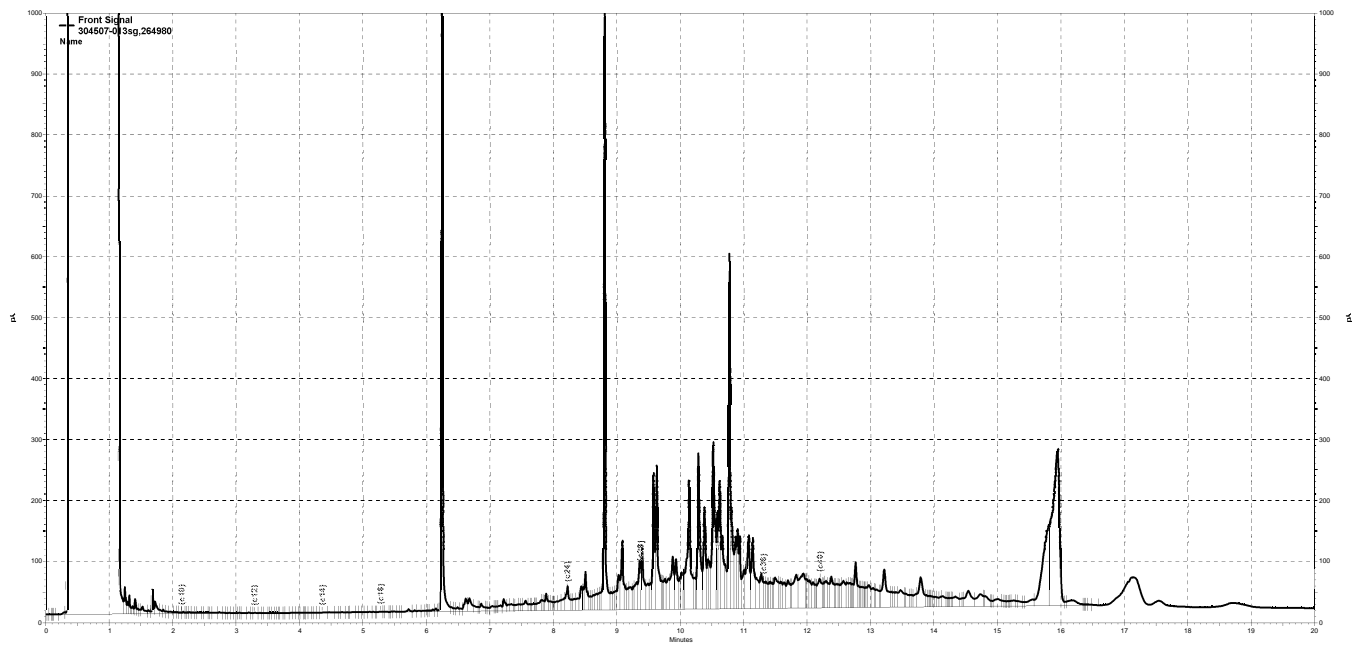
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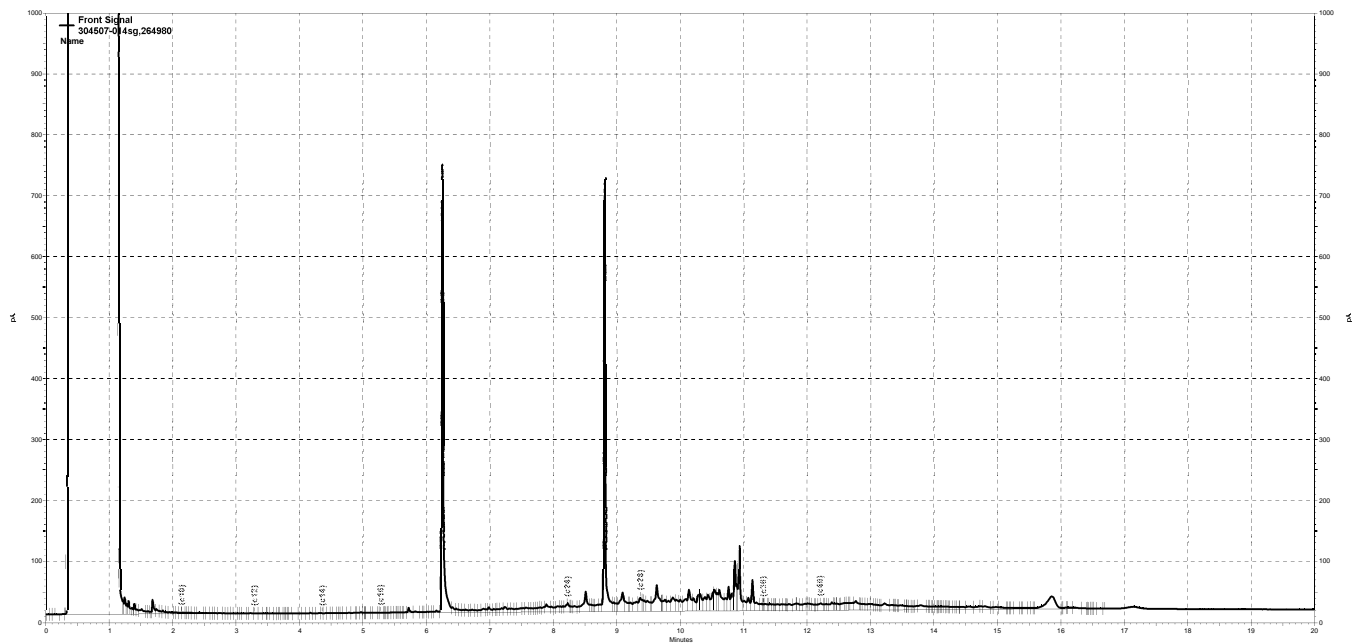
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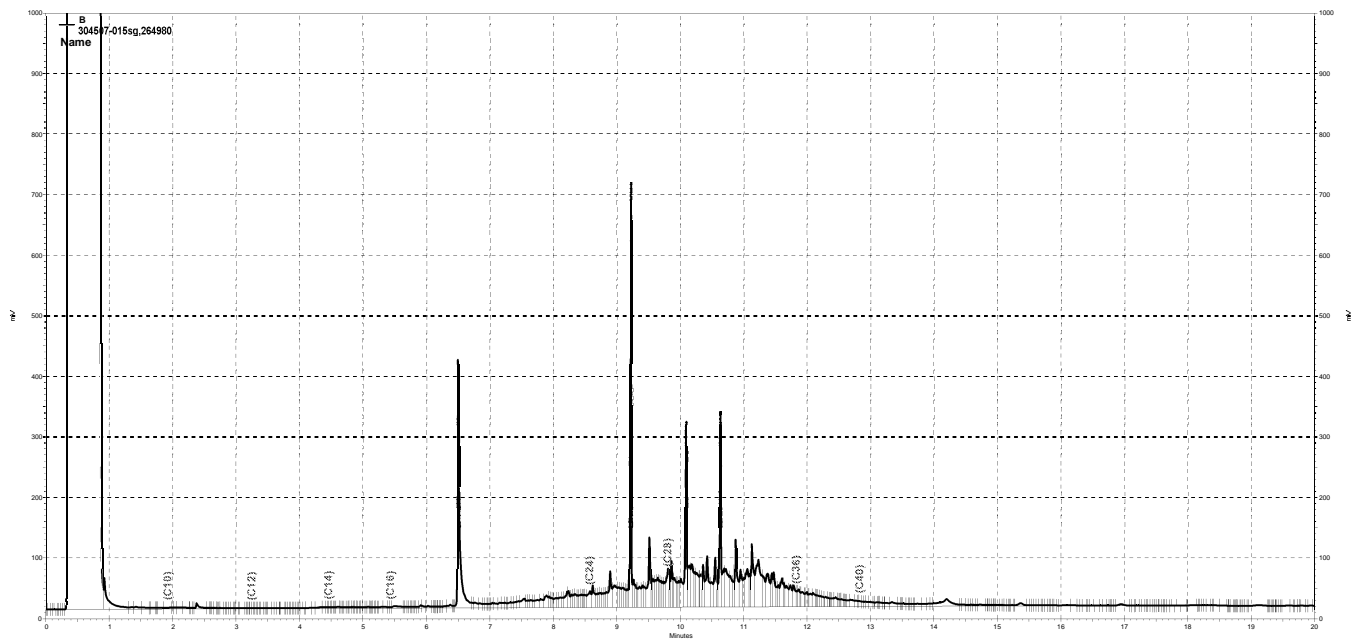
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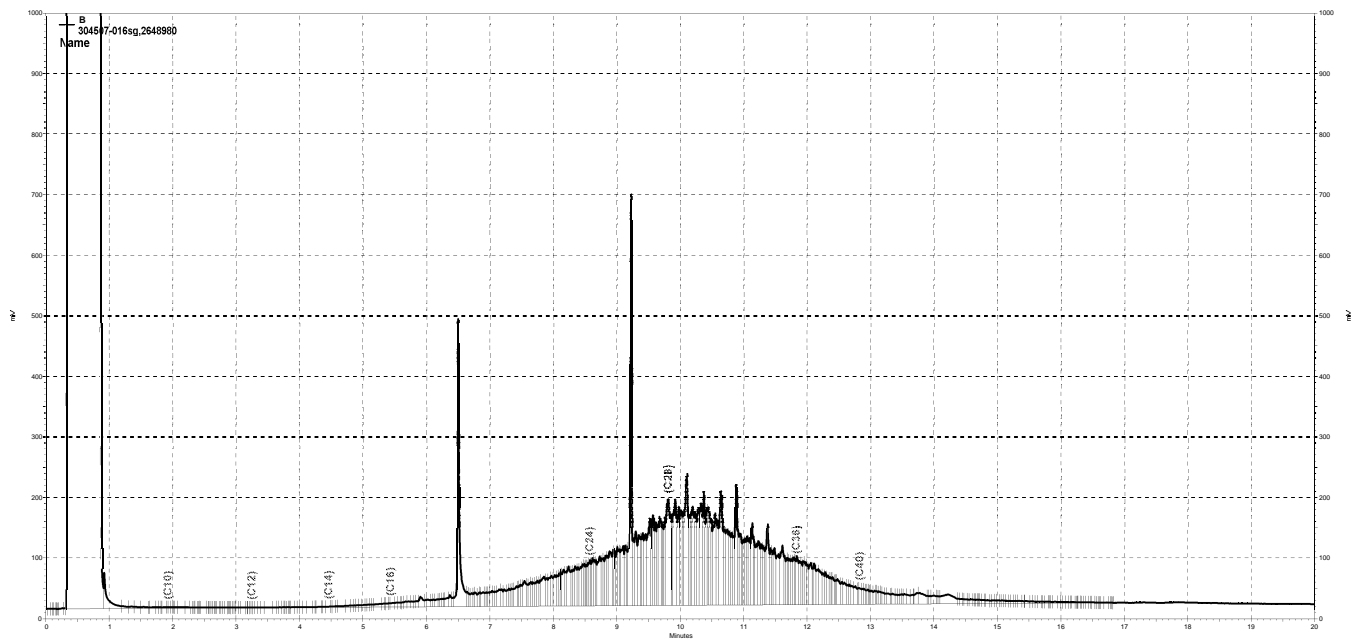
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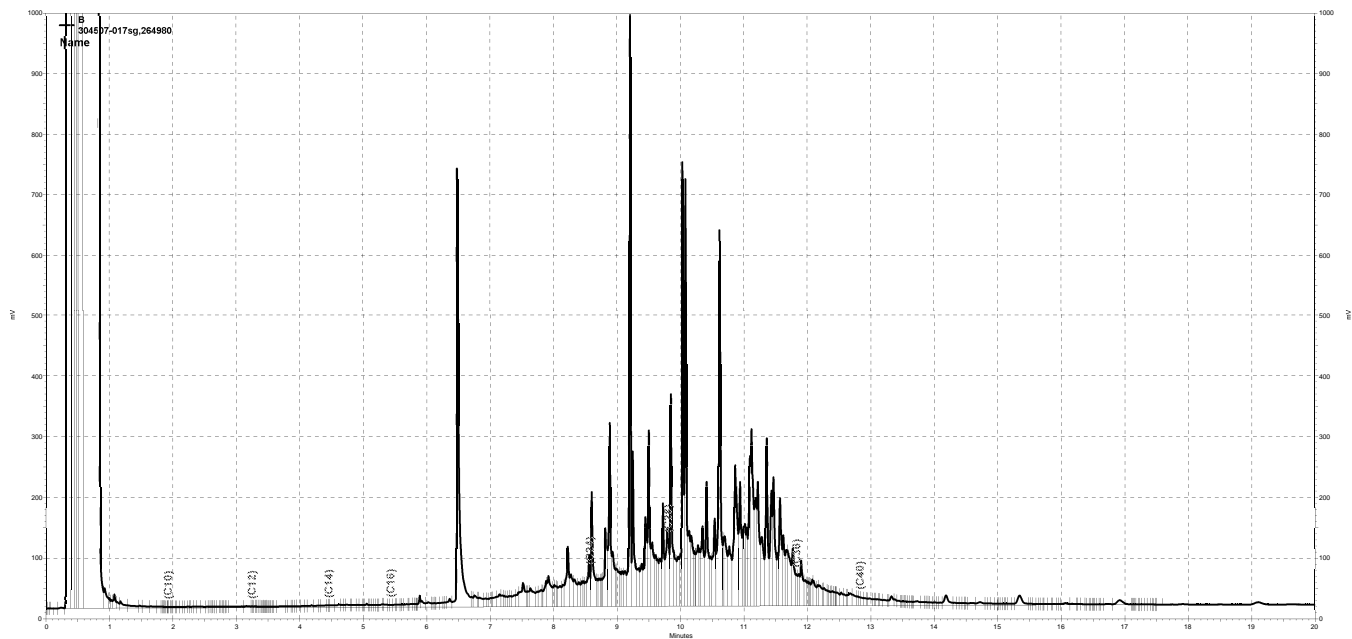
— \\kraken\gdrive\ezchrom\Projects\GC27\Data\2018\305a020.dat, Front Signal



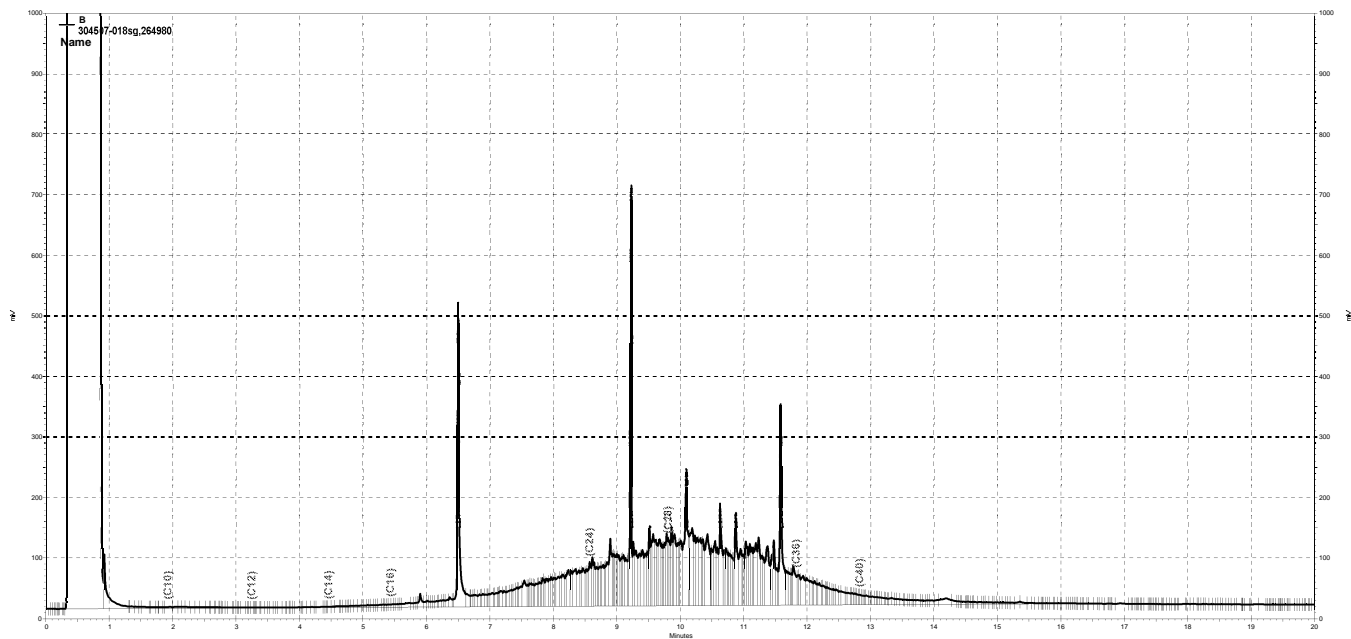
— \\kraken\gdrive\ezchrom\Projects\GC14B\Data\2018\304b012, B



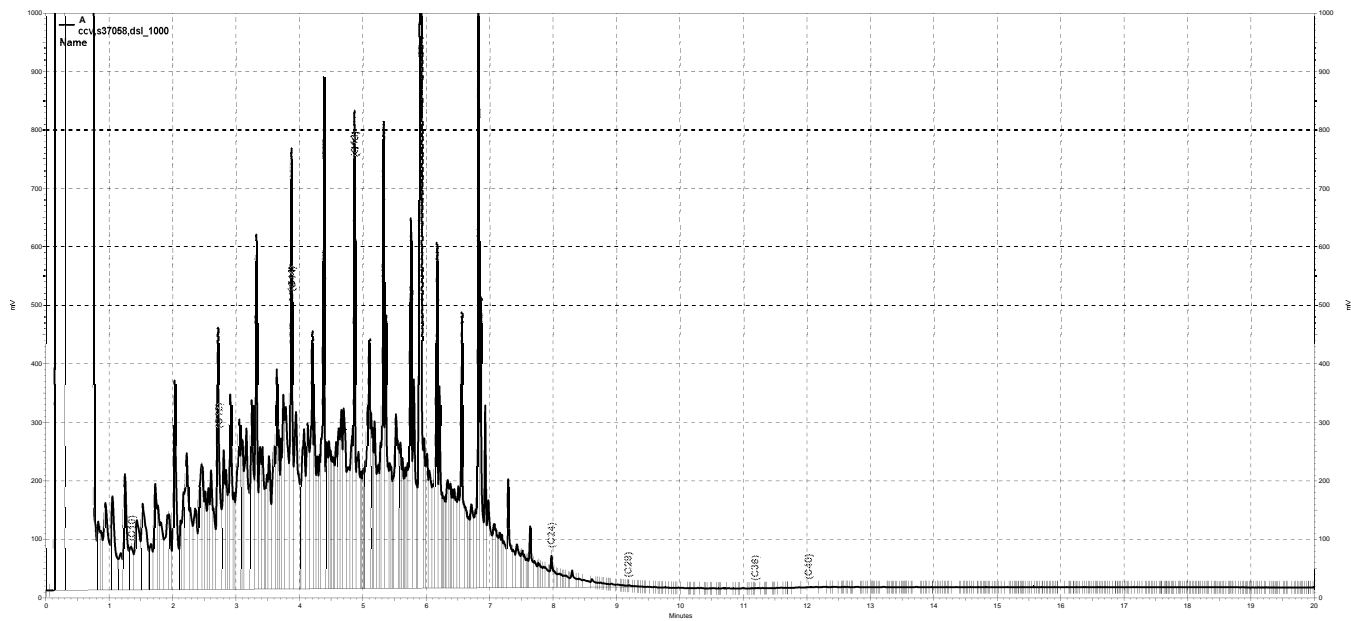
— \\kraken\gdrive\ezchrom\Projects\GC14B\Data\2018\304b008, B



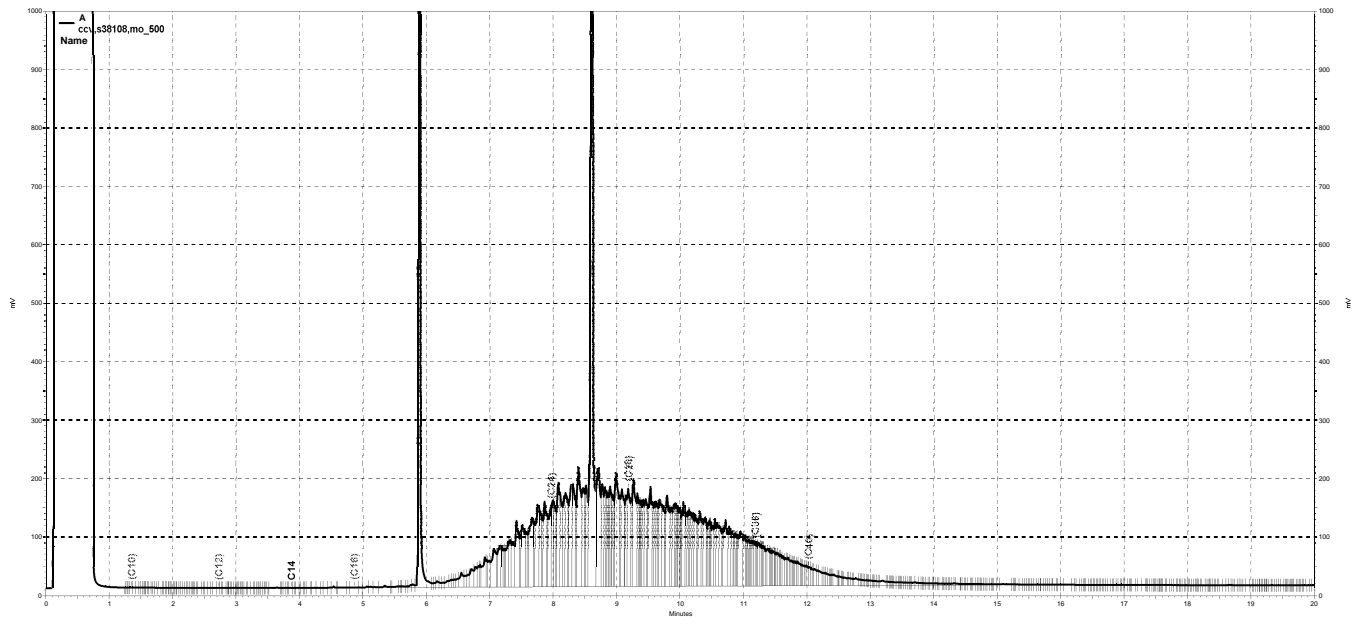
— \\kraken\gdrive\ezchrom\Projects\GC14B\Data\2018\305b020, B



— \\kraken\gdrive\ezchrom\Projects\GC14B\Data\2018\304b009, B



— \\kraken\gdrive\ezchrom\Projects\GC17a\Data\2018\310a015, A



— \\kraken\gdrive\ezchrom\Projects\GC17a\Data\2018\310a016, A

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	D7-9.0	Batch#:	264940
Lab ID:	304507-001	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	11/07/18
Diln Fac:	3.000		

Analyte	Result	RL	MDL
Naphthalene	5.2 J	15	3.0
Acenaphthylene	ND	15	3.0
Acenaphthene	ND	15	3.0
Fluorene	ND	15	3.0
Phenanthrene	17	15	3.0
Anthracene	ND	15	3.0
Fluoranthene	20	15	3.0
Pyrene	28	15	3.0
Benzo(a)anthracene	9.0 J	15	3.0
Chrysene	17	15	3.0
Benzo(b)fluoranthene	25	15	3.0
Benzo(k)fluoranthene	6.8 J	15	3.0
Benzo(a)pyrene	14 J	15	3.0
Indeno(1,2,3-cd)pyrene	15 J	15	3.0
Dibenz(a,h)anthracene	3.6 J	15	3.0
Benzo(g,h,i)perylene	25	15	3.0

Surrogate	%REC	Limits
Nitrobenzene-d5	109	43-120
2-Fluorobiphenyl	85	36-120
Terphenyl-d14	98	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: D7-6.0	Batch#: 264940
Lab ID: 304507-002	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: ug/Kg	Prepared: 10/29/18
Basis: as received	Analyzed: 11/07/18
Diln Fac: 3.000	

Analyte	Result	RL	MDL
Naphthalene	ND	15	3.0
Acenaphthylene	6.4 J	15	3.0
Acenaphthene	ND	15	3.0
Fluorene	ND	15	3.0
Phenanthrene	19	15	3.0
Anthracene	6.7 J	15	3.0
Fluoranthene	47	15	3.0
Pyrene	56	15	3.0
Benzo(a)anthracene	25	15	3.0
Chrysene	39	15	3.0
Benzo(b)fluoranthene	51	15	3.0
Benzo(k)fluoranthene	17	15	3.0
Benzo(a)pyrene	35	15	3.0
Indeno(1,2,3-cd)pyrene	26	15	3.0
Dibenz(a,h)anthracene	7.4 J	15	3.0
Benzo(g,h,i)perylene	31	15	3.0

Surrogate	%REC	Limits
Nitrobenzene-d5	107	43-120
2-Fluorobiphenyl	83	36-120
Terphenyl-d14	95	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: D7-4.0	Batch#: 264940
Lab ID: 304507-003	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: ug/Kg	Prepared: 10/29/18
Basis: as received	Analyzed: 11/07/18
Diln Fac: 1.000	

Analyte	Result	RL	MDL
Naphthalene	ND	5.1	1.0
Acenaphthylene	ND	5.1	1.0
Acenaphthene	ND	5.1	1.0
Fluorene	ND	5.1	1.0
Phenanthrene	4.0 J	5.1	1.0
Anthracene	1.0 J	5.1	1.0
Fluoranthene	6.9	5.1	1.0
Pyrene	8.7	5.1	1.0
Benzo(a)anthracene	3.3 J	5.1	1.0
Chrysene	4.4 J	5.1	1.0
Benzo(b)fluoranthene	5.4	5.1	1.0
Benzo(k)fluoranthene	1.4 J	5.1	1.0
Benzo(a)pyrene	4.4 J	5.1	1.0
Indeno(1,2,3-cd)pyrene	2.9 J	5.1	1.0
Dibenz(a,h)anthracene	ND	5.1	1.0
Benzo(g,h,i)perylene	4.3 J	5.1	1.0

Surrogate	%REC	Limits
Nitrobenzene-d5	92	43-120
2-Fluorobiphenyl	64	36-120
Terphenyl-d14	73	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	D7-2.5	Batch#:	264940
Lab ID:	304507-004	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	11/07/18
Diln Fac:	5.000		

Analyte	Result	RL	MDL
Naphthalene	ND	25	5.0
Acenaphthylene	ND	25	5.0
Acenaphthene	ND	25	5.0
Fluorene	ND	25	5.0
Phenanthrene	6.7 J	25	5.0
Anthracene	ND	25	5.0
Fluoranthene	12 J	25	5.0
Pyrene	18 J	25	5.0
Benzo(a)anthracene	5.0 J	25	5.0
Chrysene	6.8 J	25	5.0
Benzo(b)fluoranthene	12 J	25	5.0
Benzo(k)fluoranthene	ND	25	5.0
Benzo(a)pyrene	10 J	25	5.0
Indeno(1,2,3-cd)pyrene	7.7 J	25	5.0
Dibenz(a,h)anthracene	ND	25	5.0
Benzo(g,h,i)perylene	14 J	25	5.0

Surrogate	%REC	Limits
Nitrobenzene-d5	76	43-120
2-Fluorobiphenyl	59	36-120
Terphenyl-d14	68	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: D6-8.0	Batch#: 264940
Lab ID: 304507-005	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: ug/Kg	Prepared: 10/29/18
Basis: as received	Analyzed: 11/07/18
Diln Fac: 1.000	

Analyte	Result	RL	MDL
Naphthalene	ND	5.0	1.0
Acenaphthylene	ND	5.0	1.0
Acenaphthene	ND	5.0	1.0
Fluorene	ND	5.0	1.0
Phenanthrene	2.1 J	5.0	1.0
Anthracene	ND	5.0	1.0
Fluoranthene	2.7 J	5.0	1.0
Pyrene	3.1 J	5.0	1.0
Benzo(a)anthracene	1.2 J	5.0	1.0
Chrysene	2.1 J	5.0	1.0
Benzo(b)fluoranthene	3.5 J	5.0	1.0
Benzo(k)fluoranthene	ND	5.0	1.0
Benzo(a)pyrene	1.9 J	5.0	1.0
Indeno(1,2,3-cd)pyrene	1.9 J	5.0	1.0
Dibenz(a,h)anthracene	ND	5.0	1.0
Benzo(g,h,i)perylene	2.9 J	5.0	1.0

Surrogate	%REC	Limits
Nitrobenzene-d5	100	43-120
2-Fluorobiphenyl	71	36-120
Terphenyl-d14	75	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: D6-6.0	Batch#: 264940
Lab ID: 304507-006	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: ug/Kg	Prepared: 10/29/18
Basis: as received	Analyzed: 11/07/18
Diln Fac: 1.000	

Analyte	Result	RL	MDL
Naphthalene	ND	4.9	0.99
Acenaphthylene	ND	4.9	0.99
Acenaphthene	ND	4.9	0.99
Fluorene	ND	4.9	0.99
Phenanthrene	1.4 J	4.9	0.99
Anthracene	ND	4.9	0.99
Fluoranthene	1.5 J	4.9	0.99
Pyrene	1.9 J	4.9	0.99
Benzo(a)anthracene	ND	4.9	0.99
Chrysene	1.2 J	4.9	0.99
Benzo(b)fluoranthene	2.0 J	4.9	0.99
Benzo(k)fluoranthene	ND	4.9	0.99
Benzo(a)pyrene	1.3 J	4.9	0.99
Indeno(1,2,3-cd)pyrene	1.1 J	4.9	0.99
Dibenz(a,h)anthracene	ND	4.9	0.99
Benzo(g,h,i)perylene	1.9 J	4.9	0.99

Surrogate	%REC	Limits
Nitrobenzene-d5	102	43-120
2-Fluorobiphenyl	71	36-120
Terphenyl-d14	77	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: E7-9.5	Batch#: 264940
Lab ID: 304507-007	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: ug/Kg	Prepared: 10/29/18
Basis: as received	Analyzed: 11/07/18
Diln Fac: 3.000	

Analyte	Result	RL	MDL
Naphthalene	3.9 J	15	3.0
Acenaphthylene	ND	15	3.0
Acenaphthene	ND	15	3.0
Fluorene	ND	15	3.0
Phenanthrene	23	15	3.0
Anthracene	4.5 J	15	3.0
Fluoranthene	37	15	3.0
Pyrene	41	15	3.0
Benzo(a)anthracene	19	15	3.0
Chrysene	26	15	3.0
Benzo(b)fluoranthene	41	15	3.0
Benzo(k)fluoranthene	11 J	15	3.0
Benzo(a)pyrene	26	15	3.0
Indeno(1,2,3-cd)pyrene	21	15	3.0
Dibenz(a,h)anthracene	6.4 J	15	3.0
Benzo(g,h,i)perylene	30	15	3.0

Surrogate	%REC	Limits
Nitrobenzene-d5	109	43-120
2-Fluorobiphenyl	79	36-120
Terphenyl-d14	85	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: E7-7.0	Batch#: 264940
Lab ID: 304507-008	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: ug/Kg	Prepared: 10/29/18
Basis: as received	Analyzed: 11/07/18
Diln Fac: 1.000	

Analyte	Result	RL	MDL
Naphthalene	1.1 J	5.0	1.0
Acenaphthylene	ND	5.0	1.0
Acenaphthene	ND	5.0	1.0
Fluorene	ND	5.0	1.0
Phenanthrene	6.1	5.0	1.0
Anthracene	ND	5.0	1.0
Fluoranthene	9.0	5.0	1.0
Pyrene	13	5.0	1.0
Benzo(a)anthracene	4.1 J	5.0	1.0
Chrysene	6.6	5.0	1.0
Benzo(b)fluoranthene	10	5.0	1.0
Benzo(k)fluoranthene	2.4 J	5.0	1.0
Benzo(a)pyrene	7.2	5.0	1.0
Indeno(1,2,3-cd)pyrene	5.8	5.0	1.0
Dibenz(a,h)anthracene	1.2 J	5.0	1.0
Benzo(g,h,i)perylene	9.1	5.0	1.0

Surrogate	%REC	Limits
Nitrobenzene-d5	108	43-120
2-Fluorobiphenyl	76	36-120
Terphenyl-d14	85	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	E7-5.0	Batch#:	264940
Lab ID:	304507-009	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	11/07/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Naphthalene	18	5.0	1.0
Acenaphthylene	ND	5.0	1.0
Acenaphthene	ND	5.0	1.0
Fluorene	7.4	5.0	1.0
Phenanthrene	46	5.0	1.0
Anthracene	1.1 J	5.0	1.0
Fluoranthene	12	5.0	1.0
Pyrene	16	5.0	1.0
Benzo(a)anthracene	6.6	5.0	1.0
Chrysene	18	5.0	1.0
Benzo(b)fluoranthene	21	5.0	1.0
Benzo(k)fluoranthene	3.0 J	5.0	1.0
Benzo(a)pyrene	9.2	5.0	1.0
Indeno(1,2,3-cd)pyrene	7.0	5.0	1.0
Dibenz(a,h)anthracene	2.9 J	5.0	1.0
Benzo(g,h,i)perylene	11	5.0	1.0

Surrogate	%REC	Limits
Nitrobenzene-d5	114	43-120
2-Fluorobiphenyl	78	36-120
Terphenyl-d14	90	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	FD-1	Batch#:	264940
Lab ID:	304507-010	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	11/07/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Naphthalene	16	4.9	0.98
Acenaphthylene	1.6 J	4.9	0.98
Acenaphthene	ND	4.9	0.98
Fluorene	6.2	4.9	0.98
Phenanthrene	36	4.9	0.98
Anthracene	1.3 J	4.9	0.98
Fluoranthene	11	4.9	0.98
Pyrene	17	4.9	0.98
Benzo(a)anthracene	6.5	4.9	0.98
Chrysene	17	4.9	0.98
Benzo(b)fluoranthene	21	4.9	0.98
Benzo(k)fluoranthene	4.2 J	4.9	0.98
Benzo(a)pyrene	11	4.9	0.98
Indeno(1,2,3-cd)pyrene	7.9	4.9	0.98
Dibenz(a,h)anthracene	2.4 J	4.9	0.98
Benzo(g,h,i)perylene	12	4.9	0.98

Surrogate	%REC	Limits
Nitrobenzene-d5	108	43-120
2-Fluorobiphenyl	75	36-120
Terphenyl-d14	82	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: E8-9.5	Batch#: 264940
Lab ID: 304507-011	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: ug/Kg	Prepared: 10/29/18
Basis: as received	Analyzed: 11/07/18
Diln Fac: 3.000	

Analyte	Result	RL	MDL
Naphthalene	3.8 J	15	3.0
Acenaphthylene	3.0 J	15	3.0
Acenaphthene	ND	15	3.0
Fluorene	ND	15	3.0
Phenanthrene	24	15	3.0
Anthracene	3.7 J	15	3.0
Fluoranthene	36	15	3.0
Pyrene	47	15	3.0
Benzo(a)anthracene	15 J	15	3.0
Chrysene	26	15	3.0
Benzo(b)fluoranthene	39	15	3.0
Benzo(k)fluoranthene	10 J	15	3.0
Benzo(a)pyrene	22	15	3.0
Indeno(1,2,3-cd)pyrene	20	15	3.0
Dibenz(a,h)anthracene	4.2 J	15	3.0
Benzo(g,h,i)perylene	27	15	3.0

Surrogate	%REC	Limits
Nitrobenzene-d5	114	43-120
2-Fluorobiphenyl	86	36-120
Terphenyl-d14	93	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	E8-6.0	Batch#:	265085
Lab ID:	304507-012	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/01/18
Basis:	as received	Analyzed:	11/08/18
Diln Fac:	5.000		

Analyte	Result	RL	MDL
Naphthalene	5.1 J	25	5.0
Acenaphthylene	ND	25	5.0
Acenaphthene	ND	25	5.0
Fluorene	ND	25	5.0
Phenanthrene	9.6 J	25	5.0
Anthracene	ND	25	5.0
Fluoranthene	16 J	25	5.0
Pyrene	23 J	25	5.0
Benzo(a)anthracene	8.9 J	25	5.0
Chrysene	13 J	25	5.0
Benzo(b)fluoranthene	19 J	25	5.0
Benzo(k)fluoranthene	5.3 J	25	5.0
Benzo(a)pyrene	15 J	25	5.0
Indeno(1,2,3-cd)pyrene	9.6 J	25	5.0
Dibenz(a,h)anthracene	ND	25	5.0
Benzo(g,h,i)perylene	16 J	25	5.0

Surrogate	%REC	Limits
Nitrobenzene-d5	94	43-120
2-Fluorobiphenyl	78	36-120
Terphenyl-d14	86	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	D8-9.0	Batch#:	265085
Lab ID:	304507-013	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/01/18
Basis:	as received	Analyzed:	11/08/18
Diln Fac:	2.000		

Analyte	Result	RL	MDL
Naphthalene	3.7 J	10	2.0
Acenaphthylene	ND	10	2.0
Acenaphthene	ND	10	2.0
Fluorene	ND	10	2.0
Phenanthrene	10	10	2.0
Anthracene	ND	10	2.0
Fluoranthene	15	10	2.0
Pyrene	19	10	2.0
Benzo(a)anthracene	6.5 J	10	2.0
Chrysene	11	10	2.0
Benzo(b)fluoranthene	17	10	2.0
Benzo(k)fluoranthene	3.8 J	10	2.0
Benzo(a)pyrene	10 J	10	2.0
Indeno(1,2,3-cd)pyrene	10 J	10	2.0
Dibenz(a,h)anthracene	2.0 J	10	2.0
Benzo(g,h,i)perylene	15	10	2.0

Surrogate	%REC	Limits
Nitrobenzene-d5	91	43-120
2-Fluorobiphenyl	67	36-120
Terphenyl-d14	79	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	D8-5.5	Batch#:	265085
Lab ID:	304507-014	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/01/18
Basis:	as received	Analyzed:	11/08/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Naphthalene	1.4 J	5.0	1.0
Acenaphthylene	1.0 J	5.0	1.0
Acenaphthene	ND	5.0	1.0
Fluorene	1.0 J	5.0	1.0
Phenanthrene	9.2	5.0	1.0
Anthracene	1.6 J	5.0	1.0
Fluoranthene	11	5.0	1.0
Pyrene	15	5.0	1.0
Benzo(a)anthracene	5.7	5.0	1.0
Chrysene	7.4	5.0	1.0
Benzo(b)fluoranthene	8.4	5.0	1.0
Benzo(k)fluoranthene	2.8 J	5.0	1.0
Benzo(a)pyrene	7.5	5.0	1.0
Indeno(1,2,3-cd)pyrene	4.4 J	5.0	1.0
Dibenz(a,h)anthracene	1.1 J	5.0	1.0
Benzo(g,h,i)perylene	6.5	5.0	1.0

Surrogate	%REC	Limits
Nitrobenzene-d5	87	43-120
2-Fluorobiphenyl	58	36-120
Terphenyl-d14	78	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	C7-9.0	Batch#:	265085
Lab ID:	304507-015	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/01/18
Basis:	as received	Analyzed:	11/08/18
Diln Fac:	5.000		

Analyte	Result	RL	MDL
Naphthalene	6.0 J	25	5.0
Acenaphthylene	ND	25	5.0
Acenaphthene	ND	25	5.0
Fluorene	ND	25	5.0
Phenanthrene	14 J	25	5.0
Anthracene	ND	25	5.0
Fluoranthene	17 J	25	5.0
Pyrene	23 J	25	5.0
Benzo(a)anthracene	8.4 J	25	5.0
Chrysene	13 J	25	5.0
Benzo(b)fluoranthene	22 J	25	5.0
Benzo(k)fluoranthene	ND	25	5.0
Benzo(a)pyrene	13 J	25	5.0
Indeno(1,2,3-cd)pyrene	12 J	25	5.0
Dibenz(a,h)anthracene	ND	25	5.0
Benzo(g,h,i)perylene	19 J	25	5.0

Surrogate	%REC	Limits
Nitrobenzene-d5	89	43-120
2-Fluorobiphenyl	67	36-120
Terphenyl-d14	72	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	C7-6.0	Batch#:	265085
Lab ID:	304507-016	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/01/18
Basis:	as received	Analyzed:	11/08/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Naphthalene	17 J	50	10
Acenaphthylene	ND	50	10
Acenaphthene	ND	50	10
Fluorene	ND	50	10
Phenanthrene	22 J	50	10
Anthracene	ND	50	10
Fluoranthene	21 J	50	10
Pyrene	31 J	50	10
Benzo(a)anthracene	ND	50	10
Chrysene	16 J	50	10
Benzo(b)fluoranthene	23 J	50	10
Benzo(k)fluoranthene	ND	50	10
Benzo(a)pyrene	17 J	50	10
Indeno(1,2,3-cd)pyrene	13 J	50	10
Dibenz(a,h)anthracene	ND	50	10
Benzo(g,h,i)perylene	24 J	50	10

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	B7-8.0	Batch#:	265085
Lab ID:	304507-017	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/01/18
Basis:	as received	Analyzed:	11/08/18
Diln Fac:	5.000		

Analyte	Result	RL	MDL
Naphthalene	6.0 J	25	5.0
Acenaphthylene	ND	25	5.0
Acenaphthene	ND	25	5.0
Fluorene	ND	25	5.0
Phenanthrene	12 J	25	5.0
Anthracene	ND	25	5.0
Fluoranthene	20 J	25	5.0
Pyrene	27	25	5.0
Benzo(a)anthracene	15 J	25	5.0
Chrysene	22 J	25	5.0
Benzo(b)fluoranthene	28	25	5.0
Benzo(k)fluoranthene	8.8 J	25	5.0
Benzo(a)pyrene	16 J	25	5.0
Indeno(1,2,3-cd)pyrene	11 J	25	5.0
Dibenz(a,h)anthracene	ND	25	5.0
Benzo(g,h,i)perylene	16 J	25	5.0

Surrogate	%REC	Limits
Nitrobenzene-d5	98	43-120
2-Fluorobiphenyl	73	36-120
Terphenyl-d14	81	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: B7-6.5	Batch#: 265085
Lab ID: 304507-018	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: ug/Kg	Prepared: 11/01/18
Basis: as received	Analyzed: 11/08/18
Diln Fac: 5.000	

Analyte	Result	RL	MDL
Naphthalene	10 J	25	5.0
Acenaphthylene	ND	25	5.0
Acenaphthene	ND	25	5.0
Fluorene	ND	25	5.0
Phenanthrene	23 J	25	5.0
Anthracene	5.2 J	25	5.0
Fluoranthene	30	25	5.0
Pyrene	45	25	5.0
Benzo(a)anthracene	15 J	25	5.0
Chrysene	22 J	25	5.0
Benzo(b)fluoranthene	32	25	5.0
Benzo(k)fluoranthene	10 J	25	5.0
Benzo(a)pyrene	19 J	25	5.0
Indeno(1,2,3-cd)pyrene	15 J	25	5.0
Dibenz(a,h)anthracene	ND	25	5.0
Benzo(g,h,i)perylene	22 J	25	5.0

Surrogate	%REC	Limits
Nitrobenzene-d5	120	43-120
2-Fluorobiphenyl	91	36-120
Terphenyl-d14	104	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC953403	Batch#:	264940
Matrix:	Soil	Prepared:	10/29/18
Units:	ug/Kg	Analyzed:	11/02/18

Analyte	Result	RL	MDL
Naphthalene	ND	5.0	1.0
Acenaphthylene	ND	5.0	1.0
Acenaphthene	ND	5.0	1.0
Fluorene	ND	5.0	1.0
Phenanthrene	ND	5.0	1.0
Anthracene	ND	5.0	1.0
Fluoranthene	ND	5.0	1.0
Pyrene	ND	5.0	1.0
Benzo(a)anthracene	ND	5.0	1.0
Chrysene	ND	5.0	1.0
Benzo(b)fluoranthene	ND	5.0	1.0
Benzo(k)fluoranthene	ND	5.0	1.0
Benzo(a)pyrene	ND	5.0	1.0
Indeno(1,2,3-cd)pyrene	ND	5.0	1.0
Dibenz(a,h)anthracene	ND	5.0	1.0
Benzo(g,h,i)perylene	ND	5.0	1.0

Surrogate	%REC	Limits
Nitrobenzene-d5	83	43-120
2-Fluorobiphenyl	74	36-120
Terphenyl-d14	82	56-120

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC953404	Batch#:	264940
Matrix:	Soil	Prepared:	10/29/18
Units:	ug/Kg	Analyzed:	11/02/18

Analyte	Spiked	Result	%REC	Limits
Acenaphthene	33.33	26.22	79	54-120
Pyrene	33.33	27.31	82	65-120

Surrogate	%REC	Limits
Nitrobenzene-d5	83	43-120
2-Fluorobiphenyl	72	36-120
Terphenyl-d14	78	56-120

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC954004	Batch#:	265085
Matrix:	Soil	Prepared:	11/01/18
Units:	ug/Kg	Analyzed:	11/05/18

Analyte	Result	RL	MDL
Naphthalene	1.1 J	5.0	1.0
Acenaphthylene	ND	5.0	1.0
Acenaphthene	ND	5.0	1.0
Fluorene	ND	5.0	1.0
Phenanthrene	ND	5.0	1.0
Anthracene	ND	5.0	1.0
Fluoranthene	ND	5.0	1.0
Pyrene	ND	5.0	1.0
Benzo(a)anthracene	ND	5.0	1.0
Chrysene	ND	5.0	1.0
Benzo(b)fluoranthene	ND	5.0	1.0
Benzo(k)fluoranthene	ND	5.0	1.0
Benzo(a)pyrene	ND	5.0	1.0
Indeno(1,2,3-cd)pyrene	ND	5.0	1.0
Dibenz(a,h)anthracene	ND	5.0	1.0
Benzo(g,h,i)perylene	ND	5.0	1.0

Surrogate	%REC	Limits
Nitrobenzene-d5	88	43-120
2-Fluorobiphenyl	77	36-120
Terphenyl-d14	78	56-120

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC954005	Batch#:	265085
Matrix:	Soil	Prepared:	11/01/18
Units:	ug/Kg	Analyzed:	11/05/18

Analyte	Spiked	Result	%REC	Limits
Acenaphthene	33.33	27.92	84	54-120
Pyrene	33.33	28.01	84	65-120

Surrogate	%REC	Limits
Nitrobenzene-d5	97	43-120
2-Fluorobiphenyl	79	36-120
Terphenyl-d14	79	56-120

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	D7-9.0	Batch#:	264958
Lab ID:	304507-001	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.10
beta-BHC	0.22 C J	1.1	0.11
gamma-BHC	ND	1.1	0.12
delta-BHC	ND	1.1	0.079
Heptachlor	ND	1.1	0.079
Aldrin	ND	1.1	0.060
Heptachlor epoxide	0.22 J	1.1	0.084
Endosulfan I	ND	1.1	0.11
Dieldrin	0.59 C J	2.2	0.079
4,4'-DDE	2.1 C J	2.2	0.079
Endrin	0.34 C J	2.2	0.066
Endosulfan II	ND	2.2	0.079
Endosulfan sulfate	0.51 C J	2.2	0.073
4,4'-DDD	1.5 J	2.2	0.079
Endrin aldehyde	0.69 C J	2.2	0.68
4,4'-DDT	0.50 C J	2.2	0.089
alpha-Chlordane	0.16 C J	1.1	0.14
gamma-Chlordane	ND	1.1	0.14
Methoxychlor	ND	11	1.5
Toxaphene	ND	39	13

Surrogate	%REC	Limits
TCMX	81	28-136
Decachlorobiphenyl	61	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	D7-6.0	Batch#:	264958
Lab ID:	304507-002	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.099
beta-BHC	0.20 C J	1.1	0.11
gamma-BHC	ND	1.1	0.079
delta-BHC	0.20 C J	1.1	0.078
Heptachlor	ND	1.1	0.078
Aldrin	ND	1.1	0.060
Heptachlor epoxide	0.44 C J	1.1	0.076
Endosulfan I	ND	1.1	0.078
Dieldrin	1.8 C J	2.2	0.078
4,4'-DDE	3.0 #	2.2	0.078
Endrin	0.29 C J	2.2	0.065
Endosulfan II	ND	2.2	0.078
Endosulfan sulfate	0.90 J	2.2	0.17
4,4'-DDD	7.5 #	2.2	0.078
Endrin aldehyde	0.79 C J	2.2	0.67
4,4'-DDT	ND	2.2	0.33
alpha-Chlordane	0.36 C J	1.1	0.14
gamma-Chlordane	0.79 C J	1.1	0.13
Methoxychlor	ND	11	1.5
Toxaphene	ND	39	13

Surrogate	%REC	Limits
TCMX	82	28-136
Decachlorobiphenyl	79	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	D7-4.0	Batch#:	265222
Lab ID:	304507-003	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/06/18
Basis:	as received	Analyzed:	11/07/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620

Analyte	Result	RL	MDL
alpha-BHC	0.17 J	1.1	0.091
beta-BHC	0.35 C J	1.1	0.12
gamma-BHC	ND	1.1	0.082
delta-BHC	ND	1.1	0.081
Heptachlor	ND	1.1	0.12
Aldrin	0.20 C J	1.1	0.095
Heptachlor epoxide	0.53 C J	1.1	0.079
Endosulfan I	0.26 C J	1.1	0.11
Dieldrin	ND	2.3	0.081
4,4'-DDE	0.26 J	2.3	0.10
Endrin	ND	2.3	0.068
Endosulfan II	ND	2.3	0.081
Endosulfan sulfate	0.22 C J	2.3	0.076
4,4'-DDD	ND	2.3	0.081
Endrin aldehyde	ND	2.3	0.60
4,4'-DDT	ND	2.3	0.092
alpha-Chlordane	ND	1.1	0.18
gamma-Chlordane	ND #	1.1	0.11
Methoxychlor	ND	11	1.6
Toxaphene	ND	41	14

Surrogate	%REC	Limits
TCMX	75	28-136
Decachlorobiphenyl	69	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	D7-2.5	Batch#:	264958
Lab ID:	304507-004	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.098
beta-BHC	ND	1.1	0.063
gamma-BHC	ND	1.1	0.079
delta-BHC	ND	1.1	0.15
Heptachlor	ND	1.1	0.078
Aldrin	ND	1.1	0.091
Heptachlor epoxide	ND	1.1	0.083
Endosulfan I	ND	1.1	0.10
Dieldrin	0.12 C J	2.2	0.078
4,4'-DDE	2.7 #	2.2	0.078
Endrin	ND	2.2	0.065
Endosulfan II	ND	2.2	0.078
Endosulfan sulfate	0.17 C J	2.2	0.17
4,4'-DDD	5.3 #	2.2	0.078
Endrin aldehyde	ND	2.2	0.57
4,4'-DDT	0.52 C J	2.2	0.088
alpha-Chlordane	ND	1.1	0.17
gamma-Chlordane	ND	1.1	0.13
Methoxychlor	ND	11	1.5
Toxaphene	ND	39	13

Surrogate	%REC	Limits
TCMX	51	28-136
Decachlorobiphenyl	44	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	D6-8.0	Batch#:	264958
Lab ID:	304507-005	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.099
beta-BHC	0.41 J	1.1	0.11
gamma-BHC	ND	1.1	0.079
delta-BHC	ND	1.1	0.078
Heptachlor	ND	1.1	0.078
Aldrin	ND	1.1	0.092
Heptachlor epoxide	ND	1.1	0.083
Endosulfan I	ND	1.1	0.078
Dieldrin	ND	2.2	0.078
4,4'-DDE	0.30 C J	2.2	0.078
Endrin	ND	2.2	0.20
Endosulfan II	0.14 C J	2.2	0.078
Endosulfan sulfate	ND	2.2	0.073
4,4'-DDD	ND	2.2	0.15
Endrin aldehyde	ND	2.2	0.58
4,4'-DDT	0.22 C J	2.2	0.088
alpha-Chlordane	ND	1.1	0.14
gamma-Chlordane	ND	1.1	0.13
Methoxychlor	ND	11	1.5
Toxaphene	ND	39	13

Surrogate	%REC	Limits
TCMX	89	28-136
Decachlorobiphenyl	91	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	D6-6.0	Batch#:	264958
Lab ID:	304507-006	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.10
beta-BHC	0.30 J	1.1	0.11
gamma-BHC	ND	1.1	0.080
delta-BHC	ND	1.1	0.079
Heptachlor	ND	1.1	0.079
Aldrin	ND	1.1	0.093
Heptachlor epoxide	0.11 C J	1.1	0.076
Endosulfan I	ND	1.1	0.079
Dieldrin	ND	2.2	0.079
4,4'-DDE	ND	2.2	0.098
Endrin	ND	2.2	0.066
Endosulfan II	ND	2.2	0.079
Endosulfan sulfate	ND	2.2	0.18
4,4'-DDD	ND	2.2	0.15
Endrin aldehyde	ND	2.2	0.58
4,4'-DDT	ND	2.2	0.33
alpha-Chlordane	ND	1.1	0.14
gamma-Chlordane	ND	1.1	0.11
Methoxychlor	ND	11	1.5
Toxaphene	ND	40	13

Surrogate	%REC	Limits
TCMX	90	28-136
Decachlorobiphenyl	84	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	E7-9.5	Batch#:	264958
Lab ID:	304507-007	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.099
beta-BHC	ND	1.1	0.11
gamma-BHC	ND	1.1	0.079
delta-BHC	0.30 J	1.1	0.078
Heptachlor	ND	1.1	0.078
Aldrin	ND	1.1	0.092
Heptachlor epoxide	0.21 C J	1.1	0.076
Endosulfan I	ND	1.1	0.11
Dieldrin	0.69 C J	2.2	0.078
4,4'-DDE	2.4 #	2.2	0.078
Endrin	0.24 C J	2.2	0.065
Endosulfan II	ND	2.2	0.078
Endosulfan sulfate	0.44 C J	2.2	0.073
4,4'-DDD	1.8 J	2.2	0.078
Endrin aldehyde	ND	2.2	0.67
4,4'-DDT	0.84 C J	2.2	0.088
alpha-Chlordane	0.52 C J	1.1	0.14
gamma-Chlordane	ND	1.1	0.13
Methoxychlor	ND	11	1.5
Toxaphene	ND	39	13

Surrogate	%REC	Limits
TCMX	46	28-136
Decachlorobiphenyl	47	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	E7-7.0	Batch#:	264958
Lab ID:	304507-008	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.099
beta-BHC	ND	1.1	0.11
gamma-BHC	ND	1.1	0.080
delta-BHC	ND	1.1	0.079
Heptachlor	ND	1.1	0.079
Aldrin	ND	1.1	0.060
Heptachlor epoxide	ND	1.1	0.076
Endosulfan I	ND	1.1	0.079
Dieldrin	0.079 C J	2.2	0.079
4,4'-DDE	0.23 J	2.2	0.079
Endrin	ND	2.2	0.065
Endosulfan II	ND	2.2	0.079
Endosulfan sulfate	ND	2.2	0.073
4,4'-DDD	ND	2.2	0.15
Endrin aldehyde	ND	2.2	0.58
4,4'-DDT	ND	2.2	0.33
alpha-Chlordane	ND	1.1	0.18
gamma-Chlordane	ND	1.1	0.11
Methoxychlor	ND	11	1.5
Toxaphene	ND	39	13

Surrogate	%REC	Limits
TCMX	37	28-136
Decachlorobiphenyl	42	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	E7-5.0	Batch#:	264958
Lab ID:	304507-009	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.10
beta-BHC	0.14 C J	1.1	0.064
gamma-BHC	ND	1.1	0.081
delta-BHC	0.13 C J	1.1	0.080
Heptachlor	ND	1.1	0.12
Aldrin	ND	1.1	0.093
Heptachlor epoxide	0.093 C J	1.1	0.077
Endosulfan I	ND	1.1	0.080
Dieldrin	0.10 C J	2.2	0.080
4,4'-DDE	0.23 C J	2.2	0.099
Endrin	ND	2.2	0.066
Endosulfan II	ND	2.2	0.080
Endosulfan sulfate	ND	2.2	0.18
4,4'-DDD	1.6 C J	2.2	0.15
Endrin aldehyde	ND	2.2	0.59
4,4'-DDT	ND	2.2	0.33
alpha-Chlordane	ND	1.1	0.14
gamma-Chlordane	ND	1.1	0.14
Methoxychlor	ND	11	1.5
Toxaphene	ND	40	13

Surrogate	%REC	Limits
TCMX	87	28-136
Decachlorobiphenyl	81	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	FD-1	Batch#:	264958
Lab ID:	304507-010	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.10
beta-BHC	0.84 J	1.1	0.11
gamma-BHC	ND	1.1	0.081
delta-BHC	ND	1.1	0.16
Heptachlor	ND	1.1	0.12
Aldrin	ND	1.1	0.093
Heptachlor epoxide	ND	1.1	0.077
Endosulfan I	ND	1.1	0.080
Dieldrin	0.13 J	2.2	0.088
4,4'-DDE	1.2 C J	2.2	0.080
Endrin	ND	2.2	0.066
Endosulfan II	ND	2.2	0.080
Endosulfan sulfate	ND	2.2	0.074
4,4'-DDD	0.50 C J	2.2	0.15
Endrin aldehyde	ND	2.2	0.59
4,4'-DDT	ND	2.2	0.090
alpha-Chlordane	ND	1.1	0.14
gamma-Chlordane	ND	1.1	0.14
Methoxychlor	ND	11	1.5
Toxaphene	ND	40	13

Surrogate	%REC	Limits
TCMX	102	28-136
Decachlorobiphenyl	91	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	E8-9.5	Batch#:	264958
Lab ID:	304507-011	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.099
beta-BHC	ND	1.1	0.11
gamma-BHC	ND	1.1	0.079
delta-BHC	ND	1.1	0.078
Heptachlor	ND	1.1	0.078
Aldrin	ND	1.1	0.060
Heptachlor epoxide	0.25 C J	1.1	0.076
Endosulfan I	ND	1.1	0.078
Dieldrin	0.92 C J	2.2	0.078
4,4'-DDE	2.7 #	2.2	0.078
Endrin	0.41 C J	2.2	0.065
Endosulfan II	ND	2.2	0.078
Endosulfan sulfate	0.42 C J	2.2	0.073
4,4'-DDD	2.5 #	2.2	0.078
Endrin aldehyde	ND	2.2	0.58
4,4'-DDT	1.6 C J	2.2	0.088
alpha-Chlordane	0.56 C J	1.1	0.14
gamma-Chlordane	ND	1.1	0.13
Methoxychlor	ND	11	1.5
Toxaphene	ND	39	13

Surrogate	%REC	Limits
TCMX	64	28-136
Decachlorobiphenyl	66	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	E8-6.0	Batch#:	264958
Lab ID:	304507-012	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.10
beta-BHC	0.59 C J	1.1	0.064
gamma-BHC	ND	1.1	0.080
delta-BHC	0.43 C J	1.1	0.079
Heptachlor	ND	1.1	0.079
Aldrin	0.15 C J	1.1	0.061
Heptachlor epoxide	0.22 C J	1.1	0.077
Endosulfan I	ND	1.1	0.079
Dieldrin	0.12 C J	2.2	0.079
4,4'-DDE	3.1 #	2.2	0.079
Endrin	ND	2.2	0.066
Endosulfan II	ND	2.2	0.079
Endosulfan sulfate	ND	2.2	0.18
4,4'-DDD	7.2 #	2.2	0.079
Endrin aldehyde	ND	2.2	0.58
4,4'-DDT	1.4 C J	2.2	0.089
alpha-Chlordane	0.32 C J	1.1	0.14
gamma-Chlordane	ND	1.1	0.14
Methoxychlor	ND	11	1.5
Toxaphene	ND	40	13

Surrogate	%REC	Limits
TCMX	82	28-136
Decachlorobiphenyl	66	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	D8-9.0	Batch#:	265002
Lab ID:	304507-013	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/30/18
Basis:	as received	Analyzed:	10/31/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.099
beta-BHC	ND	1.1	0.063
gamma-BHC	ND	1.1	0.079
delta-BHC	ND	1.1	0.078
Heptachlor	ND	1.1	0.078
Aldrin	ND	1.1	0.060
Heptachlor epoxide	0.078 C J	1.1	0.076
Endosulfan I	ND	1.1	0.078
Dieldrin	0.60 C J	2.2	0.078
4,4'-DDE	1.8 J	2.2	0.078
Endrin	0.16 C J	2.2	0.065
Endosulfan II	ND	2.2	0.078
Endosulfan sulfate	ND	2.2	0.17
4,4'-DDD	1.2 J	2.2	0.078
Endrin aldehyde	ND	2.2	0.67
4,4'-DDT	1.2 C J	2.2	0.088
alpha-Chlordane	0.65 C J	1.1	0.18
gamma-Chlordane	ND	1.1	0.13
Methoxychlor	ND	11	1.5
Toxaphene	ND	39	13

Surrogate	%REC	Limits
TCMX	63	28-136
Decachlorobiphenyl	82	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	D8-5.5	Batch#:	265002
Lab ID:	304507-014	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/30/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.099
beta-BHC	1.8	1.1	0.063
gamma-BHC	0.12 C J	1.1	0.12
delta-BHC	ND	1.1	0.15
Heptachlor	ND	1.1	0.12
Aldrin	ND	1.1	0.092
Heptachlor epoxide	ND	1.1	0.084
Endosulfan I	ND	1.1	0.079
Dieldrin	0.090 C J	2.2	0.079
4,4'-DDE	0.54 C J	2.2	0.098
Endrin	ND	2.2	0.20
Endosulfan II	ND	2.2	0.079
Endosulfan sulfate	ND	2.2	0.073
4,4'-DDD	0.30 J	2.2	0.079
Endrin aldehyde	ND	2.2	0.58
4,4'-DDT	ND	2.2	0.089
alpha-Chlordane	ND	1.1	0.18
gamma-Chlordane	ND	1.1	0.14
Methoxychlor	ND	11	1.5
Toxaphene	ND	39	13

Surrogate	%REC	Limits
TCMX	74	28-136
Decachlorobiphenyl	74	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	C7-9.0	Batch#:	265002
Lab ID:	304507-015	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/30/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.098
beta-BHC	0.58 C J	1.1	0.11
gamma-BHC	ND	1.1	0.079
delta-BHC	0.13 C J	1.1	0.078
Heptachlor	ND	1.1	0.078
Aldrin	ND	1.1	0.060
Heptachlor epoxide	0.16 C J	1.1	0.075
Endosulfan I	ND	1.1	0.11
Dieldrin	0.60 C J	2.2	0.078
4,4'-DDE	1.4 C J	2.2	0.078
Endrin	0.27 J	2.2	0.20
Endosulfan II	ND	2.2	0.078
Endosulfan sulfate	ND	2.2	0.17
4,4'-DDD	0.74 C J	2.2	0.15
Endrin aldehyde	ND	2.2	0.57
4,4'-DDT	0.53 C J	2.2	0.088
alpha-Chlordane	ND	1.1	0.14
gamma-Chlordane	ND	1.1	0.13
Methoxychlor	ND	11	1.5
Toxaphene	ND	39	13

Surrogate	%REC	Limits
TCMX	62	28-136
Decachlorobiphenyl	48	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	C7-6.0	Batch#:	265002
Lab ID:	304507-016	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/30/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	2.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	2.2	0.20
beta-BHC	0.34 C J	2.2	0.22
gamma-BHC	ND	2.2	0.16
delta-BHC	ND	2.2	0.16
Heptachlor	ND	2.2	0.16
Aldrin	ND	2.2	0.12
Heptachlor epoxide	0.44 C J	2.2	0.15
Endosulfan I	ND	2.2	0.16
Dieldrin	0.89 C J	4.4	0.16
4,4'-DDE	3.0 J	4.4	0.16
Endrin	ND	4.4	0.41
Endosulfan II	ND	4.4	0.16
Endosulfan sulfate	ND	4.4	0.15
4,4'-DDD	5.9 #	4.4	0.16
Endrin aldehyde	ND	4.4	1.2
4,4'-DDT	1.7 C J	4.4	0.18
alpha-Chlordane	0.63 C J	2.2	0.28
gamma-Chlordane	ND	2.2	0.27
Methoxychlor	ND	22	3.0
Toxaphene	ND	79	26

Surrogate	%REC	Limits
TCMX	91	28-136
Decachlorobiphenyl	81	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	B7-8.0	Batch#:	265002
Lab ID:	304507-017	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/30/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.099
beta-BHC	ND	1.1	0.063
gamma-BHC	ND	1.1	0.079
delta-BHC	0.19 C J	1.1	0.078
Heptachlor	ND	1.1	0.078
Aldrin	ND	1.1	0.060
Heptachlor epoxide	0.14 C J	1.1	0.083
Endosulfan I	ND	1.1	0.078
Dieldrin	0.45 C J	2.2	0.078
4,4'-DDE	1.8 C J	2.2	0.078
Endrin	0.33 C J	2.2	0.065
Endosulfan II	ND	2.2	0.078
Endosulfan sulfate	ND	2.2	0.17
4,4'-DDD	1.5 J	2.2	0.078
Endrin aldehyde	ND	2.2	0.58
4,4'-DDT	0.12 C J	2.2	0.088
alpha-Chlordane	ND	1.1	0.14
gamma-Chlordane	ND	1.1	0.13
Methoxychlor	ND	11	1.5
Toxaphene	ND	39	13

Surrogate	%REC	Limits
TCMX	75	28-136
Decachlorobiphenyl	70	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	B7-6.5	Batch#:	265002
Lab ID:	304507-018	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/30/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.098
beta-BHC	0.48 C J	1.1	0.11
gamma-BHC	ND	1.1	0.078
delta-BHC	0.23 C J	1.1	0.077
Heptachlor	ND	1.1	0.077
Aldrin	ND	1.1	0.091
Heptachlor epoxide	0.089 C J	1.1	0.075
Endosulfan I	ND	1.1	0.077
Dieldrin	0.67 C J	2.2	0.077
4,4'-DDE	4.0	2.2	0.096
Endrin	0.71 C J	2.2	0.20
Endosulfan II	ND	2.2	0.077
Endosulfan sulfate	0.96 J	2.2	0.072
4,4'-DDD	0.91 C J	2.2	0.077
Endrin aldehyde	ND	2.2	0.57
4,4'-DDT	ND	2.2	0.33
alpha-Chlordane	0.22 C J	1.1	0.14
gamma-Chlordane	ND	1.1	0.13
Methoxychlor	ND	11	1.5
Toxaphene	ND	39	13

Surrogate	%REC	Limits
TCMX	76	28-136
Decachlorobiphenyl	69	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Organochlorine Pesticides		
Lab #:	304507	Location: Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep: EPA 3546
Project#:	1116.09	Analysis: EPA 8081A
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC953476	Batch#: 264958
Matrix:	Soil	Prepared: 10/29/18
Units:	ug/Kg	Analyzed: 10/31/18

Cleanup Method: EPA 3620B

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	10.00	10.96	110	45-141
Heptachlor	10.00	10.65	106	43-144
Aldrin	10.00	10.95	110	43-137
Dieldrin	10.00	11.04 #	110	51-149
Endrin	10.00	12.06 #	121	40-165
4,4'-DDT	10.00	12.07	121	50-145

Surrogate	%REC	Limits
TCMX	78	28-136
Decachlorobiphenyl	94	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

Batch QC Report

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC953521	Batch#:	264958
Matrix:	Soil	Prepared:	10/29/18
Units:	ug/Kg	Analyzed:	10/31/18

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.83	0.076
beta-BHC	ND	0.83	0.048
gamma-BHC	ND	0.83	0.061
delta-BHC	ND	0.83	0.060
Heptachlor	ND	0.83	0.060
Aldrin	ND	0.83	0.046
Heptachlor epoxide	ND	0.83	0.058
Endosulfan I	ND	0.83	0.060
Dieldrin	ND	1.7	0.060
4,4'-DDE	ND	1.7	0.060
Endrin	ND	1.7	0.050
Endosulfan II	ND	1.7	0.060
Endosulfan sulfate	ND	1.7	0.056
4,4'-DDD	ND	1.7	0.060
Endrin aldehyde	ND	1.7	0.44
4,4'-DDT	ND	1.7	0.068
alpha-Chlordane	ND	0.83	0.13
gamma-Chlordane	ND	0.83	0.083
Methoxychlor	ND	8.3	1.1
Toxaphene	ND	30	10

Surrogate	%REC	Limits
TCMX	95	28-136
Decachlorobiphenyl	85	41-142

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC953661	Batch#:	265002
Matrix:	Soil	Prepared:	10/30/18
Units:	ug/Kg	Analyzed:	10/31/18

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.83	0.076
beta-BHC	ND	0.83	0.048
gamma-BHC	ND	0.83	0.061
delta-BHC	ND	0.83	0.060
Heptachlor	ND	0.83	0.060
Aldrin	ND	0.83	0.046
Heptachlor epoxide	ND	0.83	0.058
Endosulfan I	ND	0.83	0.060
Dieldrin	ND	1.7	0.060
4,4'-DDE	ND	1.7	0.060
Endrin	ND	1.7	0.050
Endosulfan II	ND	1.7	0.060
Endosulfan sulfate	ND	1.7	0.056
4,4'-DDD	ND	1.7	0.060
Endrin aldehyde	ND	1.7	0.44
4,4'-DDT	ND	1.7	0.068
alpha-Chlordane	ND	0.83	0.13
gamma-Chlordane	ND	0.83	0.083
Methoxychlor	ND	8.3	1.1
Toxaphene	ND	30	10

Surrogate	%REC	Limits
TCMX	77	28-136
Decachlorobiphenyl	92	41-142

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Organochlorine Pesticides		
Lab #:	304507	Location: Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep: EPA 3546
Project#:	1116.09	Analysis: EPA 8081A
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC953662	Batch#: 265002
Matrix:	Soil	Prepared: 10/30/18
Units:	ug/Kg	Analyzed: 10/31/18

Cleanup Method: EPA 3620B

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	10.00	10.79	108	45-141
Heptachlor	10.00	10.51	105	43-144
Aldrin	10.00	10.25	102	43-137
Dieldrin	10.00	10.97	110	51-149
Endrin	10.00	11.70 #	117	40-165
4,4'-DDT	10.00	12.49	125	50-145

Surrogate	%REC	Limits
TCMX	80	28-136
Decachlorobiphenyl	93	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

Batch QC Report

Organochlorine Pesticides					
Lab #:	304507	Location:	Corte Madera Ecological Reserve		
Client:	Northgate Environmental Management	Prep:	EPA 3546		
Project#:	1116.09	Analysis:	EPA 8081A		
Field ID:	D8-9.0	Batch#:	265002		
MSS Lab ID:	304507-013	Sampled:	10/24/18		
Matrix:	Soil	Received:	10/24/18		
Units:	ug/Kg	Prepared:	10/30/18		
Basis:	as received	Analyzed:	10/31/18		
Diln Fac:	1.000				

Type: MS Cleanup Method: EPA 3620B
 Lab ID: QC953663

Analyte	MSS Result	Spiked	Result	%REC	Limits
gamma-BHC	<0.07939	13.18	10.77	82	50-135
Heptachlor	<0.07843	13.18	10.21	77	46-138
Aldrin	<0.06002	13.18	10.42	79	45-136
Dieldrin	0.6028	13.18	10.83	78	41-150
Endrin	0.1610	13.18	11.69 #	87	44-167
4,4'-DDT	1.226	13.18	13.20	91	41-148

Surrogate	%REC	Limits
TCMX	57	28-136
Decachlorobiphenyl	56	41-142

Type: MSD Cleanup Method: EPA 3620B
 Lab ID: QC953664

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
gamma-BHC	13.07	12.36	95	50-135	15	43
Heptachlor	13.07	11.51	88	46-138	13	47
Aldrin	13.07	11.72	90	45-136	13	42
Dieldrin	13.07	12.28	89	41-150	13	60
Endrin	13.07	13.40 #	101	44-167	14	56
4,4'-DDT	13.07	15.04	106	41-148	14	52

Surrogate	%REC	Limits
TCMX	70	28-136
Decachlorobiphenyl	64	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements
 RPD= Relative Percent Difference

Batch QC Report

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC954589	Batch#:	265222
Matrix:	Soil	Prepared:	11/06/18
Units:	ug/Kg	Analyzed:	11/07/18

Cleanup Method: EPA 3620

Analyte	Result	RL	MDL
alpha-BHC	ND	0.83	0.076
beta-BHC	ND	0.83	0.048
gamma-BHC	ND	0.83	0.061
delta-BHC	ND	0.83	0.060
Heptachlor	ND #	0.83	0.060
Aldrin	ND	0.83	0.046
Heptachlor epoxide	ND	0.83	0.058
Endosulfan I	0.69 C J	0.83	0.060
Dieldrin	ND	1.7	0.060
4,4'-DDE	ND	1.7	0.060
Endrin	ND	1.7	0.050
Endosulfan II	ND	1.7	0.060
Endosulfan sulfate	ND	1.7	0.056
4,4'-DDD	ND	1.7	0.060
Endrin aldehyde	ND	1.7	0.44
4,4'-DDT	ND	1.7	0.068
alpha-Chlordane	ND	0.83	0.13
gamma-Chlordane	ND #	0.83	0.083
Methoxychlor	ND	8.3	1.1
Toxaphene	ND	30	10

Surrogate	%REC	Limits
TCMX	71	28-136
Decachlorobiphenyl	65	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Organochlorine Pesticides		
Lab #:	304507	Location: Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep: EPA 3546
Project#:	1116.09	Analysis: EPA 8081A
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC954590	Batch#: 265222
Matrix:	Soil	Prepared: 11/06/18
Units:	ug/Kg	Analyzed: 11/07/18

Cleanup Method: EPA 3620

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	10.00	6.913	69	45-141
Heptachlor	10.00	6.450 #	64	43-144
Aldrin	10.00	6.910	69	43-137
Dieldrin	10.00	7.072 #	71	51-149
Endrin	10.00	7.756 #	78	40-165
4,4'-DDT	10.00	7.801 #	78	50-145

Surrogate	%REC	Limits
TCMX	45	28-136
Decachlorobiphenyl	48	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

Batch QC Report

Organochlorine Pesticides			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	D7-4.0	Batch#:	265222
MSS Lab ID:	304507-003	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/06/18
Basis:	as received	Analyzed:	11/07/18
Diln Fac:	1.000		

Type: MS Cleanup Method: EPA 3620
 Lab ID: QC954591

Analyte	MSS Result	Spiked	Result	%REC	Limits
gamma-BHC	<0.08230	13.70	10.63	78	50-135
Heptachlor	<0.1242	13.70	8.429 #	62	46-138
Aldrin	0.2006	13.70	12.03	86	45-136
Dieldrin	<0.08130	13.70	11.80 #	86	41-150
Endrin	<0.06759	13.70	12.64 #	92	44-167
4,4'-DDT	<0.09170	13.70	9.809 #	72	41-148

Surrogate	%REC	Limits
TCMX	64	28-136
Decachlorobiphenyl	63	41-142

Type: MSD Cleanup Method: EPA 3620
 Lab ID: QC954592

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
gamma-BHC	13.55	10.95	81	50-135	4	43
Heptachlor	13.55	8.543 #	63	46-138	2	47
Aldrin	13.55	11.26	82	45-136	5	42
Dieldrin	13.55	11.23 #	83	41-150	4	60
Endrin	13.55	12.98 #	96	44-167	4	56
4,4'-DDT	13.55	9.606 #	71	41-148	1	52

Surrogate	%REC	Limits
TCMX	67	28-136
Decachlorobiphenyl	53	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements
 RPD= Relative Percent Difference

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: as received	Received: 10/24/18

Field ID: D7-9.0	Prepared: 10/29/18
Type: SAMPLE	Analyzed: 10/31/18
Lab ID: 304507-001	Cleanup Method: EPA 3620B
Batch#: 264958	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.4
Aroclor-1221	ND	24	7.6
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	3.9
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.3
Aroclor-1260	ND	12	3.2

Surrogate	%REC	Limits
Decachlorobiphenyl	70	37-170

Field ID: D7-6.0	Prepared: 10/29/18
Type: SAMPLE	Analyzed: 10/31/18
Lab ID: 304507-002	Cleanup Method: EPA 3620B
Batch#: 264958	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.3
Aroclor-1221	ND	24	7.5
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	3.8
Aroclor-1248	ND	12	1.6
Aroclor-1254	36	12	3.3
Aroclor-1260	11 J	12	3.1

Surrogate	%REC	Limits
Decachlorobiphenyl	99	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: as received	Received: 10/24/18

Field ID: D7-4.0	Prepared: 11/02/18
Type: SAMPLE	Analyzed: 11/02/18
Lab ID: 304507-003	Cleanup Method: EPA 3620B
Batch#: 265127	

Analyte	Result	RL	MDL
Aroclor-1016	ND	8.1	1.4
Aroclor-1221	ND	16	2.2
Aroclor-1232	ND	8.1	1.9
Aroclor-1242	ND	8.1	2.5
Aroclor-1248	ND	8.1	2.6
Aroclor-1254	ND	8.1	1.4
Aroclor-1260	ND	8.1	1.8

Surrogate	%REC	Limits
Decachlorobiphenyl	60	37-170

Field ID: D7-2.5	Prepared: 10/29/18
Type: SAMPLE	Analyzed: 10/31/18
Lab ID: 304507-004	Cleanup Method: EPA 3620B
Batch#: 264958	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.3
Aroclor-1221	ND	24	7.4
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	3.8
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.3
Aroclor-1260	ND	12	3.1

Surrogate	%REC	Limits
Decachlorobiphenyl	56	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: as received	Received: 10/24/18

Field ID: D6-8.0	Prepared: 10/29/18
Type: SAMPLE	Analyzed: 10/31/18
Lab ID: 304507-005	Cleanup Method: EPA 3620B
Batch#: 264958	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.3
Aroclor-1221	ND	24	7.5
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	3.8
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.3
Aroclor-1260	ND	12	3.2

Surrogate	%REC	Limits
Decachlorobiphenyl	124	37-170

Field ID: D6-6.0	Prepared: 10/29/18
Type: SAMPLE	Analyzed: 10/31/18
Lab ID: 304507-006	Cleanup Method: EPA 3620B
Batch#: 264958	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.4
Aroclor-1221	ND	24	7.6
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	3.9
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.3
Aroclor-1260	ND	12	3.2

Surrogate	%REC	Limits
Decachlorobiphenyl	121	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: as received	Received: 10/24/18

Field ID: E7-9.5	Prepared: 10/29/18
Type: SAMPLE	Analyzed: 10/29/18
Lab ID: 304507-007	Cleanup Method: EPA 3620B
Batch#: 264958	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.3
Aroclor-1221	ND	24	7.5
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	3.8
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.3
Aroclor-1260	4.3 J	12	3.1

Surrogate	%REC	Limits
Decachlorobiphenyl	44	37-170

Field ID: E7-7.0	Prepared: 10/29/18
Type: SAMPLE	Analyzed: 10/31/18
Lab ID: 304507-008	Cleanup Method: EPA 3620B
Batch#: 264958	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.3
Aroclor-1221	ND	24	7.5
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	3.8
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.3
Aroclor-1260	ND	12	3.2

Surrogate	%REC	Limits
Decachlorobiphenyl	47	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: as received	Received: 10/24/18

Field ID: E7-5.0	Prepared: 10/29/18
Type: SAMPLE	Analyzed: 10/31/18
Lab ID: 304507-009	Cleanup Method: EPA 3620B
Batch#: 264958	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.4
Aroclor-1221	ND	24	7.6
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	3.9
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.3
Aroclor-1260	ND	12	3.2

Surrogate	%REC	Limits
Decachlorobiphenyl	118	37-170

Field ID: FD-1	Prepared: 10/29/18
Type: SAMPLE	Analyzed: 10/31/18
Lab ID: 304507-010	Cleanup Method: EPA 3620B
Batch#: 264958	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.4
Aroclor-1221	ND	24	7.7
Aroclor-1232	ND	12	3.8
Aroclor-1242	ND	12	3.9
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.3
Aroclor-1260	ND	12	3.2

Surrogate	%REC	Limits
Decachlorobiphenyl	115	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: as received	Received: 10/24/18

Field ID: E8-9.5	Prepared: 10/29/18
Type: SAMPLE	Analyzed: 10/29/18
Lab ID: 304507-011	Cleanup Method: EPA 3620B
Batch#: 264958	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.3
Aroclor-1221	ND	24	7.5
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	3.8
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.3
Aroclor-1260	8.7 J	12	3.2

Surrogate	%REC	Limits
Decachlorobiphenyl	75	37-170

Field ID: E8-6.0	Prepared: 10/29/18
Type: SAMPLE	Analyzed: 10/29/18
Lab ID: 304507-012	Cleanup Method: EPA 3620B
Batch#: 264958	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.4
Aroclor-1221	ND	24	7.6
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	3.9
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.3
Aroclor-1260	ND	12	3.2

Surrogate	%REC	Limits
Decachlorobiphenyl	84	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: as received	Received: 10/24/18

Field ID: D8-9.0	Prepared: 10/30/18
Type: SAMPLE	Analyzed: 11/01/18
Lab ID: 304507-013	Cleanup Method: EPA 3620B
Batch#: 265002	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.3
Aroclor-1221	ND	24	7.5
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	3.8
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.3
Aroclor-1260	5.9 J	12	3.2

Surrogate	%REC	Limits
Decachlorobiphenyl	92	37-170

Field ID: D8-5.5	Prepared: 10/30/18
Type: SAMPLE	Analyzed: 11/01/18
Lab ID: 304507-014	Cleanup Method: EPA 3620B
Batch#: 265002	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.3
Aroclor-1221	ND	24	7.5
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	3.8
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.3
Aroclor-1260	ND	12	3.2

Surrogate	%REC	Limits
Decachlorobiphenyl	91	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: as received	Received: 10/24/18

Field ID: C7-9.0	Prepared: 10/30/18
Type: SAMPLE	Analyzed: 11/01/18
Lab ID: 304507-015	Cleanup Method: EPA 3620B
Batch#: 265002	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.3
Aroclor-1221	ND	24	7.5
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	3.8
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.3
Aroclor-1260	ND	12	3.1

Surrogate	%REC	Limits
Decachlorobiphenyl	42	37-170

Field ID: C7-6.0	Prepared: 10/30/18
Type: SAMPLE	Analyzed: 11/01/18
Lab ID: 304507-016	Cleanup Method: EPA 3620B
Batch#: 265002	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.3
Aroclor-1221	ND	24	7.6
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	3.8
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.3
Aroclor-1260	9.3 J	12	3.2

Surrogate	%REC	Limits
Decachlorobiphenyl	97	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: as received	Received: 10/24/18

Field ID: B7-8.0 Prepared: 10/30/18
 Type: SAMPLE Analyzed: 11/01/18
 Lab ID: 304507-017 Cleanup Method: EPA 3620B
 Batch#: 265002

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.3
Aroclor-1221	ND	24	7.5
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	3.8
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.3
Aroclor-1260	ND	12	3.1

Surrogate	%REC	Limits
Decachlorobiphenyl	70	37-170

Field ID: B7-6.5 Prepared: 10/30/18
 Type: SAMPLE Analyzed: 11/01/18
 Lab ID: 304507-018 Cleanup Method: EPA 3620B
 Batch#: 265002

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.3
Aroclor-1221	ND	24	7.4
Aroclor-1232	ND	12	3.6
Aroclor-1242	ND	12	3.8
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.2
Aroclor-1260	4.2 J	12	3.1

Surrogate	%REC	Limits
Decachlorobiphenyl	86	37-170

Type: BLANK Prepared: 10/29/18
 Lab ID: QC953475 Analyzed: 10/29/18
 Batch#: 264958 Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	3.3
Aroclor-1221	ND	24	5.8
Aroclor-1232	ND	12	2.8
Aroclor-1242	ND	12	2.9
Aroclor-1248	ND	12	1.2
Aroclor-1254	ND	12	2.5
Aroclor-1260	ND	12	2.4

Surrogate	%REC	Limits
Decachlorobiphenyl	95	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304507	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Diln Fac: 1.000
Units: ug/Kg	Sampled: 10/24/18
Basis: as received	Received: 10/24/18

Type: BLANK	Prepared: 10/30/18
Lab ID: QC953661	Analyzed: 11/01/18
Batch#: 265002	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	3.3
Aroclor-1221	ND	24	5.8
Aroclor-1232	ND	12	2.8
Aroclor-1242	ND	12	2.9
Aroclor-1248	ND	12	1.2
Aroclor-1254	ND	12	2.5
Aroclor-1260	ND	12	2.4

Surrogate	%REC	Limits
Decachlorobiphenyl	122	37-170

Type: BLANK	Prepared: 11/02/18
Lab ID: QC954174	Analyzed: 11/02/18
Batch#: 265127	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	8.0	1.4
Aroclor-1221	ND	16	2.2
Aroclor-1232	ND	8.0	1.8
Aroclor-1242	ND	8.0	2.4
Aroclor-1248	ND	8.0	2.6
Aroclor-1254	ND	8.0	1.4
Aroclor-1260	ND	8.0	1.8

Surrogate	%REC	Limits
Decachlorobiphenyl	43	37-170

J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304507	Location:	Corte Madera Ecological Reserve	
Client:	Northgate Environmental Management	Prep:	EPA 3546	
Project#:	1116.09	Analysis:	EPA 8082	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC953479	Batch#:	264958	
Matrix:	Soil	Prepared:	10/29/18	
Units:	ug/Kg	Analyzed:	10/29/18	

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	125.0	116.3	93	59-160
Aroclor-1260	125.0	127.8	102	59-170

Surrogate	%REC	Limits
Decachlorobiphenyl	115	37-170

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8082
Field ID:	E7-9.5	Batch#:	264958
MSS Lab ID:	304507-007	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	10/29/18
Diln Fac:	1.000		

Type: MS Lab ID: QC953480

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<4.318	165.3	157.9	96	73-167
Aroclor-1260	4.271	165.3	150.0	88	57-178

Surrogate	%REC	Limits
Decachlorobiphenyl	70	37-170

Type: MSD Lab ID: QC953481

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	165.5	127.7	77	73-167	21	40
Aroclor-1260	165.5	134.2	79	57-178	11	41

Surrogate	%REC	Limits
Decachlorobiphenyl	62	37-170

RPD= Relative Percent Difference

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304507	Location:	Corte Madera Ecological Reserve	
Client:	Northgate Environmental Management	Prep:	EPA 3546	
Project#:	1116.09	Analysis:	EPA 8082	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC953665	Batch#:	265002	
Matrix:	Soil	Prepared:	10/30/18	
Units:	ug/Kg	Analyzed:	11/01/18	

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	125.0	110.7	89	59-160
Aroclor-1260	125.0	111.3	89	59-170

Surrogate	%REC	Limits
Decachlorobiphenyl	92	37-170

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8082
Field ID:	C7-9.0	Batch#:	265002
MSS Lab ID:	304507-015	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	10/30/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Type: MS Lab ID: QC953666

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<4.290	164.3	158.6	97	73-167
Aroclor-1260	<3.126	164.3	142.8	87	57-178

Surrogate	%REC	Limits
Decachlorobiphenyl	67	37-170

Type: MSD Lab ID: QC953667

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	165.1	125.0	76	73-167	24	40
Aroclor-1260	165.1	107.6	65	57-178	29	41

Surrogate	%REC	Limits
Decachlorobiphenyl	43	37-170

RPD= Relative Percent Difference

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304507	Location:	Corte Madera Ecological Reserve	
Client:	Northgate Environmental Management	Prep:	EPA 3546	
Project#:	1116.09	Analysis:	EPA 8082	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC954175	Batch#:	265127	
Matrix:	Soil	Prepared:	11/02/18	
Units:	ug/Kg	Analyzed:	11/02/18	

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	83.33	68.29	82	59-160
Aroclor-1260	83.33	68.12	82	59-170

Surrogate	%REC	Limits
Decachlorobiphenyl	64	37-170

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: D7-9.0	Basis: as received
Lab ID: 304507-001	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.33 J	2.0	0.040	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	8.2	0.66	0.042	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	51	0.66	0.022	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.43 J	0.66	0.064	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.34 J	0.66	0.10	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	92	0.66	0.18	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	12	0.66	0.11	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	27	0.66	0.17	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	15	0.66	0.078	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.14	0.017	0.0030	1.000		264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.60 J	0.66	0.027	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Nickel	100	0.66	0.16	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.46 J	2.0	0.24	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.31 J	0.66	0.047	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.10 J	0.33	0.086	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	47	0.67	0.22	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	69	2.0	0.67	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: D7-6.0	Basis: as received
Lab ID: 304507-002	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.21 J	2.0	0.038	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	6.9	0.64	0.040	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	38	0.64	0.021	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.35 J	0.64	0.061	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.46 J	0.64	0.10	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	54	0.64	0.17	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	10	0.64	0.10	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	25	0.64	0.16	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	11	0.64	0.075	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.36	0.018	0.0031	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.58 J	0.64	0.026	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Nickel	57	0.64	0.16	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.35 J	2.0	0.23	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.40 J	0.64	0.045	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.13 J	0.32	0.082	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	36	0.65	0.22	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	66	1.9	0.65	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: D7-4.0	Basis: as received
Lab ID: 304507-003	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.28 J	2.0	0.038	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	7.8	0.64	0.040	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	31	0.64	0.021	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.37 J	0.64	0.061	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.48 J	0.64	0.10	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	57	0.64	0.17	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	11	0.64	0.10	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	17	0.64	0.16	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	5.8	0.64	0.075	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.080	0.017	0.0029	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.41 J	0.64	0.026	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Nickel	57	0.64	0.16	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.36 J	2.0	0.23	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.10 J	0.64	0.045	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.15 J	0.32	0.082	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	37	0.65	0.22	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	42	1.9	0.65	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: D7-2.5	Basis: as received
Lab ID: 304507-004	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.11 J	2.0	0.037	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	5.1	0.62	0.039	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	46	0.62	0.020	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.40 J	0.62	0.059	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.27 J	0.62	0.097	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	68	0.62	0.17	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	8.7	0.62	0.10	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	25	0.62	0.16	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	11	0.62	0.072	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.13	0.016	0.0027	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.61 J	0.62	0.025	25.00	264914	10/26/18	10/30/18	EPA 3050B	EPA 6020
Nickel	66	0.62	0.15	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.36 J	2.0	0.22	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.16 J	0.62	0.043	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.087 J	0.31	0.080	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	45	0.63	0.21	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	51	1.9	0.63	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: D6-8.0	Basis: as received
Lab ID: 304507-005	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.0 J	2.0	0.039	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	9.0	0.64	0.040	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	100	0.64	0.021	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.57 J	0.64	0.062	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.44 J	0.64	0.10	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	68	0.64	0.17	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	19	0.64	0.11	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	18	0.64	0.16	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	8.8	0.64	0.075	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.072	0.018	0.0031	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.43 J	0.64	0.026	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Nickel	88	0.64	0.16	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.41 J	2.0	0.23	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.14 J	0.64	0.045	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	ND	0.32	0.083	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	36	0.65	0.22	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	48	2.0	0.65	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: D6-6.0	Basis: as received
Lab ID: 304507-006	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.3 J	2.0	0.041	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	10	0.69	0.043	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	140	0.69	0.022	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.56 J	0.69	0.066	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.27 J	0.69	0.11	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	70	0.69	0.18	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	18	0.69	0.11	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	16	0.69	0.18	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	8.4	0.69	0.080	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.047	0.017	0.0030	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.33 J	0.69	0.028	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Nickel	81	0.69	0.17	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.30 J	2.0	0.24	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.060 J	0.69	0.048	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	ND	0.34	0.088	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	40	0.70	0.23	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	33	2.1	0.70	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: E7-9.5	Basis: as received
Lab ID: 304507-007	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.24 J	2.0	0.039	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	8.8	0.64	0.040	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	49	0.64	0.021	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.28 J	0.64	0.062	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.28 J	0.64	0.10	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	71	0.64	0.17	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	7.7	0.64	0.11	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	26	0.64	0.16	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	14	0.64	0.075	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.18	0.017	0.0030	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.55 J	0.64	0.026	25.00	264914	10/26/18	10/30/18	EPA 3050B	EPA 6020
Nickel	62	0.64	0.16	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.30 J	2.0	0.23	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.38 J	0.64	0.045	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.10 J	0.32	0.083	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	43	0.65	0.22	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	66	2.0	0.65	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: E7-7.0	Basis: as received
Lab ID: 304507-008	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.16 J	2.0	0.040	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	8.1	0.66	0.042	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	39	0.66	0.022	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.39 J	0.66	0.064	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.25 J	0.66	0.10	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	64	0.66	0.18	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	11	0.66	0.11	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	21	0.66	0.17	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	7.5	0.66	0.078	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.063	0.017	0.0029	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.45 J	0.66	0.027	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Nickel	56	0.66	0.16	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.39 J	2.0	0.24	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.10 J	0.66	0.047	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.10 J	0.33	0.086	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	42	0.67	0.22	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	51	2.0	0.67	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: E7-5.0	Basis: as received
Lab ID: 304507-009	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.63 J	2.0	0.038	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	7.2	0.64	0.040	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	59	0.64	0.021	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.58 J	0.64	0.061	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.38 J	0.64	0.10	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	180	0.64	0.17	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	23	0.64	0.10	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	29	0.64	0.16	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	10	0.64	0.075	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.13	0.018	0.0031	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.51 J	0.64	0.026	25.00	264914	10/26/18	10/30/18	EPA 3050B	EPA 6020
Nickel	270	3.2	0.78	125.0	264914	10/26/18	10/30/18	EPA 3050B	EPA 6020
Selenium	0.43 J	2.0	0.23	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.10 J	0.64	0.045	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	ND	0.32	0.082	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	50	0.65	0.22	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	79	1.9	0.65	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: FD-1	Basis: as received
Lab ID: 304507-010	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.91 J	2.0	0.037	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	7.2	0.63	0.039	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	58	0.63	0.020	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.50 J	0.63	0.060	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.34 J	0.63	0.098	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	180	0.63	0.17	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	22	0.63	0.10	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	29	0.63	0.16	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	8.4	0.63	0.073	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.13	0.016	0.0028	1.000		264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.51 J	0.63	0.025	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Nickel	270	3.1	0.76	125.0		264914	10/26/18	10/30/18	EPA 3050B	EPA 6020
Selenium	0.43 J	2.0	0.22	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.096 J	0.63	0.044	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	ND	0.31	0.080	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	47	0.63	0.21	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	64	1.9	0.63	25.00		264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: E8-9.5	Basis: as received
Lab ID: 304507-011	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.15 J	1.9	0.036	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	9.9	0.60	0.038	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	46	0.60	0.020	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.29 J	0.60	0.058	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.30 J	0.60	0.095	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	74	0.60	0.16	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	7.7	0.60	0.099	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	29	0.60	0.15	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	15	0.60	0.070	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.14	0.016	0.0028	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.56 J	0.60	0.024	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Nickel	61	0.60	0.15	25.00	264914	10/26/18	10/30/18	EPA 3050B	EPA 6020
Selenium	0.38 J	1.9	0.21	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.29 J	0.60	0.042	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.12 J	0.30	0.077	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	49	0.61	0.20	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	60	1.8	0.61	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: E8-6.0	Basis: as received
Lab ID: 304507-012	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.11 J	1.9	0.036	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	5.7	0.60	0.038	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Barium	49	0.60	0.020	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.40 J	0.60	0.058	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.35 J	0.60	0.095	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Chromium	75	0.60	0.16	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	8.4	0.60	0.099	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Copper	26	0.60	0.15	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Lead	16	0.60	0.070	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.062	0.017	0.0030	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.52 J	0.60	0.024	25.00	264914	10/26/18	10/30/18	EPA 3050B	EPA 6020
Nickel	61	0.60	0.15	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.38 J	1.9	0.21	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.20 J	0.60	0.042	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.089 J	0.30	0.077	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	46	0.61	0.20	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020
Zinc	53	1.8	0.61	25.00	264914	10/26/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: D8-9.0	Basis: as received
Lab ID: 304507-013	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.1 J	1.9	0.035	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	8.7	0.59	0.037	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	53	0.59	0.019	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.40 J	0.59	0.057	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.33 J	0.59	0.093	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	80	0.59	0.16	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	8.9	0.59	0.097	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	24	0.59	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	11	0.59	0.069	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.12	0.016	0.0028	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.58 J	0.59	0.024	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	74	0.59	0.14	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.39 J	1.9	0.21	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.24 J	0.59	0.041	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.14 J	0.29	0.076	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	45	0.60	0.20	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	58	1.8	0.60	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals			
Lab #: 304507	Project#: 1116.09		
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve		
Field ID: D8-5.5	Basis:	as received	
Lab ID: 304507-014	Sampled:	10/24/18	
Matrix: Soil	Received:	10/24/18	
Units: mg/Kg			

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.22 J	1.9	0.036	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	7.0	0.60	0.038	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	33	0.60	0.020	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.39 J	0.60	0.058	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.33 J	0.60	0.095	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	60	0.60	0.16	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	11	0.60	0.099	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	19	0.60	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	5.7	0.60	0.070	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.058	0.017	0.0030	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.61	0.60	0.024	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	60	0.60	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.39 J	1.9	0.21	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.11 J	0.60	0.042	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.10 J	0.30	0.077	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	51	0.61	0.20	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	47	1.8	0.61	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: C7-9.0	Basis: as received
Lab ID: 304507-015	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.73 J	2.0	0.039	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	9.5	0.66	0.041	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	55	0.66	0.021	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.38 J	0.66	0.063	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.28 J	0.66	0.10	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	89	0.66	0.18	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	10	0.66	0.11	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	24	0.66	0.17	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	12	0.66	0.077	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.14	0.015	0.0027	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.79	0.66	0.027	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	94	0.66	0.16	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.41 J	2.0	0.23	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.26 J	0.66	0.046	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.10 J	0.33	0.085	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	48	0.67	0.22	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	57	2.0	0.67	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: C7-6.0	Basis: as received
Lab ID: 304507-016	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.3 J	1.9	0.036	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	9.0	0.60	0.038	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	57	0.60	0.020	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.48 J	0.60	0.058	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.38 J	0.60	0.095	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	82	0.60	0.16	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	12	0.60	0.099	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	26	0.60	0.15	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	35	0.60	0.070	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.18	0.018	0.0031	1.000		264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	1.3	0.60	0.024	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Nickel	100	0.60	0.15	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.38 J	1.9	0.21	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.40 J	0.60	0.042	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.11 J	0.30	0.077	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	44	0.61	0.20	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	70	1.8	0.61	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: B7-8.0	Basis: as received
Lab ID: 304507-017	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.23 J	2.0	0.040	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	9.9	0.66	0.042	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	47	0.66	0.022	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.23 J	0.66	0.064	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.18 J	0.66	0.10	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	73	0.66	0.18	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	6.0	0.66	0.11	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	20	0.66	0.17	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	7.6	0.66	0.078	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.080	0.017	0.0030	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.81	0.66	0.027	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	58	0.66	0.16	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.37 J	2.0	0.24	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.22 J	0.66	0.047	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.13 J	0.33	0.086	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	45	0.67	0.22	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	48	2.0	0.67	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304507	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: B7-6.5	Basis: as received
Lab ID: 304507-018	Sampled: 10/24/18
Matrix: Soil	Received: 10/24/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.42 J	1.8	0.034	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	11	0.57	0.036	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	48	0.57	0.019	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.38 J	0.57	0.055	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.56 J	0.57	0.090	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	81	0.57	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	13	0.57	0.094	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	23	0.57	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	12	0.57	0.067	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.13	0.016	0.0029	1.000	264987	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.74	0.57	0.023	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	91	0.57	0.14	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.45 J	1.8	0.20	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.31 J	0.57	0.040	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.11 J	0.29	0.074	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	45	0.58	0.19	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	62	1.7	0.58	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

California Title 22 Metals			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3050B
Project#:	1116.09	Analysis:	EPA 6020
Type:	BLANK	Diln Fac:	25.00
Lab ID:	QC953305	Batch#:	264914
Matrix:	Soil	Prepared:	10/26/18
Units:	mg/Kg	Analyzed:	10/29/18

Analyte	Result	RL	MDL
Antimony	ND	2.0	0.037
Arsenic	ND	0.62	0.039
Barium	0.021 J	0.62	0.020
Beryllium	ND	0.62	0.059
Cadmium	ND	0.62	0.097
Chromium	ND	0.62	0.17
Cobalt	ND	0.62	0.10
Copper	ND	0.62	0.16
Lead	ND	0.62	0.072
Molybdenum	0.036 J	0.62	0.025
Nickel	ND	0.62	0.15
Selenium	ND	2.0	0.22
Silver	ND	0.62	0.043
Thallium	ND	0.31	0.080
Vanadium	ND	0.63	0.21
Zinc	ND	1.9	0.63

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

California Title 22 Metals			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3050B
Project#:	1116.09	Analysis:	EPA 6020
Matrix:	Soil	Batch#:	264914
Units:	mg/Kg	Prepared:	10/26/18
Diln Fac:	25.00	Analyzed:	10/29/18

Type: BS Lab ID: QC953306

Analyte	Spiked	Result	%REC	Limits
Antimony	54.35	52.51	97	80-120
Arsenic	54.35	53.89	99	80-120
Barium	54.35	53.84	99	80-120
Beryllium	27.17	27.05	100	80-120
Cadmium	54.35	55.58	102	80-120
Chromium	54.35	55.07	101	80-120
Cobalt	54.35	55.52	102	80-120
Copper	54.35	57.59	106	80-120
Lead	54.35	51.73	95	80-120
Molybdenum	54.35	52.22	96	80-120
Nickel	54.35	56.87	105	80-120
Selenium	54.35	54.58	100	80-120
Silver	5.435	5.563	102	80-120
Thallium	54.35	52.43	96	80-120
Vanadium	54.35	53.69	99	80-120
Zinc	54.35	57.09	105	80-120

Type: BSD Lab ID: QC953307

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	46.73	43.84	94	80-120	3	20
Arsenic	46.73	46.97	101	80-120	1	20
Barium	46.73	45.08	96	80-120	3	20
Beryllium	23.36	22.64	97	80-120	3	25
Cadmium	46.73	46.23	99	80-120	3	20
Chromium	46.73	46.84	100	80-120	1	20
Cobalt	46.73	47.44	102	80-120	1	20
Copper	46.73	48.10	103	80-120	3	21
Lead	46.73	44.21	95	80-120	1	20
Molybdenum	46.73	44.28	95	80-120	1	20
Nickel	46.73	48.47	104	80-120	1	20
Selenium	46.73	48.16	103	80-120	3	25
Silver	4.673	4.657	100	80-120	3	21
Thallium	46.73	44.45	95	80-120	1	20
Vanadium	46.73	45.98	98	80-120	0	27
Zinc	46.73	48.17	103	80-120	2	28

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3050B
Project#:	1116.09	Analysis:	EPA 6020
Field ID:	D7-9.0	Batch#:	264914
MSS Lab ID:	304507-001	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	mg/Kg	Prepared:	10/26/18
Basis:	as received	Analyzed:	10/29/18
Diln Fac:	25.00		

Type: MS Lab ID: QC953308

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	0.3287	52.08	13.53	25 *	75-125
Arsenic	8.206	52.08	56.37	92	75-125
Barium	51.34	52.08	106.3	106	75-125
Beryllium	0.4318	26.04	25.82	97	75-125
Cadmium	0.3403	52.08	52.01	99	75-125
Chromium	91.93	52.08	148.1	108	75-125
Cobalt	12.07	52.08	61.49	95	75-125
Copper	26.84	52.08	77.13	97	75-125
Lead	14.52	52.08	64.55	96	75-125
Molybdenum	0.5954	52.08	43.73	83	75-125
Nickel	103.3	52.08	152.3	94	75-125
Selenium	0.4562	52.08	49.87	95	75-125
Silver	0.3114	5.208	5.465	99	75-125
Thallium	0.1047	52.08	49.46	95	75-125
Vanadium	46.58	52.08	96.19	95	75-125
Zinc	68.81	52.08	116.9	92	75-125

Type: MSD Lab ID: QC953309

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	52.08	13.52	25 *	75-125	0	20
Arsenic	52.08	55.77	91	75-125	1	20
Barium	52.08	103.5	100	75-125	3	20
Beryllium	26.04	25.53	96	75-125	1	20
Cadmium	52.08	50.77	97	75-125	2	20
Chromium	52.08	146.1	104	75-125	1	20
Cobalt	52.08	64.48	101	75-125	5	20
Copper	52.08	75.77	94	75-125	2	20
Lead	52.08	64.00	95	75-125	1	20
Molybdenum	52.08	42.92	81	75-125	2	20
Nickel	52.08	151.2	92	75-125	1	20
Selenium	52.08	47.64	91	75-125	5	20
Silver	5.208	5.326	96	75-125	3	20
Thallium	52.08	48.96	94	75-125	1	20
Vanadium	52.08	98.38	99	75-125	2	20
Zinc	52.08	116.5	91	75-125	0	20

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3050B
Project#:	1116.09	Analysis:	EPA 6020
Type:	BLANK	Diln Fac:	25.00
Lab ID:	QC953350	Batch#:	264926
Matrix:	Soil	Prepared:	10/29/18
Units:	mg/Kg	Analyzed:	10/29/18

Analyte	Result	RL	MDL
Antimony	ND	2.0	0.037
Arsenic	ND	0.63	0.039
Barium	ND	0.63	0.020
Beryllium	ND	0.63	0.060
Cadmium	ND	0.63	0.098
Chromium	ND	0.63	0.17
Cobalt	ND	0.63	0.10
Copper	ND	0.63	0.16
Lead	ND	0.63	0.073
Molybdenum	ND	0.63	0.025
Nickel	ND	0.63	0.15
Selenium	ND	2.0	0.22
Silver	ND	0.63	0.044
Thallium	ND	0.31	0.080
Vanadium	ND	0.63	0.21
Zinc	ND	1.9	0.63

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

California Title 22 Metals			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3050B
Project#:	1116.09	Analysis:	EPA 6020
Matrix:	Soil	Batch#:	264926
Units:	mg/Kg	Prepared:	10/29/18
Diln Fac:	25.00	Analyzed:	10/29/18

Type: BS Lab ID: QC953351

Analyte	Spiked	Result	%REC	Limits
Antimony	45.87	45.11	98	80-120
Arsenic	45.87	48.39	105	80-120
Barium	45.87	47.18	103	80-120
Beryllium	22.94	23.79	104	80-120
Cadmium	45.87	47.42	103	80-120
Chromium	45.87	47.51	104	80-120
Cobalt	45.87	47.66	104	80-120
Copper	45.87	49.12	107	80-120
Lead	45.87	45.06	98	80-120
Molybdenum	45.87	46.14	101	80-120
Nickel	45.87	48.99	107	80-120
Selenium	45.87	49.14	107	80-120
Silver	4.587	4.823	105	80-120
Thallium	45.87	45.59	99	80-120
Vanadium	45.87	46.46	101	80-120
Zinc	45.87	48.34	105	80-120

Type: BSD Lab ID: QC953352

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	45.45	46.51	102	80-120	4	20
Arsenic	45.45	49.17	108	80-120	3	20
Barium	45.45	48.83	107	80-120	4	20
Beryllium	22.73	23.89	105	80-120	1	25
Cadmium	45.45	48.91	108	80-120	4	20
Chromium	45.45	48.88	108	80-120	4	20
Cobalt	45.45	49.24	108	80-120	4	20
Copper	45.45	49.97	110	80-120	3	21
Lead	45.45	46.49	102	80-120	4	20
Molybdenum	45.45	47.11	104	80-120	3	20
Nickel	45.45	49.42	109	80-120	2	20
Selenium	45.45	49.17	108	80-120	1	25
Silver	4.545	4.940	109	80-120	3	21
Thallium	45.45	46.81	103	80-120	4	20
Vanadium	45.45	47.78	105	80-120	4	27
Zinc	45.45	50.04	110	80-120	4	28

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3050B
Project#:	1116.09	Analysis:	EPA 6020
Field ID:	D8-9.0	Batch#:	264926
MSS Lab ID:	304507-013	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	mg/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	10/29/18
Diln Fac:	25.00		

Type: MS Lab ID: QC953353

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	1.139	49.50	19.24	37 *	75-125
Arsenic	8.667	49.50	56.89	97	75-125
Barium	52.52	49.50	103.6	103	75-125
Beryllium	0.3987	24.75	24.77	98	75-125
Cadmium	0.3263	49.50	49.58	99	75-125
Chromium	79.95	49.50	126.4	94	75-125
Cobalt	8.858	49.50	57.57	98	75-125
Copper	23.79	49.50	71.57	97	75-125
Lead	11.38	49.50	58.43	95	75-125
Molybdenum	0.5781	49.50	45.32	90	75-125
Nickel	73.59	49.50	122.9	100	75-125
Selenium	0.3859	49.50	48.49	97	75-125
Silver	0.2437	4.950	5.269	102	75-125
Thallium	0.1444	49.50	47.90	96	75-125
Vanadium	44.54	49.50	92.63	97	75-125
Zinc	57.70	49.50	103.7	93	75-125

Type: MSD Lab ID: QC953354

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	47.62	18.69	37 *	75-125	1	20
Arsenic	47.62	56.07	100	75-125	2	20
Barium	47.62	101.5	103	75-125	0	20
Beryllium	23.81	24.74	102	75-125	4	20
Cadmium	47.62	48.75	102	75-125	2	20
Chromium	47.62	127.5	100	75-125	2	20
Cobalt	47.62	56.13	99	75-125	1	20
Copper	47.62	71.56	100	75-125	3	20
Lead	47.62	58.02	98	75-125	2	20
Molybdenum	47.62	44.56	92	75-125	2	20
Nickel	47.62	121.9	101	75-125	1	20
Selenium	47.62	47.07	98	75-125	1	20
Silver	4.762	5.182	104	75-125	2	20
Thallium	47.62	46.77	98	75-125	1	20
Vanadium	47.62	92.27	100	75-125	2	20
Zinc	47.62	104.6	98	75-125	3	20

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	264987
Lab ID:	QC953594	Prepared:	10/30/18
Matrix:	Soil	Analyzed:	10/30/18
Units:	mg/Kg		

Result	RL	MDL
ND	0.017	0.0029

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

California Title 22 Metals			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	264987
Matrix:	Soil	Prepared:	10/30/18
Units:	mg/Kg	Analyzed:	10/30/18
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC953595	0.1613	0.1612	100	80-120		
BSD	QC953596	0.1538	0.1520	99	80-120	1	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	D7-9.0	Batch#:	264987
MSS Lab ID:	304507-001	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	mg/Kg	Prepared:	10/30/18
Basis:	as received	Analyzed:	10/30/18

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC953597	0.1382	0.1786	0.3473	117	80-120		
MSD	QC953598		0.1667	0.3101	103	80-120	8	20

RPD= Relative Percent Difference

Moisture			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	ASTM D2216-98/CLP
Analyte:	Moisture, Percent	Batch#:	264884
Matrix:	Soil	Sampled:	10/24/18
Units:	%	Received:	10/24/18
Diln Fac:	1.000	Analyzed:	10/26/18

Field ID	Lab ID	Result	RL
D7-9.0	304507-001	14	1
D7-6.0	304507-002	22	1
D7-4.0	304507-003	23	1
D7-2.5	304507-004	37	1
D6-8.0	304507-005	10	1
D6-6.0	304507-006	13	1
E7-9.5	304507-007	12	1
E7-7.0	304507-008	15	1
E7-5.0	304507-009	19	1
FD-1	304507-010	19	1
E8-9.5	304507-011	13	1
E8-6.0	304507-012	26	1
D8-9.0	304507-013	11	1
D8-5.5	304507-014	29	1
C7-9.0	304507-015	12	1
C7-6.0	304507-016	21	1
B7-8.0	304507-017	14	1
B7-6.5	304507-018	22	1

RL= Reporting Limit

Batch QC Report

Moisture			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	ASTM D2216-98/CLP
Analyte:	Moisture, Percent	Units:	%
Field ID:	B7-6.5	Diln Fac:	1.000
Type:	SDUP	Batch#:	264884
MSS Lab ID:	304507-018	Sampled:	10/24/18
Lab ID:	QC953183	Received:	10/24/18
Matrix:	Soil	Analyzed:	10/26/18

MSS Result	Result	RL	RPD	Lim
21.52	20.97	1.000	3	26

RL= Reporting Limit

RPD= Relative Percent Difference

Total Organic Carbon (TOC)			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	WALKLEY-BLACK
Analyte:	Total Organic Carbon	Batch#:	265348
Matrix:	Soil	Sampled:	10/24/18
Units:	%	Received:	10/24/18
Basis:	as received	Analyzed:	11/09/18

Field ID	Type	Lab ID	Result	RL	Diln Fac
D7-9.0	SAMPLE	304507-001	1.1	0.03	3.289
D7-6.0	SAMPLE	304507-002	0.66	0.03	3.268
D7-4.0	SAMPLE	304507-003	0.69	0.03	3.268
D7-2.5	SAMPLE	304507-004	0.86	0.03	3.279
D6-8.0	SAMPLE	304507-005	0.69	0.03	3.236
D6-6.0	SAMPLE	304507-006	0.47	0.03	3.289
E7-9.5	SAMPLE	304507-007	1.2	0.03	3.300
E7-7.0	SAMPLE	304507-008	0.81	0.03	3.236
E7-5.0	SAMPLE	304507-009	0.62	0.03	3.155
FD-1	SAMPLE	304507-010	0.62	0.03	3.115
E8-9.5	SAMPLE	304507-011	1.0	0.03	3.115
E8-6.0	SAMPLE	304507-012	0.76	0.03	3.135
D8-9.0	SAMPLE	304507-013	0.93	0.03	3.067
D8-5.5	SAMPLE	304507-014	0.66	0.03	3.236
C7-9.0	SAMPLE	304507-015	1.1	0.03	3.106
C7-6.0	SAMPLE	304507-016	0.61	0.03	3.215
B7-8.0	SAMPLE	304507-017	1.1	0.03	3.058
B7-6.5	SAMPLE	304507-018	0.83	0.03	3.012
	BLANK	QC955079	ND	0.01	1.000

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Organic Carbon (TOC)			
Lab #:	304507	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	WALKLEY-BLACK
Analyte:	Total Organic Carbon	Basis:	as received
Field ID:	D7-9.0	Batch#:	265348
MSS Lab ID:	304507-001	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	%	Analyzed:	11/09/18

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Diln	Fac
LCS	QC955080		0.1300	0.1306	100	80-120				1.000
MS	QC955081	1.116	0.4276	1.241	29 *	57-127				3.289
MSD	QC955082		0.4262	1.225	26 *	57-127	1	20		3.279

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference



ENTHALPY

ANALYTICAL



Enthalpy Analytical

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

Laboratory Job Number 304541 ANALYTICAL REPORT

Northgate Environmental Management
428 13th Street
Oakland, CA 94612

Project : 1116.09
Location : Corte Madera Ecological Reserve
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
C8-8.0	304541-001
C8-5.0	304541-002
C8-2.0	304541-003
B8-8.5	304541-004
B8-6.5	304541-005
FD-2	304541-006
B8-4.5	304541-007
A7-12.0	304541-008
A7-9.0	304541-009
FD-3	304541-010
A7-5.5	304541-011
B9-8.5	304541-012
B9-6.5	304541-013

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Date: 11/13/2018

Will Rice
Project Manager
will.rice@enthalpy.com
(510) 204-2221 Ext 13102

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number: 304541
Client: Northgate Environmental Management
Project: 1116.09
Location: Corte Madera Ecological Reserve
Request Date: 10/25/18
Samples Received: 10/25/18

This data package contains sample and QC results for thirteen soil samples, requested for the above referenced project on 10/25/18. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Semivolatile Organics by GC/MS SIM (EPA 8270C-SIM):

Many samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

Pesticides (EPA 8081A):

All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. All samples underwent florisil cleanup using EPA Method 3620C. Low surrogate recovery was observed for TCMX in A7-5.5 (lab # 304541-011). Low surrogate recovery was observed for decachlorobiphenyl in A7-5.5 (lab # 304541-011). Gamma-chlordane was detected between the MDL and the RL in the method blank for batch 265233; this analyte was not detected in the sample at or above the RL. Gamma-chlordane was detected between the MDL and the RL in the method blank for batch 265246; this analyte was not detected in samples at or above the RL. No other analytical problems were encountered.

PCBs (EPA 8082):

All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. Matrix spikes QC954618, QC954619 (batch 265233) were not analyzed because the parent sample required a dilution that would have diluted out the spikes. Low recoveries were observed for Aroclor-1016 and Aroclor-1260 in the MSD of C8-8.0 (lab # 304541-001); the LCS was within limits. High RPD was also observed for Aroclor-1016 and Aroclor-1260 in the MS/MSD of C8-8.0 (lab # 304541-001); these analytes were not detected at or above the RL in the associated sample. Low surrogate recoveries were observed for decachlorobiphenyl in B8-4.5 (lab # 304541-007), FD-3 (lab # 304541-010), and the MSD of C8-8.0 (lab # 304541-001). B8-8.5 (lab # 304541-004) was diluted due to the color of the sample extract. No other analytical problems were encountered.

Metals (EPA 6020 and EPA 7471A):

Low recoveries were observed for antimony in the MS/MSD of D8-9.0 (lab # 304507-013); the BS/BSD were within limits, and the associated RPD was within limits. No other analytical problems were encountered.

CASE NARRATIVE

Laboratory number: 304541
Client: Northgate Environmental Management
Project: 1116.09
Location: Corte Madera Ecological Reserve
Request Date: 10/25/18
Samples Received: 10/25/18

Moisture (ASTM D2216-98/CLP):

No analytical problems were encountered.

Total Organic Carbon (TOC) (WALKLEY-BLACK):

No analytical problems were encountered.

304541



CHAIN OF CUSTODY/ANALYSIS REQUEST FORM

No. 3109

Project No.: 1116.09		Project Location: Corte Madera, CA		Date: 10/25/18		Serial No.: 1 of 1				
Project Name: Corte Madera Ecological Reserve		Field Logbook No.:		ANALYSES		Samplers: Gabriel Fuson				
Sampler (Signature): Gabriel Fuson										
Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	Analyses	Remarks			
1	10/25/18	0833		1	S	Pesticides (EPA 8081A) PCBs (EPA 8082) PAHs (EPA 8270CSEM) TPH-d, -m (EPA 8015B/W/SGC) CAM 17 Metals (CAM 17 Metals) (EPA 6020/4741) TOC (Walkley-Black) Moisture Content (ASTM D3216)	* Homogenize contents volume of each jar prior to selecting aliquots			
2		0851		1	S		* Report results in both dry and wet weight			
3		0855		1	S		* ATTN: Will Rice + John Layette re: reporting limits			
4		0911		1	S					
5		0916		1	S					
6		0918		1	S					
7		0920		1	S					
8		0949		1	S					
9		1007		1	S					
10		0951		1	S					
11		1035		1	S					
12		1048		1	S					
13		1048		1	S		Sample time: 1044			
Relinquished by: Gabriel Fuson		Date	10/25/18	Time	1306	Received By: [Signature]	Date	10/25/18	Time	1307
Relinquished by: [Signature]		Date		Time		Received By: [Signature]	Date		Time	
Method of Shipment:		Date		Time		Comments: Results to: elizabeth.nixon@ngem.com and gabriel.fuson@ngem.com		Standard TAT Analytical Laboratory: Enthalpx		
Sample Collector:		Northgate Environmental Management, Inc.			900 Frank H. Ogawa Plaza, Suite 540-428 13th St., Oakland, California 94612			ph - (510) 839 0688 / fax - (510) 839-4350		

SAMPLE RECEIPT CHECKLIST



Section 1: Login # 304541
Date Received: 10/25/18

Client: Northgate
Project: _____

Section 2: Samples received in a cooler? Yes, how many? 1 No (skip Section 3 below)

If no cooler Sample Temp (°C): _____ using IR Gun # A, or B

Samples received on ice directly from the field. Cooling process had begun

If in cooler: Date Opened 10/25/18 By (print) DD (sign) [Signature]

Shipping info (if applicable) _____

Are custody seals present? No, or Yes. If yes, where? on cooler, on samples, on package

Date: _____ How many _____ Signature, Initials, None

Were custody seals intact upon arrival? Yes No N/A

Section 3: **Important: Notify PM if temperature exceeds 6°C or arrive frozen.**

Packing in cooler: (if other, describe) _____

Bubble Wrap, Foam blocks, Bags, None, Cloth material, Cardboard, Styrofoam, Paper towels

Samples received on ice directly from the field. Cooling process had begun

Type of ice used: Wet, Blue/Gel, None Temperature blank(s) included? Yes, No

Temperature measured using Thermometer ID: _____, or IR Gun # A B

Cooler Temp (°C): #1: 0.0, #2: _____, #3: _____, #4: _____, #5: _____, #6: _____, #7: _____

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable	<input checked="" type="checkbox"/>		
Were Method 5035 sampling containers present?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
If YES, what time were they transferred to freezer?			
Did all bottles arrive unbroken/unopened?	<input type="checkbox"/>	<input type="checkbox"/>	
Are there any missing / extra samples?	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples in the appropriate containers for indicated tests?	<input type="checkbox"/>	<input type="checkbox"/>	
Are sample labels present, in good condition and complete?	<input type="checkbox"/>	<input type="checkbox"/>	
Does the container count match the COC?	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample labels agree with custody papers?	<input type="checkbox"/>	<input type="checkbox"/>	
Was sufficient amount of sample sent for tests requested?	<input type="checkbox"/>	<input type="checkbox"/>	
Did you change the hold time in LIMS for unpreserved VOAs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did you change the hold time in LIMS for preserved terracores?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are bubbles > 6mm absent in VOA samples?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was the client contacted concerning this sample delivery?	<input type="checkbox"/>	<input type="checkbox"/>	
If YES, who was called? _____ By _____ Date: _____			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)			<input checked="" type="checkbox"/>
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check?			

pH strip lot# _____, pH strip lot# _____, pH strip lot# _____

Preservative added:

- H2SO4 lot# _____ added to samples _____ on/at _____
- HCL lot# _____ added to samples _____ on/at _____
- HNO3 lot# _____ added to samples _____ on/at _____
- NaOH lot# _____ added to samples _____ on/at _____

Section 6:
Explanations/Comments: _____

Date Logged In 10/26/18 By (print) VO (sign) [Signature]
Date Labeled 10/26/18 By (print) AC (sign) [Signature]

Detections Summary for 304541

Results for any subcontracted analyses are not included in this summary.

Client : Northgate Environmental Management
 Project : 1116.09
 Location : Corte Madera Ecological Reserve

Client Sample ID : C8-8.0

Laboratory Sample ID :

304541-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	6.5	Y	1.2	0.38	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	39		6.2	1.9	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Naphthalene	15	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Phenanthrene	22	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	30	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	42	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	13	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	21	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	33	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	21	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	19	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	31	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Heptachlor epoxide	0.24	C,J	1.4	0.098	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	1.4	J	2.8	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	2.8	J	2.8	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endrin	0.20	C,J	2.8	0.084	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	1.2	J	2.8	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.38	C,J	2.8	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.32	C,J	1.4	0.18	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
gamma-Chlordane	0.36	J	1.4	0.14	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Aroclor-1260	10	J	15	4.1	ug/Kg	Dry	1.000	EPA 8082	EPA 3546
Antimony	0.48	J	2.3	0.043	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	10		0.72	0.045	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	64		0.72	0.023	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.43	J	0.72	0.069	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.40	J	0.72	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	100		0.72	0.19	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	11		0.72	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	35		0.72	0.18	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	15		0.72	0.084	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.15		0.019	0.0034	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.82		0.72	0.029	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	79		0.72	0.18	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.53	J	2.3	0.26	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.45	J	0.72	0.050	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.16	J	0.36	0.092	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	64		0.73	0.24	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	81		2.2	0.73	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	20		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.1		0.03		%	Dry	2.198	WALKLEY-BLACK	METHOD

Client Sample ID : C8-5.0

Laboratory Sample ID :

304541-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	6.7	Y	1.4	0.43	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	32		7.0	2.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Fluoranthene	21	J	70	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	30	J	70	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	21	J	70	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	16	J	70	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	16	J	70	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Dieldrin	1.0	C,J	3.2	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	0.30	C,J	3.2	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endrin	0.43	J	3.2	0.095	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	4.9		3.2	0.22	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.74	C,J	3.2	0.13	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.39	C,J	1.6	0.20	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Aroclor-1260	25		17	5.0	ug/Kg	Dry	1.000	EPA 8082	EPA 3546
Antimony	0.49	J	2.8	0.055	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	9.6		0.93	0.058	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	77		0.93	0.030	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.60	J	0.93	0.089	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.51	J	0.93	0.15	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	100		0.93	0.25	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	18		0.93	0.15	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	33		0.93	0.24	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	26		0.93	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.25		0.023	0.0040	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.66	J	0.93	0.038	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	110		0.93	0.23	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.43	J	2.8	0.33	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.42	J	0.93	0.065	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.14	J	0.46	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	61		0.94	0.31	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	85		2.8	0.94	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	29		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.65		0.03		%	Dry	2.212	WALKLEY-BLACK	METHOD

Client Sample ID : C8-2.0

Laboratory Sample ID :

304541-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.5	Y	1.5	0.45	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	13		7.3	2.2	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Pyrene	21	J	73	15	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	15	J	73	15	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.66	C,J	1.6	0.096	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	0.25	J	2.9	0.054	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	8.5		0.91	0.057	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	45		0.91	0.030	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.52	J	0.91	0.087	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.41	J	0.91	0.14	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	94		0.91	0.24	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	16		0.91	0.15	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	24		0.91	0.23	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	7.7		0.91	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.061		0.024	0.0042	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.59	J	0.91	0.037	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	93		0.91	0.22	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.35	J	2.9	0.32	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.089	J	0.91	0.064	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.13	J	0.46	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	56		0.92	0.31	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	60		2.8	0.92	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	32		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.83		0.03		%	Dry	2.179	WALKLEY-BLACK	METHOD

Client Sample ID : B8-8.5

Laboratory Sample ID :

304541-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	7.0	Y	1.1	0.35	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	36		5.7	1.7	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Naphthalene	14	J	57	11	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Phenanthrene	18	J	57	11	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	19	J	57	11	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	23	J	57	11	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	15	J	57	11	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	21	J	57	11	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	18	J	57	11	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Dieldrin	0.34	C,J	2.6	0.092	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	0.81	J	2.6	0.092	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.18	C,J	2.6	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.27	C,J	1.3	0.17	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	0.32	J	2.2	0.041	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	11		0.68	0.043	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	59		0.68	0.022	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.47	J	0.68	0.066	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.53	J	0.68	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	87		0.68	0.18	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	17		0.68	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	24		0.68	0.17	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	12		0.68	0.080	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.14		0.018	0.0032	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.74		0.68	0.028	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	100		0.68	0.17	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.56	J	2.2	0.24	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.24	J	0.68	0.048	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.13	J	0.34	0.088	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	54		0.69	0.23	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	72		2.1	0.69	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	12		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.95		0.03		%	Dry	2.208	WALKLEY-BLACK	METHOD

Client Sample ID : B8-6.5

Laboratory Sample ID :

304541-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.6	Y	1.4	0.43	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	18		7.0	2.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Phenanthrene	17	J	69	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	32	J	69	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	40	J	69	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	14	J	69	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	15	J	69	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	24	J	69	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	20	J	69	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	22	J	69	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.37	C,J	1.6	0.16	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	0.41	J	2.7	0.051	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	9.5		0.85	0.053	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	60		0.85	0.028	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.71	J	0.85	0.082	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.54	J	0.85	0.13	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	96		0.85	0.23	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	15		0.85	0.14	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	34		0.85	0.22	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	11		0.85	0.10	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.11		0.023	0.0040	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.87		0.85	0.035	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	92		0.85	0.21	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.58	J	2.7	0.30	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.19	J	0.85	0.060	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.14	J	0.43	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	69		0.86	0.29	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	85		2.6	0.86	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	28		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.73		0.03		%	Dry	2.212	WALKLEY-BLACK	METHOD

Client Sample ID : FD-2

Laboratory Sample ID :

304541-006

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.8	Y	1.4	0.43	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	21		7.1	2.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Fluoranthene	16	J	70	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	24	J	70	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	15	J	70	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	20	J	70	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.21	C,J	1.6	0.16	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	0.16	C,J	3.1	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	0.32	C,J	3.1	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	0.22	C,J	3.1	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.48	J	3.1	0.47	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
gamma-Chlordane	0.63	J	1.6	0.19	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	0.41	J	2.8	0.052	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	9.8		0.86	0.054	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	77		0.86	0.028	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.54	J	0.86	0.083	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.36	J	0.86	0.14	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	100		0.86	0.23	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	14		0.86	0.14	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	34		0.86	0.22	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	12		0.86	0.10	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.10		0.023	0.0041	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.92		0.86	0.035	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	96		0.86	0.21	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.63	J	2.8	0.31	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.18	J	0.86	0.061	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.14	J	0.43	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	69		0.87	0.29	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	80		2.6	0.88	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	29		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.77		0.03		%	Dry	2.183	WALKLEY-BLACK	METHOD

Client Sample ID : B8-4.5

Laboratory Sample ID :

304541-007

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.9	Y	1.5	0.47	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	21		7.7	2.3	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Fluoranthene	21	J	77	15	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	33	J	77	15	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	24	J	77	15	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	23	J	77	15	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	16	J	77	15	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	29	J	77	15	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Antimony	0.18	J	3.1	0.057	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	9.9		0.96	0.060	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	50		0.96	0.031	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.55	J	0.96	0.092	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.45	J	0.96	0.15	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	86		0.96	0.26	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	18		0.96	0.16	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	30		0.96	0.25	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	9.1		0.96	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.083		0.025	0.0044	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.87	J	0.96	0.039	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	92		0.96	0.24	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.46	J	3.1	0.34	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.11	J	0.96	0.068	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.15	J	0.48	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	64		0.97	0.32	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	73		2.9	0.98	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	35		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.82		0.03		%	Dry	2.198	WALKLEY-BLACK	METHOD

Client Sample ID : A7-12.0

Laboratory Sample ID :

304541-008

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	6.5	Y	1.2	0.37	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	53		6.0	1.8	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Phenanthrene	38	J	60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	70		60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	85		60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	28	J	60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	43	J	60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	75		60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	20	J	60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	41	J	60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	44	J	60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	67		60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
alpha-BHC	0.17	J	1.3	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	0.22	C,J	2.7	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	0.16	C,J	2.7	0.097	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endrin	0.63	J	2.7	0.080	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.40	C,J	2.7	0.090	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	2.5	J	2.7	0.18	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	1.1	C,J	2.7	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Aroclor-1260	12	J	14	4.3	ug/Kg	Dry	1.000	EPA 8082	EPA 3546
Antimony	0.36	J	2.3	0.042	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	14		0.70	0.044	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	66		0.70	0.023	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.82		0.70	0.068	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.64	J	0.70	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	110		0.70	0.19	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	16		0.70	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	60		0.70	0.18	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	37		0.70	0.082	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.36		0.019	0.0033	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.1		0.70	0.029	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	100		0.70	0.17	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.81	J	2.3	0.25	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.41	J	0.70	0.049	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.27	J	0.35	0.091	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	89		0.71	0.24	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	140		2.1	0.71	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	17		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.0		0.03		%	Dry	2.208	WALKLEY-BLACK	METHOD

Client Sample ID : A7-9.0

Laboratory Sample ID :

304541-009

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.0	Y	1.3	0.39	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	24		6.3	1.9	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Phenanthrene	26	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	42	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	54	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	17	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	26	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	40	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	30	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	24	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	39	J	63	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Heptachlor epoxide	0.11	C,J	1.4	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	1.9	J	2.9	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	7.9		2.9	0.13	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endrin	0.36	C,J	2.9	0.27	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.28	C,J	2.9	0.096	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	14		2.9	0.19	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	15	#	2.9	0.43	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	1.3	C,J	1.4	0.18	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
gamma-Chlordane	2.1	C	1.4	0.14	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Aroclor-1260	14	J	15	4.5	ug/Kg	Dry	1.000	EPA 8082	EPA 3546
Antimony	0.37	J	2.5	0.047	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	11		0.79	0.050	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	73		0.79	0.026	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.57	J	0.79	0.076	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.50	J	0.79	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	110		0.79	0.21	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	12		0.79	0.13	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	43		0.79	0.20	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	26		0.79	0.093	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.18		0.020	0.0035	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.2		0.79	0.032	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	87		0.79	0.19	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.58	J	2.5	0.28	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.28	J	0.79	0.056	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.14	J	0.40	0.10	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	79		0.80	0.27	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	89		2.4	0.80	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	21		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.85		0.03		%	Dry	2.198	WALKLEY-BLACK	METHOD

Client Sample ID : FD-3

Laboratory Sample ID :

304541-010

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	6.8	Y	1.2	0.37	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	65		6.0	1.8	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Phenanthrene	28	J	60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	57	J	60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	73		60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	23	J	60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	37	J	60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	70		60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	18	J	60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	37	J	60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	43	J	60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	66		60	12	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
alpha-BHC	0.15	C,J	1.3	0.12	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.11	J	1.3	0.093	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	0.21	J	2.7	0.096	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	2.9	#	2.7	0.096	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endrin	0.75	J	2.7	0.080	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.59	C,J	2.7	0.089	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	3.1		2.7	0.18	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	1.0	J	2.7	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Aroclor-1260	6.2	J	14	4.3	ug/Kg	Dry	1.000	EPA 8082	EPA 3546
Antimony	0.31	J	2.2	0.042	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	12		0.70	0.044	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	64		0.70	0.023	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.83		0.70	0.067	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.64	J	0.70	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	110		0.70	0.19	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	16		0.70	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	54		0.70	0.18	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	34		0.70	0.082	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.36		0.020	0.0036	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.1		0.70	0.028	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	99		0.70	0.17	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.85	J	2.2	0.25	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.42	J	0.70	0.049	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.24	J	0.35	0.090	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	86		0.71	0.24	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	130		2.1	0.71	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	17		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.0		0.03		%	Dry	2.208	WALKLEY-BLACK	METHOD

Client Sample ID : A7-5.5

Laboratory Sample ID :

304541-011

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.0	Y	1.4	0.41	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	31		6.8	2.0	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Phenanthrene	15	J	68	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	23	J	68	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	32	J	68	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	19	J	68	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	15	J	68	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	23	J	68	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Heptachlor epoxide	0.24	J	1.5	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	0.56	J	3.0	0.12	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	2.6	J	3.0	0.13	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	9.2		3.0	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.27	C,J	3.0	0.12	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	1.0	J	1.5	0.24	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
gamma-Chlordane	0.91	C,J	1.5	0.15	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	0.34	J	2.5	0.046	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	9.3		0.77	0.048	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	77		0.77	0.025	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.60	J	0.77	0.074	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.64	J	0.77	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	110		0.77	0.21	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	15		0.77	0.13	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	65		0.77	0.20	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	25		0.77	0.090	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.17		0.021	0.0038	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.96		0.77	0.031	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	97		0.77	0.19	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.67	J	2.5	0.27	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.43	J	0.77	0.054	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.38		0.38	0.099	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	75		0.78	0.26	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	94		2.3	0.78	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	26		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.0		0.03		%	Dry	2.212	WALKLEY-BLACK	METHOD

Client Sample ID : B9-8.5

Laboratory Sample ID :

304541-012

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2.2	Y	1.3	0.40	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	21		6.6	2.0	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Phenanthrene	29	J	66	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	62	J	66	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	80		66	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	28	J	66	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	38	J	66	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	60	J	66	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	17	J	66	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	47	J	66	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	38	J	66	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	58	J	66	13	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
delta-BHC	0.19	C,J	1.4	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Aldrin	0.41	J	1.4	0.080	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.14	C,J	1.4	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	0.20	C,J	2.9	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	3.7	#	2.9	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	8.7		2.9	0.10	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	6.2	C	2.9	0.12	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.71	C,J	1.4	0.19	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
gamma-Chlordane	0.70	J	1.4	0.14	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	0.34	J	2.4	0.045	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	12		0.75	0.047	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	60		0.75	0.024	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.61	J	0.75	0.072	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.47	J	0.75	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	110		0.75	0.20	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	13		0.75	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	42		0.75	0.19	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	24		0.75	0.088	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.16		0.023	0.0040	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	2.2		0.75	0.030	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	89		0.75	0.18	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.69	J	2.4	0.27	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.24	J	0.75	0.053	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.15	J	0.37	0.096	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	81		0.76	0.25	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	94		2.3	0.76	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	24		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.0		0.03		%	Dry	2.203	WALKLEY-BLACK	METHOD

Client Sample ID : B9-6.5

Laboratory Sample ID :

304541-013

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.9	Y	1.4	0.44	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	16		7.2	2.2	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Phenanthrene	21	J	72	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	50	J	72	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	72	J	72	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	20	J	72	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	28	J	72	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	51	J	72	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	15	J	72	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	44	J	72	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	37	J	72	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	60	J	72	14	ug/Kg	Dry	10.00	EPA 8270C-SIM	EPA 3550C
Aldrin	0.089	C,J	1.6	0.088	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.23	C,J	1.6	0.12	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Dieldrin	0.41	C,J	3.2	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDE	4.8	#	3.2	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDD	19		3.2	0.11	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.90	C,J	3.2	0.13	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	1.1	C,J	1.6	0.21	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
gamma-Chlordane	1.1	C,J	1.6	0.16	ug/Kg	Dry	1.000	EPA 8081A	EPA 3546
Antimony	0.36	J	2.9	0.054	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Arsenic	11		0.91	0.057	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Barium	73		0.91	0.029	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Beryllium	0.58	J	0.91	0.087	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cadmium	0.52	J	0.91	0.14	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Chromium	110		0.91	0.24	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Cobalt	12		0.91	0.15	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Copper	45		0.91	0.23	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Lead	25		0.91	0.11	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Mercury	0.15		0.025	0.0043	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.8		0.91	0.037	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Nickel	87		0.91	0.22	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Selenium	0.69	J	2.9	0.32	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Silver	0.35	J	0.91	0.064	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Thallium	0.17	J	0.45	0.12	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Vanadium	81		0.92	0.31	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Zinc	90		2.8	0.92	mg/Kg	Dry	25.00	EPA 6020	EPA 3050B
Moisture, Percent	31		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	1.1		0.03		%	Dry	2.179	WALKLEY-BLACK	METHOD

= CCV drift outside limits; average CCV drift within limits per method requirements

C = Presence confirmed, but RPD between columns exceeds 40%

J = Estimated value

Y = Sample exhibits chromatographic pattern which does not resemble standard

Total Extractable Hydrocarbons

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8015B
Matrix: Soil	Sampled: 10/25/18
Units: mg/Kg	Received: 10/25/18
Basis: dry	Prepared: 11/01/18
Diln Fac: 1.000	Analyzed: 11/02/18
Batch#: 265080	

Field ID: B8-6.5	Moisture: 28%
Type: SAMPLE	Cleanup Method: EPA 3630C
Lab ID: 304541-005	

Analyte	Result	RL	MDL
Diesel C10-C24	1.6 Y	1.4	0.43
Motor Oil C24-C36	18	7.0	2.1

Surrogate	%REC	Limits
o-Terphenyl	85	59-130

Field ID: FD-2	Moisture: 29%
Type: SAMPLE	Cleanup Method: EPA 3630C
Lab ID: 304541-006	

Analyte	Result	RL	MDL
Diesel C10-C24	1.8 Y	1.4	0.43
Motor Oil C24-C36	21	7.1	2.1

Surrogate	%REC	Limits
o-Terphenyl	87	59-130

Field ID: B8-4.5	Moisture: 35%
Type: SAMPLE	Cleanup Method: EPA 3630C
Lab ID: 304541-007	

Analyte	Result	RL	MDL
Diesel C10-C24	3.9 Y	1.5	0.47
Motor Oil C24-C36	21	7.7	2.3

Surrogate	%REC	Limits
o-Terphenyl	74	59-130

Field ID: A7-12.0	Moisture: 17%
Type: SAMPLE	Cleanup Method: EPA 3630C
Lab ID: 304541-008	

Analyte	Result	RL	MDL
Diesel C10-C24	6.5 Y	1.2	0.37
Motor Oil C24-C36	53	6.0	1.8

Surrogate	%REC	Limits
o-Terphenyl	83	59-130

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Total Extractable Hydrocarbons

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8015B
Matrix: Soil	Sampled: 10/25/18
Units: mg/Kg	Received: 10/25/18
Basis: dry	Prepared: 11/01/18
Diln Fac: 1.000	Analyzed: 11/02/18
Batch#: 265080	

Field ID: A7-9.0	Moisture: 21%
Type: SAMPLE	Cleanup Method: EPA 3630C
Lab ID: 304541-009	

Analyte	Result	RL	MDL
Diesel C10-C24	3.0 Y	1.3	0.39
Motor Oil C24-C36	24	6.3	1.9

Surrogate	%REC	Limits
o-Terphenyl	82	59-130

Field ID: FD-3	Moisture: 17%
Type: SAMPLE	Cleanup Method: EPA 3630C
Lab ID: 304541-010	

Analyte	Result	RL	MDL
Diesel C10-C24	6.8 Y	1.2	0.37
Motor Oil C24-C36	65	6.0	1.8

Surrogate	%REC	Limits
o-Terphenyl	110	59-130

Field ID: A7-5.5	Moisture: 26%
Type: SAMPLE	Cleanup Method: EPA 3630C
Lab ID: 304541-011	

Analyte	Result	RL	MDL
Diesel C10-C24	5.0 Y	1.4	0.41
Motor Oil C24-C36	31	6.8	2.0

Surrogate	%REC	Limits
o-Terphenyl	97	59-130

Field ID: B9-8.5	Moisture: 24%
Type: SAMPLE	Cleanup Method: EPA 3630C
Lab ID: 304541-012	

Analyte	Result	RL	MDL
Diesel C10-C24	2.2 Y	1.3	0.40
Motor Oil C24-C36	21	6.6	2.0

Surrogate	%REC	Limits
o-Terphenyl	92	59-130

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC953982	Batch#:	265080
Matrix:	Soil	Prepared:	11/01/18
Units:	mg/Kg	Analyzed:	11/02/18

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	41.31	83	56-137

Surrogate	%REC	Limits
o-Terphenyl	76	59-130

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	304603-001	Batch#:	265080
Matrix:	Soil	Sampled:	10/25/18
Units:	mg/Kg	Received:	10/29/18
Basis:	dry	Prepared:	11/01/18

Type:	MS	Moisture:	21%
Lab ID:	QC953983	Analyzed:	11/02/18

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	6.192	63.47	68.84	99	52-128

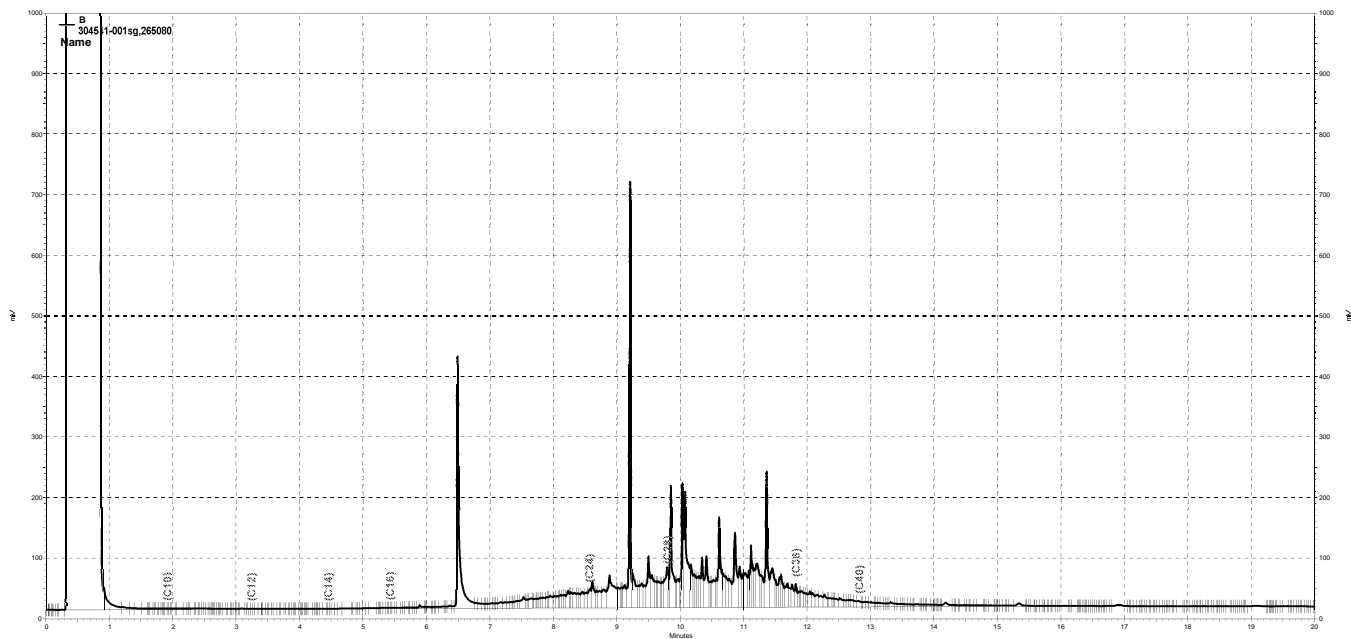
Surrogate	%REC	Limits
o-Terphenyl	119	59-130

Type:	MSD	Moisture:	21%
Lab ID:	QC953984	Analyzed:	11/01/18

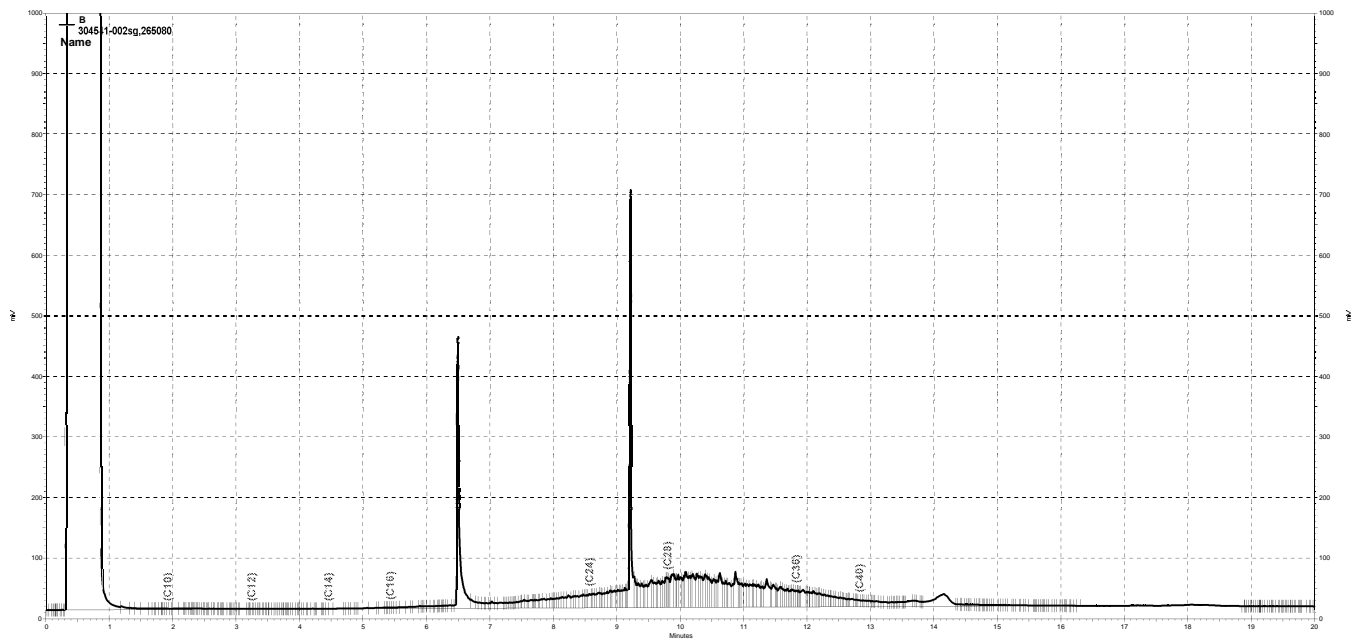
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	62.99	72.57	105	52-128	6	42

Surrogate	%REC	Limits
o-Terphenyl	98	59-130

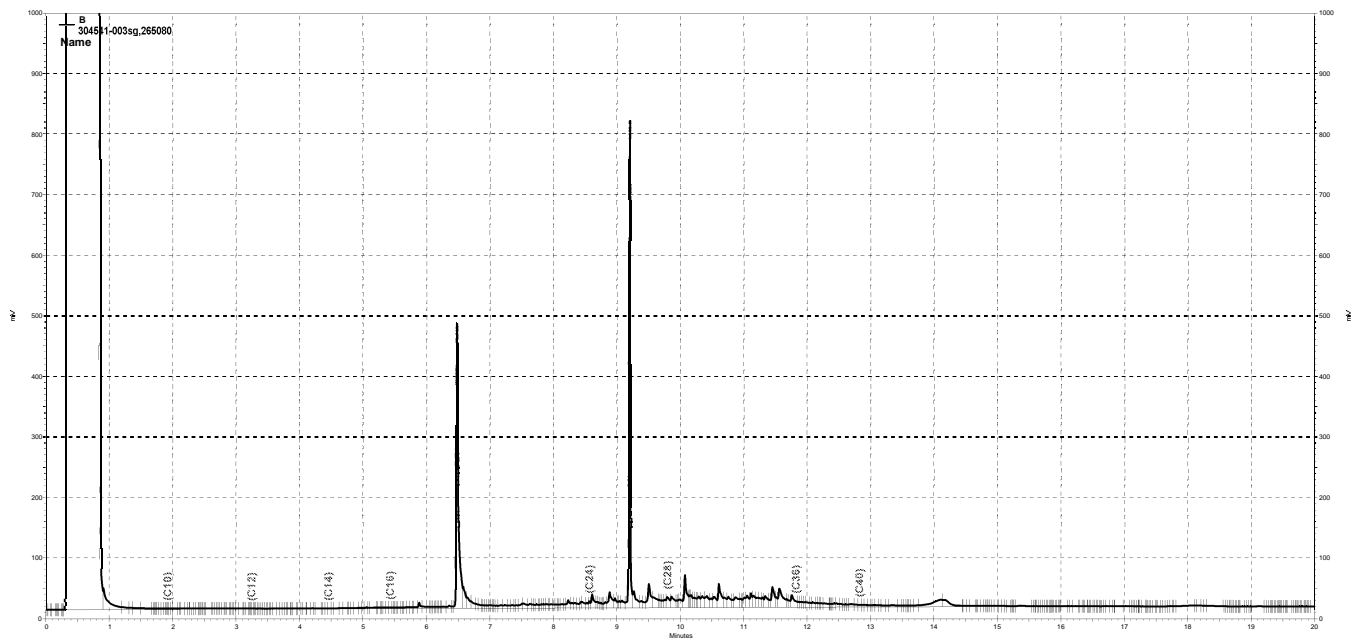
RPD= Relative Percent Difference



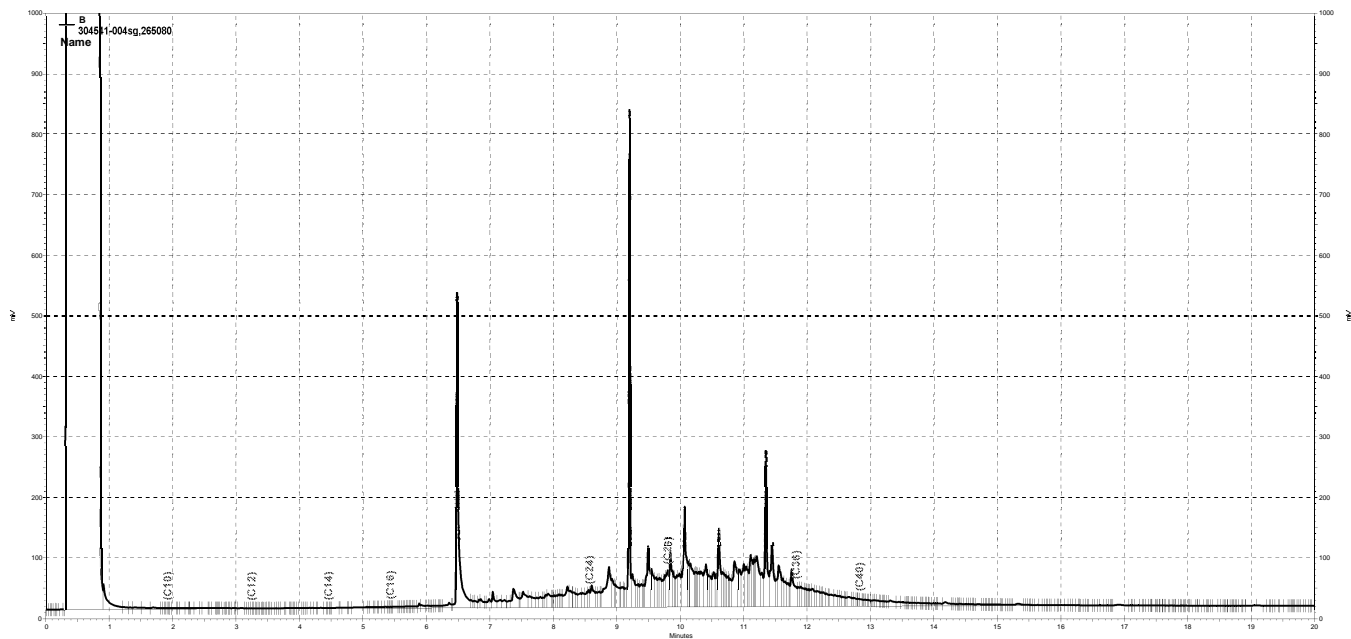
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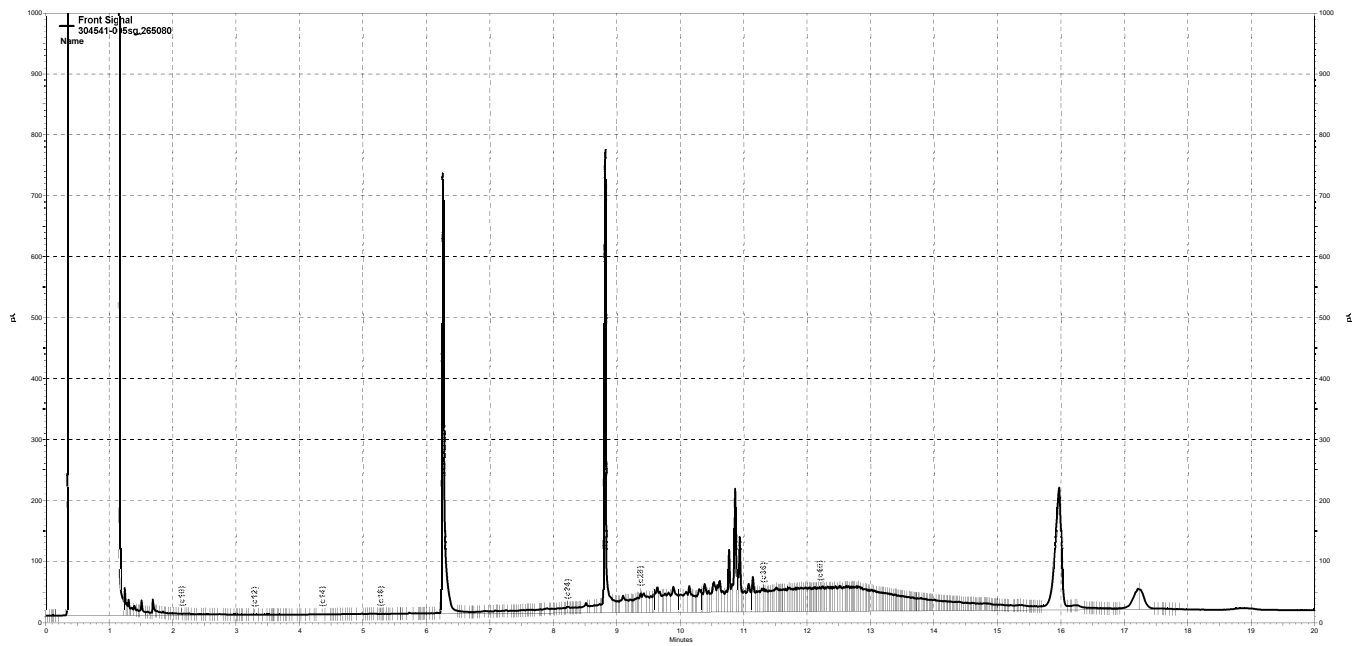
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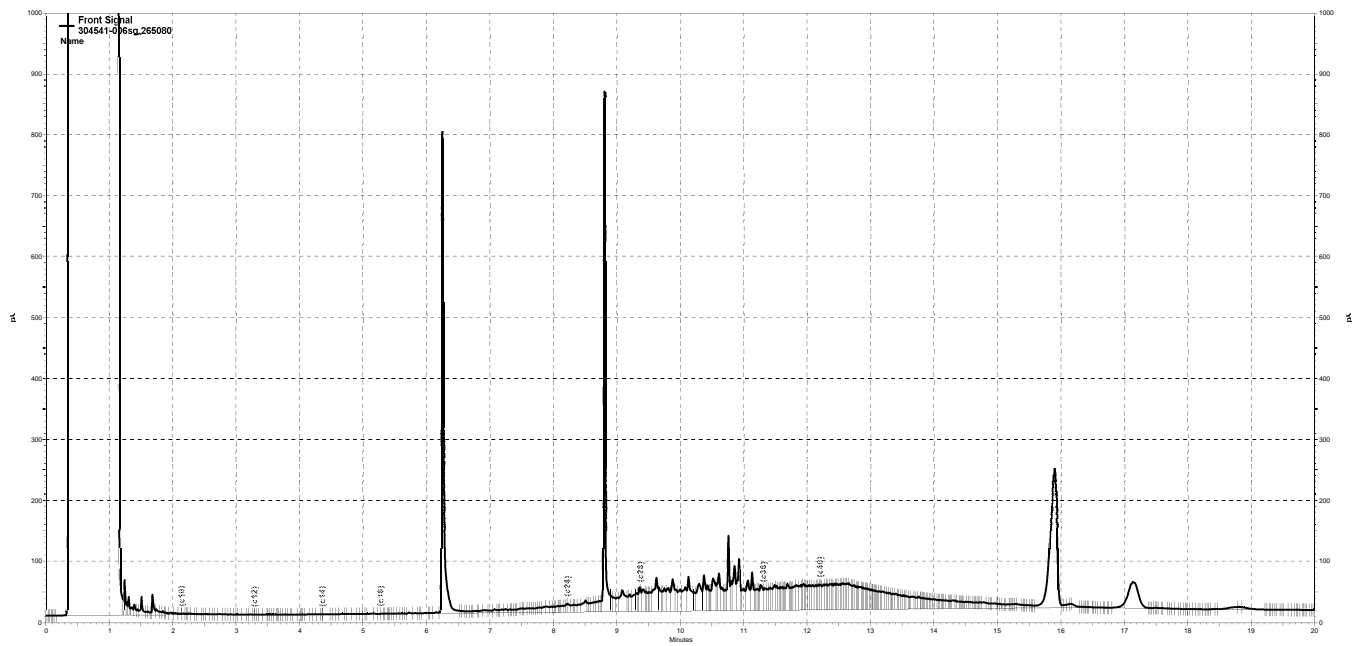
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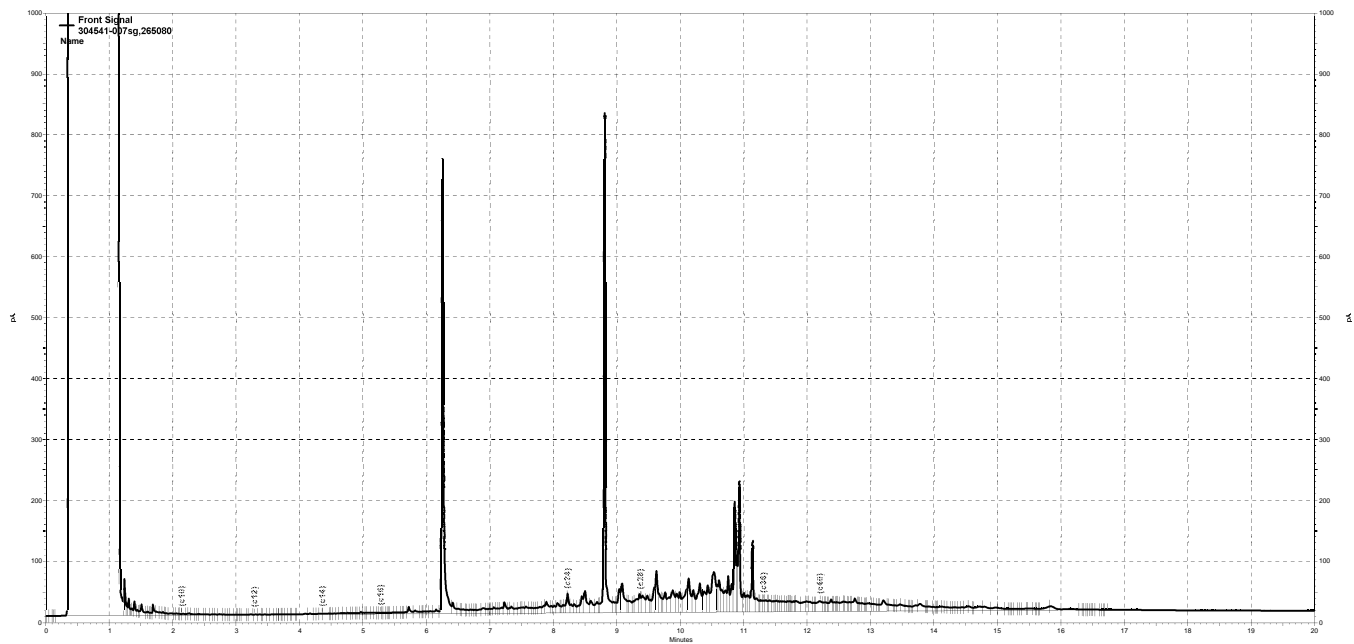
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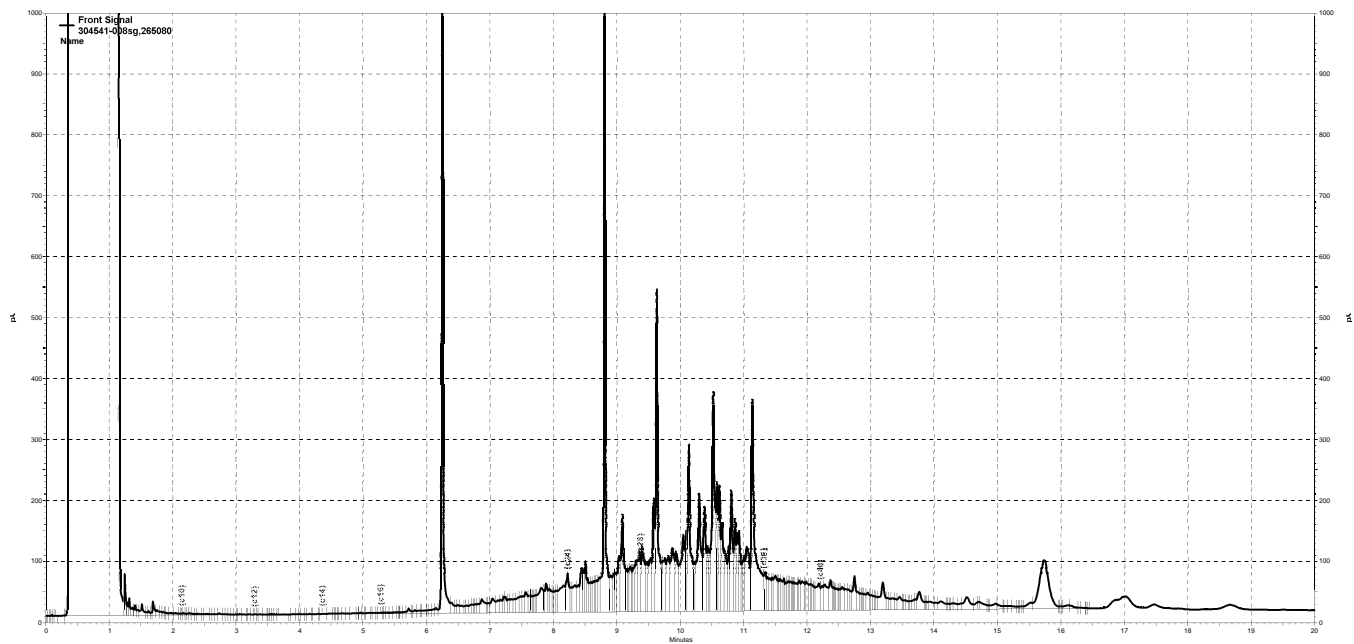
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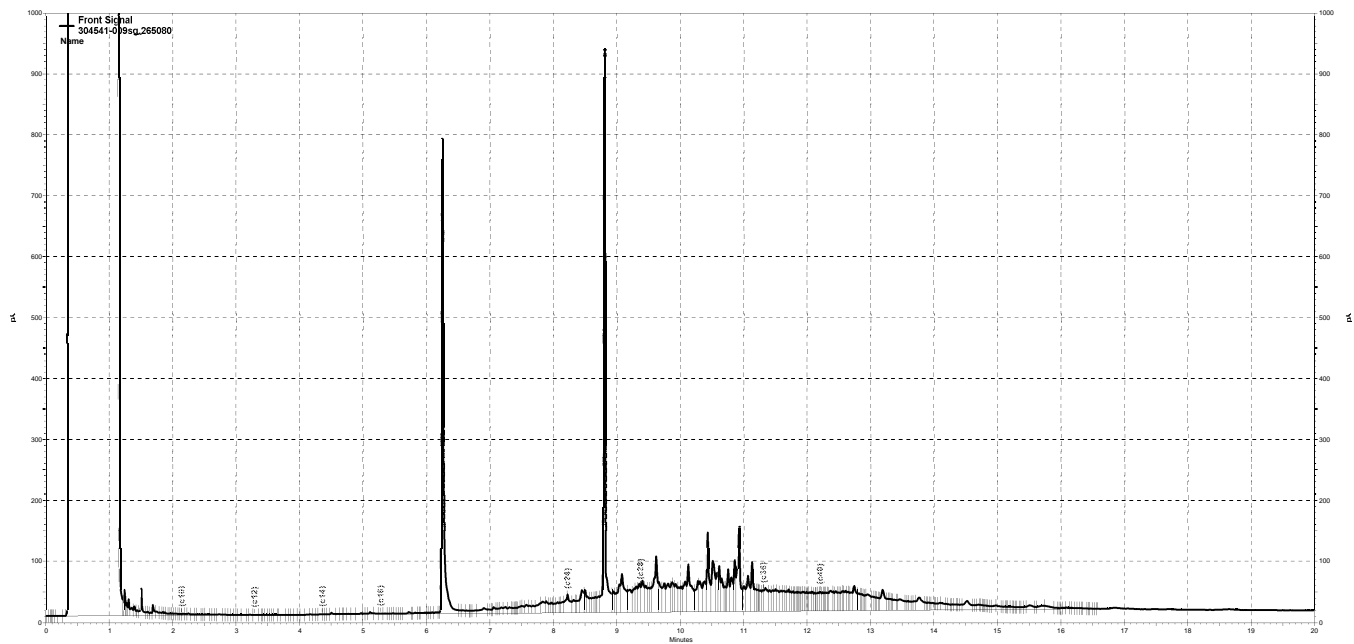
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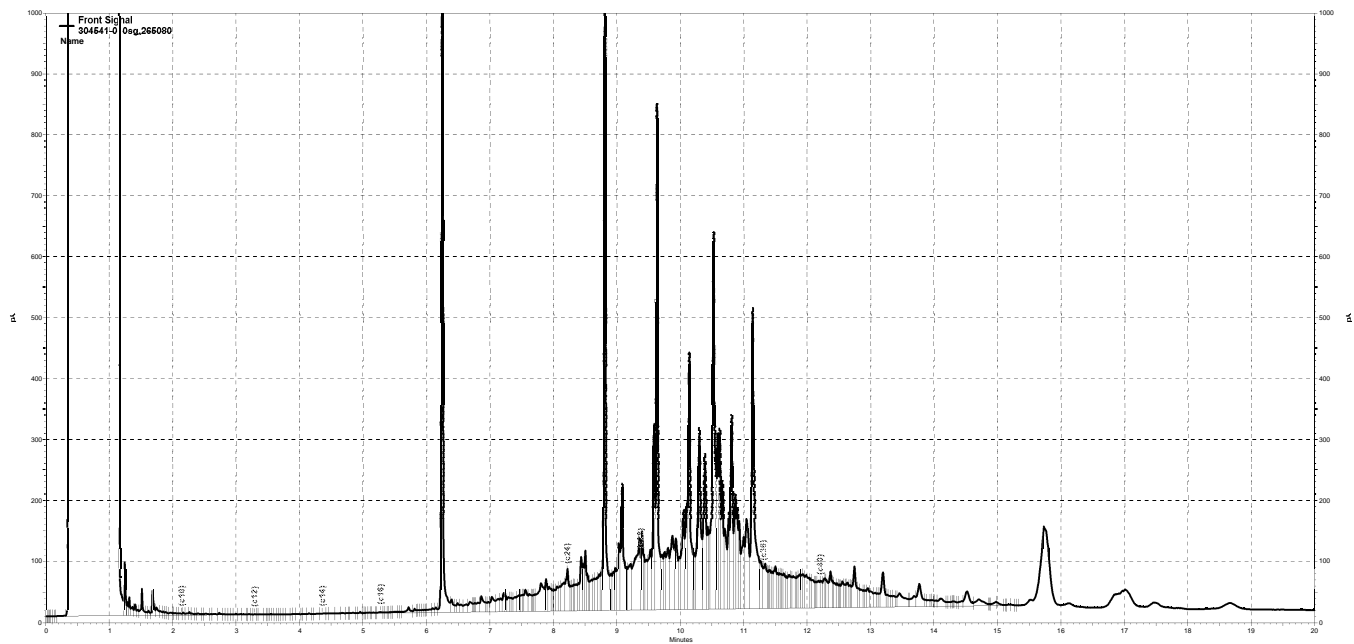
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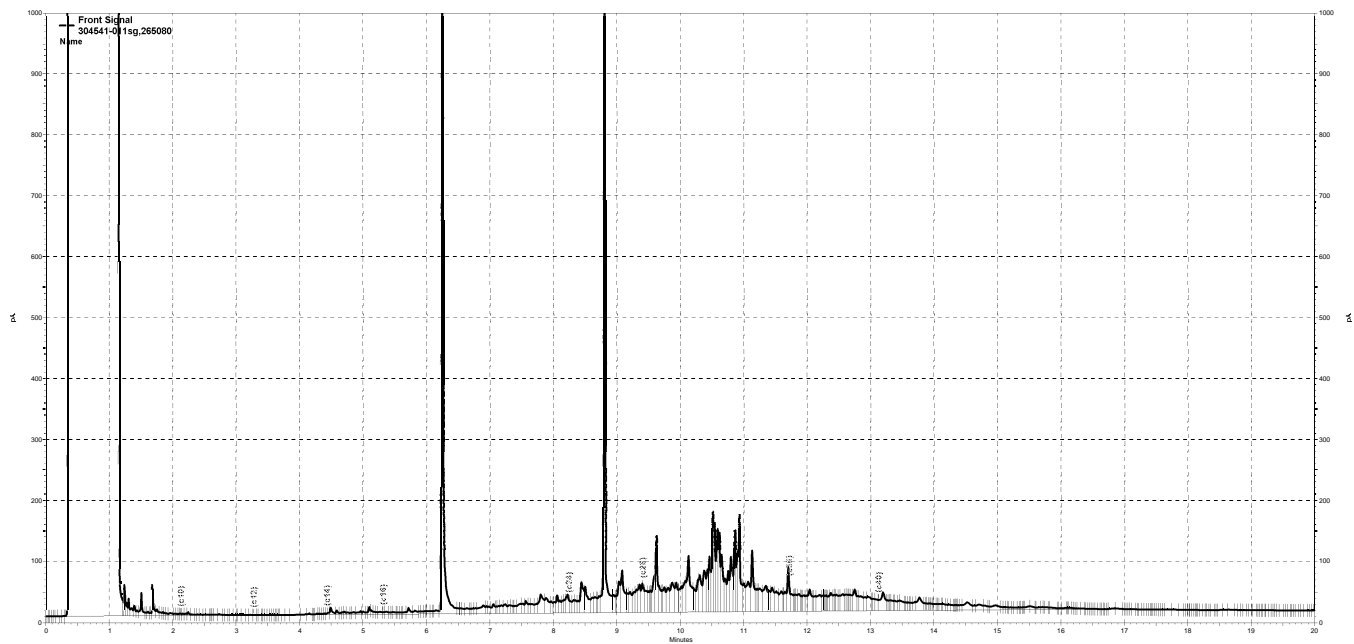
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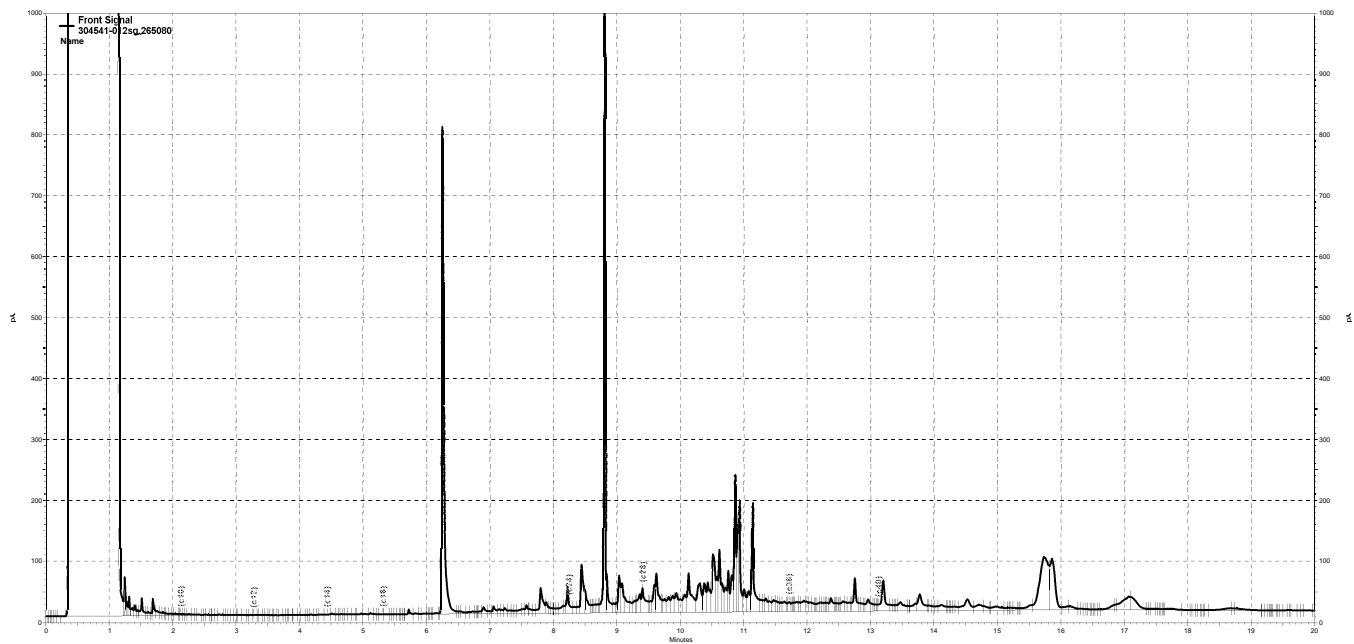
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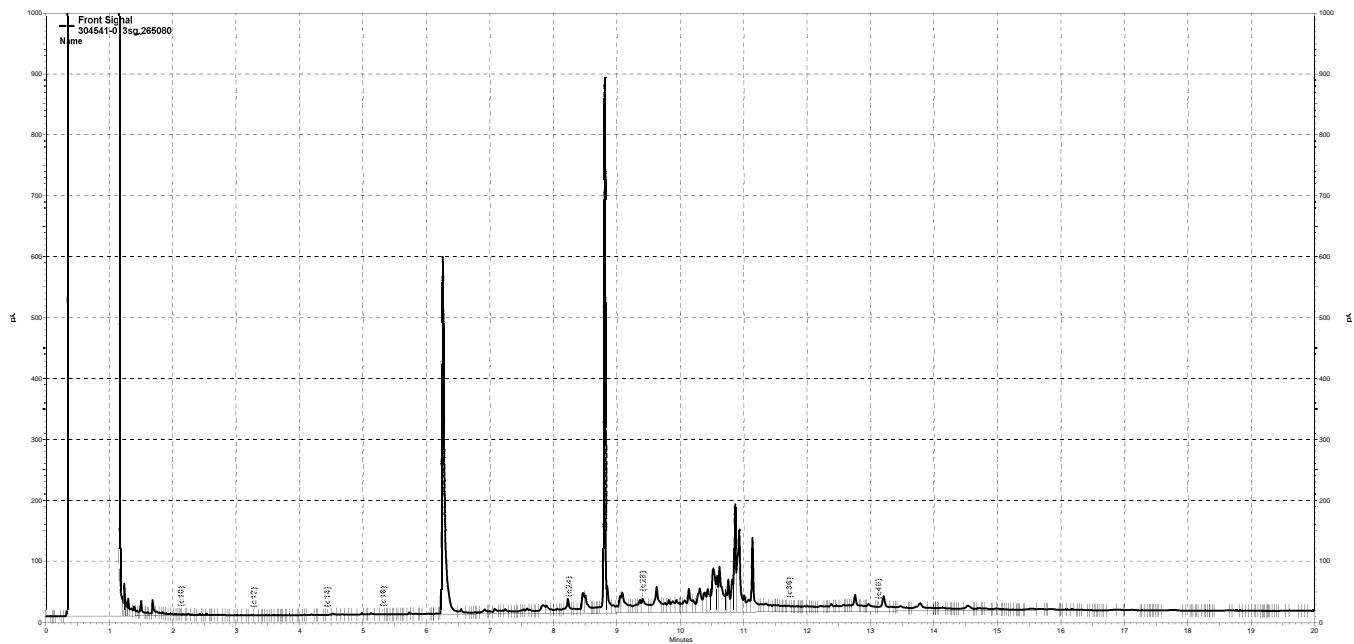
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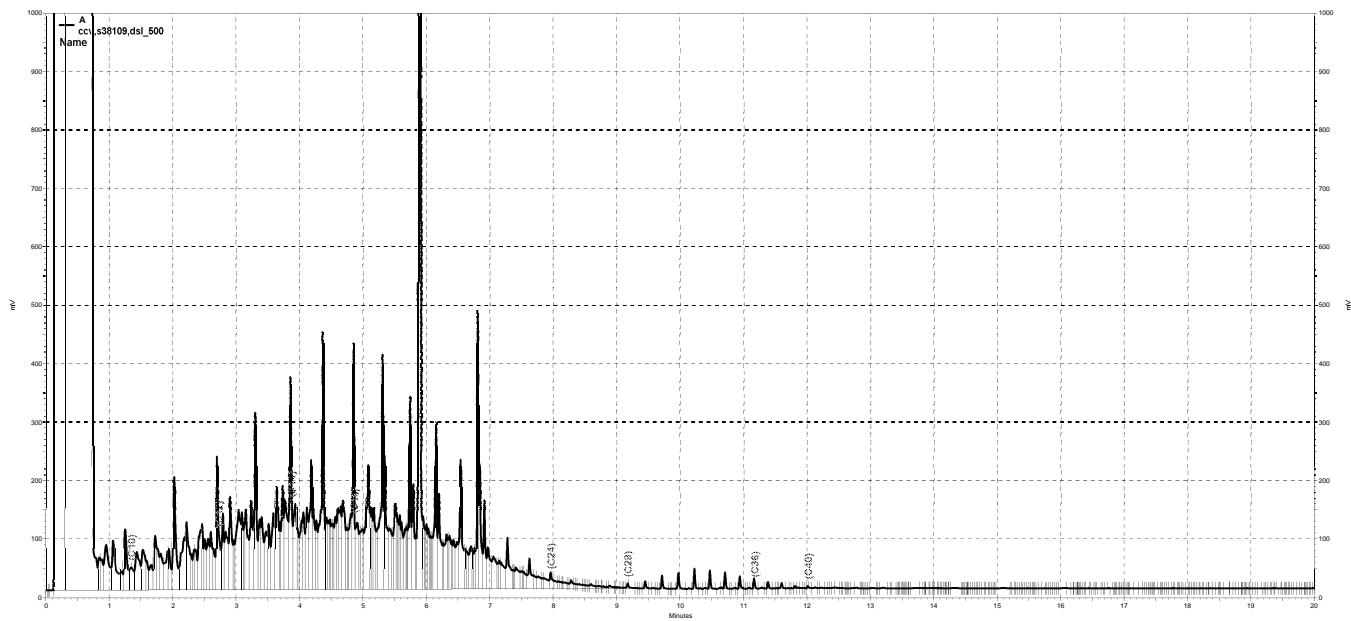
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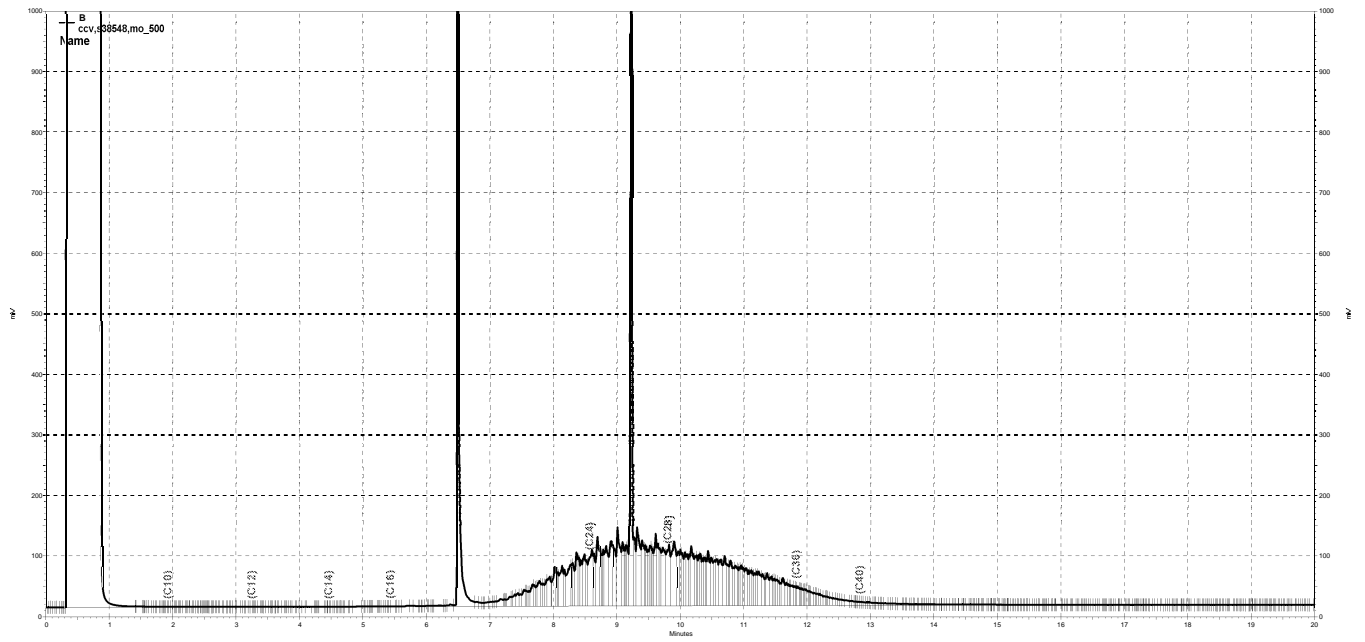
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Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	C8-8.0	Batch#:	265162
Lab ID:	304541-001	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	dry	Analyzed:	11/09/18
Diln Fac:	10.00		

Moisture: 20%

Analyte	Result	RL	MDL
Naphthalene	15 J	63	13
Acenaphthylene	ND	63	13
Acenaphthene	ND	63	13
Fluorene	ND	63	13
Phenanthrene	22 J	63	13
Anthracene	ND	63	13
Fluoranthene	30 J	63	13
Pyrene	42 J	63	13
Benzo(a)anthracene	13 J	63	13
Chrysene	21 J	63	13
Benzo(b)fluoranthene	33 J	63	13
Benzo(k)fluoranthene	ND	63	13
Benzo(a)pyrene	21 J	63	13
Indeno(1,2,3-cd)pyrene	19 J	63	13
Dibenz(a,h)anthracene	ND	63	13
Benzo(g,h,i)perylene	31 J	63	13

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: C8-5.0	Batch#: 265162
Lab ID: 304541-002	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: ug/Kg	Prepared: 11/05/18
Basis: dry	Analyzed: 11/09/18
Diln Fac: 10.00	

Moisture: 29%

Analyte	Result	RL	MDL
Naphthalene	ND	70	14
Acenaphthylene	ND	70	14
Acenaphthene	ND	70	14
Fluorene	ND	70	14
Phenanthrene	ND	70	14
Anthracene	ND	70	14
Fluoranthene	21 J	70	14
Pyrene	30 J	70	14
Benzo(a)anthracene	ND	70	14
Chrysene	ND	70	14
Benzo(b)fluoranthene	21 J	70	14
Benzo(k)fluoranthene	ND	70	14
Benzo(a)pyrene	16 J	70	14
Indeno(1,2,3-cd)pyrene	ND	70	14
Dibenz(a,h)anthracene	ND	70	14
Benzo(g,h,i)perylene	16 J	70	14

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	C8-2.0	Batch#:	265162
Lab ID:	304541-003	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	dry	Analyzed:	11/09/18
Diln Fac:	10.00		

Moisture: 32%

Analyte	Result	RL	MDL
Naphthalene	ND	73	15
Acenaphthylene	ND	73	15
Acenaphthene	ND	73	15
Fluorene	ND	73	15
Phenanthrene	ND	73	15
Anthracene	ND	73	15
Fluoranthene	ND	73	15
Pyrene	21 J	73	15
Benzo(a)anthracene	ND	73	15
Chrysene	ND	73	15
Benzo(b)fluoranthene	ND	73	15
Benzo(k)fluoranthene	ND	73	15
Benzo(a)pyrene	ND	73	15
Indeno(1,2,3-cd)pyrene	ND	73	15
Dibenz(a,h)anthracene	ND	73	15
Benzo(g,h,i)perylene	15 J	73	15

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	B8-8.5	Batch#:	265162
Lab ID:	304541-004	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	dry	Analyzed:	11/09/18
Diln Fac:	10.00		

Moisture: 12%

Analyte	Result	RL	MDL
Naphthalene	14 J	57	11
Acenaphthylene	ND	57	11
Acenaphthene	ND	57	11
Fluorene	ND	57	11
Phenanthrene	18 J	57	11
Anthracene	ND	57	11
Fluoranthene	19 J	57	11
Pyrene	23 J	57	11
Benzo(a)anthracene	ND	57	11
Chrysene	15 J	57	11
Benzo(b)fluoranthene	21 J	57	11
Benzo(k)fluoranthene	ND	57	11
Benzo(a)pyrene	ND	57	11
Indeno(1,2,3-cd)pyrene	ND	57	11
Dibenz(a,h)anthracene	ND	57	11
Benzo(g,h,i)perylene	18 J	57	11

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	B8-6.5	Batch#:	265162
Lab ID:	304541-005	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	dry	Analyzed:	11/09/18
Diln Fac:	10.00		

Moisture: 28%

Analyte	Result	RL	MDL
Naphthalene	ND	69	14
Acenaphthylene	ND	69	14
Acenaphthene	ND	69	14
Fluorene	ND	69	14
Phenanthrene	17 J	69	14
Anthracene	ND	69	14
Fluoranthene	32 J	69	14
Pyrene	40 J	69	14
Benzo(a)anthracene	14 J	69	14
Chrysene	15 J	69	14
Benzo(b)fluoranthene	24 J	69	14
Benzo(k)fluoranthene	ND	69	14
Benzo(a)pyrene	20 J	69	14
Indeno(1,2,3-cd)pyrene	ND	69	14
Dibenz(a,h)anthracene	ND	69	14
Benzo(g,h,i)perylene	22 J	69	14

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: FD-2	Batch#: 265162
Lab ID: 304541-006	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: ug/Kg	Prepared: 11/05/18
Basis: dry	Analyzed: 11/09/18
Diln Fac: 10.00	

Moisture: 29%

Analyte	Result	RL	MDL
Naphthalene	ND	70	14
Acenaphthylene	ND	70	14
Acenaphthene	ND	70	14
Fluorene	ND	70	14
Phenanthrene	ND	70	14
Anthracene	ND	70	14
Fluoranthene	16 J	70	14
Pyrene	24 J	70	14
Benzo(a)anthracene	ND	70	14
Chrysene	ND	70	14
Benzo(b)fluoranthene	15 J	70	14
Benzo(k)fluoranthene	ND	70	14
Benzo(a)pyrene	ND	70	14
Indeno(1,2,3-cd)pyrene	ND	70	14
Dibenz(a,h)anthracene	ND	70	14
Benzo(g,h,i)perylene	20 J	70	14

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: B8-4.5	Batch#: 265162
Lab ID: 304541-007	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: ug/Kg	Prepared: 11/05/18
Basis: dry	Analyzed: 11/09/18
Diln Fac: 10.00	

Moisture: 35%

Analyte	Result	RL	MDL
Naphthalene	ND	77	15
Acenaphthylene	ND	77	15
Acenaphthene	ND	77	15
Fluorene	ND	77	15
Phenanthrene	ND	77	15
Anthracene	ND	77	15
Fluoranthene	21 J	77	15
Pyrene	33 J	77	15
Benzo(a)anthracene	ND	77	15
Chrysene	ND	77	15
Benzo(b)fluoranthene	24 J	77	15
Benzo(k)fluoranthene	ND	77	15
Benzo(a)pyrene	23 J	77	15
Indeno(1,2,3-cd)pyrene	16 J	77	15
Dibenz(a,h)anthracene	ND	77	15
Benzo(g,h,i)perylene	29 J	77	15

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	A7-12.0	Batch#:	265162
Lab ID:	304541-008	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	dry	Analyzed:	11/09/18
Diln Fac:	10.00		

Moisture: 17%

Analyte	Result	RL	MDL
Naphthalene	ND	60	12
Acenaphthylene	ND	60	12
Acenaphthene	ND	60	12
Fluorene	ND	60	12
Phenanthrene	38 J	60	12
Anthracene	ND	60	12
Fluoranthene	70	60	12
Pyrene	85	60	12
Benzo(a)anthracene	28 J	60	12
Chrysene	43 J	60	12
Benzo(b)fluoranthene	75	60	12
Benzo(k)fluoranthene	20 J	60	12
Benzo(a)pyrene	41 J	60	12
Indeno(1,2,3-cd)pyrene	44 J	60	12
Dibenz(a,h)anthracene	ND	60	12
Benzo(g,h,i)perylene	67	60	12

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: A7-9.0	Batch#: 265162
Lab ID: 304541-009	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: ug/Kg	Prepared: 11/05/18
Basis: dry	Analyzed: 11/09/18
Diln Fac: 10.00	

Moisture: 21%

Analyte	Result	RL	MDL
Naphthalene	ND	63	13
Acenaphthylene	ND	63	13
Acenaphthene	ND	63	13
Fluorene	ND	63	13
Phenanthrene	26 J	63	13
Anthracene	ND	63	13
Fluoranthene	42 J	63	13
Pyrene	54 J	63	13
Benzo(a)anthracene	17 J	63	13
Chrysene	26 J	63	13
Benzo(b)fluoranthene	40 J	63	13
Benzo(k)fluoranthene	ND	63	13
Benzo(a)pyrene	30 J	63	13
Indeno(1,2,3-cd)pyrene	24 J	63	13
Dibenz(a,h)anthracene	ND	63	13
Benzo(g,h,i)perylene	39 J	63	13

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: FD-3	Batch#: 265162
Lab ID: 304541-010	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: ug/Kg	Prepared: 11/05/18
Basis: dry	Analyzed: 11/09/18
Diln Fac: 10.00	

Moisture: 17%

Analyte	Result	RL	MDL
Naphthalene	ND	60	12
Acenaphthylene	ND	60	12
Acenaphthene	ND	60	12
Fluorene	ND	60	12
Phenanthrene	28 J	60	12
Anthracene	ND	60	12
Fluoranthene	57 J	60	12
Pyrene	73	60	12
Benzo(a)anthracene	23 J	60	12
Chrysene	37 J	60	12
Benzo(b)fluoranthene	70	60	12
Benzo(k)fluoranthene	18 J	60	12
Benzo(a)pyrene	37 J	60	12
Indeno(1,2,3-cd)pyrene	43 J	60	12
Dibenz(a,h)anthracene	ND	60	12
Benzo(g,h,i)perylene	66	60	12

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: A7-5.5	Batch#: 265162
Lab ID: 304541-011	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: ug/Kg	Prepared: 11/05/18
Basis: dry	Analyzed: 11/09/18
Diln Fac: 10.00	

Moisture: 26%

Analyte	Result	RL	MDL
Naphthalene	ND	68	14
Acenaphthylene	ND	68	14
Acenaphthene	ND	68	14
Fluorene	ND	68	14
Phenanthrene	15 J	68	14
Anthracene	ND	68	14
Fluoranthene	23 J	68	14
Pyrene	32 J	68	14
Benzo(a)anthracene	ND	68	14
Chrysene	ND	68	14
Benzo(b)fluoranthene	19 J	68	14
Benzo(k)fluoranthene	ND	68	14
Benzo(a)pyrene	15 J	68	14
Indeno(1,2,3-cd)pyrene	ND	68	14
Dibenz(a,h)anthracene	ND	68	14
Benzo(g,h,i)perylene	23 J	68	14

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	B9-8.5	Batch#:	265162
Lab ID:	304541-012	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	dry	Analyzed:	11/09/18
Diln Fac:	10.00		

Moisture: 24%

Analyte	Result	RL	MDL
Naphthalene	ND	66	13
Acenaphthylene	ND	66	13
Acenaphthene	ND	66	13
Fluorene	ND	66	13
Phenanthrene	29 J	66	13
Anthracene	ND	66	13
Fluoranthene	62 J	66	13
Pyrene	80	66	13
Benzo(a)anthracene	28 J	66	13
Chrysene	38 J	66	13
Benzo(b)fluoranthene	60 J	66	13
Benzo(k)fluoranthene	17 J	66	13
Benzo(a)pyrene	47 J	66	13
Indeno(1,2,3-cd)pyrene	38 J	66	13
Dibenz(a,h)anthracene	ND	66	13
Benzo(g,h,i)perylene	58 J	66	13

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	B9-6.5	Batch#:	265162
Lab ID:	304541-013	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	dry	Analyzed:	11/09/18
Diln Fac:	10.00		

Moisture: 31%

Analyte	Result	RL	MDL
Naphthalene	ND	72	14
Acenaphthylene	ND	72	14
Acenaphthene	ND	72	14
Fluorene	ND	72	14
Phenanthrene	21 J	72	14
Anthracene	ND	72	14
Fluoranthene	50 J	72	14
Pyrene	72 J	72	14
Benzo(a)anthracene	20 J	72	14
Chrysene	28 J	72	14
Benzo(b)fluoranthene	51 J	72	14
Benzo(k)fluoranthene	15 J	72	14
Benzo(a)pyrene	44 J	72	14
Indeno(1,2,3-cd)pyrene	37 J	72	14
Dibenz(a,h)anthracene	ND	72	14
Benzo(g,h,i)perylene	60 J	72	14

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC954323	Batch#:	265162
Matrix:	Soil	Prepared:	11/05/18
Units:	ug/Kg	Analyzed:	11/06/18

Analyte	Result	RL	MDL
Naphthalene	ND	5.0	1.0
Acenaphthylene	ND	5.0	1.0
Acenaphthene	ND	5.0	1.0
Fluorene	ND	5.0	1.0
Phenanthrene	ND	5.0	1.0
Anthracene	ND	5.0	1.0
Fluoranthene	ND	5.0	1.0
Pyrene	ND	5.0	1.0
Benzo(a)anthracene	ND	5.0	1.0
Chrysene	ND	5.0	1.0
Benzo(b)fluoranthene	ND	5.0	1.0
Benzo(k)fluoranthene	ND	5.0	1.0
Benzo(a)pyrene	ND	5.0	1.0
Indeno(1,2,3-cd)pyrene	ND	5.0	1.0
Dibenz(a,h)anthracene	ND	5.0	1.0
Benzo(g,h,i)perylene	ND	5.0	1.0

Surrogate	%REC	Limits
Nitrobenzene-d5	83	43-120
2-Fluorobiphenyl	77	36-120
Terphenyl-d14	82	56-120

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC954324	Batch#:	265162
Matrix:	Soil	Prepared:	11/05/18
Units:	ug/Kg	Analyzed:	11/06/18

Analyte	Spiked	Result	%REC	Limits
Acenaphthene	33.33	29.70	89	54-120
Pyrene	33.33	28.74	86	65-120

Surrogate	%REC	Limits
Nitrobenzene-d5	86	43-120
2-Fluorobiphenyl	80	36-120
Terphenyl-d14	84	56-120

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	ZZZZZZZZZZ	Batch#:	265162
MSS Lab ID:	304490-015	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	as received	Analyzed:	11/06/18
Diln Fac:	1.000		

Type: MS Lab ID: QC954325

Analyte	MSS Result	Spiked	Result	%REC	Limits
Acenaphthene	<1.011	33.62	31.49	94	44-120
Pyrene	<1.011	33.62	31.56	94	51-128

Surrogate	%REC	Limits
Nitrobenzene-d5	93	43-120
2-Fluorobiphenyl	84	36-120
Terphenyl-d14	92	56-120

Type: MSD Lab ID: QC954326

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Acenaphthene	33.07	26.68	81	44-120	15	39
Pyrene	33.07	26.83	81	51-128	15	50

Surrogate	%REC	Limits
Nitrobenzene-d5	79	43-120
2-Fluorobiphenyl	70	36-120
Terphenyl-d14	77	56-120

RPD= Relative Percent Difference

Organochlorine Pesticides

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8081A
Field ID: C8-8.0	Batch#: 265040
Lab ID: 304541-001	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: ug/Kg	Prepared: 10/31/18
Basis: dry	Analyzed: 11/01/18
Diln Fac: 1.000	

Moisture: 20%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.4	0.13
beta-BHC	ND	1.4	0.082
gamma-BHC	ND	1.4	0.10
delta-BHC	ND	1.4	0.10
Heptachlor	ND	1.4	0.10
Aldrin	ND	1.4	0.077
Heptachlor epoxide	0.24 C J	1.4	0.098
Endosulfan I	ND	1.4	0.10
Dieldrin	1.4 J	2.8	0.11
4,4'-DDE	2.8 J	2.8	0.10
Endrin	0.20 C J	2.8	0.084
Endosulfan II	ND	2.8	0.10
Endosulfan sulfate	ND	2.8	0.094
4,4'-DDD	1.2 J	2.8	0.10
Endrin aldehyde	ND	2.8	0.75
4,4'-DDT	0.38 C J	2.8	0.11
alpha-Chlordane	0.32 C J	1.4	0.18
gamma-Chlordane	0.36 J	1.4	0.14
Methoxychlor	ND	14	1.9
Toxaphene	ND	51	17

Surrogate	%REC	Limits
TCMX	58	28-136
Decachlorobiphenyl	41	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8081A
Field ID: C8-5.0	Batch#: 265040
Lab ID: 304541-002	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: ug/Kg	Prepared: 10/31/18
Basis: dry	Analyzed: 11/02/18
Diln Fac: 1.000	

Moisture: 29%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.6	0.13
beta-BHC	ND	1.6	0.16
gamma-BHC	ND	1.6	0.18
delta-BHC	ND	1.6	0.23
Heptachlor	ND	1.6	0.17
Aldrin	ND	1.6	0.13
Heptachlor epoxide	ND	1.6	0.12
Endosulfan I	ND	1.6	0.15
Dieldrin	1.0 C J	3.2	0.11
4,4'-DDE	0.30 C J	3.2	0.11
Endrin	0.43 J	3.2	0.095
Endosulfan II	ND	3.2	0.18
Endosulfan sulfate	ND	3.2	0.25
4,4'-DDD	4.9	3.2	0.22
Endrin aldehyde	ND	3.2	0.98
4,4'-DDT	0.74 C J	3.2	0.13
alpha-Chlordane	0.39 C J	1.6	0.20
gamma-Chlordane	ND	1.6	0.20
Methoxychlor	ND	16	3.8
Toxaphene	ND	57	17

Surrogate	%REC	Limits
TCMX	71	28-136
Decachlorobiphenyl	77	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	C8-2.0	Batch#:	265040
Lab ID:	304541-003	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	10/31/18
Basis:	dry	Analyzed:	11/02/18
Diln Fac:	1.000		

Moisture: 32%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.6	0.13
beta-BHC	0.66 C J	1.6	0.096
gamma-BHC	ND	1.6	0.19
delta-BHC	ND	1.6	0.23
Heptachlor	ND	1.6	0.18
Aldrin	ND	1.6	0.14
Heptachlor epoxide	ND	1.6	0.13
Endosulfan I	ND	1.6	0.16
Dieldrin	ND	3.3	0.13
4,4'-DDE	ND	3.3	0.15
Endrin	ND	3.3	0.31
Endosulfan II	ND	3.3	0.18
Endosulfan sulfate	ND	3.3	0.26
4,4'-DDD	ND	3.3	0.22
Endrin aldehyde	ND	3.3	1.0
4,4'-DDT	ND	3.3	0.50
alpha-Chlordane	ND	1.6	0.21
gamma-Chlordane	ND	1.6	0.20
Methoxychlor	ND	16	4.0
Toxaphene	ND	59	17

Surrogate	%REC	Limits
TCMX	69	28-136
Decachlorobiphenyl	67	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	B8-8.5	Batch#:	265040
Lab ID:	304541-004	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	10/31/18
Basis:	dry	Analyzed:	11/02/18
Diln Fac:	1.000		

Moisture: 12%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.3	0.10
beta-BHC	ND	1.3	0.13
gamma-BHC	ND	1.3	0.14
delta-BHC	ND	1.3	0.18
Heptachlor	ND	1.3	0.14
Aldrin	ND	1.3	0.11
Heptachlor epoxide	ND	1.3	0.098
Endosulfan I	ND	1.3	0.12
Dieldrin	0.34 C J	2.6	0.092
4,4'-DDE	ND	2.6	0.11
Endrin	ND	2.6	0.24
Endosulfan II	ND	2.6	0.14
Endosulfan sulfate	ND	2.6	0.21
4,4'-DDD	0.81 J	2.6	0.092
Endrin aldehyde	ND	2.6	0.79
4,4'-DDT	0.18 C J	2.6	0.10
alpha-Chlordane	0.27 C J	1.3	0.17
gamma-Chlordane	ND	1.3	0.16
Methoxychlor	ND	13	3.1
Toxaphene	ND	46	13

Surrogate	%REC	Limits
TCMX	61	28-136
Decachlorobiphenyl	60	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	B8-6.5	Batch#:	265040
Lab ID:	304541-005	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	10/31/18
Basis:	dry	Analyzed:	11/02/18
Diln Fac:	1.000		

Moisture: 28%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.6	0.13
beta-BHC	0.37 C J	1.6	0.16
gamma-BHC	ND	1.6	0.18
delta-BHC	ND	1.6	0.22
Heptachlor	ND	1.6	0.17
Aldrin	ND	1.6	0.13
Heptachlor epoxide	ND	1.6	0.12
Endosulfan I	ND	1.6	0.15
Dieldrin	ND	3.1	0.13
4,4'-DDE	ND	3.1	0.14
Endrin	ND	3.1	0.29
Endosulfan II	ND	3.1	0.17
Endosulfan sulfate	ND	3.1	0.25
4,4'-DDD	ND	3.1	0.21
Endrin aldehyde	ND	3.1	0.97
4,4'-DDT	ND	3.1	0.48
alpha-Chlordane	ND	1.6	0.20
gamma-Chlordane	ND	1.6	0.19
Methoxychlor	ND	16	3.8
Toxaphene	ND	57	16

Surrogate	%REC	Limits
TCMX	56	28-136
Decachlorobiphenyl	48	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	FD-2	Batch#:	265246
Lab ID:	304541-006	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/07/18
Basis:	dry	Analyzed:	11/12/18
Diln Fac:	1.000		

Moisture: 29%

Analyte	Result	RL	MDL
alpha-BHC	ND	1.6	0.14
beta-BHC	0.21 C J	1.6	0.16
gamma-BHC	ND	1.6	0.11
delta-BHC	ND	1.6	0.11
Heptachlor	ND	1.6	0.11
Aldrin	ND	1.6	0.13
Heptachlor epoxide	ND	1.6	0.11
Endosulfan I	ND	1.6	0.11
Dieldrin	0.16 C J	3.1	0.11
4,4'-DDE	0.32 C J	3.1	0.11
Endrin	ND	3.1	0.093
Endosulfan II	ND	3.1	0.11
Endosulfan sulfate	ND	3.1	0.10
4,4'-DDD	0.22 C J	3.1	0.11
Endrin aldehyde	ND	3.1	0.82
4,4'-DDT	0.48 J	3.1	0.47
alpha-Chlordane	ND	1.6	0.25
gamma-Chlordane	0.63 J	1.6	0.19
Methoxychlor	ND	16	2.1
Toxaphene	ND	56	19

Surrogate	%REC	Limits
TCMX	70	28-136
Decachlorobiphenyl	68	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8081A
Field ID: B8-4.5	Batch#: 265246
Lab ID: 304541-007	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: ug/Kg	Prepared: 11/07/18
Basis: dry	Analyzed: 11/12/18
Diln Fac: 1.000	

Moisture: 35%

Analyte	Result	RL	MDL
alpha-BHC	ND	1.7	0.15
beta-BHC	ND	1.7	0.097
gamma-BHC	ND	1.7	0.12
delta-BHC	ND	1.7	0.12
Heptachlor	ND	1.7	0.12
Aldrin	ND	1.7	0.092
Heptachlor epoxide	ND	1.7	0.12
Endosulfan I	ND	1.7	0.12
Dieldrin	ND	3.4	0.13
4,4'-DDE	ND	3.4	0.12
Endrin	ND	3.4	0.10
Endosulfan II	ND	3.4	0.12
Endosulfan sulfate	ND	3.4	0.11
4,4'-DDD	ND	3.4	0.12
Endrin aldehyde	ND	3.4	0.89
4,4'-DDT	ND	3.4	0.14
alpha-Chlordane	ND	1.7	0.27
gamma-Chlordane	ND	1.7	0.21
Methoxychlor	ND	17	2.3
Toxaphene	ND	60	20

Surrogate	%REC	Limits
TCMX	72	28-136
Decachlorobiphenyl	50	41-142

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8081A
Field ID: A7-12.0	Batch#: 265040
Lab ID: 304541-008	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: ug/Kg	Prepared: 10/31/18
Basis: dry	Analyzed: 11/02/18
Diln Fac: 1.000	

Moisture: 17%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	0.17 J	1.3	0.11
beta-BHC	ND	1.3	0.14
gamma-BHC	ND	1.3	0.15
delta-BHC	ND	1.3	0.19
Heptachlor	ND	1.3	0.15
Aldrin	ND	1.3	0.11
Heptachlor epoxide	ND	1.3	0.10
Endosulfan I	ND	1.3	0.13
Dieldrin	0.22 C J	2.7	0.11
4,4'-DDE	0.16 C J	2.7	0.097
Endrin	0.63 J	2.7	0.080
Endosulfan II	ND	2.7	0.15
Endosulfan sulfate	0.40 C J	2.7	0.090
4,4'-DDD	2.5 J	2.7	0.18
Endrin aldehyde	ND	2.7	0.83
4,4'-DDT	1.1 C J	2.7	0.11
alpha-Chlordane	ND	1.3	0.17
gamma-Chlordane	ND	1.3	0.17
Methoxychlor	ND	13	3.2
Toxaphene	ND	48	14

Surrogate	%REC	Limits
TCMX	48	28-136
Decachlorobiphenyl	49	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	A7-9.0	Batch#:	265040
Lab ID:	304541-009	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	10/31/18
Basis:	dry	Analyzed:	11/02/18
Diln Fac:	1.000		

Moisture: 21%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.4	0.12
beta-BHC	ND	1.4	0.15
gamma-BHC	ND	1.4	0.16
delta-BHC	ND	1.4	0.20
Heptachlor	ND	1.4	0.16
Aldrin	ND	1.4	0.12
Heptachlor epoxide	0.11 C J	1.4	0.11
Endosulfan I	ND	1.4	0.14
Dieldrin	1.9 J	2.9	0.11
4,4'-DDE	7.9	2.9	0.13
Endrin	0.36 C J	2.9	0.27
Endosulfan II	ND	2.9	0.16
Endosulfan sulfate	0.28 C J	2.9	0.096
4,4'-DDD	14	2.9	0.19
Endrin aldehyde	ND	2.9	0.89
4,4'-DDT	15 #	2.9	0.43
alpha-Chlordane	1.3 C J	1.4	0.18
gamma-Chlordane	2.1 C	1.4	0.14
Methoxychlor	ND	14	3.5
Toxaphene	ND	52	15

Surrogate	%REC	Limits
TCMX	64	28-136
Decachlorobiphenyl	65	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	FD-3	Batch#:	265246
Lab ID:	304541-010	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/07/18
Basis:	dry	Analyzed:	11/08/18
Diln Fac:	1.000		

Moisture: 17%

Analyte	Result	RL	MDL
alpha-BHC	0.15 C J	1.3	0.12
beta-BHC	ND	1.3	0.078
gamma-BHC	ND	1.3	0.097
delta-BHC	ND	1.3	0.096
Heptachlor	ND	1.3	0.096
Aldrin	ND	1.3	0.073
Heptachlor epoxide	0.11 J	1.3	0.093
Endosulfan I	ND	1.3	0.096
Dieldrin	0.21 J	2.7	0.096
4,4'-DDE	2.9 #	2.7	0.096
Endrin	0.75 J	2.7	0.080
Endosulfan II	ND	2.7	0.096
Endosulfan sulfate	0.59 C J	2.7	0.089
4,4'-DDD	3.1	2.7	0.18
Endrin aldehyde	ND	2.7	0.71
4,4'-DDT	1.0 J	2.7	0.11
alpha-Chlordane	ND	1.3	0.22
gamma-Chlordane	ND	1.3	0.17
Methoxychlor	ND	13	1.8
Toxaphene	ND	48	16

Surrogate	%REC	Limits
TCMX	64	28-136
Decachlorobiphenyl	51	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	A7-5.5	Batch#:	265246
Lab ID:	304541-011	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/07/18
Basis:	dry	Analyzed:	11/12/18
Diln Fac:	1.000		

Moisture: 26%

Analyte	Result	RL	MDL
alpha-BHC	ND	1.5	0.13
beta-BHC	ND	1.5	0.086
gamma-BHC	ND	1.5	0.11
delta-BHC	ND	1.5	0.11
Heptachlor	ND	1.5	0.11
Aldrin	ND	1.5	0.081
Heptachlor epoxide	0.24 J	1.5	0.10
Endosulfan I	ND	1.5	0.11
Dieldrin	0.56 J	3.0	0.12
4,4'-DDE	2.6 J	3.0	0.13
Endrin	ND	3.0	0.089
Endosulfan II	ND	3.0	0.11
Endosulfan sulfate	ND	3.0	0.099
4,4'-DDD	9.2	3.0	0.11
Endrin aldehyde	ND	3.0	0.79
4,4'-DDT	0.27 C J	3.0	0.12
alpha-Chlordane	1.0 J	1.5	0.24
gamma-Chlordane	0.91 C J	1.5	0.15
Methoxychlor	ND	15	3.6
Toxaphene	ND	53	18

Surrogate	%REC	Limits
TCMX	5 *	28-136
Decachlorobiphenyl	23 *	41-142

*= Value outside of QC limits; see narrative

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	B9-8.5	Batch#:	265246
Lab ID:	304541-012	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/07/18
Basis:	dry	Analyzed:	11/12/18
Diln Fac:	1.000		

Moisture: 24%

Analyte	Result	RL	MDL
alpha-BHC	ND	1.4	0.13
beta-BHC	ND	1.4	0.15
gamma-BHC	ND	1.4	0.11
delta-BHC	0.19 C J	1.4	0.10
Heptachlor	ND	1.4	0.10
Aldrin	0.41 J	1.4	0.080
Heptachlor epoxide	0.14 C J	1.4	0.11
Endosulfan I	ND	1.4	0.10
Dieldrin	0.20 C J	2.9	0.10
4,4'-DDE	3.7 #	2.9	0.10
Endrin	ND	2.9	0.27
Endosulfan II	ND	2.9	0.10
Endosulfan sulfate	ND	2.9	0.097
4,4'-DDD	8.7	2.9	0.10
Endrin aldehyde	ND	2.9	0.77
4,4'-DDT	6.2 C	2.9	0.12
alpha-Chlordane	0.71 C J	1.4	0.19
gamma-Chlordane	0.70 J	1.4	0.14
Methoxychlor	ND	14	2.0
Toxaphene	ND	52	17

Surrogate	%REC	Limits
TCMX	63	28-136
Decachlorobiphenyl	63	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	B9-6.5	Batch#:	265233
Lab ID:	304541-013	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/06/18
Basis:	dry	Analyzed:	11/12/18
Diln Fac:	1.000		

Moisture: 31%

Cleanup Method: EPA 3620

Analyte	Result	RL	MDL
alpha-BHC	ND	1.6	0.15
beta-BHC	ND	1.6	0.16
gamma-BHC	ND	1.6	0.12
delta-BHC	ND	1.6	0.11
Heptachlor	ND	1.6	0.11
Aldrin	0.089 C J	1.6	0.088
Heptachlor epoxide	0.23 C J	1.6	0.12
Endosulfan I	ND	1.6	0.16
Dieldrin	0.41 C J	3.2	0.11
4,4'-DDE	4.8 #	3.2	0.11
Endrin	ND	3.2	0.30
Endosulfan II	ND	3.2	0.11
Endosulfan sulfate	ND	3.2	0.11
4,4'-DDD	19	3.2	0.11
Endrin aldehyde	ND	3.2	0.85
4,4'-DDT	0.90 C J	3.2	0.13
alpha-Chlordane	1.1 C J	1.6	0.21
gamma-Chlordane	1.1 C J	1.6	0.16
Methoxychlor	ND	16	2.2
Toxaphene	ND	57	19

Surrogate	%REC	Limits
TCMX	71	28-136
Decachlorobiphenyl	74	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC953810	Batch#:	265040
Matrix:	Soil	Prepared:	10/31/18
Units:	ug/Kg	Analyzed:	11/01/18

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.83	0.076
beta-BHC	ND	0.83	0.048
gamma-BHC	ND	0.83	0.061
delta-BHC	ND	0.83	0.060
Heptachlor	ND	0.83	0.060
Aldrin	ND	0.83	0.046
Heptachlor epoxide	ND	0.83	0.058
Endosulfan I	ND	0.83	0.060
Dieldrin	ND	1.7	0.060
4,4'-DDE	ND	1.7	0.060
Endrin	ND	1.7	0.050
Endosulfan II	ND	1.7	0.060
Endosulfan sulfate	ND	1.7	0.056
4,4'-DDD	ND	1.7	0.060
Endrin aldehyde	ND	1.7	0.44
4,4'-DDT	ND	1.7	0.068
alpha-Chlordane	ND	0.83	0.13
gamma-Chlordane	ND	0.83	0.083
Methoxychlor	ND	8.3	1.1
Toxaphene	ND	30	10

Surrogate	%REC	Limits
TCMX	92	28-136
Decachlorobiphenyl	90	41-142

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Organochlorine Pesticides		
Lab #:	304541	Location: Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep: EPA 3546
Project#:	1116.09	Analysis: EPA 8081A
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC953811	Batch#: 265040
Matrix:	Soil	Prepared: 10/31/18
Units:	ug/Kg	Analyzed: 11/01/18

Cleanup Method: EPA 3620B

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	10.00	10.87	109	45-141
Heptachlor	10.00	10.82	108	43-144
Aldrin	10.00	10.93	109	43-137
Dieldrin	10.00	10.83 #	108	51-149
Endrin	10.00	11.18 #	112	40-165
4,4'-DDT	10.00	12.04	120	50-145

Surrogate	%REC	Limits
TCMX	89	28-136
Decachlorobiphenyl	98	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

Batch QC Report

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC954616	Batch#:	265233
Matrix:	Soil	Prepared:	11/06/18
Units:	ug/Kg	Analyzed:	11/07/18

Cleanup Method: EPA 3620

Analyte	Result	RL	MDL
alpha-BHC	ND	0.83	0.076
beta-BHC	ND	0.83	0.048
gamma-BHC	ND	0.83	0.061
delta-BHC	ND	0.83	0.060
Heptachlor	ND	0.83	0.092
Aldrin	ND	0.83	0.046
Heptachlor epoxide	ND	0.83	0.058
Endosulfan I	ND	0.83	0.060
Dieldrin	ND	1.7	0.060
4,4'-DDE	ND	1.7	0.060
Endrin	ND	1.7	0.050
Endosulfan II	ND	1.7	0.060
Endosulfan sulfate	ND	1.7	0.056
4,4'-DDD	ND	1.7	0.060
Endrin aldehyde	ND	1.7	0.44
4,4'-DDT	ND	1.7	0.068
alpha-Chlordane	ND	0.83	0.13
gamma-Chlordane	0.17 C J	0.83	0.10
Methoxychlor	ND	8.3	1.1
Toxaphene	ND	30	10

Surrogate	%REC	Limits
TCMX	86	28-136
Decachlorobiphenyl	85	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Organochlorine Pesticides		
Lab #:	304541	Location: Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep: EPA 3546
Project#:	1116.09	Analysis: EPA 8081A
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC954617	Batch#: 265233
Matrix:	Soil	Prepared: 11/06/18
Units:	ug/Kg	Analyzed: 11/07/18

Cleanup Method: EPA 3620

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	10.00	9.648	96	45-141
Heptachlor	10.00	11.18	112	43-144
Aldrin	10.00	9.440	94	43-137
Dieldrin	10.00	10.26	103	51-149
Endrin	10.00	10.57 #	106	40-165
4,4'-DDT	10.00	10.73 #	107	50-145

Surrogate	%REC	Limits
TCMX	62	28-136
Decachlorobiphenyl	68	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

Batch QC Report

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC954734	Batch#:	265246
Matrix:	Soil	Prepared:	11/07/18
Units:	ug/Kg	Analyzed:	11/08/18

Analyte	Result	RL	MDL
alpha-BHC	ND	0.83	0.076
beta-BHC	ND	0.83	0.048
gamma-BHC	ND	0.83	0.061
delta-BHC	ND	0.83	0.060
Heptachlor	ND	0.83	0.060
Aldrin	ND	0.83	0.046
Heptachlor epoxide	ND	0.83	0.058
Endosulfan I	ND	0.83	0.060
Dieldrin	ND	1.7	0.060
4,4'-DDE	ND	1.7	0.060
Endrin	ND	1.7	0.050
Endosulfan II	ND	1.7	0.060
Endosulfan sulfate	ND	1.7	0.056
4,4'-DDD	ND	1.7	0.060
Endrin aldehyde	ND	1.7	0.44
4,4'-DDT	ND	1.7	0.068
alpha-Chlordane	ND	0.83	0.13
gamma-Chlordane	0.12 C J	0.83	0.10
Methoxychlor	ND	8.3	1.1
Toxaphene	ND	30	10

Surrogate	%REC	Limits
TCMX	64	28-136
Decachlorobiphenyl	64	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Organochlorine Pesticides		
Lab #:	304541	Location: Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep: EPA 3546
Project#:	1116.09	Analysis: EPA 8081A
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC954735	Batch#: 265246
Matrix:	Soil	Prepared: 11/07/18
Units:	ug/Kg	Analyzed: 11/08/18

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	10.00	9.982	100	45-141
Heptachlor	10.00	10.05	101	43-144
Aldrin	10.00	10.34	103	43-137
Dieldrin	10.00	10.02 #	100	51-149
Endrin	10.00	9.635 #	96	40-165
4,4'-DDT	10.00	11.39	114	50-145

Surrogate	%REC	Limits
TCMX	73	28-136
Decachlorobiphenyl	70	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Sampled: 10/25/18
Units: ug/Kg	Received: 10/25/18
Basis: dry	

Field ID: C8-8.0	Diln Fac: 1.000
Type: SAMPLE	Batch#: 265222
Lab ID: 304541-001	Prepared: 11/06/18
Moisture: 20%	Analyzed: 11/07/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	15	5.7
Aroclor-1221	ND	30	9.8
Aroclor-1232	ND	15	4.8
Aroclor-1242	ND	15	5.0
Aroclor-1248	ND	15	2.1
Aroclor-1254	ND	15	4.3
Aroclor-1260	10 J	15	4.1

Surrogate	%REC	Limits
Decachlorobiphenyl	68	37-170

Field ID: C8-5.0	Batch#: 265040
Type: SAMPLE	Prepared: 10/31/18
Lab ID: 304541-002	Analyzed: 11/02/18
Moisture: 29%	Cleanup Method: EPA 3620B
Diln Fac: 1.000	

Analyte	Result	RL	MDL
Aroclor-1016	ND	17	3.9
Aroclor-1221	ND	34	6.2
Aroclor-1232	ND	17	5.2
Aroclor-1242	ND	17	6.9
Aroclor-1248	ND	17	7.4
Aroclor-1254	ND	17	3.9
Aroclor-1260	25	17	5.0

Surrogate	%REC	Limits
Decachlorobiphenyl	83	37-170

*= Value outside of QC limits; see narrative
 J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Sampled: 10/25/18
Units: ug/Kg	Received: 10/25/18
Basis: dry	

Field ID: C8-2.0	Batch#: 265040
Type: SAMPLE	Prepared: 10/31/18
Lab ID: 304541-003	Analyzed: 11/02/18
Moisture: 32%	Cleanup Method: EPA 3620B
Diln Fac: 1.000	

Analyte	Result	RL	MDL
Aroclor-1016	ND	18	4.1
Aroclor-1221	ND	35	6.5
Aroclor-1232	ND	18	5.4
Aroclor-1242	ND	18	7.2
Aroclor-1248	ND	18	7.6
Aroclor-1254	ND	18	4.0
Aroclor-1260	ND	18	5.2

Surrogate	%REC	Limits
Decachlorobiphenyl	65	37-170

Field ID: B8-8.5	Batch#: 265040
Type: SAMPLE	Prepared: 10/31/18
Lab ID: 304541-004	Analyzed: 11/03/18
Moisture: 12%	Cleanup Method: EPA 3620B
Diln Fac: 2.000	

Analyte	Result	RL	MDL
Aroclor-1016	ND	15	6.4
Aroclor-1221	ND	31	10
Aroclor-1232	ND	15	8.5
Aroclor-1242	ND	15	11
Aroclor-1248	ND	15	12
Aroclor-1254	ND	15	6.3
Aroclor-1260	ND	15	8.1

Surrogate	%REC	Limits
Decachlorobiphenyl	59	37-170

*= Value outside of QC limits; see narrative
 J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Sampled: 10/25/18
Units: ug/Kg	Received: 10/25/18
Basis: dry	

Field ID: B8-6.5	Batch#: 265040
Type: SAMPLE	Prepared: 10/31/18
Lab ID: 304541-005	Analyzed: 11/03/18
Moisture: 28%	Cleanup Method: EPA 3620B
Diln Fac: 1.000	

Analyte	Result	RL	MDL
Aroclor-1016	ND	17	3.9
Aroclor-1221	ND	33	6.2
Aroclor-1232	ND	17	5.2
Aroclor-1242	ND	17	6.9
Aroclor-1248	ND	17	7.3
Aroclor-1254	ND	17	3.9
Aroclor-1260	ND	17	5.0

Surrogate	%REC	Limits
Decachlorobiphenyl	54	37-170

Field ID: FD-2	Batch#: 265040
Type: SAMPLE	Prepared: 10/31/18
Lab ID: 304541-006	Analyzed: 11/03/18
Moisture: 29%	Cleanup Method: EPA 3620B
Diln Fac: 1.000	

Analyte	Result	RL	MDL
Aroclor-1016	ND	17	3.9
Aroclor-1221	ND	34	6.2
Aroclor-1232	ND	17	5.2
Aroclor-1242	ND	17	6.9
Aroclor-1248	ND	17	7.3
Aroclor-1254	ND	17	3.9
Aroclor-1260	ND	17	5.0

Surrogate	%REC	Limits
Decachlorobiphenyl	37	37-170

*= Value outside of QC limits; see narrative
 J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Sampled: 10/25/18
Units: ug/Kg	Received: 10/25/18
Basis: dry	

Field ID: B8-4.5	Batch#: 265040
Type: SAMPLE	Prepared: 10/31/18
Lab ID: 304541-007	Analyzed: 11/03/18
Moisture: 35%	Cleanup Method: EPA 3620B
Diln Fac: 1.000	

Analyte	Result	RL	MDL
Aroclor-1016	ND	18	4.3
Aroclor-1221	ND	37	6.8
Aroclor-1232	ND	18	5.7
Aroclor-1242	ND	18	7.6
Aroclor-1248	ND	18	8.0
Aroclor-1254	ND	18	4.3
Aroclor-1260	ND	18	5.5

Surrogate	%REC	Limits
Decachlorobiphenyl	35 *	37-170

Field ID: A7-12.0	Batch#: 265040
Type: SAMPLE	Prepared: 10/31/18
Lab ID: 304541-008	Analyzed: 11/03/18
Moisture: 17%	Cleanup Method: EPA 3620B
Diln Fac: 1.000	

Analyte	Result	RL	MDL
Aroclor-1016	ND	14	3.3
Aroclor-1221	ND	29	5.3
Aroclor-1232	ND	14	4.4
Aroclor-1242	ND	14	5.9
Aroclor-1248	ND	14	6.2
Aroclor-1254	ND	14	3.3
Aroclor-1260	12 J	14	4.3

Surrogate	%REC	Limits
Decachlorobiphenyl	56	37-170

*= Value outside of QC limits; see narrative
 J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Sampled: 10/25/18
Units: ug/Kg	Received: 10/25/18
Basis: dry	

Field ID: A7-9.0	Batch#: 265040
Type: SAMPLE	Prepared: 10/31/18
Lab ID: 304541-009	Analyzed: 11/03/18
Moisture: 21%	Cleanup Method: EPA 3620B
Diln Fac: 1.000	

Analyte	Result	RL	MDL
Aroclor-1016	ND	15	3.6
Aroclor-1221	ND	30	5.6
Aroclor-1232	ND	15	4.7
Aroclor-1242	ND	15	6.2
Aroclor-1248	ND	15	6.6
Aroclor-1254	ND	15	3.5
Aroclor-1260	14 J	15	4.5

Surrogate	%REC	Limits
Decachlorobiphenyl	68	37-170

Field ID: FD-3	Batch#: 265040
Type: SAMPLE	Prepared: 10/31/18
Lab ID: 304541-010	Analyzed: 11/03/18
Moisture: 17%	Cleanup Method: EPA 3620B
Diln Fac: 1.000	

Analyte	Result	RL	MDL
Aroclor-1016	ND	14	3.3
Aroclor-1221	ND	29	5.3
Aroclor-1232	ND	14	4.4
Aroclor-1242	ND	14	5.9
Aroclor-1248	ND	14	6.2
Aroclor-1254	ND	14	3.3
Aroclor-1260	6.2 J	14	4.3

Surrogate	%REC	Limits
Decachlorobiphenyl	28 *	37-170

*= Value outside of QC limits; see narrative
 J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Sampled: 10/25/18
Units: ug/Kg	Received: 10/25/18
Basis: dry	

Field ID: A7-5.5	Batch#: 265065
Type: SAMPLE	Prepared: 11/01/18
Lab ID: 304541-011	Analyzed: 11/02/18
Moisture: 26%	Cleanup Method: EPA 3620B
Diln Fac: 1.000	

Analyte	Result	RL	MDL
Aroclor-1016	ND	16	5.9
Aroclor-1221	ND	32	10
Aroclor-1232	ND	16	5.0
Aroclor-1242	ND	16	5.2
Aroclor-1248	ND	16	2.2
Aroclor-1254	ND	16	4.5
Aroclor-1260	ND	16	4.3

Surrogate	%REC	Limits
Decachlorobiphenyl	42	37-170

Field ID: B9-8.5	Batch#: 265065
Type: SAMPLE	Prepared: 11/01/18
Lab ID: 304541-012	Analyzed: 11/01/18
Moisture: 24%	Cleanup Method: EPA 3620B
Diln Fac: 1.000	

Analyte	Result	RL	MDL
Aroclor-1016	ND	16	3.6
Aroclor-1221	ND	32	5.7
Aroclor-1232	ND	16	4.8
Aroclor-1242	ND	16	6.3
Aroclor-1248	ND	16	6.7
Aroclor-1254	ND	16	3.6
Aroclor-1260	ND	16	4.6

Surrogate	%REC	Limits
Decachlorobiphenyl	43	37-170

*= Value outside of QC limits; see narrative
 J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Sampled: 10/25/18
Units: ug/Kg	Received: 10/25/18
Basis: dry	

Field ID: B9-6.5	Batch#: 265233
Type: SAMPLE	Prepared: 11/06/18
Lab ID: 304541-013	Analyzed: 11/06/18
Moisture: 31%	Cleanup Method: EPA 3620
Diln Fac: 1.000	

Analyte	Result	RL	MDL
Aroclor-1016	ND	17	6.3
Aroclor-1221	ND	35	11
Aroclor-1232	ND	17	5.4
Aroclor-1242	ND	17	5.6
Aroclor-1248	ND	17	2.4
Aroclor-1254	ND	17	4.8
Aroclor-1260	ND	17	4.6

Surrogate	%REC	Limits
Decachlorobiphenyl	91	37-170

Type: BLANK	Prepared: 10/31/18
Lab ID: QC953810	Analyzed: 11/01/18
Diln Fac: 1.000	Cleanup Method: EPA 3620B
Batch#: 265040	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	3.3
Aroclor-1221	ND	24	5.8
Aroclor-1232	ND	12	2.8
Aroclor-1242	ND	12	2.9
Aroclor-1248	ND	12	1.2
Aroclor-1254	ND	12	2.5
Aroclor-1260	ND	12	2.4

Surrogate	%REC	Limits
Decachlorobiphenyl	125	37-170

*= Value outside of QC limits; see narrative
 J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Sampled: 10/25/18
Units: ug/Kg	Received: 10/25/18
Basis: dry	

Type: BLANK	Prepared: 11/01/18
Lab ID: QC953940	Analyzed: 11/02/18
Diln Fac: 1.000	Cleanup Method: EPA 3620B
Batch#: 265065	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	2.1
Aroclor-1221	ND	24	3.3
Aroclor-1232	ND	12	2.8
Aroclor-1242	ND	12	3.6
Aroclor-1248	ND	12	3.9
Aroclor-1254	ND	12	2.0
Aroclor-1260	ND	12	2.6

Surrogate	%REC	Limits
Decachlorobiphenyl	78	37-170

Type: BLANK	Prepared: 11/06/18
Lab ID: QC954589	Analyzed: 11/07/18
Diln Fac: 1.000	Cleanup Method: EPA 3620
Batch#: 265222	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	3.3
Aroclor-1221	ND	24	5.8
Aroclor-1232	ND	12	2.8
Aroclor-1242	ND	12	2.9
Aroclor-1248	ND	12	1.2
Aroclor-1254	ND	12	2.5
Aroclor-1260	ND	12	2.4

Surrogate	%REC	Limits
Decachlorobiphenyl	98	37-170

*= Value outside of QC limits; see narrative
 J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	10/25/18
Units:	ug/Kg	Received:	10/25/18
Basis:	dry		

Type:	BLANK	Prepared:	11/06/18
Lab ID:	QC954616	Analyzed:	11/06/18
Diln Fac:	1.000	Cleanup Method:	EPA 3620
Batch#:	265233		

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	3.3
Aroclor-1221	ND	24	5.8
Aroclor-1232	ND	12	2.8
Aroclor-1242	ND	12	2.9
Aroclor-1248	ND	12	1.2
Aroclor-1254	ND	12	2.5
Aroclor-1260	ND	12	2.4

Surrogate	%REC	Limits
Decachlorobiphenyl	121	37-170

*= Value outside of QC limits; see narrative
 J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC953814	Batch#:	265040
Matrix:	Soil	Prepared:	10/31/18
Units:	ug/Kg	Analyzed:	11/01/18

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	125.0	137.1	110	59-160
Aroclor-1260	125.0	175.4	140	59-170

Surrogate	%REC	Limits
Decachlorobiphenyl	147	37-170

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve	
Client:	Northgate Environmental Management	Prep:	EPA 3546	
Project#:	1116.09	Analysis:	EPA 8082	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC953944	Batch#:	265065	
Matrix:	Soil	Prepared:	11/01/18	
Units:	ug/Kg	Analyzed:	11/02/18	

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	125.0	143.4	115	59-160
Aroclor-1260	125.0	133.7	107	59-170

Surrogate	%REC	Limits
Decachlorobiphenyl	97	37-170

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC954593	Batch#:	265222
Matrix:	Soil	Prepared:	11/06/18
Units:	ug/Kg	Analyzed:	11/07/18

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	125.0	84.92	68	59-160
Aroclor-1260	125.0	94.66	76	59-170

Surrogate	%REC	Limits
Decachlorobiphenyl	80	37-170

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve	
Client:	Northgate Environmental Management	Prep:	EPA 3546	
Project#:	1116.09	Analysis:	EPA 8082	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC954620	Batch#:	265233	
Matrix:	Soil	Prepared:	11/06/18	
Units:	ug/Kg	Analyzed:	11/06/18	

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	125.0	92.48	74	59-160
Aroclor-1260	125.0	103.6	83	59-170

Surrogate	%REC	Limits
Decachlorobiphenyl	91	37-170

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8082
Field ID:	ZZZZZZZZZZ	Batch#:	265233
MSS Lab ID:	304764-001	Sampled:	11/06/18
Matrix:	Soil	Received:	11/06/18
Units:	ug/Kg	Prepared:	11/06/18
Basis:	as received	Analyzed:	11/06/18
Diln Fac:	1.000		

Type: MS Lab ID: QC954621

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<4.407	162.5	159.9	98	73-167
Aroclor-1260	6.219	162.5	180.5	107	57-178

Surrogate	%REC	Limits
Decachlorobiphenyl	103	37-170

Type: MSD Lab ID: QC954622

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	165.0	165.5	100	73-167	2	40
Aroclor-1260	165.0	188.0	110	57-178	3	41

Surrogate	%REC	Limits
Decachlorobiphenyl	101	37-170

RPD= Relative Percent Difference

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: C8-8.0	Basis: dry
Lab ID: 304541-001	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Moisture: 20%

Analyte	Result	RL	MDL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.48 J	2.3	0.043	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	10	0.72	0.045	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	64	0.72	0.023	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.43 J	0.72	0.069	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.40 J	0.72	0.11	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	100	0.72	0.19	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	11	0.72	0.12	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	35	0.72	0.18	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	15	0.72	0.084	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.15	0.019	0.0034	1.000		264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.82	0.72	0.029	25.00		264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	79	0.72	0.18	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.53 J	2.3	0.26	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.45 J	0.72	0.050	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.16 J	0.36	0.092	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	64	0.73	0.24	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	81	2.2	0.73	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals			
Lab #: 304541	Project#: 1116.09		
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve		
Field ID: C8-5.0	Basis:	dry	
Lab ID: 304541-002	Sampled:	10/25/18	
Matrix: Soil	Received:	10/25/18	
Units: mg/Kg			

Moisture: 29%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.49 J	2.8	0.055	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	9.6	0.93	0.058	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	77	0.93	0.030	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.60 J	0.93	0.089	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.51 J	0.93	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	100	0.93	0.25	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	18	0.93	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	33	0.93	0.24	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	26	0.93	0.11	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.25	0.023	0.0040	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.66 J	0.93	0.038	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	110	0.93	0.23	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.43 J	2.8	0.33	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.42 J	0.93	0.065	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.14 J	0.46	0.12	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	61	0.94	0.31	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	85	2.8	0.94	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: C8-2.0	Basis: dry
Lab ID: 304541-003	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Moisture: 32%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.25 J	2.9	0.054	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	8.5	0.91	0.057	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	45	0.91	0.030	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.52 J	0.91	0.087	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.41 J	0.91	0.14	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	94	0.91	0.24	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	16	0.91	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	24	0.91	0.23	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	7.7	0.91	0.11	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.061	0.024	0.0042	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.59 J	0.91	0.037	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Nickel	93	0.91	0.22	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.35 J	2.9	0.32	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.089 J	0.91	0.064	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.13 J	0.46	0.12	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	56	0.92	0.31	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	60	2.8	0.92	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: B8-8.5	Basis: dry
Lab ID: 304541-004	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Moisture: 12%

Analyte	Result	RL	MDL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.32 J	2.2	0.041	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	11	0.68	0.043	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	59	0.68	0.022	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.47 J	0.68	0.066	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.53 J	0.68	0.11	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	87	0.68	0.18	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	17	0.68	0.11	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	24	0.68	0.17	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	12	0.68	0.080	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.14	0.018	0.0032	1.000		264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.74	0.68	0.028	25.00		264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	100	0.68	0.17	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.56 J	2.2	0.24	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.24 J	0.68	0.048	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.13 J	0.34	0.088	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	54	0.69	0.23	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	72	2.1	0.69	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: B8-6.5	Basis: dry
Lab ID: 304541-005	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Moisture: 28%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.41 J	2.7	0.051	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	9.5	0.85	0.053	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	60	0.85	0.028	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.71 J	0.85	0.082	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.54 J	0.85	0.13	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	96	0.85	0.23	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	15	0.85	0.14	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	34	0.85	0.22	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Lead	11	0.85	0.10	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.11	0.023	0.0040	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.87	0.85	0.035	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	92	0.85	0.21	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.58 J	2.7	0.30	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.19 J	0.85	0.060	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.14 J	0.43	0.11	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	69	0.86	0.29	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	85	2.6	0.86	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: FD-2	Basis: dry
Lab ID: 304541-006	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Moisture: 29%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.41 J	2.8	0.052	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	9.8	0.86	0.054	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	77	0.86	0.028	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.54 J	0.86	0.083	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.36 J	0.86	0.14	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	100	0.86	0.23	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	14	0.86	0.14	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	34	0.86	0.22	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	12	0.86	0.10	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.10	0.023	0.0041	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.92	0.86	0.035	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	96	0.86	0.21	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.63 J	2.8	0.31	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.18 J	0.86	0.061	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.14 J	0.43	0.11	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	69	0.87	0.29	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	80	2.6	0.88	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: B8-4.5	Basis: dry
Lab ID: 304541-007	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Moisture: 35%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.18 J	3.1	0.057	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	9.9	0.96	0.060	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	50	0.96	0.031	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.55 J	0.96	0.092	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.45 J	0.96	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	86	0.96	0.26	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	18	0.96	0.16	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	30	0.96	0.25	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	9.1	0.96	0.11	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.083	0.025	0.0044	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.87 J	0.96	0.039	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	92	0.96	0.24	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.46 J	3.1	0.34	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.11 J	0.96	0.068	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.15 J	0.48	0.12	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	64	0.97	0.32	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	73	2.9	0.98	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: A7-12.0	Basis: dry
Lab ID: 304541-008	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Moisture: 17%

Analyte	Result	RL	MDL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.36 J	2.3	0.042	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	14	0.70	0.044	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	66	0.70	0.023	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.82	0.70	0.068	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.64 J	0.70	0.11	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	110	0.70	0.19	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	16	0.70	0.12	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	60	0.70	0.18	25.00		264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Lead	37	0.70	0.082	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.36	0.019	0.0033	1.000		264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	1.1	0.70	0.029	25.00		264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	100	0.70	0.17	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.81 J	2.3	0.25	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.41 J	0.70	0.049	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.27 J	0.35	0.091	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	89	0.71	0.24	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	140	2.1	0.71	25.00		264926	10/29/18	10/30/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: A7-9.0	Basis: dry
Lab ID: 304541-009	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Moisture: 21%

Analyte	Result	RL	MDL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.37 J	2.5	0.047	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	11	0.79	0.050	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	73	0.79	0.026	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.57 J	0.79	0.076	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.50 J	0.79	0.12	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	110	0.79	0.21	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	12	0.79	0.13	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	43	0.79	0.20	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	26	0.79	0.093	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.18	0.020	0.0035	1.000		264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	1.2	0.79	0.032	25.00		264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	87	0.79	0.19	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.58 J	2.5	0.28	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.28 J	0.79	0.056	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.14 J	0.40	0.10	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	79	0.80	0.27	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	89	2.4	0.80	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: FD-3	Basis: dry
Lab ID: 304541-010	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Moisture: 17%

Analyte	Result	RL	MDL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.31 J	2.2	0.042	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	12	0.70	0.044	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	64	0.70	0.023	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.83	0.70	0.067	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.64 J	0.70	0.11	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	110	0.70	0.19	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	16	0.70	0.11	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	54	0.70	0.18	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	34	0.70	0.082	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.36	0.020	0.0036	1.000		264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	1.1	0.70	0.028	25.00		264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	99	0.70	0.17	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.85 J	2.2	0.25	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.42 J	0.70	0.049	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.24 J	0.35	0.090	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	86	0.71	0.24	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	130	2.1	0.71	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: A7-5.5	Basis: dry
Lab ID: 304541-011	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Moisture: 26%

Analyte	Result	RL	MDL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.34 J	2.5	0.046	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	9.3	0.77	0.048	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	77	0.77	0.025	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.60 J	0.77	0.074	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.64 J	0.77	0.12	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	110	0.77	0.21	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	15	0.77	0.13	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	65	0.77	0.20	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	25	0.77	0.090	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.17	0.021	0.0038	1.000		264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.96	0.77	0.031	25.00		264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	97	0.77	0.19	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.67 J	2.5	0.27	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.43 J	0.77	0.054	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.38	0.38	0.099	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	75	0.78	0.26	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	94	2.3	0.78	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: B9-8.5	Basis: dry
Lab ID: 304541-012	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Moisture: 24%

Analyte	Result	RL	MDL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.34 J	2.4	0.045	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	12	0.75	0.047	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	60	0.75	0.024	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.61 J	0.75	0.072	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.47 J	0.75	0.12	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	110	0.75	0.20	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	13	0.75	0.12	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	42	0.75	0.19	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	24	0.75	0.088	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.16	0.023	0.0040	1.000		264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	2.2	0.75	0.030	25.00		264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	89	0.75	0.18	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.69 J	2.4	0.27	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.24 J	0.75	0.053	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.15 J	0.37	0.096	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	81	0.76	0.25	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	94	2.3	0.76	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: B9-6.5	Basis: dry
Lab ID: 304541-013	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Moisture: 31%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.36 J	2.9	0.054	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	11	0.91	0.057	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	73	0.91	0.029	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.58 J	0.91	0.087	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.52 J	0.91	0.14	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	110	0.91	0.24	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	12	0.91	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	45	0.91	0.23	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	25	0.91	0.11	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.15	0.025	0.0043	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	1.8	0.91	0.037	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	87	0.91	0.22	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.69 J	2.9	0.32	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.35 J	0.91	0.064	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.17 J	0.45	0.12	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	81	0.92	0.31	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	90	2.8	0.92	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

California Title 22 Metals			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3050B
Project#:	1116.09	Analysis:	EPA 6020
Type:	BLANK	Diln Fac:	25.00
Lab ID:	QC953350	Batch#:	264926
Matrix:	Soil	Prepared:	10/29/18
Units:	mg/Kg	Analyzed:	10/29/18

Analyte	Result	RL	MDL
Antimony	ND	2.0	0.037
Arsenic	ND	0.63	0.039
Barium	ND	0.63	0.020
Beryllium	ND	0.63	0.060
Cadmium	ND	0.63	0.098
Chromium	ND	0.63	0.17
Cobalt	ND	0.63	0.10
Copper	ND	0.63	0.16
Lead	ND	0.63	0.073
Molybdenum	ND	0.63	0.025
Nickel	ND	0.63	0.15
Selenium	ND	2.0	0.22
Silver	ND	0.63	0.044
Thallium	ND	0.31	0.080
Vanadium	ND	0.63	0.21
Zinc	ND	1.9	0.63

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

California Title 22 Metals			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3050B
Project#:	1116.09	Analysis:	EPA 6020
Matrix:	Soil	Batch#:	264926
Units:	mg/Kg	Prepared:	10/29/18
Diln Fac:	25.00	Analyzed:	10/29/18

Type: BS Lab ID: QC953351

Analyte	Spiked	Result	%REC	Limits
Antimony	45.87	45.11	98	80-120
Arsenic	45.87	48.39	105	80-120
Barium	45.87	47.18	103	80-120
Beryllium	22.94	23.79	104	80-120
Cadmium	45.87	47.42	103	80-120
Chromium	45.87	47.51	104	80-120
Cobalt	45.87	47.66	104	80-120
Copper	45.87	49.12	107	80-120
Lead	45.87	45.06	98	80-120
Molybdenum	45.87	46.14	101	80-120
Nickel	45.87	48.99	107	80-120
Selenium	45.87	49.14	107	80-120
Silver	4.587	4.823	105	80-120
Thallium	45.87	45.59	99	80-120
Vanadium	45.87	46.46	101	80-120
Zinc	45.87	48.34	105	80-120

Type: BSD Lab ID: QC953352

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	45.45	46.51	102	80-120	4	20
Arsenic	45.45	49.17	108	80-120	3	20
Barium	45.45	48.83	107	80-120	4	20
Beryllium	22.73	23.89	105	80-120	1	25
Cadmium	45.45	48.91	108	80-120	4	20
Chromium	45.45	48.88	108	80-120	4	20
Cobalt	45.45	49.24	108	80-120	4	20
Copper	45.45	49.97	110	80-120	3	21
Lead	45.45	46.49	102	80-120	4	20
Molybdenum	45.45	47.11	104	80-120	3	20
Nickel	45.45	49.42	109	80-120	2	20
Selenium	45.45	49.17	108	80-120	1	25
Silver	4.545	4.940	109	80-120	3	21
Thallium	45.45	46.81	103	80-120	4	20
Vanadium	45.45	47.78	105	80-120	4	27
Zinc	45.45	50.04	110	80-120	4	28

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	264988
Lab ID:	QC953599	Prepared:	10/30/18
Matrix:	Soil	Analyzed:	10/30/18
Units:	mg/Kg		

Result	RL	MDL
ND	0.016	0.0029

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

California Title 22 Metals			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	264988
Matrix:	Soil	Prepared:	10/30/18
Units:	mg/Kg	Analyzed:	10/30/18
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC953600	0.1563	0.1489	95	80-120		
BSD	QC953601	0.1587	0.1525	96	80-120	1	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	C8-8.0	Batch#:	264988
MSS Lab ID:	304541-001	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	mg/Kg	Prepared:	10/30/18
Basis:	dry	Analyzed:	10/30/18

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	Moisture	RPD	Lim
MS	QC953602	0.1541	0.2083	0.3581	98	80-120	20%		
MSD	QC953603		0.2016	0.3512	98	80-120	20%	0	20

RPD= Relative Percent Difference

Moisture			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	ASTM D2216-98/CLP
Analyte:	Moisture, Percent	Batch#:	264942
Matrix:	Soil	Sampled:	10/25/18
Units:	%	Received:	10/25/18
Diln Fac:	1.000	Analyzed:	10/29/18

Field ID	Lab ID	Result	RL
C8-8.0	304541-001	20	1
C8-5.0	304541-002	29	1
C8-2.0	304541-003	32	1
B8-8.5	304541-004	12	1
B8-6.5	304541-005	28	1
FD-2	304541-006	29	1
B8-4.5	304541-007	35	1
A7-12.0	304541-008	17	1
A7-9.0	304541-009	21	1
FD-3	304541-010	17	1
A7-5.5	304541-011	26	1
B9-8.5	304541-012	24	1
B9-6.5	304541-013	31	1

RL= Reporting Limit

Batch QC Report

Moisture			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	ASTM D2216-98/CLP
Analyte:	Moisture, Percent	Units:	%
Field ID:	B9-6.5	Diln Fac:	1.000
Type:	SDUP	Batch#:	264942
MSS Lab ID:	304541-013	Sampled:	10/25/18
Lab ID:	QC953410	Received:	10/25/18
Matrix:	Soil	Analyzed:	10/29/18

MSS Result	Result	RL	RPD	Lim
31.11	31.50	1.000	1	26

RL= Reporting Limit

RPD= Relative Percent Difference

Total Organic Carbon (TOC)			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	WALKLEY-BLACK
Analyte:	Total Organic Carbon	Batch#:	265038
Matrix:	Soil	Sampled:	10/25/18
Units:	%	Received:	10/25/18
Basis:	dry	Analyzed:	10/31/18

Field ID	Type	Lab ID	Result	RL	Moisture	Diln Fac
C8-8.0	SAMPLE	304541-001	1.1	0.03	20%	2.198
C8-5.0	SAMPLE	304541-002	0.65	0.03	29%	2.212
C8-2.0	SAMPLE	304541-003	0.83	0.03	32%	2.179
B8-8.5	SAMPLE	304541-004	0.95	0.03	12%	2.208
B8-6.5	SAMPLE	304541-005	0.73	0.03	28%	2.212
FD-2	SAMPLE	304541-006	0.77	0.03	29%	2.183
B8-4.5	SAMPLE	304541-007	0.82	0.03	35%	2.198
A7-12.0	SAMPLE	304541-008	1.0	0.03	17%	2.208
A7-9.0	SAMPLE	304541-009	0.85	0.03	21%	2.198
FD-3	SAMPLE	304541-010	1.0	0.03	17%	2.208
A7-5.5	SAMPLE	304541-011	1.0	0.03	26%	2.212
B9-8.5	SAMPLE	304541-012	1.0	0.03	24%	2.203
B9-6.5	SAMPLE	304541-013	1.1	0.03	31%	2.179
	BLANK	QC953795	ND	0.01		1.000

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Organic Carbon (TOC)			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	WALKLEY-BLACK
Analyte:	Total Organic Carbon	Basis:	dry
Field ID:	ZZZZZZZZZZ	Batch#:	265038
MSS Lab ID:	304569-002	Sampled:	10/25/18
Matrix:	Soil	Received:	10/26/18
Units:	%	Analyzed:	10/31/18

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	Moisture	RPD	Lim	Diln	Fac
LCS	QC953796		0.1300	0.1176	90	80-120					1.000
MS	QC953797	1.653	0.8658	2.324	78	57-127	67%				2.198
MSD	QC953798		0.8583	2.267	72	57-127	67%	2	20		2.179

RPD= Relative Percent Difference



ENTHALPY

ANALYTICAL



Enthalpy Analytical

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

Laboratory Job Number 304541 ANALYTICAL REPORT

Northgate Environmental Management
428 13th Street
Oakland, CA 94612

Project : 1116.09
Location : Corte Madera Ecological Reserve
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
C8-8.0	304541-001
C8-5.0	304541-002
C8-2.0	304541-003
B8-8.5	304541-004
B8-6.5	304541-005
FD-2	304541-006
B8-4.5	304541-007
A7-12.0	304541-008
A7-9.0	304541-009
FD-3	304541-010
A7-5.5	304541-011
B9-8.5	304541-012
B9-6.5	304541-013

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Date: 11/13/2018

Will Rice
Project Manager
will.rice@enthalpy.com
(510) 204-2221 Ext 13102

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number: 304541
Client: Northgate Environmental Management
Project: 1116.09
Location: Corte Madera Ecological Reserve
Request Date: 10/25/18
Samples Received: 10/25/18

This data package contains sample and QC results for thirteen soil samples, requested for the above referenced project on 10/25/18. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Semivolatile Organics by GC/MS SIM (EPA 8270C-SIM):

Many samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

Pesticides (EPA 8081A):

All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. All samples underwent florisol cleanup using EPA Method 3620C. Low surrogate recovery was observed for TCMX in A7-5.5 (lab # 304541-011). Low surrogate recovery was observed for decachlorobiphenyl in A7-5.5 (lab # 304541-011). Gamma-chlordane was detected between the MDL and the RL in the method blank for batch 265233; this analyte was not detected in the sample at or above the RL. Gamma-chlordane was detected between the MDL and the RL in the method blank for batch 265246; this analyte was not detected in samples at or above the RL. No other analytical problems were encountered.

PCBs (EPA 8082):

All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. Matrix spikes QC954618, QC954619 (batch 265233) were not analyzed because the parent sample required a dilution that would have diluted out the spikes. Low recoveries were observed for Aroclor-1016 and Aroclor-1260 in the MSD of C8-8.0 (lab # 304541-001); the LCS was within limits. High RPD was also observed for Aroclor-1016 and Aroclor-1260 in the MS/MSD of C8-8.0 (lab # 304541-001); these analytes were not detected at or above the RL in the associated sample. Low surrogate recoveries were observed for decachlorobiphenyl in B8-4.5 (lab # 304541-007), FD-3 (lab # 304541-010), and the MSD of C8-8.0 (lab # 304541-001). B8-8.5 (lab # 304541-004) was diluted due to the color of the sample extract. No other analytical problems were encountered.

Metals (EPA 6020 and EPA 7471A):

Low recoveries were observed for antimony in the MS/MSD of D8-9.0 (lab # 304507-013); the BS/BSD were within limits, and the associated RPD was within limits. No other analytical problems were encountered.

CASE NARRATIVE

Laboratory number: 304541
Client: Northgate Environmental Management
Project: 1116.09
Location: Corte Madera Ecological Reserve
Request Date: 10/25/18
Samples Received: 10/25/18

Moisture (ASTM D2216-98/CLP):

No analytical problems were encountered.

Total Organic Carbon (TOC) (WALKLEY-BLACK):

No analytical problems were encountered.

304541



CHAIN OF CUSTODY/ANALYSIS REQUEST FORM

No 3109

Project No.: 1116.09		Project Location: Corte Madera, CA		Date: 10/25/18		Serial No.: 1 of 1				
Project Name: Corte Madera Ecological Reserve		Field Logbook No.:		SAMPLERS:		Gabriel Fuson				
Sampler (Signature): Gabriel Fuson				ANALYSES						
Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	ANALYSES	REMARKS			
1	10/25/18	0833		1	S	Pesticides (EPA 8081A)	* Homogenize entire volume of each jar prior to selecting aliquots			
2		0851				PCBs (EPA 8082)				
3		0855				PAHs (EPA 8210C)				
4		0911				TPH-d, -m (EPA 8010)				
5		0916				(EPA 8010B) W/S/GC				
6		0918				(CAM 17 Metals)	* Report results in both dry and wet weight			
7		0920				(EPA 600/4-91-010)	* ATTN: Will Rice + John Layette re: reporting limits			
8		0949				(Walkley-Black)				
9		1004				Moisture Content (ASTM D2216)				
10		0951				TCC				
11		1035								
12		1048								
13		1048					Sample time: 1044			
Relinquished by: Gabriel Fuson		Date	10/25/18	Time	1306	Received By: [Signature]	Date	10/25/18	Time	1307
Relinquished by: [Signature]		Date		Time		Received By: [Signature]	Date		Time	
Method of Shipment:		Date		Time		Comments: Results to: elizabeth.nixon@ngem.com and gabriel.fuson@ngem.com - Standard TAT Analytical Laboratory: Enthalpx				
Sample Collector:		Northgate Environmental Management, Inc. 900 Frank H. Ogawa Plaza, Suite 540-428 13th St., Oakland, California 94612 ph - (510) 839 0688 / fax - (510) 839-4350								

SAMPLE RECEIPT CHECKLIST



Section 1: Login # 304541
 Date Received: 10/25/18

Client: Northgate
 Project: _____

Section 2: Samples received in a cooler? Yes, how many? 1 No (skip Section 3 below)

If no cooler Sample Temp (°C): _____ using IR Gun # A, or B

Samples received on ice directly from the field. Cooling process had begun

If in cooler: Date Opened 10/25/18 By (print) DO (sign) [Signature]

Shipping info (if applicable) _____

Are custody seals present? No, or Yes. If yes, where? on cooler, on samples, on package

Date: _____ How many _____ Signature, Initials, None

Were custody seals intact upon arrival? Yes No N/A

Section 3: **Important : Notify PM if temperature exceeds 6°C or arrive frozen.**

Packing in cooler: (if other, describe) _____

Bubble Wrap, Foam blocks, Bags, None, Cloth material, Cardboard, Styrofoam, Paper towels

Samples received on ice directly from the field. Cooling process had begun

Type of ice used : Wet, Blue/Gel, None Temperature blank(s) included? Yes, No

Temperature measured using Thermometer ID: _____, or IR Gun # A B

Cooler Temp (°C): #1: 0.0, #2: _____, #3: _____, #4: _____, #5: _____, #6: _____, #7: _____

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable	<input checked="" type="checkbox"/>		
Were Method 5035 sampling containers present?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
If YES, what time were they transferred to freezer?			
Did all bottles arrive unbroken/unopened?	<input type="checkbox"/>	<input type="checkbox"/>	
Are there any missing / extra samples?	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples in the appropriate containers for indicated tests?	<input type="checkbox"/>	<input type="checkbox"/>	
Are sample labels present, in good condition and complete?	<input type="checkbox"/>	<input type="checkbox"/>	
Does the container count match the COC?	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample labels agree with custody papers?	<input type="checkbox"/>	<input type="checkbox"/>	
Was sufficient amount of sample sent for tests requested?	<input type="checkbox"/>	<input type="checkbox"/>	
Did you change the hold time in LIMS for unpreserved VOAs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did you change the hold time in LIMS for preserved terracores?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are bubbles > 6mm absent in VOA samples?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was the client contacted concerning this sample delivery?	<input type="checkbox"/>	<input type="checkbox"/>	
If YES, who was called? _____ By _____ Date: _____			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)			<input checked="" type="checkbox"/>
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check?			

pH strip lot# _____, pH strip lot# _____, pH strip lot# _____

Preservative added:

- H2SO4 lot# _____ added to samples _____ on/at _____
- HCL lot# _____ added to samples _____ on/at _____
- HNO3 lot# _____ added to samples _____ on/at _____
- NaOH lot# _____ added to samples _____ on/at _____

Section 6:

Explanations/Comments: _____

Date Logged In 10/26/18 By (print) VO (sign) [Signature]
 Date Labeled 10/26/18 By (print) AC (sign) [Signature]

Detections Summary for 304541

Results for any subcontracted analyses are not included in this summary.

Client : Northgate Environmental Management
 Project : 1116.09
 Location : Corte Madera Ecological Reserve

Client Sample ID : C8-8.0

Laboratory Sample ID :

304541-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.2	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	31		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Naphthalene	12	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Phenanthrene	18	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	24	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	34	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	10	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	17	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	26	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	17	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	15	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	25	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Heptachlor epoxide	0.19	C,J	1.1	0.078	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	1.1	J	2.2	0.089	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	2.2	J	2.2	0.081	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endrin	0.16	C,J	2.2	0.067	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	1.0	J	2.2	0.081	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.30	C,J	2.2	0.091	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.26	C,J	1.1	0.15	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
gamma-Chlordane	0.29	J	1.1	0.11	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Aroclor-1260	8.2	J	12	3.3	ug/Kg	As Recd	1.000	EPA 8082	EPA 3546
Antimony	0.38	J	1.8	0.034	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	8.1		0.57	0.036	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	51		0.57	0.019	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.35	J	0.57	0.055	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.32	J	0.57	0.090	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	80		0.57	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	8.5		0.57	0.094	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	28		0.57	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	12		0.57	0.067	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.12		0.015	0.0027	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.65		0.57	0.023	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	63		0.57	0.14	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.42	J	1.8	0.20	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.36	J	0.57	0.040	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.13	J	0.29	0.074	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	51		0.58	0.19	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	65		1.7	0.58	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	20		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.84		0.02		%	As Recd	2.198	WALKLEY-BLACK	METHOD

Client Sample ID : C8-5.0

Laboratory Sample ID :

304541-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.8	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	23		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Fluoranthene	15	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	22	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	15	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	11	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	12	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Dieldrin	0.71	C,J	2.3	0.081	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	0.21	C,J	2.3	0.081	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endrin	0.30	J	2.3	0.067	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	3.5		2.3	0.15	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.52	C,J	2.3	0.092	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.28	C,J	1.1	0.15	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Aroclor-1260	18		12	3.6	ug/Kg	As Recd	1.000	EPA 8082	EPA 3546
Antimony	0.35	J	2.0	0.039	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	6.8		0.66	0.041	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	55		0.66	0.021	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.42	J	0.66	0.063	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.36	J	0.66	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	73		0.66	0.18	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	13		0.66	0.11	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	23		0.66	0.17	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	19		0.66	0.077	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.18		0.016	0.0028	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.47	J	0.66	0.027	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	78		0.66	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.31	J	2.0	0.23	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.30	J	0.66	0.046	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.097	J	0.33	0.085	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	43		0.67	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	60		2.0	0.67	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	29		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.46		0.02		%	As Recd	2.212	WALKLEY-BLACK	METHOD

Client Sample ID : C8-2.0

Laboratory Sample ID :

304541-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.0	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	9.1		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Pyrene	14	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	10	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.45	C,J	1.1	0.065	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	0.17	J	2.0	0.037	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	5.8		0.62	0.039	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	30		0.62	0.020	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.35	J	0.62	0.059	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.28	J	0.62	0.097	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	64		0.62	0.17	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	11		0.62	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	17		0.62	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	5.2		0.62	0.072	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.042		0.016	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.40	J	0.62	0.025	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	63		0.62	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.24	J	2.0	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.061	J	0.62	0.043	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.086	J	0.31	0.080	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	38		0.63	0.21	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	41		1.9	0.63	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	32		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.56		0.02		%	As Recd	2.179	WALKLEY-BLACK	METHOD

Client Sample ID : B8-8.5

Laboratory Sample ID :

304541-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	6.1	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	32		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Naphthalene	13	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Phenanthrene	16	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	17	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	20	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	14	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	18	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	16	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Dieldrin	0.30	C,J	2.3	0.081	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	0.71	J	2.3	0.081	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.16	C,J	2.3	0.092	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.24	C,J	1.1	0.15	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	0.28	J	1.9	0.036	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	9.9		0.60	0.038	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	52		0.60	0.020	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.41	J	0.60	0.058	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.47	J	0.60	0.095	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	76		0.60	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	15		0.60	0.099	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	21		0.60	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	11		0.60	0.070	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.12		0.016	0.0028	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.65		0.60	0.024	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	88		0.60	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.49	J	1.9	0.21	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.21	J	0.60	0.042	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.11	J	0.30	0.077	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	48		0.61	0.20	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	63		1.8	0.61	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	12		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.84		0.02		%	As Recd	2.208	WALKLEY-BLACK	METHOD

Client Sample ID : B8-6.5

Laboratory Sample ID :

304541-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.2	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	13		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Phenanthrene	12	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	23	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	29	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	10	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	11	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	17	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	14	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	16	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.27	C,J	1.1	0.12	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	0.29	J	2.0	0.037	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	6.9		0.61	0.038	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	43		0.61	0.020	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.51	J	0.61	0.059	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.39	J	0.61	0.097	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	69		0.61	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	11		0.61	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	24		0.61	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	7.8		0.61	0.072	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.076		0.016	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.63		0.61	0.025	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	66		0.61	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.42	J	2.0	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.14	J	0.61	0.043	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.10	J	0.31	0.079	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	50		0.62	0.21	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	62		1.9	0.62	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	28		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.53		0.02		%	As Recd	2.212	WALKLEY-BLACK	METHOD

Client Sample ID : FD-2

Laboratory Sample ID :

304541-006

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.3	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	15		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Fluoranthene	12	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	17	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	11	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	14	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
beta-BHC	0.15	C,J	1.1	0.11	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	0.12	C,J	2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	0.23	C,J	2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	0.15	C,J	2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.34	J	2.2	0.33	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
gamma-Chlordane	0.45	J	1.1	0.14	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	0.29	J	2.0	0.037	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	7.0		0.61	0.038	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	54		0.61	0.020	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.38	J	0.61	0.059	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.26	J	0.61	0.097	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	73		0.61	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	9.8		0.61	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	24		0.61	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	8.9		0.61	0.072	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.071		0.016	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.65		0.61	0.025	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	68		0.61	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.45	J	2.0	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.13	J	0.61	0.043	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.10	J	0.31	0.079	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	49		0.62	0.21	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	57		1.9	0.62	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	29		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.55		0.02		%	As Recd	2.183	WALKLEY-BLACK	METHOD

Client Sample ID : B8-4.5

Laboratory Sample ID :

304541-007

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2.5	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	14		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Fluoranthene	14	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	21	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	15	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	15	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	10	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	19	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Antimony	0.12	J	2.0	0.037	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	6.4		0.63	0.039	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	33		0.63	0.020	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.36	J	0.63	0.060	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.29	J	0.63	0.098	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	56		0.63	0.17	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	12		0.63	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	19		0.63	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	5.9		0.63	0.073	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.054		0.016	0.0028	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.57	J	0.63	0.025	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	60		0.63	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.30	J	2.0	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.074	J	0.63	0.044	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.096	J	0.31	0.080	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	42		0.63	0.21	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	47		1.9	0.63	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	35		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.53		0.02		%	As Recd	2.198	WALKLEY-BLACK	METHOD

Client Sample ID : A7-12.0

Laboratory Sample ID :

304541-008

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.4	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	44		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Phenanthrene	32	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	58		50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	71		50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	23	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	36	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	62		50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	17	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	34	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	37	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	56		50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
alpha-BHC	0.14	J	1.1	0.090	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	0.18	C,J	2.2	0.089	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	0.13	C,J	2.2	0.080	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endrin	0.53	J	2.2	0.067	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.33	C,J	2.2	0.075	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	2.1	J	2.2	0.15	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.94	C,J	2.2	0.091	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Aroclor-1260	10	J	12	3.5	ug/Kg	As Recd	1.000	EPA 8082	EPA 3546
Antimony	0.30	J	1.9	0.035	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	12		0.58	0.037	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	55		0.58	0.019	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.68		0.58	0.056	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.54	J	0.58	0.092	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	91		0.58	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	13		0.58	0.096	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	50		0.58	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	31		0.58	0.068	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.30		0.015	0.0027	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.95		0.58	0.024	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	85		0.58	0.14	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.67	J	1.9	0.21	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.34	J	0.58	0.041	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.23	J	0.29	0.075	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	74		0.59	0.20	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	120		1.8	0.59	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	17		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.84		0.02		%	As Recd	2.208	WALKLEY-BLACK	METHOD

Client Sample ID : A7-9.0

Laboratory Sample ID :

304541-009

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2.4	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	19		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Phenanthrene	20	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	33	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	43	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	14	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	21	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	31	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	24	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	19	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	31	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Heptachlor epoxide	0.091	C,J	1.1	0.087	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	1.5	J	2.3	0.090	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	6.3		2.3	0.10	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endrin	0.29	C,J	2.3	0.21	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.22	C,J	2.3	0.076	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	11		2.3	0.15	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	12	#	2.3	0.34	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.99	C,J	1.1	0.15	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
gamma-Chlordane	1.7	C	1.1	0.11	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Aroclor-1260	11	J	12	3.6	ug/Kg	As Recd	1.000	EPA 8082	EPA 3546
Antimony	0.29	J	2.0	0.037	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	8.6		0.63	0.039	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	58		0.63	0.020	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.45	J	0.63	0.060	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.40	J	0.63	0.098	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	86		0.63	0.17	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	9.4		0.63	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	34		0.63	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	21		0.63	0.073	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.14		0.016	0.0028	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.99		0.63	0.025	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	69		0.63	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.46	J	2.0	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.22	J	0.63	0.044	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.11	J	0.31	0.080	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	63		0.63	0.21	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	70		1.9	0.63	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	21		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.67		0.02		%	As Recd	2.198	WALKLEY-BLACK	METHOD

Client Sample ID : FD-3

Laboratory Sample ID :

304541-010

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.6	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	54		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Phenanthrene	23	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	47	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	60		50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	19	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	31	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	58		50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	15	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	31	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	36	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	55		50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
alpha-BHC	0.13	C,J	1.1	0.10	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.095	J	1.1	0.077	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	0.17	J	2.2	0.080	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	2.4	#	2.2	0.080	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endrin	0.62	J	2.2	0.066	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Endosulfan sulfate	0.49	C,J	2.2	0.074	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	2.6		2.2	0.15	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.87	J	2.2	0.090	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Aroclor-1260	5.1	J	12	3.5	ug/Kg	As Recd	1.000	EPA 8082	EPA 3546
Antimony	0.26	J	1.9	0.035	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	10		0.58	0.036	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	53		0.58	0.019	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.69		0.58	0.056	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.53	J	0.58	0.091	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	93		0.58	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	13		0.58	0.095	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	45		0.58	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	29		0.58	0.068	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.30		0.017	0.0030	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.94		0.58	0.023	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	82		0.58	0.14	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.71	J	1.9	0.21	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.35	J	0.58	0.041	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.20	J	0.29	0.075	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	71		0.59	0.20	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	110		1.8	0.59	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	17		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.84		0.02		%	As Recd	2.208	WALKLEY-BLACK	METHOD

Client Sample ID : A7-5.5

Laboratory Sample ID :

304541-011

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.7	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	23		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Phenanthrene	11	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	17	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	23	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	14	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	11	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	17	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Heptachlor epoxide	0.18	J	1.1	0.076	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	0.41	J	2.2	0.087	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	1.9	J	2.2	0.098	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	6.8		2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.20	C,J	2.2	0.089	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.76	J	1.1	0.18	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
gamma-Chlordane	0.68	C,J	1.1	0.11	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	0.25	J	1.8	0.034	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	6.9		0.57	0.036	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	57		0.57	0.018	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.44	J	0.57	0.055	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.48	J	0.57	0.089	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	81		0.57	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	11		0.57	0.093	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	48		0.57	0.14	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	19		0.57	0.067	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.13		0.016	0.0028	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.71		0.57	0.023	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	72		0.57	0.14	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.50	J	1.8	0.20	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.32	J	0.57	0.040	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.28		0.28	0.073	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	55		0.58	0.19	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	70		1.7	0.58	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	26		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.77		0.02		%	As Recd	2.212	WALKLEY-BLACK	METHOD

Client Sample ID : B9-8.5

Laboratory Sample ID :

304541-012

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.7	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	16		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Phenanthrene	22	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	47	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	61		50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	21	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	29	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	45	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	13	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	36	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	29	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	44	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
delta-BHC	0.15	C,J	1.1	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Aldrin	0.31	J	1.1	0.060	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.11	C,J	1.1	0.084	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	0.15	C,J	2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	2.8	#	2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	6.6		2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	4.7	C	2.2	0.089	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.54	C,J	1.1	0.14	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
gamma-Chlordane	0.53	J	1.1	0.11	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	0.26	J	1.8	0.034	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	8.9		0.57	0.036	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	46		0.57	0.018	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.46	J	0.57	0.055	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.36	J	0.57	0.089	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	82		0.57	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	10		0.57	0.093	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	32		0.57	0.14	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	18		0.57	0.067	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.12		0.017	0.0030	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	1.6		0.57	0.023	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	67		0.57	0.14	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.53	J	1.8	0.20	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.18	J	0.57	0.040	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.12	J	0.28	0.073	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	62		0.58	0.19	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	71		1.7	0.58	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	24		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.76		0.02		%	As Recd	2.203	WALKLEY-BLACK	METHOD

Client Sample ID : B9-6.5

Laboratory Sample ID :

304541-013

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.3	Y	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	11		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Phenanthrene	14	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	34	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Pyrene	50	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	14	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Chrysene	19	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	35	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	10	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	30	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	26	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	42	J	50	10	ug/Kg	As Recd	10.00	EPA 8270C-SIM	EPA 3550C
Aldrin	0.061	C,J	1.1	0.061	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Heptachlor epoxide	0.16	C,J	1.1	0.084	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Dieldrin	0.28	C,J	2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDE	3.3	#	2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDD	13		2.2	0.079	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
4,4'-DDT	0.62	C,J	2.2	0.089	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
alpha-Chlordane	0.77	C,J	1.1	0.14	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
gamma-Chlordane	0.77	C,J	1.1	0.11	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3546
Antimony	0.25	J	2.0	0.037	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Arsenic	7.3		0.63	0.039	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Barium	50		0.63	0.020	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Beryllium	0.40	J	0.63	0.060	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cadmium	0.36	J	0.63	0.098	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Chromium	79		0.63	0.17	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Cobalt	8.3		0.63	0.10	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Copper	31		0.63	0.16	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Lead	17		0.63	0.073	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Mercury	0.11		0.017	0.0030	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	1.2		0.63	0.025	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Nickel	60		0.63	0.15	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Selenium	0.47	J	2.0	0.22	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Silver	0.24	J	0.63	0.044	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Thallium	0.12	J	0.31	0.080	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Vanadium	56		0.63	0.21	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Zinc	62		1.9	0.63	mg/Kg	As Recd	25.00	EPA 6020	EPA 3050B
Moisture, Percent	31		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD
Total Organic Carbon	0.78		0.02		%	As Recd	2.179	WALKLEY-BLACK	METHOD

= CCV drift outside limits; average CCV drift within limits per method requirements

C = Presence confirmed, but RPD between columns exceeds 40%

J = Estimated value

Y = Sample exhibits chromatographic pattern which does not resemble standard

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC953982	Batch#:	265080
Matrix:	Soil	Prepared:	11/01/18
Units:	mg/Kg	Analyzed:	11/02/18

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	41.31	83	56-137

Surrogate	%REC	Limits
o-Terphenyl	76	59-130

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	304603-001	Batch#:	265080
Matrix:	Soil	Sampled:	10/25/18
Units:	mg/Kg	Received:	10/29/18
Basis:	as received	Prepared:	11/01/18

Type: MS Analyzed: 11/02/18
 Lab ID: QC953983

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	4.892	50.14	54.39	99	52-128

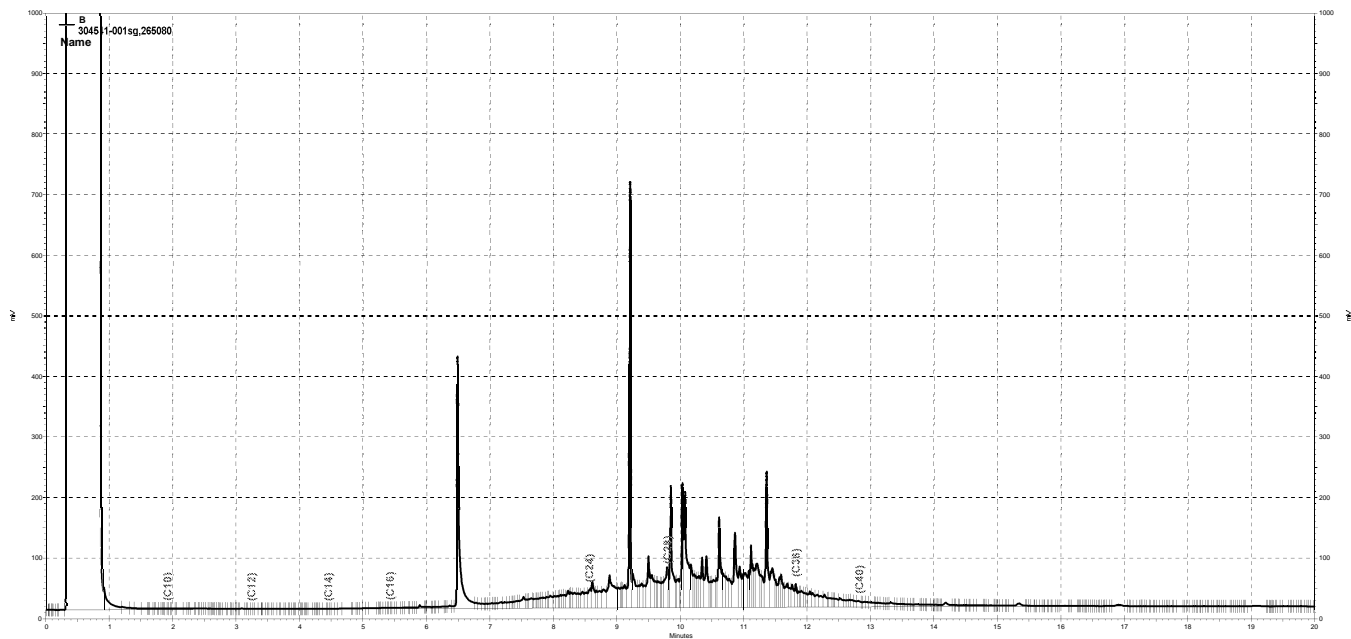
Surrogate	%REC	Limits
o-Terphenyl	119	59-130

Type: MSD Analyzed: 11/01/18
 Lab ID: QC953984

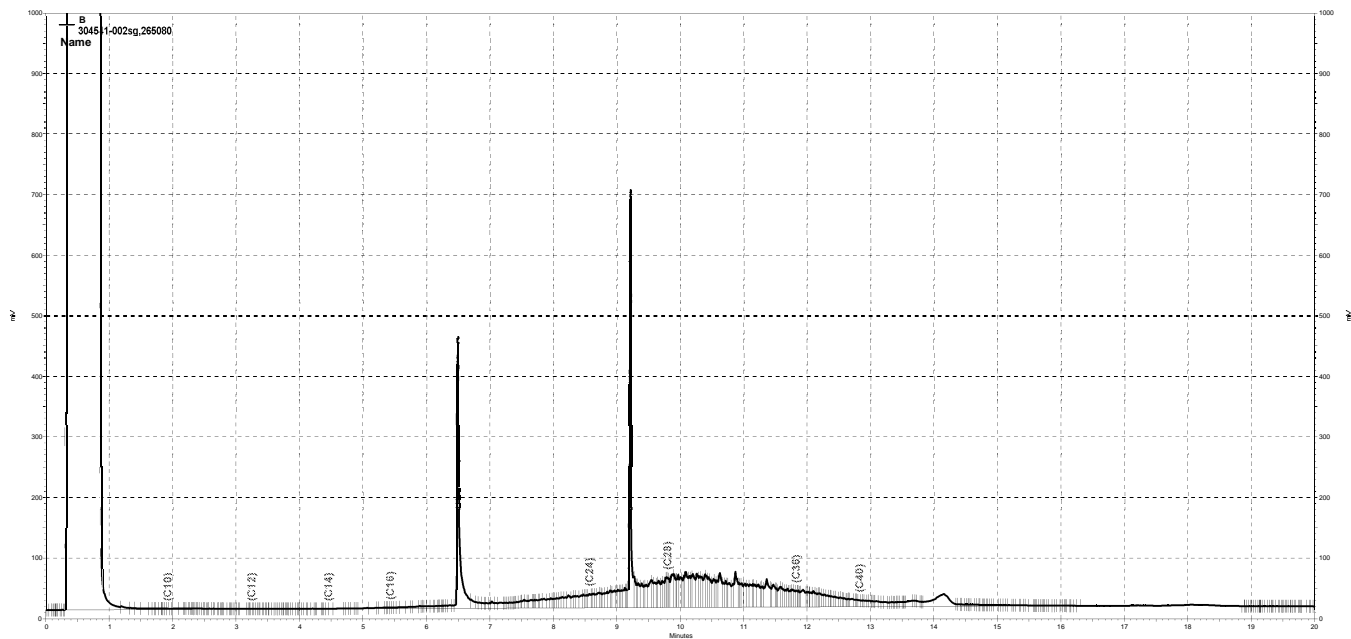
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.76	57.33	105	52-128	6	42

Surrogate	%REC	Limits
o-Terphenyl	98	59-130

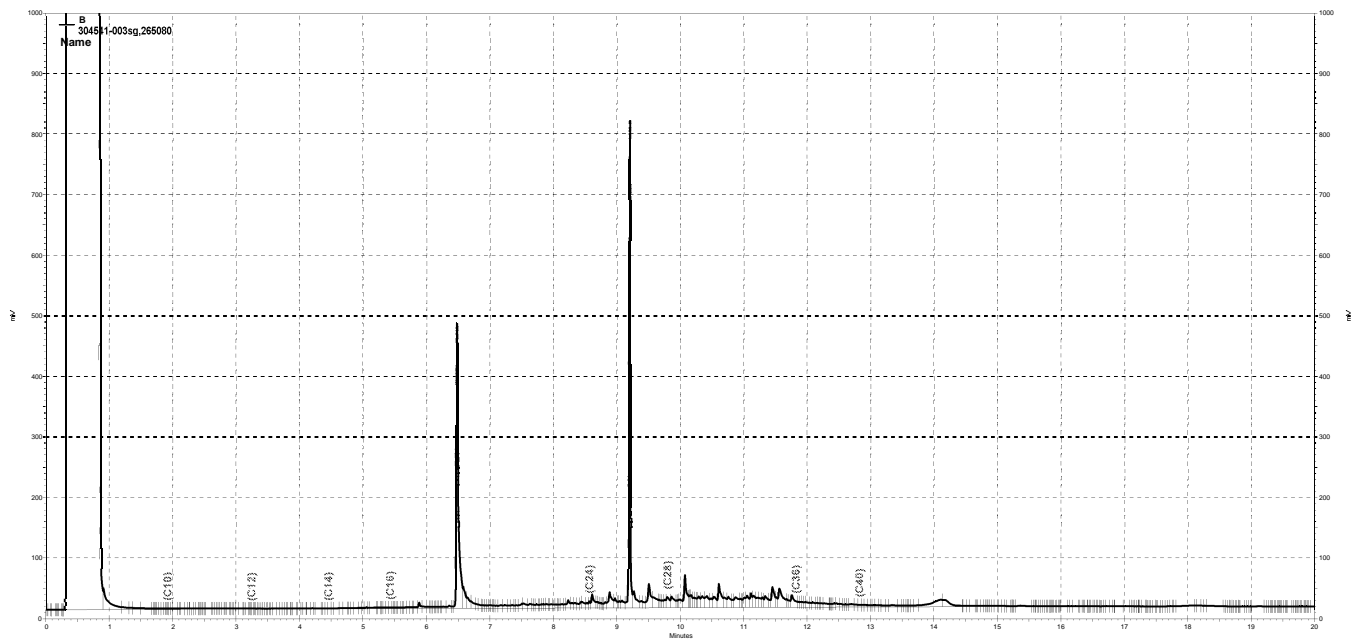
RPD= Relative Percent Difference



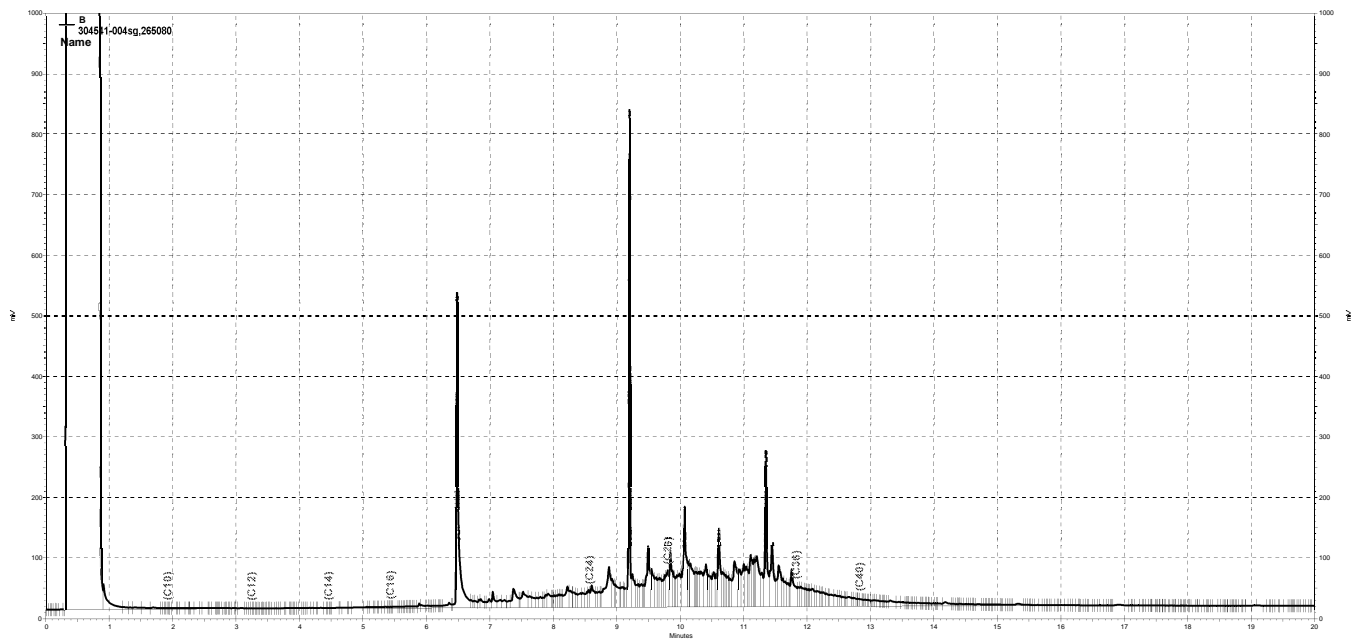
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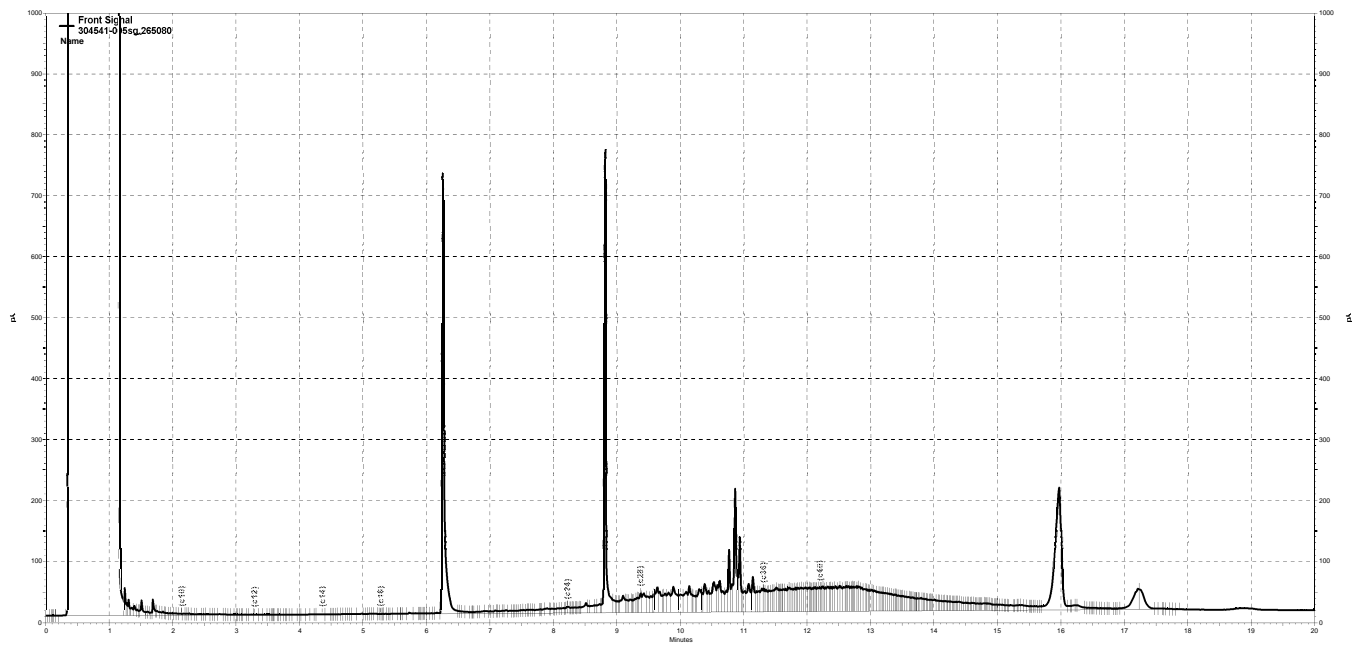
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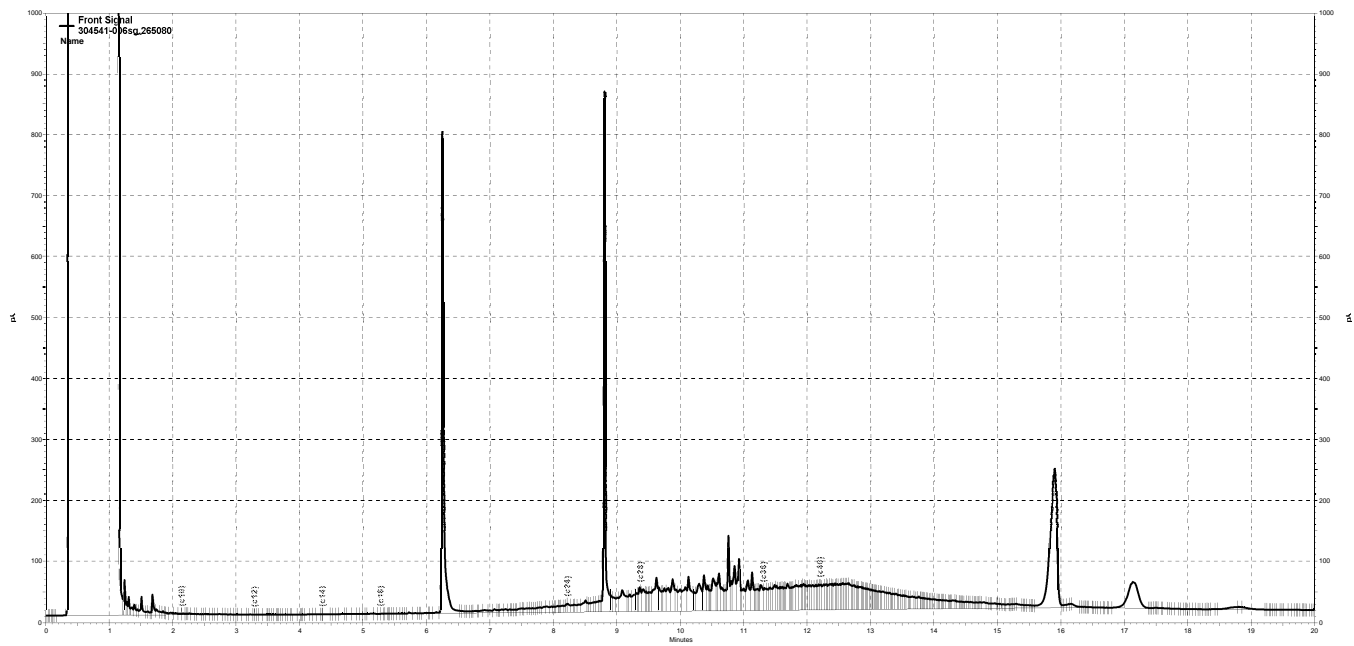
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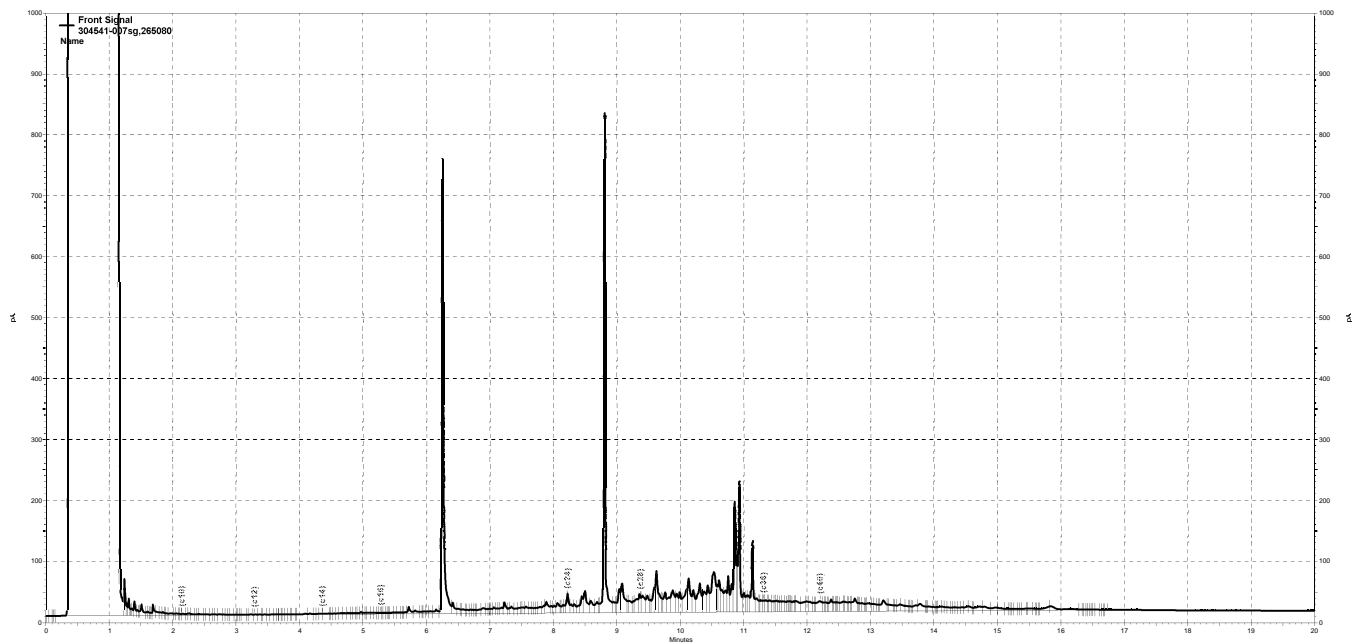
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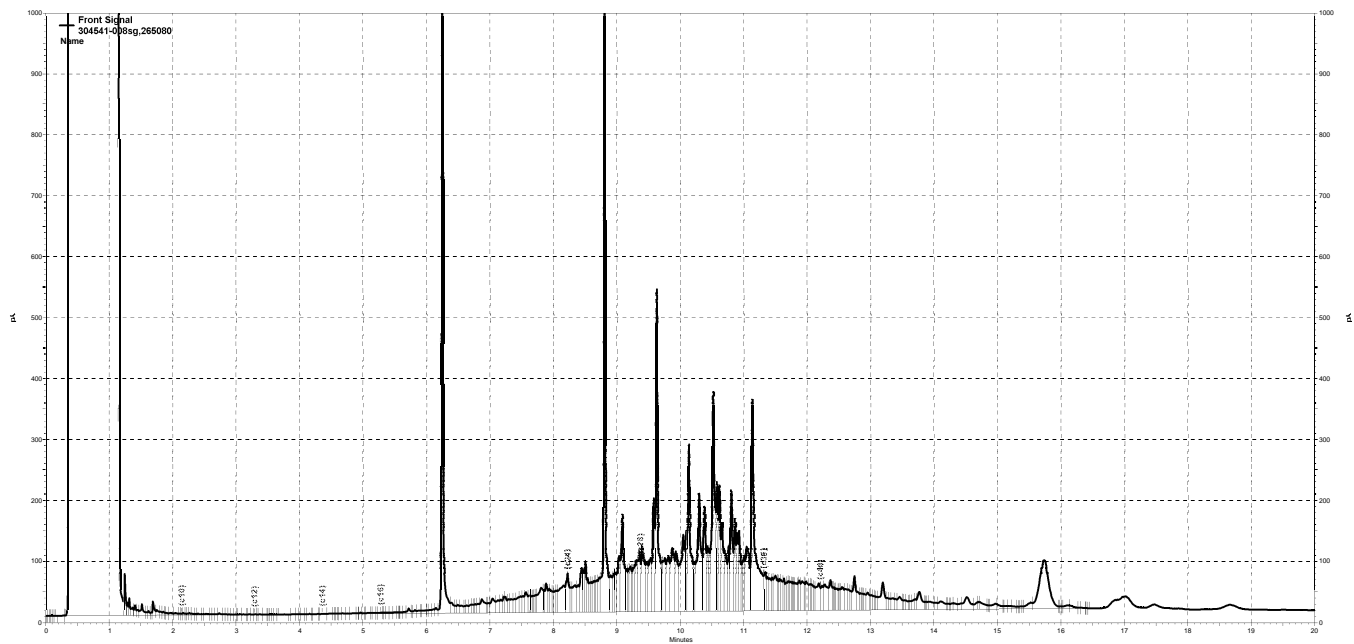
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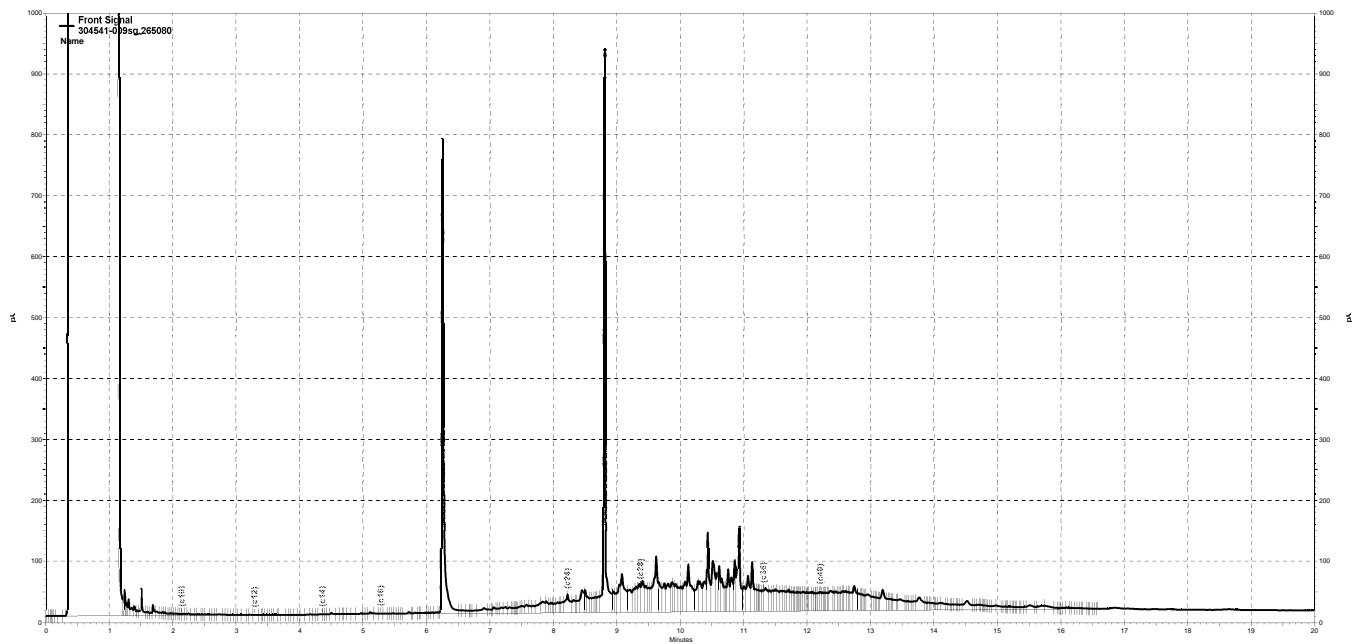
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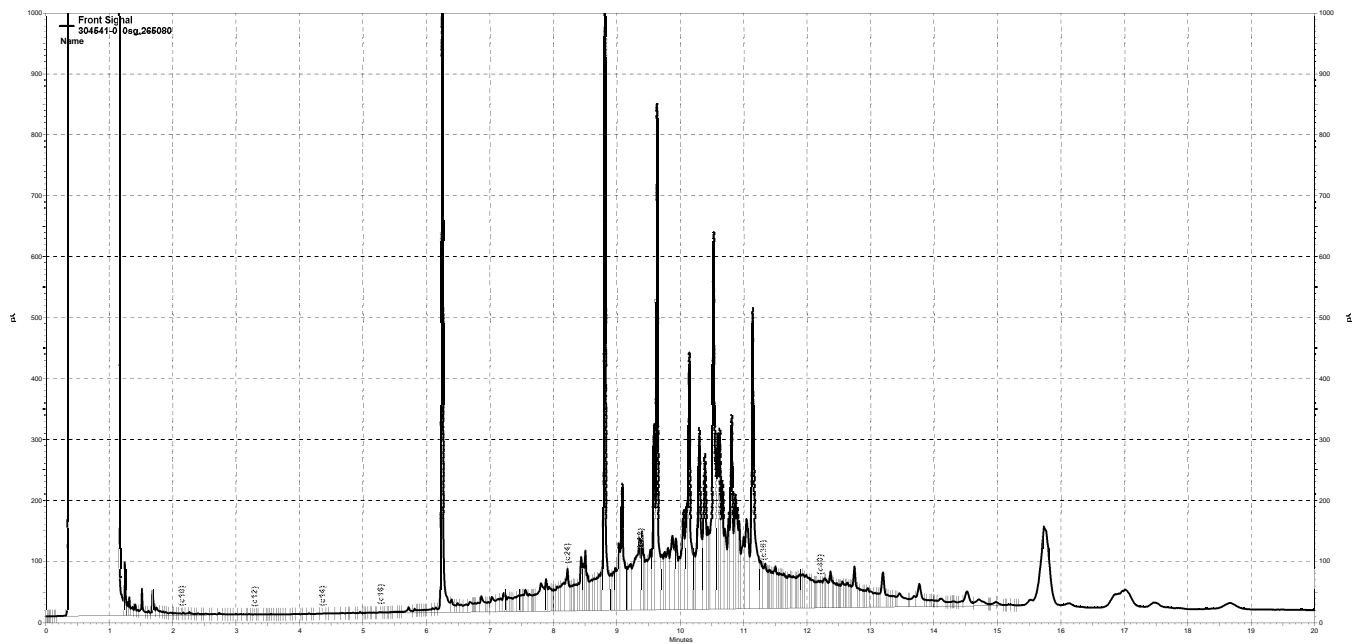
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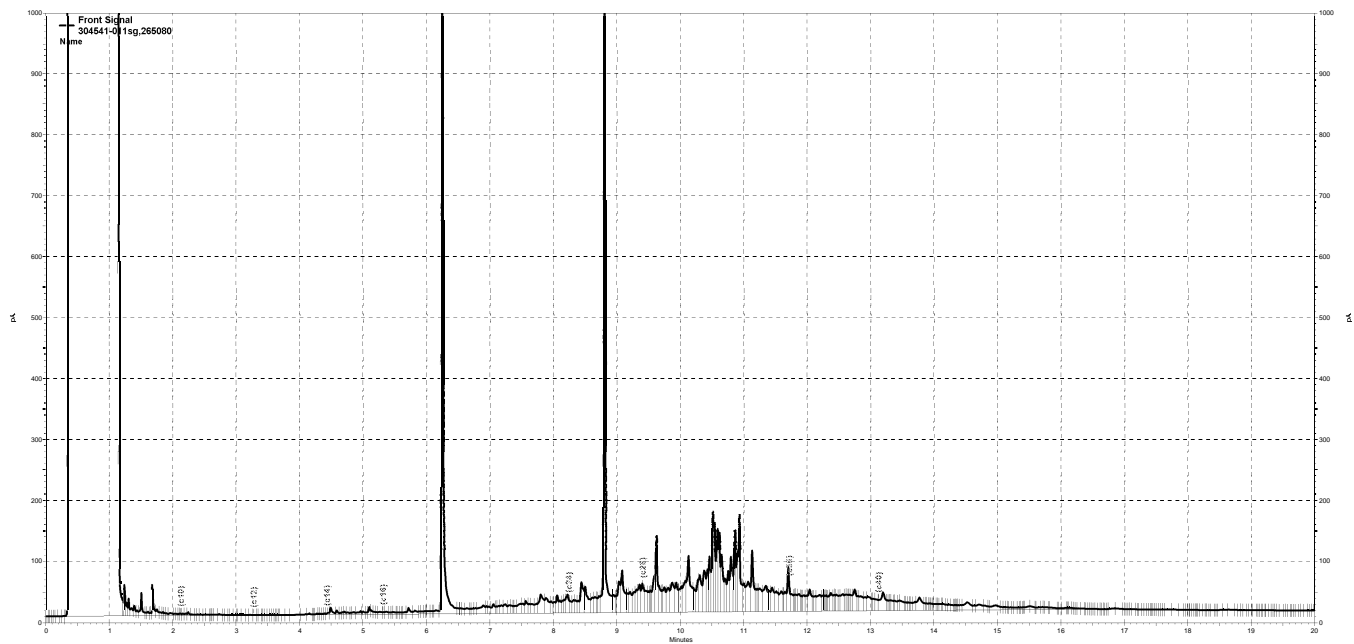
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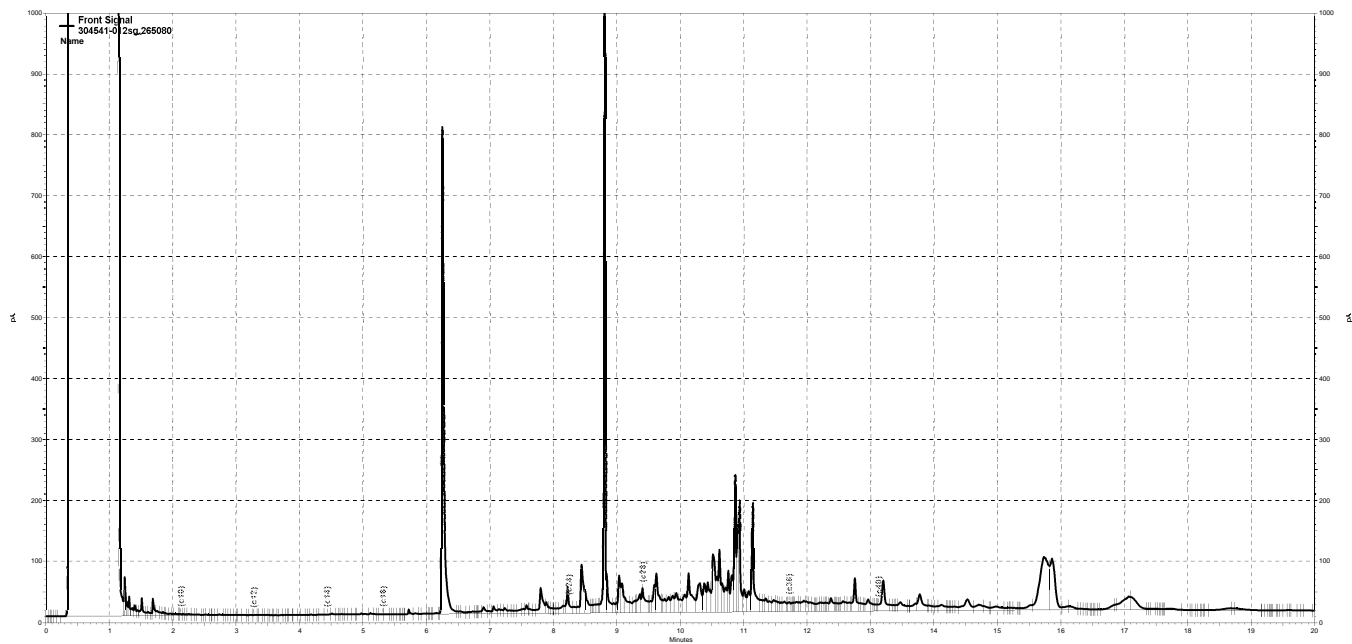
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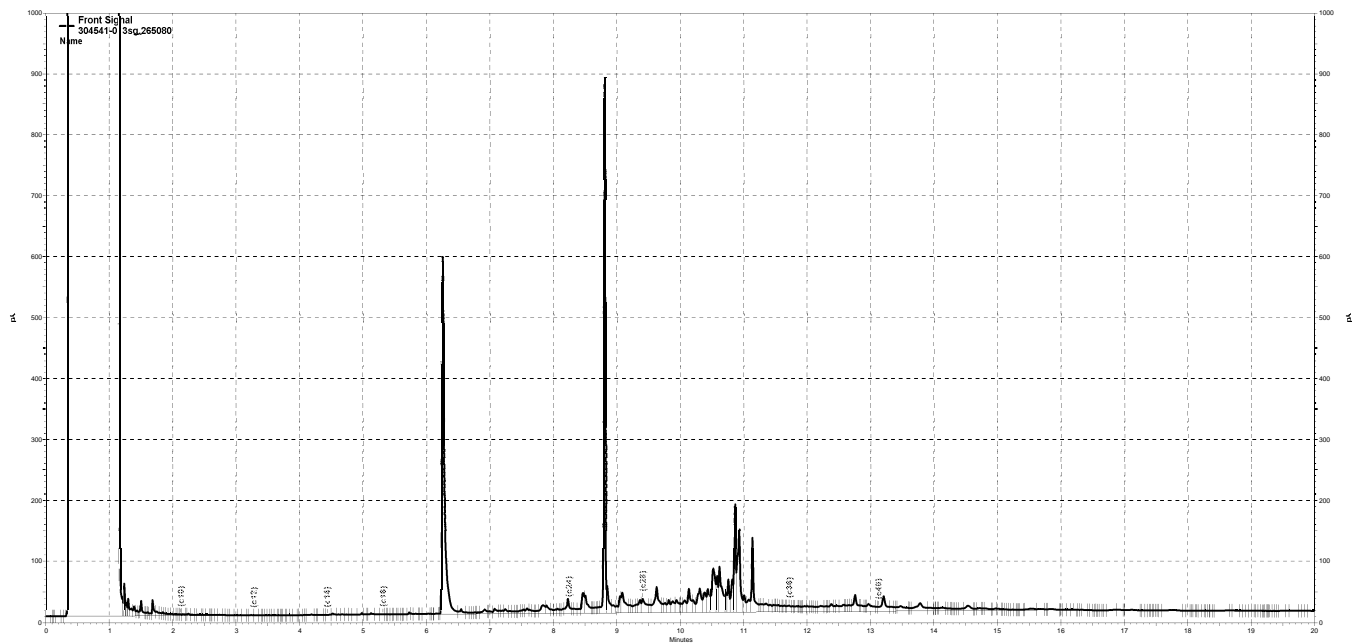
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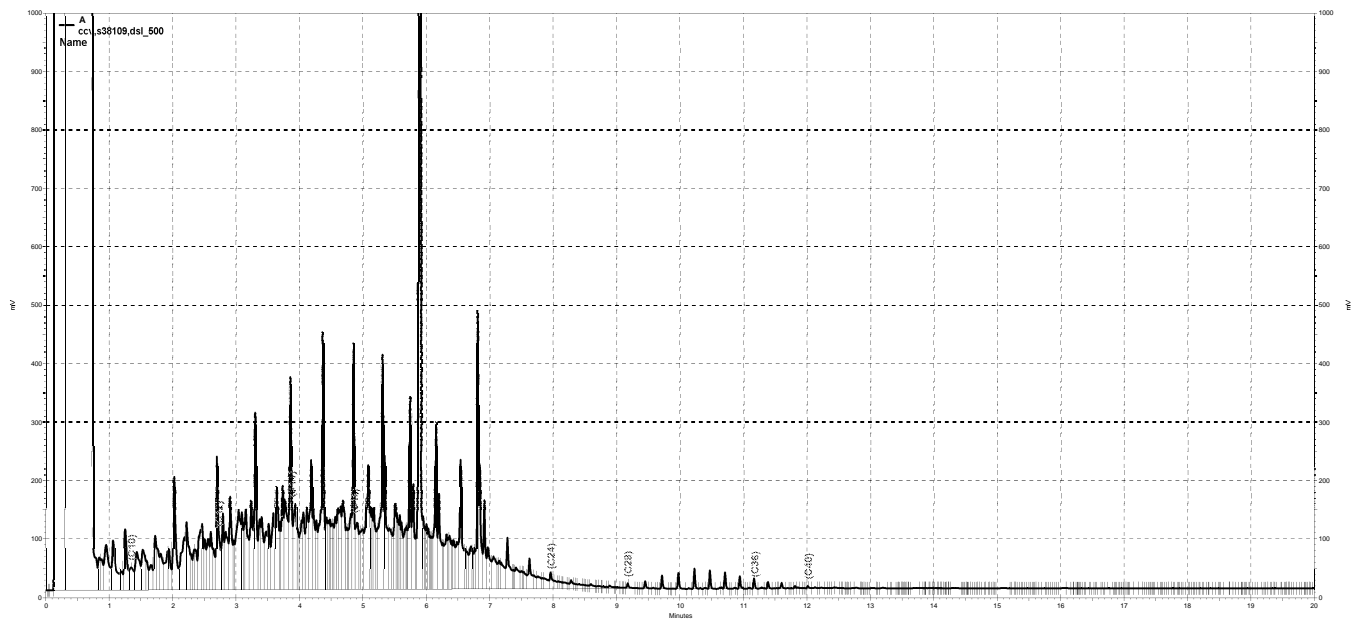
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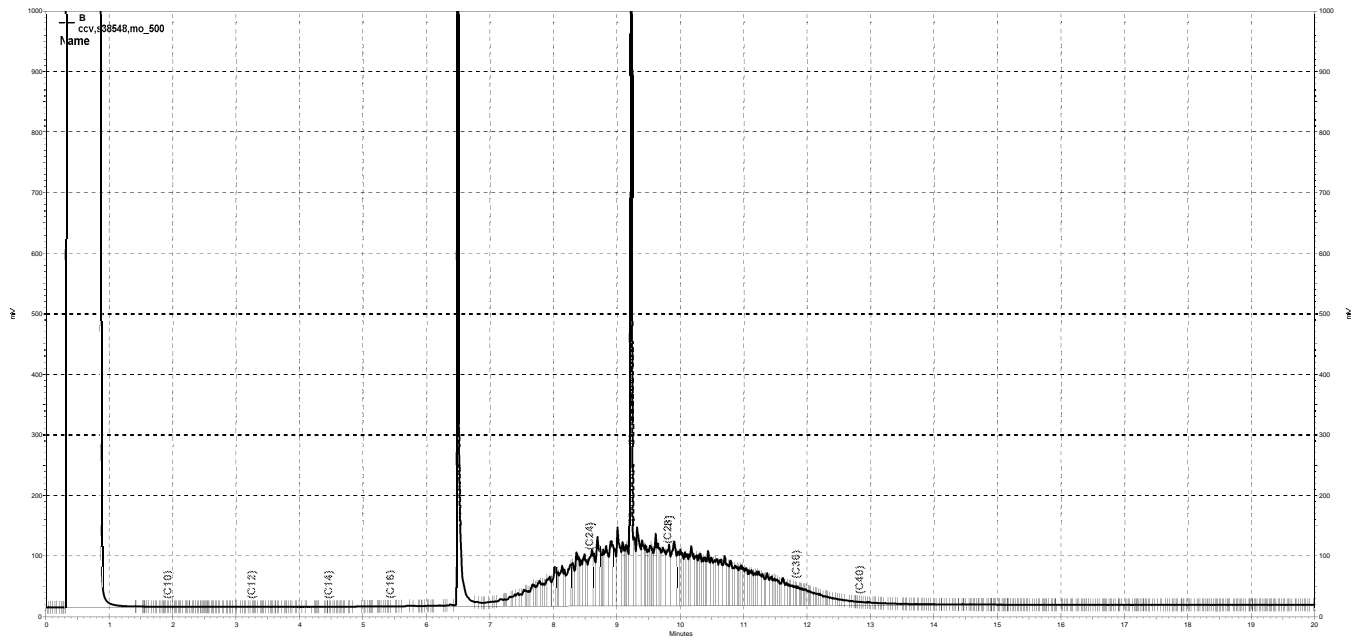
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— \\kraken\gdrive\ezchrom\Projects\GC14B\Data\2018\305b016, B

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	C8-8.0	Batch#:	265162
Lab ID:	304541-001	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	as received	Analyzed:	11/09/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Naphthalene	12 J	50	10
Acenaphthylene	ND	50	10
Acenaphthene	ND	50	10
Fluorene	ND	50	10
Phenanthrene	18 J	50	10
Anthracene	ND	50	10
Fluoranthene	24 J	50	10
Pyrene	34 J	50	10
Benzo(a)anthracene	10 J	50	10
Chrysene	17 J	50	10
Benzo(b)fluoranthene	26 J	50	10
Benzo(k)fluoranthene	ND	50	10
Benzo(a)pyrene	17 J	50	10
Indeno(1,2,3-cd)pyrene	15 J	50	10
Dibenz(a,h)anthracene	ND	50	10
Benzo(g,h,i)perylene	25 J	50	10

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	C8-5.0	Batch#:	265162
Lab ID:	304541-002	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	as received	Analyzed:	11/09/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Naphthalene	ND	50	10
Acenaphthylene	ND	50	10
Acenaphthene	ND	50	10
Fluorene	ND	50	10
Phenanthrene	ND	50	10
Anthracene	ND	50	10
Fluoranthene	15 J	50	10
Pyrene	22 J	50	10
Benzo(a)anthracene	ND	50	10
Chrysene	ND	50	10
Benzo(b)fluoranthene	15 J	50	10
Benzo(k)fluoranthene	ND	50	10
Benzo(a)pyrene	11 J	50	10
Indeno(1,2,3-cd)pyrene	ND	50	10
Dibenz(a,h)anthracene	ND	50	10
Benzo(g,h,i)perylene	12 J	50	10

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	C8-2.0	Batch#:	265162
Lab ID:	304541-003	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	as received	Analyzed:	11/09/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Naphthalene	ND	50	10
Acenaphthylene	ND	50	10
Acenaphthene	ND	50	10
Fluorene	ND	50	10
Phenanthrene	ND	50	10
Anthracene	ND	50	10
Fluoranthene	ND	50	10
Pyrene	14 J	50	10
Benzo(a)anthracene	ND	50	10
Chrysene	ND	50	10
Benzo(b)fluoranthene	ND	50	10
Benzo(k)fluoranthene	ND	50	10
Benzo(a)pyrene	ND	50	10
Indeno(1,2,3-cd)pyrene	ND	50	10
Dibenz(a,h)anthracene	ND	50	10
Benzo(g,h,i)perylene	10 J	50	10

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	B8-8.5	Batch#:	265162
Lab ID:	304541-004	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	as received	Analyzed:	11/09/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Naphthalene	13 J	50	10
Acenaphthylene	ND	50	10
Acenaphthene	ND	50	10
Fluorene	ND	50	10
Phenanthrene	16 J	50	10
Anthracene	ND	50	10
Fluoranthene	17 J	50	10
Pyrene	20 J	50	10
Benzo(a)anthracene	ND	50	10
Chrysene	14 J	50	10
Benzo(b)fluoranthene	18 J	50	10
Benzo(k)fluoranthene	ND	50	10
Benzo(a)pyrene	ND	50	10
Indeno(1,2,3-cd)pyrene	ND	50	10
Dibenz(a,h)anthracene	ND	50	10
Benzo(g,h,i)perylene	16 J	50	10

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	B8-6.5	Batch#:	265162
Lab ID:	304541-005	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	as received	Analyzed:	11/09/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Naphthalene	ND	50	10
Acenaphthylene	ND	50	10
Acenaphthene	ND	50	10
Fluorene	ND	50	10
Phenanthrene	12 J	50	10
Anthracene	ND	50	10
Fluoranthene	23 J	50	10
Pyrene	29 J	50	10
Benzo(a)anthracene	10 J	50	10
Chrysene	11 J	50	10
Benzo(b)fluoranthene	17 J	50	10
Benzo(k)fluoranthene	ND	50	10
Benzo(a)pyrene	14 J	50	10
Indeno(1,2,3-cd)pyrene	ND	50	10
Dibenz(a,h)anthracene	ND	50	10
Benzo(g,h,i)perylene	16 J	50	10

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	FD-2	Batch#:	265162
Lab ID:	304541-006	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	as received	Analyzed:	11/09/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Naphthalene	ND	50	10
Acenaphthylene	ND	50	10
Acenaphthene	ND	50	10
Fluorene	ND	50	10
Phenanthrene	ND	50	10
Anthracene	ND	50	10
Fluoranthene	12 J	50	10
Pyrene	17 J	50	10
Benzo(a)anthracene	ND	50	10
Chrysene	ND	50	10
Benzo(b)fluoranthene	11 J	50	10
Benzo(k)fluoranthene	ND	50	10
Benzo(a)pyrene	ND	50	10
Indeno(1,2,3-cd)pyrene	ND	50	10
Dibenz(a,h)anthracene	ND	50	10
Benzo(g,h,i)perylene	14 J	50	10

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	B8-4.5	Batch#:	265162
Lab ID:	304541-007	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	as received	Analyzed:	11/09/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Naphthalene	ND	50	10
Acenaphthylene	ND	50	10
Acenaphthene	ND	50	10
Fluorene	ND	50	10
Phenanthrene	ND	50	10
Anthracene	ND	50	10
Fluoranthene	14 J	50	10
Pyrene	21 J	50	10
Benzo(a)anthracene	ND	50	10
Chrysene	ND	50	10
Benzo(b)fluoranthene	15 J	50	10
Benzo(k)fluoranthene	ND	50	10
Benzo(a)pyrene	15 J	50	10
Indeno(1,2,3-cd)pyrene	10 J	50	10
Dibenz(a,h)anthracene	ND	50	10
Benzo(g,h,i)perylene	19 J	50	10

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3550C
Project#: 1116.09	Analysis: EPA 8270C-SIM
Field ID: A7-12.0	Batch#: 265162
Lab ID: 304541-008	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: ug/Kg	Prepared: 11/05/18
Basis: as received	Analyzed: 11/09/18
Diln Fac: 10.00	

Analyte	Result	RL	MDL
Naphthalene	ND	50	10
Acenaphthylene	ND	50	10
Acenaphthene	ND	50	10
Fluorene	ND	50	10
Phenanthrene	32 J	50	10
Anthracene	ND	50	10
Fluoranthene	58	50	10
Pyrene	71	50	10
Benzo(a)anthracene	23 J	50	10
Chrysene	36 J	50	10
Benzo(b)fluoranthene	62	50	10
Benzo(k)fluoranthene	17 J	50	10
Benzo(a)pyrene	34 J	50	10
Indeno(1,2,3-cd)pyrene	37 J	50	10
Dibenz(a,h)anthracene	ND	50	10
Benzo(g,h,i)perylene	56	50	10

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	A7-9.0	Batch#:	265162
Lab ID:	304541-009	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	as received	Analyzed:	11/09/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Naphthalene	ND	50	10
Acenaphthylene	ND	50	10
Acenaphthene	ND	50	10
Fluorene	ND	50	10
Phenanthrene	20 J	50	10
Anthracene	ND	50	10
Fluoranthene	33 J	50	10
Pyrene	43 J	50	10
Benzo(a)anthracene	14 J	50	10
Chrysene	21 J	50	10
Benzo(b)fluoranthene	31 J	50	10
Benzo(k)fluoranthene	ND	50	10
Benzo(a)pyrene	24 J	50	10
Indeno(1,2,3-cd)pyrene	19 J	50	10
Dibenz(a,h)anthracene	ND	50	10
Benzo(g,h,i)perylene	31 J	50	10

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	FD-3	Batch#:	265162
Lab ID:	304541-010	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	as received	Analyzed:	11/09/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Naphthalene	ND	50	10
Acenaphthylene	ND	50	10
Acenaphthene	ND	50	10
Fluorene	ND	50	10
Phenanthrene	23 J	50	10
Anthracene	ND	50	10
Fluoranthene	47 J	50	10
Pyrene	60	50	10
Benzo(a)anthracene	19 J	50	10
Chrysene	31 J	50	10
Benzo(b)fluoranthene	58	50	10
Benzo(k)fluoranthene	15 J	50	10
Benzo(a)pyrene	31 J	50	10
Indeno(1,2,3-cd)pyrene	36 J	50	10
Dibenz(a,h)anthracene	ND	50	10
Benzo(g,h,i)perylene	55	50	10

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	A7-5.5	Batch#:	265162
Lab ID:	304541-011	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	as received	Analyzed:	11/09/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Naphthalene	ND	50	10
Acenaphthylene	ND	50	10
Acenaphthene	ND	50	10
Fluorene	ND	50	10
Phenanthrene	11 J	50	10
Anthracene	ND	50	10
Fluoranthene	17 J	50	10
Pyrene	23 J	50	10
Benzo(a)anthracene	ND	50	10
Chrysene	ND	50	10
Benzo(b)fluoranthene	14 J	50	10
Benzo(k)fluoranthene	ND	50	10
Benzo(a)pyrene	11 J	50	10
Indeno(1,2,3-cd)pyrene	ND	50	10
Dibenz(a,h)anthracene	ND	50	10
Benzo(g,h,i)perylene	17 J	50	10

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	B9-8.5	Batch#:	265162
Lab ID:	304541-012	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	as received	Analyzed:	11/09/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Naphthalene	ND	50	10
Acenaphthylene	ND	50	10
Acenaphthene	ND	50	10
Fluorene	ND	50	10
Phenanthrene	22 J	50	10
Anthracene	ND	50	10
Fluoranthene	47 J	50	10
Pyrene	61	50	10
Benzo(a)anthracene	21 J	50	10
Chrysene	29 J	50	10
Benzo(b)fluoranthene	45 J	50	10
Benzo(k)fluoranthene	13 J	50	10
Benzo(a)pyrene	36 J	50	10
Indeno(1,2,3-cd)pyrene	29 J	50	10
Dibenz(a,h)anthracene	ND	50	10
Benzo(g,h,i)perylene	44 J	50	10

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	B9-6.5	Batch#:	265162
Lab ID:	304541-013	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	as received	Analyzed:	11/09/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Naphthalene	ND	50	10
Acenaphthylene	ND	50	10
Acenaphthene	ND	50	10
Fluorene	ND	50	10
Phenanthrene	14 J	50	10
Anthracene	ND	50	10
Fluoranthene	34 J	50	10
Pyrene	50 J	50	10
Benzo(a)anthracene	14 J	50	10
Chrysene	19 J	50	10
Benzo(b)fluoranthene	35 J	50	10
Benzo(k)fluoranthene	10 J	50	10
Benzo(a)pyrene	30 J	50	10
Indeno(1,2,3-cd)pyrene	26 J	50	10
Dibenz(a,h)anthracene	ND	50	10
Benzo(g,h,i)perylene	42 J	50	10

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	36-120
Terphenyl-d14	DO	56-120

J= Estimated value
 DO= Diluted Out
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC954323	Batch#:	265162
Matrix:	Soil	Prepared:	11/05/18
Units:	ug/Kg	Analyzed:	11/06/18

Analyte	Result	RL	MDL
Naphthalene	ND	5.0	1.0
Acenaphthylene	ND	5.0	1.0
Acenaphthene	ND	5.0	1.0
Fluorene	ND	5.0	1.0
Phenanthrene	ND	5.0	1.0
Anthracene	ND	5.0	1.0
Fluoranthene	ND	5.0	1.0
Pyrene	ND	5.0	1.0
Benzo(a)anthracene	ND	5.0	1.0
Chrysene	ND	5.0	1.0
Benzo(b)fluoranthene	ND	5.0	1.0
Benzo(k)fluoranthene	ND	5.0	1.0
Benzo(a)pyrene	ND	5.0	1.0
Indeno(1,2,3-cd)pyrene	ND	5.0	1.0
Dibenz(a,h)anthracene	ND	5.0	1.0
Benzo(g,h,i)perylene	ND	5.0	1.0

Surrogate	%REC	Limits
Nitrobenzene-d5	83	43-120
2-Fluorobiphenyl	77	36-120
Terphenyl-d14	82	56-120

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC954324	Batch#:	265162
Matrix:	Soil	Prepared:	11/05/18
Units:	ug/Kg	Analyzed:	11/06/18

Analyte	Spiked	Result	%REC	Limits
Acenaphthene	33.33	29.70	89	54-120
Pyrene	33.33	28.74	86	65-120

Surrogate	%REC	Limits
Nitrobenzene-d5	86	43-120
2-Fluorobiphenyl	80	36-120
Terphenyl-d14	84	56-120

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3550C
Project#:	1116.09	Analysis:	EPA 8270C-SIM
Field ID:	ZZZZZZZZZZ	Batch#:	265162
MSS Lab ID:	304490-015	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	ug/Kg	Prepared:	11/05/18
Basis:	as received	Analyzed:	11/06/18
Diln Fac:	1.000		

Type: MS Lab ID: QC954325

Analyte	MSS Result	Spiked	Result	%REC	Limits
Acenaphthene	<1.011	33.62	31.49	94	44-120
Pyrene	<1.011	33.62	31.56	94	51-128

Surrogate	%REC	Limits
Nitrobenzene-d5	93	43-120
2-Fluorobiphenyl	84	36-120
Terphenyl-d14	92	56-120

Type: MSD Lab ID: QC954326

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Acenaphthene	33.07	26.68	81	44-120	15	39
Pyrene	33.07	26.83	81	51-128	15	50

Surrogate	%REC	Limits
Nitrobenzene-d5	79	43-120
2-Fluorobiphenyl	70	36-120
Terphenyl-d14	77	56-120

RPD= Relative Percent Difference

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	C8-8.0	Batch#:	265040
Lab ID:	304541-001	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	10/31/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.10
beta-BHC	ND	1.1	0.065
gamma-BHC	ND	1.1	0.082
delta-BHC	ND	1.1	0.081
Heptachlor	ND	1.1	0.081
Aldrin	ND	1.1	0.062
Heptachlor epoxide	0.19 C J	1.1	0.078
Endosulfan I	ND	1.1	0.081
Dieldrin	1.1 J	2.2	0.089
4,4'-DDE	2.2 J	2.2	0.081
Endrin	0.16 C J	2.2	0.067
Endosulfan II	ND	2.2	0.081
Endosulfan sulfate	ND	2.2	0.075
4,4'-DDD	1.0 J	2.2	0.081
Endrin aldehyde	ND	2.2	0.60
4,4'-DDT	0.30 C J	2.2	0.091
alpha-Chlordane	0.26 C J	1.1	0.15
gamma-Chlordane	0.29 J	1.1	0.11
Methoxychlor	ND	11	1.5
Toxaphene	ND	40	13

Surrogate	%REC	Limits
TCMX	58	28-136
Decachlorobiphenyl	41	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	C8-5.0	Batch#:	265040
Lab ID:	304541-002	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	10/31/18
Basis:	as received	Analyzed:	11/02/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.091
beta-BHC	ND	1.1	0.12
gamma-BHC	ND	1.1	0.13
delta-BHC	ND	1.1	0.16
Heptachlor	ND	1.1	0.12
Aldrin	ND	1.1	0.095
Heptachlor epoxide	ND	1.1	0.086
Endosulfan I	ND	1.1	0.11
Dieldrin	0.71 C J	2.3	0.081
4,4'-DDE	0.21 C J	2.3	0.081
Endrin	0.30 J	2.3	0.067
Endosulfan II	ND	2.3	0.12
Endosulfan sulfate	ND	2.3	0.18
4,4'-DDD	3.5	2.3	0.15
Endrin aldehyde	ND	2.3	0.70
4,4'-DDT	0.52 C J	2.3	0.092
alpha-Chlordane	0.28 C J	1.1	0.15
gamma-Chlordane	ND	1.1	0.14
Methoxychlor	ND	11	2.7
Toxaphene	ND	41	12

Surrogate	%REC	Limits
TCMX	71	28-136
Decachlorobiphenyl	77	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	C8-2.0	Batch#:	265040
Lab ID:	304541-003	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	10/31/18
Basis:	as received	Analyzed:	11/02/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.090
beta-BHC	0.45 C J	1.1	0.065
gamma-BHC	ND	1.1	0.13
delta-BHC	ND	1.1	0.16
Heptachlor	ND	1.1	0.12
Aldrin	ND	1.1	0.094
Heptachlor epoxide	ND	1.1	0.086
Endosulfan I	ND	1.1	0.11
Dieldrin	ND	2.2	0.089
4,4'-DDE	ND	2.2	0.10
Endrin	ND	2.2	0.21
Endosulfan II	ND	2.2	0.12
Endosulfan sulfate	ND	2.2	0.18
4,4'-DDD	ND	2.2	0.15
Endrin aldehyde	ND	2.2	0.69
4,4'-DDT	ND	2.2	0.34
alpha-Chlordane	ND	1.1	0.14
gamma-Chlordane	ND	1.1	0.14
Methoxychlor	ND	11	2.7
Toxaphene	ND	40	12

Surrogate	%REC	Limits
TCMX	69	28-136
Decachlorobiphenyl	67	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	B8-8.5	Batch#:	265040
Lab ID:	304541-004	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	10/31/18
Basis:	as received	Analyzed:	11/02/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.091
beta-BHC	ND	1.1	0.12
gamma-BHC	ND	1.1	0.13
delta-BHC	ND	1.1	0.16
Heptachlor	ND	1.1	0.12
Aldrin	ND	1.1	0.095
Heptachlor epoxide	ND	1.1	0.086
Endosulfan I	ND	1.1	0.11
Dieldrin	0.30 C J	2.3	0.081
4,4'-DDE	ND	2.3	0.10
Endrin	ND	2.3	0.21
Endosulfan II	ND	2.3	0.12
Endosulfan sulfate	ND	2.3	0.18
4,4'-DDD	0.71 J	2.3	0.081
Endrin aldehyde	ND	2.3	0.70
4,4'-DDT	0.16 C J	2.3	0.092
alpha-Chlordane	0.24 C J	1.1	0.15
gamma-Chlordane	ND	1.1	0.14
Methoxychlor	ND	11	2.7
Toxaphene	ND	41	12

Surrogate	%REC	Limits
TCMX	61	28-136
Decachlorobiphenyl	60	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	B8-6.5	Batch#:	265040
Lab ID:	304541-005	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	10/31/18
Basis:	as received	Analyzed:	11/02/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.091
beta-BHC	0.27 C J	1.1	0.12
gamma-BHC	ND	1.1	0.13
delta-BHC	ND	1.1	0.16
Heptachlor	ND	1.1	0.12
Aldrin	ND	1.1	0.095
Heptachlor epoxide	ND	1.1	0.087
Endosulfan I	ND	1.1	0.11
Dieldrin	ND	2.3	0.090
4,4'-DDE	ND	2.3	0.10
Endrin	ND	2.3	0.21
Endosulfan II	ND	2.3	0.13
Endosulfan sulfate	ND	2.3	0.18
4,4'-DDD	ND	2.3	0.15
Endrin aldehyde	ND	2.3	0.70
4,4'-DDT	ND	2.3	0.34
alpha-Chlordane	ND	1.1	0.15
gamma-Chlordane	ND	1.1	0.14
Methoxychlor	ND	11	2.7
Toxaphene	ND	41	12

Surrogate	%REC	Limits
TCMX	56	28-136
Decachlorobiphenyl	48	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8081A
Field ID: FD-2	Batch#: 265246
Lab ID: 304541-006	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: ug/Kg	Prepared: 11/07/18
Basis: as received	Analyzed: 11/12/18
Diln Fac: 1.000	

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.10
beta-BHC	0.15 C J	1.1	0.11
gamma-BHC	ND	1.1	0.080
delta-BHC	ND	1.1	0.079
Heptachlor	ND	1.1	0.079
Aldrin	ND	1.1	0.093
Heptachlor epoxide	ND	1.1	0.077
Endosulfan I	ND	1.1	0.079
Dieldrin	0.12 C J	2.2	0.079
4,4'-DDE	0.23 C J	2.2	0.079
Endrin	ND	2.2	0.066
Endosulfan II	ND	2.2	0.079
Endosulfan sulfate	ND	2.2	0.074
4,4'-DDD	0.15 C J	2.2	0.079
Endrin aldehyde	ND	2.2	0.59
4,4'-DDT	0.34 J	2.2	0.33
alpha-Chlordane	ND	1.1	0.18
gamma-Chlordane	0.45 J	1.1	0.14
Methoxychlor	ND	11	1.5
Toxaphene	ND	40	13

Surrogate	%REC	Limits
TCMX	70	28-136
Decachlorobiphenyl	68	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	B8-4.5	Batch#:	265246
Lab ID:	304541-007	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/07/18
Basis:	as received	Analyzed:	11/12/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.099
beta-BHC	ND	1.1	0.063
gamma-BHC	ND	1.1	0.079
delta-BHC	ND	1.1	0.078
Heptachlor	ND	1.1	0.078
Aldrin	ND	1.1	0.060
Heptachlor epoxide	ND	1.1	0.076
Endosulfan I	ND	1.1	0.078
Dieldrin	ND	2.2	0.087
4,4'-DDE	ND	2.2	0.078
Endrin	ND	2.2	0.065
Endosulfan II	ND	2.2	0.078
Endosulfan sulfate	ND	2.2	0.073
4,4'-DDD	ND	2.2	0.078
Endrin aldehyde	ND	2.2	0.58
4,4'-DDT	ND	2.2	0.088
alpha-Chlordane	ND	1.1	0.18
gamma-Chlordane	ND	1.1	0.13
Methoxychlor	ND	11	1.5
Toxaphene	ND	39	13

Surrogate	%REC	Limits
TCMX	72	28-136
Decachlorobiphenyl	50	41-142

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	A7-12.0	Batch#:	265040
Lab ID:	304541-008	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	10/31/18
Basis:	as received	Analyzed:	11/02/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	0.14 J	1.1	0.090
beta-BHC	ND	1.1	0.11
gamma-BHC	ND	1.1	0.13
delta-BHC	ND	1.1	0.16
Heptachlor	ND	1.1	0.12
Aldrin	ND	1.1	0.094
Heptachlor epoxide	ND	1.1	0.085
Endosulfan I	ND	1.1	0.11
Dieldrin	0.18 C J	2.2	0.089
4,4'-DDE	0.13 C J	2.2	0.080
Endrin	0.53 J	2.2	0.067
Endosulfan II	ND	2.2	0.12
Endosulfan sulfate	0.33 C J	2.2	0.075
4,4'-DDD	2.1 J	2.2	0.15
Endrin aldehyde	ND	2.2	0.69
4,4'-DDT	0.94 C J	2.2	0.091
alpha-Chlordane	ND	1.1	0.14
gamma-Chlordane	ND	1.1	0.14
Methoxychlor	ND	11	2.7
Toxaphene	ND	40	12

Surrogate	%REC	Limits
TCMX	48	28-136
Decachlorobiphenyl	49	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	A7-9.0	Batch#:	265040
Lab ID:	304541-009	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	10/31/18
Basis:	as received	Analyzed:	11/02/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.091
beta-BHC	ND	1.1	0.12
gamma-BHC	ND	1.1	0.13
delta-BHC	ND	1.1	0.16
Heptachlor	ND	1.1	0.12
Aldrin	ND	1.1	0.095
Heptachlor epoxide	0.091 C J	1.1	0.087
Endosulfan I	ND	1.1	0.11
Dieldrin	1.5 J	2.3	0.090
4,4'-DDE	6.3	2.3	0.10
Endrin	0.29 C J	2.3	0.21
Endosulfan II	ND	2.3	0.12
Endosulfan sulfate	0.22 C J	2.3	0.076
4,4'-DDD	11	2.3	0.15
Endrin aldehyde	ND	2.3	0.70
4,4'-DDT	12 #	2.3	0.34
alpha-Chlordane	0.99 C J	1.1	0.15
gamma-Chlordane	1.7 C	1.1	0.11
Methoxychlor	ND	11	2.7
Toxaphene	ND	41	12

Surrogate	%REC	Limits
TCMX	64	28-136
Decachlorobiphenyl	65	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8081A
Field ID: FD-3	Batch#: 265246
Lab ID: 304541-010	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: ug/Kg	Prepared: 11/07/18
Basis: as received	Analyzed: 11/08/18
Diln Fac: 1.000	

Analyte	Result	RL	MDL
alpha-BHC	0.13 C J	1.1	0.10
beta-BHC	ND	1.1	0.064
gamma-BHC	ND	1.1	0.081
delta-BHC	ND	1.1	0.080
Heptachlor	ND	1.1	0.080
Aldrin	ND	1.1	0.061
Heptachlor epoxide	0.095 J	1.1	0.077
Endosulfan I	ND	1.1	0.080
Dieldrin	0.17 J	2.2	0.080
4,4'-DDE	2.4 #	2.2	0.080
Endrin	0.62 J	2.2	0.066
Endosulfan II	ND	2.2	0.080
Endosulfan sulfate	0.49 C J	2.2	0.074
4,4'-DDD	2.6	2.2	0.15
Endrin aldehyde	ND	2.2	0.59
4,4'-DDT	0.87 J	2.2	0.090
alpha-Chlordane	ND	1.1	0.18
gamma-Chlordane	ND	1.1	0.14
Methoxychlor	ND	11	1.5
Toxaphene	ND	40	13

Surrogate	%REC	Limits
TCMX	64	28-136
Decachlorobiphenyl	51	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8081A
Field ID: A7-5.5	Batch#: 265246
Lab ID: 304541-011	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: ug/Kg	Prepared: 11/07/18
Basis: as received	Analyzed: 11/12/18
Diln Fac: 1.000	

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.099
beta-BHC	ND	1.1	0.064
gamma-BHC	ND	1.1	0.080
delta-BHC	ND	1.1	0.079
Heptachlor	ND	1.1	0.079
Aldrin	ND	1.1	0.060
Heptachlor epoxide	0.18 J	1.1	0.076
Endosulfan I	ND	1.1	0.079
Dieldrin	0.41 J	2.2	0.087
4,4'-DDE	1.9 J	2.2	0.098
Endrin	ND	2.2	0.066
Endosulfan II	ND	2.2	0.079
Endosulfan sulfate	ND	2.2	0.073
4,4'-DDD	6.8	2.2	0.079
Endrin aldehyde	ND	2.2	0.58
4,4'-DDT	0.20 C J	2.2	0.089
alpha-Chlordane	0.76 J	1.1	0.18
gamma-Chlordane	0.68 C J	1.1	0.11
Methoxychlor	ND	11	2.6
Toxaphene	ND	39	13

Surrogate	%REC	Limits
TCMX	5 *	28-136
Decachlorobiphenyl	23 *	41-142

*= Value outside of QC limits; see narrative
 C= Presence confirmed, but RPD between columns exceeds 40%
 J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Organochlorine Pesticides

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8081A
Field ID: B9-8.5	Batch#: 265246
Lab ID: 304541-012	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: ug/Kg	Prepared: 11/07/18
Basis: as received	Analyzed: 11/12/18
Diln Fac: 1.000	

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.10
beta-BHC	ND	1.1	0.11
gamma-BHC	ND	1.1	0.080
delta-BHC	0.15 C J	1.1	0.079
Heptachlor	ND	1.1	0.079
Aldrin	0.31 J	1.1	0.060
Heptachlor epoxide	0.11 C J	1.1	0.084
Endosulfan I	ND	1.1	0.079
Dieldrin	0.15 C J	2.2	0.079
4,4'-DDE	2.8 #	2.2	0.079
Endrin	ND	2.2	0.20
Endosulfan II	ND	2.2	0.079
Endosulfan sulfate	ND	2.2	0.073
4,4'-DDD	6.6	2.2	0.079
Endrin aldehyde	ND	2.2	0.58
4,4'-DDT	4.7 C	2.2	0.089
alpha-Chlordane	0.54 C J	1.1	0.14
gamma-Chlordane	0.53 J	1.1	0.11
Methoxychlor	ND	11	1.5
Toxaphene	ND	39	13

Surrogate	%REC	Limits
TCMX	63	28-136
Decachlorobiphenyl	63	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	B9-6.5	Batch#:	265233
Lab ID:	304541-013	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/06/18
Basis:	as received	Analyzed:	11/12/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620

Analyte	Result	RL	MDL
alpha-BHC	ND	1.1	0.10
beta-BHC	ND	1.1	0.11
gamma-BHC	ND	1.1	0.080
delta-BHC	ND	1.1	0.079
Heptachlor	ND	1.1	0.079
Aldrin	0.061 C J	1.1	0.061
Heptachlor epoxide	0.16 C J	1.1	0.084
Endosulfan I	ND	1.1	0.11
Dieldrin	0.28 C J	2.2	0.079
4,4'-DDE	3.3 #	2.2	0.079
Endrin	ND	2.2	0.21
Endosulfan II	ND	2.2	0.079
Endosulfan sulfate	ND	2.2	0.074
4,4'-DDD	13	2.2	0.079
Endrin aldehyde	ND	2.2	0.59
4,4'-DDT	0.62 C J	2.2	0.089
alpha-Chlordane	0.77 C J	1.1	0.14
gamma-Chlordane	0.77 C J	1.1	0.11
Methoxychlor	ND	11	1.5
Toxaphene	ND	40	13

Surrogate	%REC	Limits
TCMX	71	28-136
Decachlorobiphenyl	74	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC953810	Batch#:	265040
Matrix:	Soil	Prepared:	10/31/18
Units:	ug/Kg	Analyzed:	11/01/18

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.83	0.076
beta-BHC	ND	0.83	0.048
gamma-BHC	ND	0.83	0.061
delta-BHC	ND	0.83	0.060
Heptachlor	ND	0.83	0.060
Aldrin	ND	0.83	0.046
Heptachlor epoxide	ND	0.83	0.058
Endosulfan I	ND	0.83	0.060
Dieldrin	ND	1.7	0.060
4,4'-DDE	ND	1.7	0.060
Endrin	ND	1.7	0.050
Endosulfan II	ND	1.7	0.060
Endosulfan sulfate	ND	1.7	0.056
4,4'-DDD	ND	1.7	0.060
Endrin aldehyde	ND	1.7	0.44
4,4'-DDT	ND	1.7	0.068
alpha-Chlordane	ND	0.83	0.13
gamma-Chlordane	ND	0.83	0.083
Methoxychlor	ND	8.3	1.1
Toxaphene	ND	30	10

Surrogate	%REC	Limits
TCMX	92	28-136
Decachlorobiphenyl	90	41-142

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Organochlorine Pesticides		
Lab #:	304541	Location: Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep: EPA 3546
Project#:	1116.09	Analysis: EPA 8081A
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC953811	Batch#: 265040
Matrix:	Soil	Prepared: 10/31/18
Units:	ug/Kg	Analyzed: 11/01/18

Cleanup Method: EPA 3620B

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	10.00	10.87	109	45-141
Heptachlor	10.00	10.82	108	43-144
Aldrin	10.00	10.93	109	43-137
Dieldrin	10.00	10.83 #	108	51-149
Endrin	10.00	11.18 #	112	40-165
4,4'-DDT	10.00	12.04	120	50-145

Surrogate	%REC	Limits
TCMX	89	28-136
Decachlorobiphenyl	98	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

Batch QC Report

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	C8-8.0	Batch#:	265040
MSS Lab ID:	304541-001	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	10/31/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	1.000		

Type: MS
Lab ID: QC953812

Cleanup Method: EPA 3620B

Analyte	MSS Result	Spiked	Result	%REC	Limits
gamma-BHC	<0.08191	13.38	13.65	102	50-135
Heptachlor	<0.08092	13.38	12.69	95	46-138
Aldrin	<0.06192	13.38	13.55	101	45-136
Dieldrin	1.105	13.38	14.10 #	97	41-150
Endrin	0.1634	13.38	13.68 #	101	44-167
4,4'-DDT	0.3018	13.38	16.14	118	41-148

Surrogate	%REC	Limits
TCMX	81	28-136
Decachlorobiphenyl	80	41-142

Type: MSD
Lab ID: QC953813

Cleanup Method: EPA 3620B

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
gamma-BHC	13.22	9.033	68	50-135	40	43
Heptachlor	13.22	9.087	69	46-138	32	47
Aldrin	13.22	9.035	68	45-136	39	42
Dieldrin	13.22	9.389 #	63	41-150	39	60
Endrin	13.22	9.781 #	73	44-167	32	56
4,4'-DDT	13.22	10.38	76	41-148	42	52

Surrogate	%REC	Limits
TCMX	60	28-136
Decachlorobiphenyl	56	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements
RPD= Relative Percent Difference

Batch QC Report

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC954616	Batch#:	265233
Matrix:	Soil	Prepared:	11/06/18
Units:	ug/Kg	Analyzed:	11/07/18

Cleanup Method: EPA 3620

Analyte	Result	RL	MDL
alpha-BHC	ND	0.83	0.076
beta-BHC	ND	0.83	0.048
gamma-BHC	ND	0.83	0.061
delta-BHC	ND	0.83	0.060
Heptachlor	ND	0.83	0.092
Aldrin	ND	0.83	0.046
Heptachlor epoxide	ND	0.83	0.058
Endosulfan I	ND	0.83	0.060
Dieldrin	ND	1.7	0.060
4,4'-DDE	ND	1.7	0.060
Endrin	ND	1.7	0.050
Endosulfan II	ND	1.7	0.060
Endosulfan sulfate	ND	1.7	0.056
4,4'-DDD	ND	1.7	0.060
Endrin aldehyde	ND	1.7	0.44
4,4'-DDT	ND	1.7	0.068
alpha-Chlordane	ND	0.83	0.13
gamma-Chlordane	0.17 C J	0.83	0.10
Methoxychlor	ND	8.3	1.1
Toxaphene	ND	30	10

Surrogate	%REC	Limits
TCMX	86	28-136
Decachlorobiphenyl	85	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Organochlorine Pesticides		
Lab #:	304541	Location: Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep: EPA 3546
Project#:	1116.09	Analysis: EPA 8081A
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC954617	Batch#: 265233
Matrix:	Soil	Prepared: 11/06/18
Units:	ug/Kg	Analyzed: 11/07/18

Cleanup Method: EPA 3620

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	10.00	9.648	96	45-141
Heptachlor	10.00	11.18	112	43-144
Aldrin	10.00	9.440	94	43-137
Dieldrin	10.00	10.26	103	51-149
Endrin	10.00	10.57 #	106	40-165
4,4'-DDT	10.00	10.73 #	107	50-145

Surrogate	%REC	Limits
TCMX	62	28-136
Decachlorobiphenyl	68	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

Batch QC Report

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC954734	Batch#:	265246
Matrix:	Soil	Prepared:	11/07/18
Units:	ug/Kg	Analyzed:	11/08/18

Analyte	Result	RL	MDL
alpha-BHC	ND	0.83	0.076
beta-BHC	ND	0.83	0.048
gamma-BHC	ND	0.83	0.061
delta-BHC	ND	0.83	0.060
Heptachlor	ND	0.83	0.060
Aldrin	ND	0.83	0.046
Heptachlor epoxide	ND	0.83	0.058
Endosulfan I	ND	0.83	0.060
Dieldrin	ND	1.7	0.060
4,4'-DDE	ND	1.7	0.060
Endrin	ND	1.7	0.050
Endosulfan II	ND	1.7	0.060
Endosulfan sulfate	ND	1.7	0.056
4,4'-DDD	ND	1.7	0.060
Endrin aldehyde	ND	1.7	0.44
4,4'-DDT	ND	1.7	0.068
alpha-Chlordane	ND	0.83	0.13
gamma-Chlordane	0.12 C J	0.83	0.10
Methoxychlor	ND	8.3	1.1
Toxaphene	ND	30	10

Surrogate	%REC	Limits
TCMX	64	28-136
Decachlorobiphenyl	64	41-142

C= Presence confirmed, but RPD between columns exceeds 40%

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Organochlorine Pesticides		
Lab #:	304541	Location: Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep: EPA 3546
Project#:	1116.09	Analysis: EPA 8081A
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC954735	Batch#: 265246
Matrix:	Soil	Prepared: 11/07/18
Units:	ug/Kg	Analyzed: 11/08/18

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	10.00	9.982	100	45-141
Heptachlor	10.00	10.05	101	43-144
Aldrin	10.00	10.34	103	43-137
Dieldrin	10.00	10.02 #	100	51-149
Endrin	10.00	9.635 #	96	40-165
4,4'-DDT	10.00	11.39	114	50-145

Surrogate	%REC	Limits
TCMX	73	28-136
Decachlorobiphenyl	70	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

Batch QC Report

Organochlorine Pesticides			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8081A
Field ID:	FD-3	Batch#:	265246
MSS Lab ID:	304541-010	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/07/18
Basis:	as received	Analyzed:	11/08/18
Diln Fac:	1.000		

Type: MS Lab ID: QC954736

Analyte	MSS Result	Spiked	Result	%REC	Limits
gamma-BHC	<0.08066	13.32	12.07	91	50-135
Heptachlor	<0.07968	13.32	12.06	91	46-138
Aldrin	<0.06097	13.32	12.03	90	45-136
Dieldrin	0.1732	13.32	12.05 #	89	41-150
Endrin	0.6215	13.32	13.29 #	95	44-167
4,4'-DDT	0.8658	13.32	14.56	103	41-148

Surrogate	%REC	Limits
TCMX	65	28-136
Decachlorobiphenyl	60	41-142

Type: MSD Lab ID: QC954737

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
gamma-BHC	13.16	12.15	92	50-135	2	43
Heptachlor	13.16	11.62	88	46-138	2	47
Aldrin	13.16	12.12	92	45-136	2	42
Dieldrin	13.16	11.64 #	87	41-150	2	60
Endrin	13.16	12.78 #	92	44-167	3	56
4,4'-DDT	13.16	12.78	91	41-148	12	52

Surrogate	%REC	Limits
TCMX	71	28-136
Decachlorobiphenyl	55	41-142

#= CCV drift outside limits; average CCV drift within limits per method requirements
 RPD= Relative Percent Difference

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Sampled: 10/25/18
Units: ug/Kg	Received: 10/25/18
Basis: as received	

Field ID: C8-8.0	Batch#: 265222
Type: SAMPLE	Prepared: 11/06/18
Lab ID: 304541-001	Analyzed: 11/07/18
Diln Fac: 1.000	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.5
Aroclor-1221	ND	24	7.9
Aroclor-1232	ND	12	3.9
Aroclor-1242	ND	12	4.0
Aroclor-1248	ND	12	1.7
Aroclor-1254	ND	12	3.4
Aroclor-1260	8.2 J	12	3.3

Surrogate	%REC	Limits
Decachlorobiphenyl	68	37-170

Field ID: C8-5.0	Batch#: 265040
Type: SAMPLE	Prepared: 10/31/18
Lab ID: 304541-002	Analyzed: 11/02/18
Diln Fac: 1.000	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	2.8
Aroclor-1221	ND	24	4.4
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	4.9
Aroclor-1248	ND	12	5.2
Aroclor-1254	ND	12	2.8
Aroclor-1260	18	12	3.6

Surrogate	%REC	Limits
Decachlorobiphenyl	83	37-170

*= Value outside of QC limits; see narrative

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	10/25/18
Units:	ug/Kg	Received:	10/25/18
Basis:	as received		

Field ID:	C8-2.0	Batch#:	265040
Type:	SAMPLE	Prepared:	10/31/18
Lab ID:	304541-003	Analyzed:	11/02/18
Diln Fac:	1.000	Cleanup Method:	EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	2.8
Aroclor-1221	ND	24	4.4
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	4.9
Aroclor-1248	ND	12	5.2
Aroclor-1254	ND	12	2.7
Aroclor-1260	ND	12	3.5

Surrogate	%REC	Limits
Decachlorobiphenyl	65	37-170

Field ID:	B8-8.5	Batch#:	265040
Type:	SAMPLE	Prepared:	10/31/18
Lab ID:	304541-004	Analyzed:	11/03/18
Diln Fac:	2.000	Cleanup Method:	EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	14	5.6
Aroclor-1221	ND	27	8.8
Aroclor-1232	ND	14	7.4
Aroclor-1242	ND	14	9.8
Aroclor-1248	ND	14	10
Aroclor-1254	ND	14	5.5
Aroclor-1260	ND	14	7.1

Surrogate	%REC	Limits
Decachlorobiphenyl	59	37-170

*= Value outside of QC limits; see narrative

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Sampled: 10/25/18
Units: ug/Kg	Received: 10/25/18
Basis: as received	

Field ID: B8-6.5	Batch#: 265040
Type: SAMPLE	Prepared: 10/31/18
Lab ID: 304541-005	Analyzed: 11/03/18
Diln Fac: 1.000	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	2.8
Aroclor-1221	ND	24	4.4
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	4.9
Aroclor-1248	ND	12	5.2
Aroclor-1254	ND	12	2.8
Aroclor-1260	ND	12	3.6

Surrogate	%REC	Limits
Decachlorobiphenyl	54	37-170

Field ID: FD-2	Batch#: 265040
Type: SAMPLE	Prepared: 10/31/18
Lab ID: 304541-006	Analyzed: 11/03/18
Diln Fac: 1.000	Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	2.8
Aroclor-1221	ND	24	4.4
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	4.9
Aroclor-1248	ND	12	5.2
Aroclor-1254	ND	12	2.7
Aroclor-1260	ND	12	3.5

Surrogate	%REC	Limits
Decachlorobiphenyl	37	37-170

*= Value outside of QC limits; see narrative

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	10/25/18
Units:	ug/Kg	Received:	10/25/18
Basis:	as received		

Field ID:	B8-4.5	Batch#:	265040
Type:	SAMPLE	Prepared:	10/31/18
Lab ID:	304541-007	Analyzed:	11/03/18
Diln Fac:	1.000	Cleanup Method:	EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	2.8
Aroclor-1221	ND	24	4.4
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	4.9
Aroclor-1248	ND	12	5.2
Aroclor-1254	ND	12	2.8
Aroclor-1260	ND	12	3.6

Surrogate	%REC	Limits
Decachlorobiphenyl	35 *	37-170

Field ID:	A7-12.0	Batch#:	265040
Type:	SAMPLE	Prepared:	10/31/18
Lab ID:	304541-008	Analyzed:	11/03/18
Diln Fac:	1.000	Cleanup Method:	EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	2.8
Aroclor-1221	ND	24	4.4
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	4.9
Aroclor-1248	ND	12	5.2
Aroclor-1254	ND	12	2.7
Aroclor-1260	10 J	12	3.5

Surrogate	%REC	Limits
Decachlorobiphenyl	56	37-170

*= Value outside of QC limits; see narrative

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	10/25/18
Units:	ug/Kg	Received:	10/25/18
Basis:	as received		

Field ID:	A7-9.0	Batch#:	265040
Type:	SAMPLE	Prepared:	10/31/18
Lab ID:	304541-009	Analyzed:	11/03/18
Diln Fac:	1.000	Cleanup Method:	EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	2.8
Aroclor-1221	ND	24	4.4
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	4.9
Aroclor-1248	ND	12	5.2
Aroclor-1254	ND	12	2.8
Aroclor-1260	11 J	12	3.6

Surrogate	%REC	Limits
Decachlorobiphenyl	68	37-170

Field ID:	FD-3	Batch#:	265040
Type:	SAMPLE	Prepared:	10/31/18
Lab ID:	304541-010	Analyzed:	11/03/18
Diln Fac:	1.000	Cleanup Method:	EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	2.8
Aroclor-1221	ND	24	4.4
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	4.9
Aroclor-1248	ND	12	5.2
Aroclor-1254	ND	12	2.7
Aroclor-1260	5.1 J	12	3.5

Surrogate	%REC	Limits
Decachlorobiphenyl	28 *	37-170

*= Value outside of QC limits; see narrative

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Sampled: 10/25/18
Units: ug/Kg	Received: 10/25/18
Basis: as received	

Field ID:	A7-5.5	Batch#:	265065
Type:	SAMPLE	Prepared:	11/01/18
Lab ID:	304541-011	Analyzed:	11/02/18
Diln Fac:	1.000	Cleanup Method:	EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.3
Aroclor-1221	ND	24	7.6
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	3.8
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.3
Aroclor-1260	ND	12	3.2

Surrogate	%REC	Limits
Decachlorobiphenyl	42	37-170

Field ID:	B9-8.5	Batch#:	265065
Type:	SAMPLE	Prepared:	11/01/18
Lab ID:	304541-012	Analyzed:	11/01/18
Diln Fac:	1.000	Cleanup Method:	EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	2.7
Aroclor-1221	ND	24	4.3
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	4.8
Aroclor-1248	ND	12	5.1
Aroclor-1254	ND	12	2.7
Aroclor-1260	ND	12	3.5

Surrogate	%REC	Limits
Decachlorobiphenyl	43	37-170

*= Value outside of QC limits; see narrative

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #: 304541	Location: Corte Madera Ecological Reserve
Client: Northgate Environmental Management	Prep: EPA 3546
Project#: 1116.09	Analysis: EPA 8082
Matrix: Soil	Sampled: 10/25/18
Units: ug/Kg	Received: 10/25/18
Basis: as received	

Field ID: B9-6.5	Batch#: 265233
Type: SAMPLE	Prepared: 11/06/18
Lab ID: 304541-013	Analyzed: 11/06/18
Diln Fac: 1.000	Cleanup Method: EPA 3620

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	4.4
Aroclor-1221	ND	24	7.6
Aroclor-1232	ND	12	3.7
Aroclor-1242	ND	12	3.9
Aroclor-1248	ND	12	1.6
Aroclor-1254	ND	12	3.3
Aroclor-1260	ND	12	3.2

Surrogate	%REC	Limits
Decachlorobiphenyl	91	37-170

Type: BLANK	Prepared: 10/31/18
Lab ID: QC953810	Analyzed: 11/01/18
Diln Fac: 1.000	Cleanup Method: EPA 3620B
Batch#: 265040	

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	3.3
Aroclor-1221	ND	24	5.8
Aroclor-1232	ND	12	2.8
Aroclor-1242	ND	12	2.9
Aroclor-1248	ND	12	1.2
Aroclor-1254	ND	12	2.5
Aroclor-1260	ND	12	2.4

Surrogate	%REC	Limits
Decachlorobiphenyl	125	37-170

*= Value outside of QC limits; see narrative

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	10/25/18
Units:	ug/Kg	Received:	10/25/18
Basis:	as received		

Type:	BLANK	Prepared:	11/01/18
Lab ID:	QC953940	Analyzed:	11/02/18
Diln Fac:	1.000	Cleanup Method:	EPA 3620B
Batch#:	265065		

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	2.1
Aroclor-1221	ND	24	3.3
Aroclor-1232	ND	12	2.8
Aroclor-1242	ND	12	3.6
Aroclor-1248	ND	12	3.9
Aroclor-1254	ND	12	2.0
Aroclor-1260	ND	12	2.6

Surrogate	%REC	Limits
Decachlorobiphenyl	78	37-170

Type:	BLANK	Prepared:	11/06/18
Lab ID:	QC954589	Analyzed:	11/07/18
Diln Fac:	1.000	Cleanup Method:	EPA 3620
Batch#:	265222		

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	3.3
Aroclor-1221	ND	24	5.8
Aroclor-1232	ND	12	2.8
Aroclor-1242	ND	12	2.9
Aroclor-1248	ND	12	1.2
Aroclor-1254	ND	12	2.5
Aroclor-1260	ND	12	2.4

Surrogate	%REC	Limits
Decachlorobiphenyl	98	37-170

*= Value outside of QC limits; see narrative
 J= Estimated value
 ND= Not Detected at or above MDL
 RL= Reporting Limit
 MDL= Method Detection Limit

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	10/25/18
Units:	ug/Kg	Received:	10/25/18
Basis:	as received		

Type:	BLANK	Prepared:	11/06/18
Lab ID:	QC954616	Analyzed:	11/06/18
Diln Fac:	1.000	Cleanup Method:	EPA 3620
Batch#:	265233		

Analyte	Result	RL	MDL
Aroclor-1016	ND	12	3.3
Aroclor-1221	ND	24	5.8
Aroclor-1232	ND	12	2.8
Aroclor-1242	ND	12	2.9
Aroclor-1248	ND	12	1.2
Aroclor-1254	ND	12	2.5
Aroclor-1260	ND	12	2.4

Surrogate	%REC	Limits
Decachlorobiphenyl	121	37-170

*= Value outside of QC limits; see narrative

J= Estimated value

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC953814	Batch#:	265040
Matrix:	Soil	Prepared:	10/31/18
Units:	ug/Kg	Analyzed:	11/01/18

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	125.0	137.1	110	59-160
Aroclor-1260	125.0	175.4	140	59-170

Surrogate	%REC	Limits
Decachlorobiphenyl	147	37-170

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8082
Field ID:	C8-8.0	Batch#:	265040
MSS Lab ID:	304541-001	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	10/31/18
Basis:	as received	Analyzed:	11/01/18
Diln Fac:	2.000		

Type: MS Lab ID: QC953815

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<8.922	168.0	126.6	75	73-167
Aroclor-1260	<6.500	168.0	124.4	74	57-178

Surrogate	%REC	Limits
Decachlorobiphenyl	100	37-170

Type: MSD Lab ID: QC953816

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	165.0	144.1	87	73-167	15	40
Aroclor-1260	165.0	178.7	108	57-178	38	41

Surrogate	%REC	Limits
Decachlorobiphenyl	85	37-170

RPD= Relative Percent Difference

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve	
Client:	Northgate Environmental Management	Prep:	EPA 3546	
Project#:	1116.09	Analysis:	EPA 8082	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC953944	Batch#:	265065	
Matrix:	Soil	Prepared:	11/01/18	
Units:	ug/Kg	Analyzed:	11/02/18	

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	125.0	143.4	115	59-160
Aroclor-1260	125.0	133.7	107	59-170

Surrogate	%REC	Limits
Decachlorobiphenyl	97	37-170

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8082
Field ID:	ZZZZZZZZZZ	Batch#:	265065
MSS Lab ID:	304549-002	Sampled:	10/25/18
Matrix:	Soil	Received:	10/26/18
Units:	ug/Kg	Prepared:	11/01/18
Basis:	as received	Analyzed:	11/02/18
Diln Fac:	5.000		

Type: MS Lab ID: QC953945

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<13.44	163.5	165.7	101	73-167
Aroclor-1260	171.7	163.5	347.1	107	57-178

Surrogate	%REC	Limits
Decachlorobiphenyl	112	37-170

Type: MSD Lab ID: QC953946

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	165.8	196.9	119	73-167	16	40
Aroclor-1260	165.8	303.5	80	57-178	14	41

Surrogate	%REC	Limits
Decachlorobiphenyl	103	37-170

RPD= Relative Percent Difference

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC954593	Batch#:	265222
Matrix:	Soil	Prepared:	11/06/18
Units:	ug/Kg	Analyzed:	11/07/18

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	125.0	84.92	68	59-160
Aroclor-1260	125.0	94.66	76	59-170

Surrogate	%REC	Limits
Decachlorobiphenyl	80	37-170

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8082
Field ID:	C8-8.0	Batch#:	265222
MSS Lab ID:	304541-001	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	ug/Kg	Prepared:	11/06/18
Basis:	as received	Analyzed:	11/07/18
Diln Fac:	1.000		

Type: MS Lab ID: QC954594

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<4.528	170.1	125.0	73	73-167
Aroclor-1260	8.184	170.1	129.7	71	57-178

Surrogate	%REC	Limits
Decachlorobiphenyl	52	37-170

Type: MSD Lab ID: QC954595

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	164.4	53.55	33 *	73-167	77 *	40
Aroclor-1260	164.4	54.44	28 *	57-178	79 *	41

Surrogate	%REC	Limits
Decachlorobiphenyl	22 *	37-170

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve	
Client:	Northgate Environmental Management	Prep:	EPA 3546	
Project#:	1116.09	Analysis:	EPA 8082	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC954620	Batch#:	265233	
Matrix:	Soil	Prepared:	11/06/18	
Units:	ug/Kg	Analyzed:	11/06/18	

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	125.0	92.48	74	59-160
Aroclor-1260	125.0	103.6	83	59-170

Surrogate	%REC	Limits
Decachlorobiphenyl	91	37-170

Batch QC Report

Enthalpy Analytical - Berkeley Analytical Report

Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3546
Project#:	1116.09	Analysis:	EPA 8082
Field ID:	ZZZZZZZZZZ	Batch#:	265233
MSS Lab ID:	304764-001	Sampled:	11/06/18
Matrix:	Soil	Received:	11/06/18
Units:	ug/Kg	Prepared:	11/06/18
Basis:	as received	Analyzed:	11/06/18
Diln Fac:	1.000		

Type: MS Lab ID: QC954621

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<4.407	162.5	159.9	98	73-167
Aroclor-1260	6.219	162.5	180.5	107	57-178

Surrogate	%REC	Limits
Decachlorobiphenyl	103	37-170

Type: MSD Lab ID: QC954622

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	165.0	165.5	100	73-167	2	40
Aroclor-1260	165.0	188.0	110	57-178	3	41

Surrogate	%REC	Limits
Decachlorobiphenyl	101	37-170

RPD= Relative Percent Difference

California Title 22 Metals			
Lab #: 304541	Project#: 1116.09		
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve		
Field ID: C8-8.0	Basis:	as received	
Lab ID: 304541-001	Sampled:	10/25/18	
Matrix: Soil	Received:	10/25/18	
Units: mg/Kg			

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.38 J	1.8	0.034	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	8.1	0.57	0.036	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	51	0.57	0.019	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.35 J	0.57	0.055	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.32 J	0.57	0.090	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	80	0.57	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	8.5	0.57	0.094	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	28	0.57	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	12	0.57	0.067	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.12	0.015	0.0027	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.65	0.57	0.023	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	63	0.57	0.14	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.42 J	1.8	0.20	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.36 J	0.57	0.040	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.13 J	0.29	0.074	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	51	0.58	0.19	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	65	1.7	0.58	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: C8-5.0	Basis: as received
Lab ID: 304541-002	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.35 J	2.0	0.039	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	6.8	0.66	0.041	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	55	0.66	0.021	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.42 J	0.66	0.063	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.36 J	0.66	0.10	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	73	0.66	0.18	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	13	0.66	0.11	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	23	0.66	0.17	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	19	0.66	0.077	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.18	0.016	0.0028	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.47 J	0.66	0.027	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	78	0.66	0.16	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.31 J	2.0	0.23	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.30 J	0.66	0.046	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.097 J	0.33	0.085	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	43	0.67	0.22	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	60	2.0	0.67	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: C8-2.0	Basis: as received
Lab ID: 304541-003	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.17 J	2.0	0.037	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	5.8	0.62	0.039	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	30	0.62	0.020	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.35 J	0.62	0.059	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.28 J	0.62	0.097	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	64	0.62	0.17	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	11	0.62	0.10	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	17	0.62	0.16	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	5.2	0.62	0.072	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.042	0.016	0.0029	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.40 J	0.62	0.025	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Nickel	63	0.62	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.24 J	2.0	0.22	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.061 J	0.62	0.043	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.086 J	0.31	0.080	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	38	0.63	0.21	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	41	1.9	0.63	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: B8-8.5	Basis: as received
Lab ID: 304541-004	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.28 J	1.9	0.036	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	9.9	0.60	0.038	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	52	0.60	0.020	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.41 J	0.60	0.058	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.47 J	0.60	0.095	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	76	0.60	0.16	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	15	0.60	0.099	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	21	0.60	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	11	0.60	0.070	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.12	0.016	0.0028	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.65	0.60	0.024	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	88	0.60	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.49 J	1.9	0.21	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.21 J	0.60	0.042	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.11 J	0.30	0.077	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	48	0.61	0.20	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	63	1.8	0.61	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: B8-6.5	Basis: as received
Lab ID: 304541-005	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.29 J	2.0	0.037	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	6.9	0.61	0.038	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	43	0.61	0.020	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.51 J	0.61	0.059	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.39 J	0.61	0.097	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	69	0.61	0.16	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	11	0.61	0.10	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	24	0.61	0.16	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Lead	7.8	0.61	0.072	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.076	0.016	0.0029	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.63	0.61	0.025	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	66	0.61	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.42 J	2.0	0.22	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.14 J	0.61	0.043	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.10 J	0.31	0.079	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	50	0.62	0.21	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	62	1.9	0.62	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: FD-2	Basis: as received
Lab ID: 304541-006	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.29 J	2.0	0.037	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	7.0	0.61	0.038	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	54	0.61	0.020	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.38 J	0.61	0.059	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.26 J	0.61	0.097	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	73	0.61	0.16	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	9.8	0.61	0.10	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	24	0.61	0.16	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	8.9	0.61	0.072	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.071	0.016	0.0029	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.65	0.61	0.025	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	68	0.61	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.45 J	2.0	0.22	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.13 J	0.61	0.043	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.10 J	0.31	0.079	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	49	0.62	0.21	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	57	1.9	0.62	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: B8-4.5	Basis: as received
Lab ID: 304541-007	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.12 J	2.0	0.037	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	6.4	0.63	0.039	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	33	0.63	0.020	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.36 J	0.63	0.060	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.29 J	0.63	0.098	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	56	0.63	0.17	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	12	0.63	0.10	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	19	0.63	0.16	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	5.9	0.63	0.073	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.054	0.016	0.0028	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.57 J	0.63	0.025	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	60	0.63	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.30 J	2.0	0.22	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.074 J	0.63	0.044	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.096 J	0.31	0.080	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	42	0.63	0.21	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	47	1.9	0.63	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: A7-12.0	Basis: as received
Lab ID: 304541-008	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.30 J	1.9	0.035	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	12	0.58	0.037	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	55	0.58	0.019	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.68	0.58	0.056	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.54 J	0.58	0.092	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	91	0.58	0.16	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	13	0.58	0.096	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	50	0.58	0.15	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Lead	31	0.58	0.068	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.30	0.015	0.0027	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.95	0.58	0.024	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	85	0.58	0.14	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.67 J	1.9	0.21	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.34 J	0.58	0.041	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.23 J	0.29	0.075	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	74	0.59	0.20	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	120	1.8	0.59	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: A7-9.0	Basis: as received
Lab ID: 304541-009	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.29 J	2.0	0.037	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	8.6	0.63	0.039	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	58	0.63	0.020	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.45 J	0.63	0.060	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.40 J	0.63	0.098	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	86	0.63	0.17	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	9.4	0.63	0.10	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	34	0.63	0.16	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	21	0.63	0.073	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.14	0.016	0.0028	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.99	0.63	0.025	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	69	0.63	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.46 J	2.0	0.22	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.22 J	0.63	0.044	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.11 J	0.31	0.080	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	63	0.63	0.21	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	70	1.9	0.63	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: FD-3	Basis: as received
Lab ID: 304541-010	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.26 J	1.9	0.035	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	10	0.58	0.036	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	53	0.58	0.019	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.69	0.58	0.056	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.53 J	0.58	0.091	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	93	0.58	0.16	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	13	0.58	0.095	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	45	0.58	0.15	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	29	0.58	0.068	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.30	0.017	0.0030	1.000		264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.94	0.58	0.023	25.00		264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	82	0.58	0.14	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.71 J	1.9	0.21	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.35 J	0.58	0.041	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.20 J	0.29	0.075	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	71	0.59	0.20	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	110	1.8	0.59	25.00		264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals			
Lab #: 304541	Project#: 1116.09		
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve		
Field ID: A7-5.5	Basis:	as received	
Lab ID: 304541-011	Sampled:	10/25/18	
Matrix: Soil	Received:	10/25/18	
Units: mg/Kg			

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.25 J	1.8	0.034	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	6.9	0.57	0.036	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	57	0.57	0.018	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.44 J	0.57	0.055	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.48 J	0.57	0.089	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	81	0.57	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	11	0.57	0.093	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	48	0.57	0.14	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	19	0.57	0.067	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.13	0.016	0.0028	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	0.71	0.57	0.023	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	72	0.57	0.14	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.50 J	1.8	0.20	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.32 J	0.57	0.040	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.28	0.28	0.073	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	55	0.58	0.19	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	70	1.7	0.58	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: B9-8.5	Basis: as received
Lab ID: 304541-012	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.26 J	1.8	0.034	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	8.9	0.57	0.036	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	46	0.57	0.018	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.46 J	0.57	0.055	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.36 J	0.57	0.089	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	82	0.57	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	10	0.57	0.093	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	32	0.57	0.14	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	18	0.57	0.067	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.12	0.017	0.0030	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	1.6	0.57	0.023	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	67	0.57	0.14	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.53 J	1.8	0.20	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.18 J	0.57	0.040	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.12 J	0.28	0.073	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	62	0.58	0.19	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	71	1.7	0.58	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

California Title 22 Metals

Lab #: 304541	Project#: 1116.09
Client: Northgate Environmental Management	Location: Corte Madera Ecological Reserve
Field ID: B9-6.5	Basis: as received
Lab ID: 304541-013	Sampled: 10/25/18
Matrix: Soil	Received: 10/25/18
Units: mg/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.25 J	2.0	0.037	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Arsenic	7.3	0.63	0.039	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Barium	50	0.63	0.020	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Beryllium	0.40 J	0.63	0.060	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cadmium	0.36 J	0.63	0.098	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Chromium	79	0.63	0.17	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Cobalt	8.3	0.63	0.10	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Copper	31	0.63	0.16	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Lead	17	0.63	0.073	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Mercury	0.11	0.017	0.0030	1.000	264988	10/30/18	10/30/18	METHOD	EPA 7471A
Molybdenum	1.2	0.63	0.025	25.00	264926	10/29/18	10/30/18	EPA 3050B	EPA 6020
Nickel	60	0.63	0.15	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Selenium	0.47 J	2.0	0.22	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Silver	0.24 J	0.63	0.044	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Thallium	0.12 J	0.31	0.080	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Vanadium	56	0.63	0.21	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020
Zinc	62	1.9	0.63	25.00	264926	10/29/18	10/29/18	EPA 3050B	EPA 6020

J= Estimated value

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

California Title 22 Metals			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3050B
Project#:	1116.09	Analysis:	EPA 6020
Type:	BLANK	Diln Fac:	25.00
Lab ID:	QC953350	Batch#:	264926
Matrix:	Soil	Prepared:	10/29/18
Units:	mg/Kg	Analyzed:	10/29/18

Analyte	Result	RL	MDL
Antimony	ND	2.0	0.037
Arsenic	ND	0.63	0.039
Barium	ND	0.63	0.020
Beryllium	ND	0.63	0.060
Cadmium	ND	0.63	0.098
Chromium	ND	0.63	0.17
Cobalt	ND	0.63	0.10
Copper	ND	0.63	0.16
Lead	ND	0.63	0.073
Molybdenum	ND	0.63	0.025
Nickel	ND	0.63	0.15
Selenium	ND	2.0	0.22
Silver	ND	0.63	0.044
Thallium	ND	0.31	0.080
Vanadium	ND	0.63	0.21
Zinc	ND	1.9	0.63

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

California Title 22 Metals			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3050B
Project#:	1116.09	Analysis:	EPA 6020
Matrix:	Soil	Batch#:	264926
Units:	mg/Kg	Prepared:	10/29/18
Diln Fac:	25.00	Analyzed:	10/29/18

Type: BS Lab ID: QC953351

Analyte	Spiked	Result	%REC	Limits
Antimony	45.87	45.11	98	80-120
Arsenic	45.87	48.39	105	80-120
Barium	45.87	47.18	103	80-120
Beryllium	22.94	23.79	104	80-120
Cadmium	45.87	47.42	103	80-120
Chromium	45.87	47.51	104	80-120
Cobalt	45.87	47.66	104	80-120
Copper	45.87	49.12	107	80-120
Lead	45.87	45.06	98	80-120
Molybdenum	45.87	46.14	101	80-120
Nickel	45.87	48.99	107	80-120
Selenium	45.87	49.14	107	80-120
Silver	4.587	4.823	105	80-120
Thallium	45.87	45.59	99	80-120
Vanadium	45.87	46.46	101	80-120
Zinc	45.87	48.34	105	80-120

Type: BSD Lab ID: QC953352

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	45.45	46.51	102	80-120	4	20
Arsenic	45.45	49.17	108	80-120	3	20
Barium	45.45	48.83	107	80-120	4	20
Beryllium	22.73	23.89	105	80-120	1	25
Cadmium	45.45	48.91	108	80-120	4	20
Chromium	45.45	48.88	108	80-120	4	20
Cobalt	45.45	49.24	108	80-120	4	20
Copper	45.45	49.97	110	80-120	3	21
Lead	45.45	46.49	102	80-120	4	20
Molybdenum	45.45	47.11	104	80-120	3	20
Nickel	45.45	49.42	109	80-120	2	20
Selenium	45.45	49.17	108	80-120	1	25
Silver	4.545	4.940	109	80-120	3	21
Thallium	45.45	46.81	103	80-120	4	20
Vanadium	45.45	47.78	105	80-120	4	27
Zinc	45.45	50.04	110	80-120	4	28

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	EPA 3050B
Project#:	1116.09	Analysis:	EPA 6020
Field ID:	D8-9.0	Batch#:	264926
MSS Lab ID:	304507-013	Sampled:	10/24/18
Matrix:	Soil	Received:	10/24/18
Units:	mg/Kg	Prepared:	10/29/18
Basis:	as received	Analyzed:	10/29/18
Diln Fac:	25.00		

Type: MS Lab ID: QC953353

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	1.139	49.50	19.24	37 *	75-125
Arsenic	8.667	49.50	56.89	97	75-125
Barium	52.52	49.50	103.6	103	75-125
Beryllium	0.3987	24.75	24.77	98	75-125
Cadmium	0.3263	49.50	49.58	99	75-125
Chromium	79.95	49.50	126.4	94	75-125
Cobalt	8.858	49.50	57.57	98	75-125
Copper	23.79	49.50	71.57	97	75-125
Lead	11.38	49.50	58.43	95	75-125
Molybdenum	0.5781	49.50	45.32	90	75-125
Nickel	73.59	49.50	122.9	100	75-125
Selenium	0.3859	49.50	48.49	97	75-125
Silver	0.2437	4.950	5.269	102	75-125
Thallium	0.1444	49.50	47.90	96	75-125
Vanadium	44.54	49.50	92.63	97	75-125
Zinc	57.70	49.50	103.7	93	75-125

Type: MSD Lab ID: QC953354

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	47.62	18.69	37 *	75-125	1	20
Arsenic	47.62	56.07	100	75-125	2	20
Barium	47.62	101.5	103	75-125	0	20
Beryllium	23.81	24.74	102	75-125	4	20
Cadmium	47.62	48.75	102	75-125	2	20
Chromium	47.62	127.5	100	75-125	2	20
Cobalt	47.62	56.13	99	75-125	1	20
Copper	47.62	71.56	100	75-125	3	20
Lead	47.62	58.02	98	75-125	2	20
Molybdenum	47.62	44.56	92	75-125	2	20
Nickel	47.62	121.9	101	75-125	1	20
Selenium	47.62	47.07	98	75-125	1	20
Silver	4.762	5.182	104	75-125	2	20
Thallium	47.62	46.77	98	75-125	1	20
Vanadium	47.62	92.27	100	75-125	2	20
Zinc	47.62	104.6	98	75-125	3	20

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	264988
Lab ID:	QC953599	Prepared:	10/30/18
Matrix:	Soil	Analyzed:	10/30/18
Units:	mg/Kg		

Result	RL	MDL
ND	0.016	0.0029

ND= Not Detected at or above MDL

RL= Reporting Limit

MDL= Method Detection Limit

Batch QC Report

California Title 22 Metals			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	264988
Matrix:	Soil	Prepared:	10/30/18
Units:	mg/Kg	Analyzed:	10/30/18
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC953600	0.1563	0.1489	95	80-120		
BSD	QC953601	0.1587	0.1525	96	80-120	1	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	C8-8.0	Batch#:	264988
MSS Lab ID:	304541-001	Sampled:	10/25/18
Matrix:	Soil	Received:	10/25/18
Units:	mg/Kg	Prepared:	10/30/18
Basis:	as received	Analyzed:	10/30/18

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC953602	0.1233	0.1667	0.2865	98	80-120		
MSD	QC953603		0.1613	0.2809	98	80-120	0	20

RPD= Relative Percent Difference

Moisture			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	ASTM D2216-98/CLP
Analyte:	Moisture, Percent	Batch#:	264942
Matrix:	Soil	Sampled:	10/25/18
Units:	%	Received:	10/25/18
Diln Fac:	1.000	Analyzed:	10/29/18

Field ID	Lab ID	Result	RL
C8-8.0	304541-001	20	1
C8-5.0	304541-002	29	1
C8-2.0	304541-003	32	1
B8-8.5	304541-004	12	1
B8-6.5	304541-005	28	1
FD-2	304541-006	29	1
B8-4.5	304541-007	35	1
A7-12.0	304541-008	17	1
A7-9.0	304541-009	21	1
FD-3	304541-010	17	1
A7-5.5	304541-011	26	1
B9-8.5	304541-012	24	1
B9-6.5	304541-013	31	1

RL= Reporting Limit

Batch QC Report

Moisture			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	ASTM D2216-98/CLP
Analyte:	Moisture, Percent	Units:	%
Field ID:	B9-6.5	Diln Fac:	1.000
Type:	SDUP	Batch#:	264942
MSS Lab ID:	304541-013	Sampled:	10/25/18
Lab ID:	QC953410	Received:	10/25/18
Matrix:	Soil	Analyzed:	10/29/18

MSS Result	Result	RL	RPD	Lim
31.11	31.50	1.000	1	26

RL= Reporting Limit

RPD= Relative Percent Difference

Total Organic Carbon (TOC)			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	WALKLEY-BLACK
Analyte:	Total Organic Carbon	Batch#:	265038
Matrix:	Soil	Sampled:	10/25/18
Units:	%	Received:	10/25/18
Basis:	as received	Analyzed:	10/31/18

Field ID	Type	Lab ID	Result	RL	Diln Fac
C8-8.0	SAMPLE	304541-001	0.84	0.02	2.198
C8-5.0	SAMPLE	304541-002	0.46	0.02	2.212
C8-2.0	SAMPLE	304541-003	0.56	0.02	2.179
B8-8.5	SAMPLE	304541-004	0.84	0.02	2.208
B8-6.5	SAMPLE	304541-005	0.53	0.02	2.212
FD-2	SAMPLE	304541-006	0.55	0.02	2.183
B8-4.5	SAMPLE	304541-007	0.53	0.02	2.198
A7-12.0	SAMPLE	304541-008	0.84	0.02	2.208
A7-9.0	SAMPLE	304541-009	0.67	0.02	2.198
FD-3	SAMPLE	304541-010	0.84	0.02	2.208
A7-5.5	SAMPLE	304541-011	0.77	0.02	2.212
B9-8.5	SAMPLE	304541-012	0.76	0.02	2.203
B9-6.5	SAMPLE	304541-013	0.78	0.02	2.179
	BLANK	QC953795	ND	0.01	1.000

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Organic Carbon (TOC)			
Lab #:	304541	Location:	Corte Madera Ecological Reserve
Client:	Northgate Environmental Management	Prep:	METHOD
Project#:	1116.09	Analysis:	WALKLEY-BLACK
Analyte:	Total Organic Carbon	Basis:	as received
Field ID:	ZZZZZZZZZZ	Batch#:	265038
MSS Lab ID:	304569-002	Sampled:	10/25/18
Matrix:	Soil	Received:	10/26/18
Units:	%	Analyzed:	10/31/18

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Diln	Fac
LCS	QC953796		0.1300	0.1176	90	80-120				1.000
MS	QC953797	0.5455	0.2857	0.7669	78	57-127				2.198
MSD	QC953798		0.2832	0.7480	72	57-127	2	20		2.179

RPD= Relative Percent Difference