Appendix J

Phase II Subsurface Investigation

Geosyntec consultants

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9 January 2020

VIA EMAIL

Mr. Josh Cox
Hillwood Enterprises, L.P.
Vice President, Development
901 Via Piemonte, Suite 175
Ontario, CA 91764

Subject: Phase II Subsurface Investigation
8565 Almond Avenue and Associated Addresses (8625 and 8645 Almond Avenue)
Fontana, San Bernardino County, California

Dear Mr. Cox:

Geosyntec Consultants (Geosyntec) is pleased to submit this letter report (report) to Hillwood Enterprises, L.P. (Hillwood) summarizing the results of a limited Phase II Site Investigation performed at property located at 8565 Almond Avenue, in Fontana, California (the Site; Figure 1). The Site consists of one newly-combined lot totaling 9.53 acres (Assessor's Parcel Number [APN] 0230-131-31), containing 3 former parcels (APNs 0230-131-19, 0230-131-28, and 0230-131-29). A residence and garage constructed in approximately 1938 are located in the northwestern portion of the Site (Figure 2).

Based on the draft Phase I Environmental Site Assessment (ESA) prepared by Geosyntec (11 November 2019), the Site is currently used as a private residence and was reportedly used for livestock grazing. The Site was historically used for agriculture until approximately 1953, it was then used for vehicle storage and dismantling operations from 1985 to 1992, a wood recycler between 1992 and 1999, and vehicle storage and trailer parking from 2005 until 2012. Several environmental investigations including trenching and soil sampling conducted at the Site related to the former wood recycling operations identified waste buried as deep as 32 feet below ground surface (bgs). Approximately 9,000 cubic yards of waste was excavated and disposed offsite at a permitted facility in 1999 under the regulatory oversight of the San Bernardino County Fire Department (SBCFD). The SBCFD subsequently issued a no further action (NFA) determination for the southern portion of the Site in a letter dated 14 April 2009. A subsequent Phase I ESA prepared for the site by Partner Engineering and Science, Inc. (Partner) in 2017 indicated that an unspecified Leaking Underground Storage Tank (LUST) case was opened on 17 March 1999 for the Site; however, Partner indicated that no other information was available regarding the LUST case (Partner, 2017).

The objective of this limited Phase II subsurface investigation was to evaluate Recognized Environmental Conditions (RECs) and Historical RECs (HRECs) identified in the draft Phase I ESA (Geosyntec, 2019) prepared for the Site, which included:

- From prior to 1938 to around 1953, the Site was used for agricultural purposes, between 1985 until 1992, the southern portion of the Site was historically used as a vehicle and dismantling yard, then occupied by a mulch recycler. The potential that soil may have been impacted by chemicals associated with agricultural activities constitutes a REC.
- An unpermitted landfill was created at the Site by a former tenant. The material buried at the Site included construction/demolition waste from the nearby Kaiser Steel Company. The removal of the waste was overseen by SBCFD, which issued an NFA letter dated 14 April 2009 for the southern portion of the Site. Based on the closure of this portion of the Site to the satisfaction of the oversight agency at the time, this finding constitutes an HREC.
- RGA-LUST and LUST cases were listed at the Site address under Bengal Recycling within the EDR report under local case number 99049. However, no information related to the tank type or contents, or the LUST case is noted on GeoTracker or EnviroStor. The entry indicates that a release of hydrocarbons occurred to soil only. No further information is noted in the EDR. However, this LUST is noted under the same local case number on the NFA granted by the SBCFD in 2009, and further discussion with the SBCFD indicates the LUST was opened and closed as part of the clean-up activities. Since this clean-up case has also been granted NFA, this finding constitutes an HREC.

Based on the RECs and HRECs identified for the Site, this limited Phase II Subsurface Investigation was performed to evaluate the potential impacts to on-Site soils from chemicals of concern (COCs) associated with historical Site use, which may be of concern for future property redevelopment.

SUMMARY OF FIELD ACTIVITIES

Pre-Field Activities

In accordance with Occupational Safety and Health Administration (OSHA) requirements, a site-specific Task Hazard Analysis (THA) was prepared prior to mobilizing to the Site. Based on proposed boring depths and inferred depth to groundwater at the Site, boring permits were not required. Prior to performing subsurface investigation at the Site, Underground Service Alert (USA) was contacted at least 48-hours prior to initiation of sampling.

Sub-Surface Investigation

On 12 December 2019, Geosyntec was on-Site to oversee the advancement of 9 direct push borings by Kehoe Testing and Engineering (KTE). In addition, 36 hand auger borings were advanced by Geosyntec and KTE staff at the Site (Figure 2). Soil sampling and laboratory analyses were conducted as follows:

- Unpermitted Landfill Investigation: Nine direct push borings (B-19 through B-26) were advanced to a maximum depth of 20 ft bgs in and around the estimated extents of the

excavations created during buried waste removal. Discrete soil samples were collected from depths of 0.0-1.0, 4.0-5.0, 9.0-10.0, and 19.0-20.0 ft bgs. Soil samples for the unpermitted landfill investigation were analyzed for total petroleum hydrocarbons (diesel, gasoline, and motor oil-range) by EPA Method 8015M, volatile organic compounds (VOCs) by EPA Method 8260B, and semi-VOCs by EPA Method 8270C.

- Historical Agricultural Investigation: Hand auger borings were collected from four random locations per acre using a hand auger (Figure 2). Soil samples were collected from depths of 0.0-0.5 feet bgs and 1.5-2.0 ft bgs. The four samples from each depth were composited into two composite samples per acre for a total of 18 soil samples. The composite soil samples (SS-A1 through SS-A9) for the historical agriculture investigation were analyzed for Organochlorine Pesticides (OCPs) by EPA Method 8081A and Organophosphorus Pesticides (OPPs) by EPA Method 8141B. In addition, soil samples SS-A1-0.5 and SS-A1-2.0 collected near the residence in the northwest corner of the Site were analyzed for total lead by EPA Method 6010 to evaluate potential impacts to shallow soils from lead-based paint (LBP) from the on-Site structure.
- Hand auger soil samples were collected in clean, laboratory-certified glass jars and direct push boring soil samples were collected in new acetate liners, capped with Teflon liners and tight-fitting end caps and placed in a cooler on ice for temporary storage. Soil samples were transported to Eurofins Calscience, LLC (Calscience) of Garden Grove, California, under chain of custody protocol, for laboratory analysis. Samples collected from depths of 9.0-10.0 feet below ground surface (ft bgs) and 19.0-20.0 ft bgs were placed on hold at the laboratory pending the results of the soil samples collected from 0.0-1.0 and 4.0-5.0 feet bgs. Laboratory analyses were performed on an expedited 72-hour turnaround time (TAT).

Each boring was logged and screened in the field with a photoionization detector (PID) by a Geosyntec geologist working under the direction of a California Professional Geologist. At the conclusion of soil sampling activities, direct push borings were backfilled with bentonite grout, and hand auger borings were backfilled with cuttings, and the surface at each boring location was repaired to match the existing condition.

SUMMARY OF ANALYTICAL RESULTS

Soil sample laboratory analytical results are presented in Tables 1 and 2 and summarized below. A copy of the laboratory analytical report is included as Attachment A. Detected concentrations of chemicals of concern (COCs) were compared to conservative Environmental Screening Levels (ESLs) for commercial/industrial shallow soil exposure established by the San Francisco Bay Regional Water Quality Control Board (SFRWQCB, 2019).

Unpermitted Landfill Investigation

Volatile Organic Compounds (VOCs)

Tetrachloroethene (PCE) was detected in one soil sample (B26-1-20191212) at a concentration of 7.9 micrograms per kilogram (µg/kg). The detected concentration of PCE was below the ESL for commercial/industrial soil of 2,700 µg/kg (Table 1).

No other VOCs were detected above the laboratory reporting limits (RLs) in the soil samples analyzed.

Semi-volatile Organic Compounds (SVOCs)

SVOCs were not detected above the laboratory RLs in the soil samples analyzed.

Total Petroleum Hydrocarbons (TPH)

- TPH gasoline range organics (GRO [C_4-C_{13}]) was not detected above the laboratory RLs in the soil samples analyzed.
- TPH diesel range organics (DRO [C_{10}-C_{28}]) was detected in six soil samples at concentrations ranging from 12 milligrams per kilogram (mg/kg [B22-1-20191212]) to 750 mg/kg (B23-1-20191212). The detected concentrations of TPH DRO were below the ESL for commercial/industrial soil of 1,200 mg/kg.
- TPH as motor oil (C_{17}-C_{44}) was detected at concentrations ranging from 46 mg/kg (B24-1-20191212) to 4,000 mg/kg (B23-1-20191212). The detected concentrations of TPH as motor oil were below the ESL for commercial/industrial soil of 21,000 mg/kg.
- All of the detected concentrations of TPH DRO and TPH as motor oil were "Z-flagged" by the laboratory indicating that the chromatograph response does not resemble a typical fuel pattern.

Historical Agriculture Investigation

Organochlorine Pesticides (OCPs)

- 4,4'-Dichlorodiphenyldichloroethane (DDD) was detected at concentrations ranging from 6.9 µg/kg (SS-A7-2.0) to 34 µg/kg (SS-A1-2.0). The detected concentrations of 4,4'-DDD were below the ESL for commercial/industrial soil of 6,200 µg/kg (Table 2).
- 4,4'-Dichlorodiphenyldichloroethylene (DDE) was detected at concentrations ranging from 7.5 µg/kg (SS-A2-0.5) to 12 µg/kg (SS-A6-2.0). The detected concentrations of 4,4'-DDE were below the ESL for commercial/industrial soil of 9,300 µg/kg (Table 2).
- 4,4'-Dichlorodiphenyltrichloroethane (DDT) was detected at concentrations ranging from 5.6 µg/kg (SS-A5-0.5) to 170 µg/kg (SS-A1-0.5). The detected concentrations of 4,4'-DDT were below the ESL for commercial/industrial soil of 7,100 µg/kg (Table 2).
- Dieldrin was detected in one sample at a concentration of 2.4 µg/kg (SS-A7-2.0), which was below the ESL for commercial/industrial soil of 6,200 µg/kg (Table 2).
- No other OCPs were detected above the laboratory RLs in the soil samples collected during this investigation.

Organophosphorus Pesticides (OPPs)

OPPs were not detected above the laboratory RLs in any of the soil samples analyzed.

Lead

Lead was detected in the soil samples collected near the existing residence at concentrations of 16.2 mg/kg (SS-A1-0.5) and 21.5 mg/kg (SS-A1-2.0). The detected concentrations of lead were consistent with background lead concentrations in southern California soils, and were below the DTSC-SL for industrial soil of 320 mg/kg (Table 2).

SUMMARY AND CONCLUSIONS

This report summarizes the results of the limited soil investigation performed at the Site to evaluate the potential impacts due to RECs and HRECs identified in the Phase I ESA for the Site.

Based on the results of the historical agriculture investigation, shallow soils at the Site did not contain detectable concentrations of OPPs above the RL but are impacted with low concentrations of the OCPs 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, and dieldrin. The detected concentrations of OCPs were well below their respective screening levels for commercial/industrial soil and therefore, are not considered a constraint to the proposed commercial/industrial redevelopment of the Site.

Based on the results of the unpermitted landfill investigation, soil samples analyzed for VOCs did not contain detectable concentrations above the RL, with the exception of PCE. PCE was detected in one soil sample (B26-1-20191212) collected from a depth of 1-foot bgs at a concentration of 7.9 µg/kg, which is well below the ESL for commercial/industrial soil of 2,700 µg/kg. The soil sample collected from boring B26 at 5 feet bgs (B26-5-20191212) did not contain a detectable concentration of PCE, therefore the very low detection of PCE is unlikely to represent a vapor intrusion concern for the Site.

Soil samples with elevated concentrations of TPH DRO and TPH as motor oil were detected in the areas of direct push borings B21, B23, and B26 (Figure 2). However, none of the detected TPH concentrations exceed established screening levels for TPH DRO and/or TPH as motor oil. Varying thicknesses of recycled aggregate base were observed in these areas of the Site indicating a potential source of TPH detected in soil samples. In addition, the soil samples were "Z-flagged" by the laboratory, which corresponds to a chromatograph response that does not resemble a typical fuel pattern, indicating that asphaltic concrete from the recycled aggregate base is the likely source of the elevated TPH concentrations. A ramp up to 3.5 feet in thickness and several stockpiles of recycled aggregate base were observed at the Site in the areas depicted on Figure 2. The recycled aggregate base appears suitable for onsite reuse in areas of hardscape (i.e. parking lots and driveways) for the proposed development.

Based on the results of this limited soil investigation, relatively minor soil impacts can be effectively managed through soil management activities to achieve a Site suitable for the proposed commercial/industrial redevelopment. If soil export is contemplated, additional sampling may be warranted to determine if the soils are suitable for offsite reuse or will require disposal at a landfill permitted to accept the waste in accordance with local and state regulations.

LIMITATIONS

This limited Phase II Subsurface Investigation was performed according to an agreed upon scope of work and does not represent an exhaustive investigation of all potential environmental impacts

at the Site. The findings of this report, to the best of our knowledge, are valid as of the date the work was performed. However, changes in the conditions of a property can occur with the passage of time, whether due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate regulations and standards may occur, whether they result from legislation, from the broadening of knowledge, or from other reasons. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside of our control. The work was performed using the degree of care and skill ordinarily exercised under similar circumstances by environmental consultants practicing in this or similar localities. No other warranty or guarantee, expressed or implied, is made as to the findings, opinions, conclusions, and recommendations included in this report.

Geosyntec appreciates this opportunity to provide environmental consulting services to Hillwood. If you have any questions or require additional information, please contact us at the numbers listed below.

Sincerely,

Chris Lieder, PG
Senior Geologist
(619) 810-4034

Brian Pierce, PG
Professional Geologist
(619) 810-4011

Attachments:

Table 1 – Summary of Soil Analytical Results – Unpermitted Landfill Investigation

Table 2 – Summary of Soil Analytical Results – Historical Agriculture Investigation

Figure 1 – Site Location Map

Figure 2 – Site Plan with Boring Locations

Appendix A – Laboratory Analytical Data

References:

Geosyntec Consultants, Phase I Environmental Site Assessment, 8565 Almond Avenue, Fontana, California 92335, dated 9 January 2020.

Partner Engineering and Science, Inc., Phase I Environmental Site Assessment Report, San Bernardino County – 8645 Almond Avenue, 8565 Almond Avenue, Fontana, California 92335, dated 6 March 2017.

San Francisco Bay Regional Water Quality Control Board, 2019, Environmental Screening Levels (ESLs), Revised 24 January 2019.

TABLES

Table 1
Summary of Soil Analytical Results - Unpermitted Landfill Investigation
8565 Almond Avenue
Fontana, California

Geosyntec consultants

			EPA Method 8015			EPA Method 8260		EPA Method 8270
Sample Name	Date	Depth	TPH GRO (C4-C13)	TPH DRO (C10-C28)	TPH as Motor Oil (C17-C44)	Tetrachloroethene (PCE)	Other VOCs	SVOCs
		(ft bgs)	mg/kg	mg/kg	mg/kg	µg/kg	--	--
B19-1-20191212	12/12/2019	1.0	<0.10	<4.9	<25	<4.9	All ND	All ND
B19-5-20191212	12/12/2019	5.0	<0.10	<5.0	<25	<5.2	All ND	All ND
B20-1-20191212	12/12/2019	1.0	<0.10	<5.0	<25	<5.1	All ND	All ND
B20-5-20191212	12/12/2019	5.0	<0.099	<4.9	<25	<5.1	All ND	All ND
B21-1-20191212	12/12/2019	1.0	<0.10	**47**	**120**	<5.0	All ND	All ND
B21-5-20191212	12/12/2019	5.0	<0.10	<5.0	<25	<5.0	All ND	All ND
B22-1-20191212	12/12/2019	1.0	<0.098	**12**	<25	<5.1	All ND	All ND
B22-5-20191212	12/12/2019	5.0	<0.10	<5.0	<25	<5.1	All ND	All ND
B23-1-20191212	12/12/2019	1.0	<0.099	**750**	**4,000**	<5.0	All ND	All ND
B23-5-20191212	12/12/2019	5.0	<0.10	<5.0	<25	<4.9	All ND	All ND
B24-1-20191212	12/12/2019	1.0	<0.10	**19**	**46**	<5.0	All ND	All ND
B24-10-20191212	12/12/2019	10.0	<0.10	<5.0	<25	<4.9	All ND	All ND
B25-1-20191212	12/12/2019	1.0	<0.10	<4.9	<25	<4.9	All ND	All ND
B25-5-20191212	12/12/2019	5.0	<0.099	<5.0	<25	<4.9	All ND	All ND
B26-1-20191212	12/12/2019	1.0	<0.10	**84**	**390**	**7.9**	All ND	All ND
B26-5-20191212	12/12/2019	5.0	<0.099	**8.9**	<29	<4.9	All ND	All ND
Industrial Soil Screening Levels			**200[1]**	**1,200[1]**	**180,000[1]**	**2,700[2]**	--	--

Notes:

ft bgs = feet below ground surface

µg/kg = micrograms per kilogram

mg/kg = milligram per kilogram

-- = Not analyzed/not applicable

TPH = Total Petroleum Hydrocarbons

GRO = Gasoline Range Organics

DRO = Diesel Range Organics

< Not detected at concentrations greater than or equal to the laboratory reporting limit (RL)

All ND = Not detected at concentrations greater than or equal to the laboratory RL for all constituents analyzed

Bold indicates concentration detected above the laboratory RL

200[1] = San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels (January, 2019)

1,200[2] = Department of Toxic Substances Control (DTSC) modified Soil Screening Levels (DTSC-SL) (April, 2019)

Red indicates the detected concentration greater than or equal to soil screening levels

Table 2
Summary of Soil Analytical Results - Historical Agriculture Investigation
8565 Almond Avenue
Fontana, California

Geosyntec consultants

			EPA Method 8081					EPA Method 8141
Sample Name	Date	Depth	4,4'-DDD	4,4'-DDE	4,4'-DDT	Dieldrin	Other OCPs	OPPs
		(ft bgs)	mg/kg	mg/kg	mg/kg	mg/kg	--	--
SS-A1-0.5	12/12/2019	0.5	**15**	<5.0	**170**	<1.0	All ND	All ND
SS-A1-2.0	12/12/2019	2.0	**34**	<5.0	**78**	<0.99	All ND	All ND
SS-A2-0.5	12/12/2019	0.5	**7.9**	**7.5**	<25	<1.0	All ND	All ND
SS-A2-2.0	12/12/2019	2.0	**8.5**	<5.0	**17**	<1.0	All ND	All ND
SS-A3-0.5	12/12/2019	0.5	<25	<5.0	**78**	<1.0	All ND	All ND
SS-A3-2.0	12/12/2019	2.0	**7.3**	<5.0	**17**	<1.0	All ND	All ND
SS-A4-0.5	12/12/2019	0.5	**14**	<5.0	**14**	<1.0	All ND	All ND
SS-A4-2.0	12/12/2019	2.0	<5.0	<5.0	<5.0	<1.0	All ND	All ND
SS-A5-0.5	12/12/2019	0.5	<5.0	<5.0	**5.6**	<1.0	All ND	All ND
SS-A5-2.0	12/12/2019	2.0	<5.0	<5.0	**5.9**	<1.0	All ND	All ND
SS-A6-0.5	12/12/2019	0.5	<5.0	<5.0	**5.8**	<1.0	All ND	All ND
SS-A6-2.0	12/12/2019	2.0	**25**	**12**	**31**	<1.0	All ND	All ND
SS-A7-0.5	12/12/2019	0.5	<5.0	<5.0	<5.0	<1.0	All ND	All ND
SS-A7-2.0	12/12/2019	2.0	**6.9**	<5.0	<25	**2.4**	All ND	All ND
SS-A8-0.5	12/12/2019	0.5	<5.0	<5.0	**7.3**	<1.0	All ND	All ND
SS-A8-2.0	12/12/2019	2.0	<5.0	<5.0	**7.1**	<1.0	All ND	All ND
SS-A9-0.5	12/12/2019	0.5	<5.0	<5.0	**7.1**	<1.0	All ND	All ND
SS-A9-2.0	12/12/2019	2.0	<5.0	<5.0	<5.0	<1.0	All ND	All ND
DTSC-SL for Industrial Soil			**6,200**	**9,300**	**7,100**	**930**	--	--

Notes:

ft bgs = feet below ground surface

µg/kg = micrograms per kilogram

mg/kg = milligram per kilogram

-- = Not analyzed/not applicable

OCPs = Organochlorine Pesticides

OPPs = Organophosphorus Pesticides

< Not detected at concentrations greater than or equal to the laboratory reporting limit (RL)

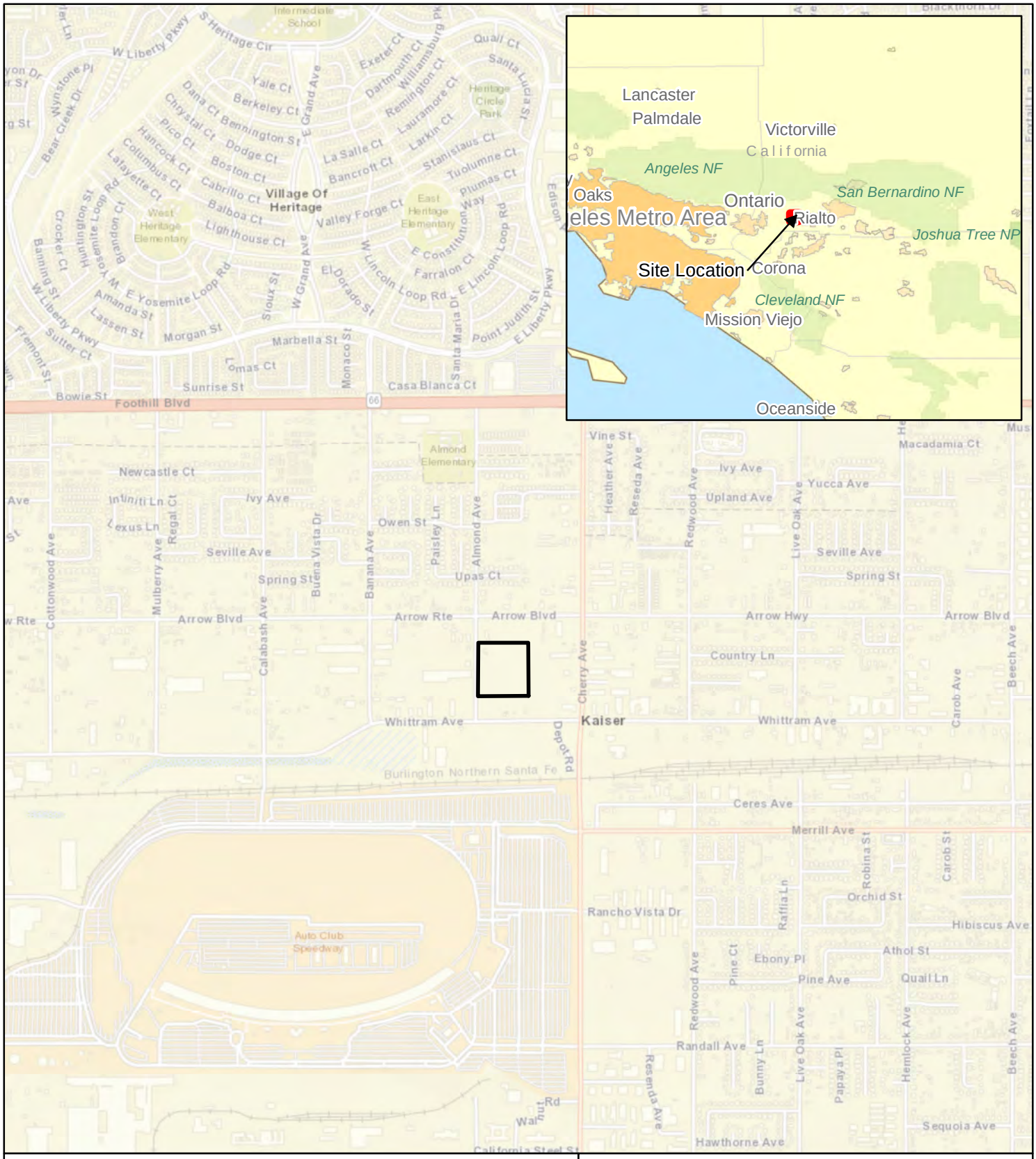
All ND = Not detected at concentrations greater than or equal to the laboratory RL for all constituents analyzed

Bold indicates concentration detected above the laboratory RL

DTSC-SL = Department of Toxic Substances Control (DTSC) modified Soil Screening Levels (DTSC-SL) for Industrial Soil (April, 2019)

Red indicates the detected concentration greater than or equal to soil screening levels

FIGURES



Legend

Site Location

N

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

0 500 1,000 2,000 Feet

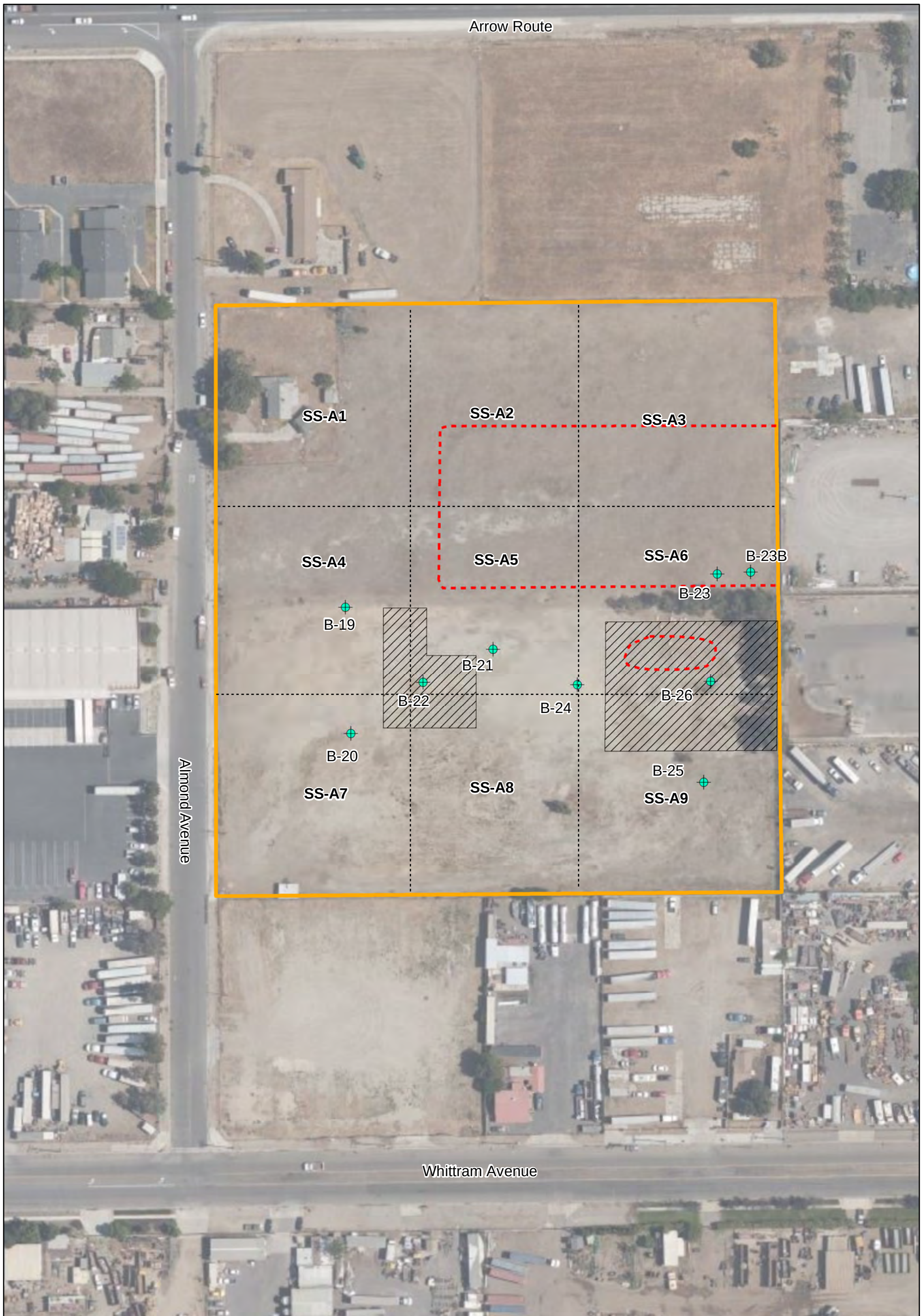
Site Location Map

8565 Almond Avenue,
Fontana, California

Geosyntec consultants

SC1021-02 | December 2019

Figure 1



Legend

- Approximate Site Boundary
- Direct Push Boring Location
- Former Waste Removal Area
- Approximate Limits of Recycled Base Material

SS-A1 Per Acre Composite Sample Name

B-19 Boring Name

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©CNES (2019) Distribution Airbus DS

N

0 25 50 100 Feet

Site Plan with Boring Locations

8565 Almond Avenue,
Fontana, California

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SC1021-01	December 2019	**Figure 2**

P:\Projects\Amazon\Projects\GIS\900 GIS and CAD\920 GIS\PNR0651D-162A_City of Industry\MXDs\Phase II\Figure 2 Site Plan with Boring Locations.mxd 12/23/2019 8:26:34 AM

ATTACHMENT A
LABORATORY ANALYTICAL REPORTS

ANALYTICAL REPORT

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-15709-1
Client Project/Site: Almond Avenue / SC1021

For:
Geosyntec Consultants, Inc.
16644 West Bernardo Drive
Suite 301
San Diego, California 92127

Attn: Christopher Lieder

Authorized for release by:
12/20/2019 6:32:20 PM

Stephen Nowak, Project Manager I
(714)895-5494
stephennowak@eurofinsus.com

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

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

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

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
me	LCS Recovery is within Marginal Exdeedance (ME) control limit range (± 4 SD from the mean).

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
me	LCS Recovery is within Marginal Exdeedance (ME) control limit range (± 4 SD from the mean).

GC Semi VOA

Qualifier	Qualifier Description
E	Result exceeded calibration range.
F1	MS and/or MSD Recovery is outside acceptance limits.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
Z	The chromatographic response does not resemble a typical fuel pattern.

Glossary

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

Job ID: 570-15709-1

Laboratory: Eurofins Calscience LLC

Narrative

Job Narrative
570-15709-1

Comments
No additional comments.

Receipt
The samples were received on 12/13/2019 6:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6º C.

GC/MS VOA
Method 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with preparation batch 570-39246 and analytical batch 570-39212 were outside control limits: (570-15709-A-19-C MS) and (570-15709-A-19-D MSD). The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with preparation batch 570-39317 and analytical batch 570-39342 were outside control limits: (570-15709-A-40-E MS) and (570-15709-A-40-F MSD). The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 8260B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 570-39246 and analytical batch 570-39212 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8260B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 570-39317 and analytical batch 570-39342 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC/MS Semi VOA
Method 8270C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-39283 and analytical batch 570-39842 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8270C: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 570-39283 and analytical batch 570-39842: Aniline. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 8270C: The following analyte(s) recovered outside control limits for the LCSD associated with preparation batch 570-39283 and analytical batch 570-39842: Pyridine and Aniline. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

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

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

GC Semi VOA
Method 8081A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 570-40290 and analytical batch 570-40376 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8081A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 570-40290 and analytical batch 570-40376 were outside control limits. Due to the additional level of analyte present in the spiked samples, the concentration of < 4,4'-DDT> in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Job ID: 570-15709-1 (Continued)

Laboratory: Eurofins Calscience LLC (Continued)

Method 8141A: The continuing calibration verification (CCV) associated with batch 570-39561 recovered above the upper control limit for Naled. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8141A: The continuing calibration verification (CCV) associated with batch 570-39561 recovered above the upper control limit for Stirophos . The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8141A: The CCV for analytical batch 570-39561 recovered outside control limits for the following analyte(s): Naled. Naled has been identified as a poor performing analyte when analyzed using this method. Additionally, Naled is known to convert via debromination during analysis due to active sites on the chromatographic column into Dichlorvos; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

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

Metals
Method 6010B: Due to the high concentration of Lead, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-39119 and analytical batch 570-39906 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

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

Organic Prep
Method 3545: Due to the matrix, the following sample could not be concentrated to the final method required volume: B23-1-20191212 (570-15709-19). The reporting limits (RLs) are elevated proportionately. The final volume is 10mL.

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

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

Detection Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Client Sample ID: SS-A1-0.5 — Lab Sample ID: 570-15709-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDD	15		5.0	ug/Kg	1		8081A	Total/NA
4,4'-DDT	170		50	ug/Kg	10		8081A	Total/NA
Lead	16.2		0.526	mg/Kg	1		6010B	Total/NA

Client Sample ID: SS-A1-2.0 — Lab Sample ID: 570-15709-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDD	34		5.0	ug/Kg	1		8081A	Total/NA
4,4'-DDT	78		50	ug/Kg	10		8081A	Total/NA
Lead	21.5		0.488	mg/Kg	1		6010B	Total/NA

Client Sample ID: SS-A2-0.5 — Lab Sample ID: 570-15709-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDD	7.9	p	5.0	ug/Kg	1		8081A	Total/NA
4,4'-DDE	7.5	p	5.0	ug/Kg	1		8081A	Total/NA

Client Sample ID: SS-A2-2.0 — Lab Sample ID: 570-15709-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDD	8.5		5.0	ug/Kg	1		8081A	Total/NA
4,4'-DDT	17		5.0	ug/Kg	1		8081A	Total/NA

Client Sample ID: SS-A3-0.5 — Lab Sample ID: 570-15709-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDT	78		25	ug/Kg	5		8081A	Total/NA

Client Sample ID: SS-A3-2.0 — Lab Sample ID: 570-15709-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDD	7.3		5.0	ug/Kg	1		8081A	Total/NA
4,4'-DDT	17		5.0	ug/Kg	1		8081A	Total/NA

Client Sample ID: SS-A6-0.5 — Lab Sample ID: 570-15709-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDT	5.8		5.0	ug/Kg	1		8081A	Total/NA

Client Sample ID: SS-A6-2.0 — Lab Sample ID: 570-15709-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDD	25		5.0	ug/Kg	1		8081A	Total/NA
4,4'-DDE	12		5.0	ug/Kg	1		8081A	Total/NA
4,4'-DDT	31		25	ug/Kg	5		8081A	Total/NA

Client Sample ID: SS-A5-0.5 — Lab Sample ID: 570-15709-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDT	5.6		5.0	ug/Kg	1		8081A	Total/NA

Client Sample ID: SS-A5-2.0 — Lab Sample ID: 570-15709-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDT	5.9		5.0	ug/Kg	1		8081A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Client Sample ID: SS-A4-0.5 — Lab Sample ID: 570-15709-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDD	14		5.0	ug/Kg	1		8081A	Total/NA
4,4'-DDT	14		5.0	ug/Kg	1		8081A	Total/NA

Client Sample ID: SS-A4-2.0 — Lab Sample ID: 570-15709-12

No Detections.

Client Sample ID: SS-A7-0.5 — Lab Sample ID: 570-15709-13

No Detections.

Client Sample ID: SS-A7-2.0 — Lab Sample ID: 570-15709-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDD	6.9		5.0	ug/Kg	1		8081A	Total/NA
Dieldrin	2.4		1.0	ug/Kg	1		8081A	Total/NA

Client Sample ID: SS-A8-0.5 — Lab Sample ID: 570-15709-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDT	7.3		5.0	ug/Kg	1		8081A	Total/NA

Client Sample ID: SS-A8-2.0 — Lab Sample ID: 570-15709-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDT	7.1		5.0	ug/Kg	1		8081A	Total/NA

Client Sample ID: SS-A9-0.5 — Lab Sample ID: 570-15709-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDD	6.0	p	5.0	ug/Kg	1		8081A	Total/NA
4,4'-DDE	9.3		5.0	ug/Kg	1		8081A	Total/NA
4,4'-DDT	12		5.0	ug/Kg	1		8081A	Total/NA

Client Sample ID: SS-A9-2.0 — Lab Sample ID: 570-15709-18

No Detections.

Client Sample ID: B23-1-20191212 — Lab Sample ID: 570-15709-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	750	Z	99	mg/Kg	20		8015B	Total/NA
TPH as Motor Oil (C17-C44)	4000	Z	500	mg/Kg	20		8015B	Total/NA

Client Sample ID: B23-5-20191212 — Lab Sample ID: 570-15709-20

No Detections.

Client Sample ID: B26-1-20191212 — Lab Sample ID: 570-15709-24

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	7.9		5.1	ug/Kg	1		8260B	Total/NA
Diesel Range Organics [C10-C28]	84	Z	49	mg/Kg	10		8015B	Total/NA
TPH as Motor Oil (C17-C44)	390	Z	250	mg/Kg	10		8015B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Client Sample ID: B26-5-20191212 — Lab Sample ID: 570-15709-25

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	8.9	Z	5.8		mg/Kg	1		8015B	Total/NA

Client Sample ID: B25-1-20191212 — Lab Sample ID: 570-15709-29

No Detections.

Client Sample ID: B25-5-20191212 — Lab Sample ID: 570-15709-30

No Detections.

Client Sample ID: B24-1-20191212 — Lab Sample ID: 570-15709-33

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	19	Z	5.0		mg/Kg	1		8015B	Total/NA
TPH as Motor Oil (C17-C44)	46	Z	25		mg/Kg	1		8015B	Total/NA

Client Sample ID: B24-10-20191212 — Lab Sample ID: 570-15709-34

No Detections.

Client Sample ID: B21-1-20191212 — Lab Sample ID: 570-15709-36

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	47	Z	4.9		mg/Kg	1		8015B	Total/NA
TPH as Motor Oil (C17-C44)	120	Z	25		mg/Kg	1		8015B	Total/NA

Client Sample ID: B21-5-20191212 — Lab Sample ID: 570-15709-37

No Detections.

Client Sample ID: B22-1-20191212 — Lab Sample ID: 570-15709-40

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	12	Z	5.0		mg/Kg	1		8015B	Total/NA

Client Sample ID: B22-5-20191212 — Lab Sample ID: 570-15709-41

No Detections.

Client Sample ID: B20-1-20191212 — Lab Sample ID: 570-15709-43

No Detections.

Client Sample ID: B20-5-20191212 — Lab Sample ID: 570-15709-44

No Detections.

Client Sample ID: B19-1-20191212 — Lab Sample ID: 570-15709-47

No Detections.

Client Sample ID: B19-5-20191212 — Lab Sample ID: 570-15709-48

No Detections.

This Detection Summary does not include radiochemical test results.

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

Client Sample ID: B23-1-20191212
Date Collected: 12/12/19 08:40
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-19
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,1,1-Trichloroethane	ND	F2	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,1,2,2-Tetrachloroethane	ND	F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	F2 F1	50	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,1,2-Trichloroethane	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,1-Dichloroethane	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,1-Dichloroethene	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,1-Dichloropropene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,2,3-Trichlorobenzene	ND	F2 F1	10	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,2,3-Trichloropropane	ND	F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,2,4-Trichlorobenzene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,2,4-Trimethylbenzene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,2-Dibromo-3-Chloropropane	ND	F1	10	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,2-Dibromoethane	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,2-Dichlorobenzene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,2-Dichloroethane	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,2-Dichloropropane	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,3,5-Trimethylbenzene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,3-Dichlorobenzene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,3-Dichloropropane	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
1,4-Dichlorobenzene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
2,2-Dichloropropane	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
2-Butanone	ND		50	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
2-Chlorotoluene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
2-Hexanone	ND		50	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
4-Chlorotoluene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
4-Methyl-2-pentanone	ND		50	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Acetone	ND		120	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Benzene	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Bromobenzene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Bromochloromethane	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Bromodichloromethane	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Bromoform	ND	F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Bromomethane	ND		25	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
cis-1,2-Dichloroethene	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
cis-1,3-Dichloropropene	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Carbon disulfide	ND		50	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Carbon tetrachloride	ND	F2	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Chlorobenzene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Chloroethane	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Chloroform	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Chloromethane	ND		25	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Dibromochloromethane	ND	F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Dibromomethane	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Dichlorodifluoromethane	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Di-isopropyl ether (DIPE)	ND		10	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Ethanol	ND		250	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Ethylbenzene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Ethyl-t-butyl ether (ETBE)	ND		10	ug/Kg		12/16/19 11:38	12/16/19 12:33	1

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

Client Sample ID: B23-1-20191212
Date Collected: 12/12/19 08:40
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-19
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Methylene Chloride	ND		50	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Naphthalene	ND	F2 F1	50	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
n-Butylbenzene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
N-Propylbenzene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
o-Xylene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
m,p-Xylene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
p-Isopropyltoluene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
sec-Butylbenzene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Styrene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
trans-1,2-Dichloroethene	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
trans-1,3-Dichloropropene	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Tert-amyl-methyl ether (TAME)	ND		10	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
tert-Butyl alcohol (TBA)	ND		50	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
tert-Butylbenzene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Tetrachloroethene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Toluene	ND	F2 F1	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Trichloroethene	ND	F2	5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Trichlorofluoromethane	ND	F2 F1	50	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Vinyl acetate	ND	F2 F1	50	ug/Kg		12/16/19 11:38	12/16/19 12:33	1
Vinyl chloride	ND		5.0	ug/Kg		12/16/19 11:38	12/16/19 12:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*71 - 155*	*12/16/19 11:38*	*12/16/19 12:33*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*	*12/16/19 11:38*	*12/16/19 12:33*	*1*
Dibromofluoromethane (Surr)	*106*		*79 - 133*	*12/16/19 11:38*	*12/16/19 12:33*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*12/16/19 11:38*	*12/16/19 12:33*	*1*

Client Sample ID: B23-5-20191212
Date Collected: 12/12/19 08:45
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-20
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,1,1-Trichloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,1,2,2-Tetrachloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		49	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,1,2-Trichloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,1-Dichloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,1-Dichloroethene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,1-Dichloropropene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,2,3-Trichlorobenzene	ND		9.7	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,2,3-Trichloropropane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,2,4-Trichlorobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,2,4-Trimethylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,2-Dibromo-3-Chloropropane	ND		9.7	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,2-Dibromoethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,2-Dichlorobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,2-Dichloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,2-Dichloropropane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1

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

Client Sample ID: B23-5-20191212
Date Collected: 12/12/19 08:45
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-20
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,3-Dichlorobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,3-Dichloropropane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
1,4-Dichlorobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
2,2-Dichloropropane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
2-Butanone	ND		49	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
2-Chlorotoluene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
2-Hexanone	ND		49	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
4-Chlorotoluene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
4-Methyl-2-pentanone	ND		49	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Acetone	ND		120	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Benzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Bromobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Bromochloromethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Bromodichloromethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Bromoform	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Bromomethane	ND		24	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
cis-1,2-Dichloroethene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
cis-1,3-Dichloropropene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Carbon disulfide	ND		49	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Carbon tetrachloride	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Chlorobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Chloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Chloroform	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Chloromethane	ND		24	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Dibromochloromethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Dibromomethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Dichlorodifluoromethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Di-isopropyl ether (DIPE)	ND		9.7	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Ethanol	ND		240	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Ethylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Ethyl-t-butyl ether (ETBE)	ND		9.7	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Isopropylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Methylene Chloride	ND		49	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Methyl-t-Butyl Ether (MTBE)	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Naphthalene	ND		49	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
n-Butylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
N-Propylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
o-Xylene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
m,p-Xylene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
p-Isopropyltoluene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
sec-Butylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Styrene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
trans-1,2-Dichloroethene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
trans-1,3-Dichloropropene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Tert-amyl-methyl ether (TAME)	ND		9.7	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
tert-Butyl alcohol (TBA)	ND		49	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
tert-Butylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Tetrachloroethene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1

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

Client Sample ID: B23-5-20191212 — **Lab Sample ID: 570-15709-20**
Date Collected: 12/12/19 08:45 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Trichloroethene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Trichlorofluoromethane	ND		49	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Vinyl acetate	ND		49	ug/Kg		12/16/19 12:29	12/16/19 14:49	1
Vinyl chloride	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 14:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*71 - 155*	*12/16/19 12:29*	*12/16/19 14:49*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*	*12/16/19 12:29*	*12/16/19 14:49*	*1*
Dibromofluoromethane (Surr)	*102*		*79 - 133*	*12/16/19 12:29*	*12/16/19 14:49*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*12/16/19 12:29*	*12/16/19 14:49*	*1*

Client Sample ID: B26-1-20191212 — **Lab Sample ID: 570-15709-24**
Date Collected: 12/12/19 10:30 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,1,1-Trichloroethane	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,1,2,2-Tetrachloroethane	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		51	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,1,2-Trichloroethane	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,1-Dichloroethane	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,1-Dichloroethene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,1-Dichloropropene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,2,3-Trichlorobenzene	ND		10	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,2,3-Trichloropropane	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,2,4-Trichlorobenzene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,2,4-Trimethylbenzene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,2-Dibromo-3-Chloropropane	ND		10	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,2-Dibromoethane	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,2-Dichlorobenzene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,2-Dichloroethane	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,2-Dichloropropane	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,3,5-Trimethylbenzene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,3-Dichlorobenzene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,3-Dichloropropane	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
1,4-Dichlorobenzene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
2,2-Dichloropropane	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
2-Butanone	ND		51	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
2-Chlorotoluene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
2-Hexanone	ND		51	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
4-Chlorotoluene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
4-Methyl-2-pentanone	ND		51	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Acetone	ND		120	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Benzene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Bromobenzene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Bromochloromethane	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Bromodichloromethane	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Bromoform	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Bromomethane	ND		25	ug/Kg		12/16/19 12:29	12/16/19 15:16	1

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

Client Sample ID: B26-1-20191212 — **Lab Sample ID: 570-15709-24**
Date Collected: 12/12/19 10:30 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
cis-1,3-Dichloropropene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Carbon disulfide	ND		51	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Carbon tetrachloride	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Chlorobenzene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Chloroethane	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Chloroform	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Chloromethane	ND		25	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Dibromochloromethane	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Dibromomethane	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Dichlorodifluoromethane	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Di-isopropyl ether (DIPE)	ND		10	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Ethanol	ND		250	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Ethylbenzene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Ethyl-t-butyl ether (ETBE)	ND		10	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Isopropylbenzene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Methylene Chloride	ND		51	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Methyl-t-Butyl Ether (MTBE)	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Naphthalene	ND		51	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
n-Butylbenzene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
N-Propylbenzene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
o-Xylene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
m,p-Xylene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
p-Isopropyltoluene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
sec-Butylbenzene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Styrene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
trans-1,2-Dichloroethene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
trans-1,3-Dichloropropene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Tert-amyl-methyl ether (TAME)	ND		10	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
tert-Butyl alcohol (TBA)	ND		51	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
tert-Butylbenzene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Tetrachloroethene	**7.9**		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Toluene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Trichloroethene	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Trichlorofluoromethane	ND		51	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Vinyl acetate	ND		51	ug/Kg		12/16/19 12:29	12/16/19 15:16	1
Vinyl chloride	ND		5.1	ug/Kg		12/16/19 12:29	12/16/19 15:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*71 - 155*	*12/16/19 12:29*	*12/16/19 15:16*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*	*12/16/19 12:29*	*12/16/19 15:16*	*1*
Dibromofluoromethane (Surr)	*103*		*79 - 133*	*12/16/19 12:29*	*12/16/19 15:16*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*	*12/16/19 12:29*	*12/16/19 15:16*	*1*

Client Sample ID: B26-5-20191212 — **Lab Sample ID: 570-15709-25**
Date Collected: 12/12/19 10:35 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,1,1-Trichloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 15:44	1

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

Client Sample ID: B26-5-20191212
Date Collected: 12/12/19 10:35
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-25
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		49		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,1,2-Trichloroethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,1-Dichloroethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,1-Dichloroethene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,1-Dichloropropene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,2,3-Trichlorobenzene	ND		9.7		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,2,3-Trichloropropane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,2,4-Trichlorobenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,2,4-Trimethylbenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,2-Dibromo-3-Chloropropane	ND		9.7		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,2-Dibromoethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,2-Dichlorobenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,2-Dichloroethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,2-Dichloropropane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,3,5-Trimethylbenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,3-Dichlorobenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,3-Dichloropropane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
1,4-Dichlorobenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
2,2-Dichloropropane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
2-Butanone	ND		49		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
2-Chlorotoluene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
2-Hexanone	ND		49		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
4-Chlorotoluene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
4-Methyl-2-pentanone	ND		49		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Acetone	ND		120		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Benzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Bromobenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Bromochloromethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Bromodichloromethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Bromoform	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Bromomethane	ND		24		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
cis-1,2-Dichloroethene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
cis-1,3-Dichloropropene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Carbon disulfide	ND		49		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Carbon tetrachloride	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Chlorobenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Chloroethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Chloroform	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Chloromethane	ND		24		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Dibromochloromethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Dibromomethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Dichlorodifluoromethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Di-isopropyl ether (DIPE)	ND		9.7		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Ethanol	ND		240		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Ethylbenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Ethyl-t-butyl ether (ETBE)	ND		9.7		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Isopropylbenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Methylene Chloride	ND		49		ug/Kg		12/16/19 12:29	12/16/19 15:44	1

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

Client Sample ID: B26-5-20191212
Date Collected: 12/12/19 10:35
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-25
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl-t-Butyl Ether (MTBE)	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Naphthalene	ND		49	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
n-Butylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
N-Propylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
o-Xylene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
m,p-Xylene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
p-Isopropyltoluene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
sec-Butylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Styrene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
trans-1,2-Dichloroethene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
trans-1,3-Dichloropropene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Tert-amyl-methyl ether (TAME)	ND		9.7	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
tert-Butyl alcohol (TBA)	ND		49	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
tert-Butylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Tetrachloroethene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Toluene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Trichloroethene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Trichlorofluoromethane	ND		49	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Vinyl acetate	ND		49	ug/Kg		12/16/19 12:29	12/16/19 15:44	1
Vinyl chloride	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 15:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*71 - 155*	*12/16/19 12:29*	*12/16/19 15:44*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*	*12/16/19 12:29*	*12/16/19 15:44*	*1*
Dibromofluoromethane (Surr)	*100*		*79 - 133*	*12/16/19 12:29*	*12/16/19 15:44*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*	*12/16/19 12:29*	*12/16/19 15:44*	*1*

Client Sample ID: B25-1-20191212
Date Collected: 12/12/19 11:55
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-29
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,1,1-Trichloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,1,2,2-Tetrachloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		49	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,1,2-Trichloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,1-Dichloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,1-Dichloroethene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,1-Dichloropropene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,2,3-Trichlorobenzene	ND		9.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,2,3-Trichloropropane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,2,4-Trichlorobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,2,4-Trimethylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,2-Dibromo-3-Chloropropane	ND		9.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,2-Dibromoethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,2-Dichlorobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,2-Dichloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,2-Dichloropropane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,3,5-Trimethylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,3-Dichlorobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1

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

Client Sample ID: B25-1-20191212
Date Collected: 12/12/19 11:55
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-29
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
1,4-Dichlorobenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
2,2-Dichloropropane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
2-Butanone	ND		49		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
2-Chlorotoluene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
2-Hexanone	ND		49		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
4-Chlorotoluene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
4-Methyl-2-pentanone	ND		49		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Acetone	ND		120		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Benzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Bromobenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Bromochloromethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Bromodichloromethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Bromoform	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Bromomethane	ND		25		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
cis-1,2-Dichloroethene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
cis-1,3-Dichloropropene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Carbon disulfide	ND		49		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Carbon tetrachloride	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Chlorobenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Chloroethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Chloroform	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Chloromethane	ND		25		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Dibromochloromethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Dibromomethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Dichlorodifluoromethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Di-isopropyl ether (DIPE)	ND		9.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Ethanol	ND		250		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Ethylbenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Ethyl-t-butyl ether (ETBE)	ND		9.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Isopropylbenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Methylene Chloride	ND		49		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Methyl-t-Butyl Ether (MTBE)	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Naphthalene	ND		49		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
n-Butylbenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
N-Propylbenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
o-Xylene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
m,p-Xylene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
p-Isopropyltoluene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
sec-Butylbenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Styrene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
trans-1,2-Dichloroethene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
trans-1,3-Dichloropropene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Tert-amyl-methyl ether (TAME)	ND		9.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
tert-Butyl alcohol (TBA)	ND		49		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
tert-Butylbenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Tetrachloroethene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Toluene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Trichloroethene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 16:11	1

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

Client Sample ID: B25-1-20191212 — **Lab Sample ID: 570-15709-29**
Date Collected: 12/12/19 11:55 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		49	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Vinyl acetate	ND		49	ug/Kg		12/16/19 12:29	12/16/19 16:11	1
Vinyl chloride	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*71 - 155*	*12/16/19 12:29*	*12/16/19 16:11*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*	*12/16/19 12:29*	*12/16/19 16:11*	*1*
Dibromofluoromethane (Surr)	*102*		*79 - 133*	*12/16/19 12:29*	*12/16/19 16:11*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*12/16/19 12:29*	*12/16/19 16:11*	*1*

Client Sample ID: B25-5-20191212 — **Lab Sample ID: 570-15709-30**
Date Collected: 12/12/19 11:58 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,1,1-Trichloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,1,2,2-Tetrachloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		49	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,1,2-Trichloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,1-Dichloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,1-Dichloroethene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,1-Dichloropropene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,2,3-Trichlorobenzene	ND		9.7	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,2,3-Trichloropropane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,2,4-Trichlorobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,2,4-Trimethylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,2-Dibromo-3-Chloropropane	ND		9.7	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,2-Dibromoethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,2-Dichlorobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,2-Dichloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,2-Dichloropropane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,3,5-Trimethylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,3-Dichlorobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,3-Dichloropropane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
1,4-Dichlorobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
2,2-Dichloropropane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
2-Butanone	ND		49	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
2-Chlorotoluene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
2-Hexanone	ND		49	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
4-Chlorotoluene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
4-Methyl-2-pentanone	ND		49	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Acetone	ND		120	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Benzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Bromobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Bromochloromethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Bromodichloromethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Bromoform	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Bromomethane	ND		24	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
cis-1,2-Dichloroethene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
cis-1,3-Dichloropropene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1

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

Client Sample ID: B25-5-20191212 **Lab Sample ID: 570-15709-30**
Date Collected: 12/12/19 11:58 **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		49	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Carbon tetrachloride	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Chlorobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Chloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Chloroform	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Chloromethane	ND		24	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Dibromochloromethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Dibromomethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Dichlorodifluoromethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Di-isopropyl ether (DIPE)	ND		9.7	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Ethanol	ND		240	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Ethylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Ethyl-t-butyl ether (ETBE)	ND		9.7	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Isopropylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Methylene Chloride	ND		49	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Methyl-t-Butyl Ether (MTBE)	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Naphthalene	ND		49	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
n-Butylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
N-Propylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
o-Xylene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
m,p-Xylene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
p-Isopropyltoluene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
sec-Butylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Styrene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
trans-1,2-Dichloroethene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
trans-1,3-Dichloropropene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Tert-amyl-methyl ether (TAME)	ND		9.7	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
tert-Butyl alcohol (TBA)	ND		49	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
tert-Butylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Tetrachloroethene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Toluene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Trichloroethene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Trichlorofluoromethane	ND		49	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Vinyl acetate	ND		49	ug/Kg		12/16/19 12:29	12/16/19 16:38	1
Vinyl chloride	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 16:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*71 - 155*	*12/16/19 12:29*	*12/16/19 16:38*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*	*12/16/19 12:29*	*12/16/19 16:38*	*1*
Dibromofluoromethane (Surr)	*100*		*79 - 133*	*12/16/19 12:29*	*12/16/19 16:38*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*12/16/19 12:29*	*12/16/19 16:38*	*1*

Client Sample ID: B24-1-20191212 **Lab Sample ID: 570-15709-33**
Date Collected: 12/12/19 12:37 **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,1,1-Trichloroethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,1,2,2-Tetrachloroethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		50	ug/Kg		12/16/19 12:29	12/16/19 17:05	1

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

Client Sample ID: B24-1-20191212
Date Collected: 12/12/19 12:37
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-33
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,1-Dichloroethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,1-Dichloroethene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,1-Dichloropropene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,2,3-Trichlorobenzene	ND		10		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,2,3-Trichloropropane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,2,4-Trichlorobenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,2,4-Trimethylbenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,2-Dibromoethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,2-Dichlorobenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,2-Dichloroethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,2-Dichloropropane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,3-Dichlorobenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,3-Dichloropropane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
1,4-Dichlorobenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
2,2-Dichloropropane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
2-Butanone	ND		50		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
2-Chlorotoluene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
2-Hexanone	ND		50		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
4-Chlorotoluene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
4-Methyl-2-pentanone	ND		50		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Acetone	ND		120		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Benzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Bromobenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Bromochloromethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Bromodichloromethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Bromoform	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Bromomethane	ND		25		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
cis-1,2-Dichloroethene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
cis-1,3-Dichloropropene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Carbon disulfide	ND		50		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Carbon tetrachloride	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Chlorobenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Chloroethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Chloroform	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Chloromethane	ND		25		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Dibromochloromethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Dibromomethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Dichlorodifluoromethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Di-isopropyl ether (DIPE)	ND		10		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Ethanol	ND		250		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Ethylbenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Ethyl-t-butyl ether (ETBE)	ND		10		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Isopropylbenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Methylene Chloride	ND		50		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Naphthalene	ND		50		ug/Kg		12/16/19 12:29	12/16/19 17:05	1

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

Client Sample ID: B24-1-20191212 **Lab Sample ID: 570-15709-33**
Date Collected: 12/12/19 12:37 **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
N-Propylbenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
o-Xylene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
m,p-Xylene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
p-Isopropyltoluene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
sec-Butylbenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Styrene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
trans-1,2-Dichloroethene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
trans-1,3-Dichloropropene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Tert-amyl-methyl ether (TAME)	ND		10	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
tert-Butyl alcohol (TBA)	ND		50	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
tert-Butylbenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Tetrachloroethene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Toluene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Trichloroethene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Trichlorofluoromethane	ND		50	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Vinyl acetate	ND		50	ug/Kg		12/16/19 12:29	12/16/19 17:05	1
Vinyl chloride	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*71 - 155*	*12/16/19 12:29*	*12/16/19 17:05*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*	*12/16/19 12:29*	*12/16/19 17:05*	*1*
Dibromofluoromethane (Surr)	*99*		*79 - 133*	*12/16/19 12:29*	*12/16/19 17:05*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*12/16/19 12:29*	*12/16/19 17:05*	*1*

Client Sample ID: B24-10-20191212 **Lab Sample ID: 570-15709-34**
Date Collected: 12/12/19 12:55 **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,1,1-Trichloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,1,2,2-Tetrachloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		49	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,1,2-Trichloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,1-Dichloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,1-Dichloroethene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,1-Dichloropropene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,2,3-Trichlorobenzene	ND		9.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,2,3-Trichloropropane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,2,4-Trichlorobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,2,4-Trimethylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,2-Dibromo-3-Chloropropane	ND		9.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,2-Dibromoethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,2-Dichlorobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,2-Dichloroethane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,2-Dichloropropane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,3,5-Trimethylbenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,3-Dichlorobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,3-Dichloropropane	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1
1,4-Dichlorobenzene	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1

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

Client Sample ID: B24-10-20191212
Date Collected: 12/12/19 12:55
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-34
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,2-Dichloropropane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
2-Butanone	ND		49		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
2-Chlorotoluene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
2-Hexanone	ND		49		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
4-Chlorotoluene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
4-Methyl-2-pentanone	ND		49		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Acetone	ND		120		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Benzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Bromobenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Bromochloromethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Bromodichloromethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Bromoform	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Bromomethane	ND		25		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
cis-1,2-Dichloroethene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
cis-1,3-Dichloropropene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Carbon disulfide	ND		49		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Carbon tetrachloride	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Chlorobenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Chloroethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Chloroform	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Chloromethane	ND		25		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Dibromochloromethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Dibromomethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Dichlorodifluoromethane	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Di-isopropyl ether (DIPE)	ND		9.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Ethanol	ND		250		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Ethylbenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Ethyl-t-butyl ether (ETBE)	ND		9.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Isopropylbenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Methylene Chloride	ND		49		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Methyl-t-Butyl Ether (MTBE)	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Naphthalene	ND		49		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
n-Butylbenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
N-Propylbenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
o-Xylene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
m,p-Xylene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
p-Isopropyltoluene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
sec-Butylbenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Styrene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
trans-1,2-Dichloroethene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
trans-1,3-Dichloropropene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Tert-amyl-methyl ether (TAME)	ND		9.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
tert-Butyl alcohol (TBA)	ND		49		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
tert-Butylbenzene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Tetrachloroethene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Toluene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Trichloroethene	ND		4.9		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Trichlorofluoromethane	ND		49		ug/Kg		12/16/19 12:29	12/16/19 17:31	1
Vinyl acetate	ND		49		ug/Kg		12/16/19 12:29	12/16/19 17:31	1

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

Client Sample ID: B24-10-20191212 — **Lab Sample ID: 570-15709-34**
Date Collected: 12/12/19 12:55 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		4.9	ug/Kg		12/16/19 12:29	12/16/19 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*71 - 155*	*12/16/19 12:29*	*12/16/19 17:31*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*	*12/16/19 12:29*	*12/16/19 17:31*	*1*
Dibromofluoromethane (Surr)	*101*		*79 - 133*	*12/16/19 12:29*	*12/16/19 17:31*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*	*12/16/19 12:29*	*12/16/19 17:31*	*1*

Client Sample ID: B21-1-20191212 — **Lab Sample ID: 570-15709-36**
Date Collected: 12/12/19 13:15 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,1,1-Trichloroethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,1,2,2-Tetrachloroethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		50	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,1,2-Trichloroethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,1-Dichloroethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,1-Dichloroethene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,1-Dichloropropene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,2,3-Trichlorobenzene	ND		10	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,2,3-Trichloropropane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,2,4-Trichlorobenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,2,4-Trimethylbenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,2-Dibromo-3-Chloropropane	ND		10	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,2-Dibromoethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,2-Dichlorobenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,2-Dichloroethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,2-Dichloropropane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,3,5-Trimethylbenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,3-Dichlorobenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,3-Dichloropropane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
1,4-Dichlorobenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
2,2-Dichloropropane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
2-Butanone	ND		50	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
2-Chlorotoluene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
2-Hexanone	ND		50	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
4-Chlorotoluene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
4-Methyl-2-pentanone	ND		50	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Acetone	ND		120	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Benzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Bromobenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Bromochloromethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Bromodichloromethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Bromoform	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Bromomethane	ND		25	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
cis-1,2-Dichloroethene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
cis-1,3-Dichloropropene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Carbon disulfide	ND		50	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Carbon tetrachloride	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1

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

Client Sample ID: B21-1-20191212
Date Collected: 12/12/19 13:15
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-36
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Chloroethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Chloroform	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Chloromethane	ND		25	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Dibromochloromethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Dibromomethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Dichlorodifluoromethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Di-isopropyl ether (DIPE)	ND		10	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Ethanol	ND		250	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Ethylbenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Ethyl-t-butyl ether (ETBE)	ND		10	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Isopropylbenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Methylene Chloride	ND		50	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Naphthalene	ND		50	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
n-Butylbenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
N-Propylbenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
o-Xylene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
m,p-Xylene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
p-Isopropyltoluene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
sec-Butylbenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Styrene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
trans-1,2-Dichloroethene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
trans-1,3-Dichloropropene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Tert-amyl-methyl ether (TAME)	ND		10	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
tert-Butyl alcohol (TBA)	ND		50	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
tert-Butylbenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Tetrachloroethene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Toluene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Trichloroethene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Trichlorofluoromethane	ND		50	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Vinyl acetate	ND		50	ug/Kg		12/16/19 12:29	12/16/19 17:58	1
Vinyl chloride	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 17:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*71 - 155*	*12/16/19 12:29*	*12/16/19 17:58*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*	*12/16/19 12:29*	*12/16/19 17:58*	*1*
Dibromofluoromethane (Surr)	*103*		*79 - 133*	*12/16/19 12:29*	*12/16/19 17:58*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*12/16/19 12:29*	*12/16/19 17:58*	*1*

Client Sample ID: B21-5-20191212
Date Collected: 12/12/19 13:20
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-37
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,1,1-Trichloroethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,1,2,2-Tetrachloroethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		50	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,1,2-Trichloroethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,1-Dichloroethane	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 18:25	1

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

Client Sample ID: B21-5-20191212
Date Collected: 12/12/19 13:20
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-37
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,1-Dichloropropene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,2,3-Trichlorobenzene	ND		10		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,2,3-Trichloropropane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,2,4-Trichlorobenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,2,4-Trimethylbenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,2-Dibromoethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,2-Dichlorobenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,2-Dichloroethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,2-Dichloropropane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,3-Dichlorobenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,3-Dichloropropane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
1,4-Dichlorobenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
2,2-Dichloropropane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
2-Butanone	ND		50		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
2-Chlorotoluene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
2-Hexanone	ND		50		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
4-Chlorotoluene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
4-Methyl-2-pentanone	ND		50		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Acetone	ND		120		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Benzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Bromobenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Bromochloromethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Bromodichloromethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Bromoform	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Bromomethane	ND		25		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
cis-1,2-Dichloroethene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
cis-1,3-Dichloropropene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Carbon disulfide	ND		50		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Carbon tetrachloride	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Chlorobenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Chloroethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Chloroform	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Chloromethane	ND		25		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Dibromochloromethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Dibromomethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Dichlorodifluoromethane	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Di-isopropyl ether (DIPE)	ND		10		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Ethanol	ND		250		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Ethylbenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Ethyl-t-butyl ether (ETBE)	ND		10		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Isopropylbenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Methylene Chloride	ND		50		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Naphthalene	ND		50		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
n-Butylbenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1
N-Propylbenzene	ND		5.0		ug/Kg		12/16/19 12:29	12/16/19 18:25	1

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

Client Sample ID: B21-5-20191212 — **Lab Sample ID: 570-15709-37**
Date Collected: 12/12/19 13:20 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
m,p-Xylene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
p-Isopropyltoluene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
sec-Butylbenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Styrene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
trans-1,2-Dichloroethene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
trans-1,3-Dichloropropene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Tert-amyl-methyl ether (TAME)	ND		10	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
tert-Butyl alcohol (TBA)	ND		50	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
tert-Butylbenzene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Tetrachloroethene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Toluene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Trichloroethene	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Trichlorofluoromethane	ND		50	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Vinyl acetate	ND		50	ug/Kg		12/16/19 12:29	12/16/19 18:25	1
Vinyl chloride	ND		5.0	ug/Kg		12/16/19 12:29	12/16/19 18:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*71 - 155*	*12/16/19 12:29*	*12/16/19 18:25*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*	*12/16/19 12:29*	*12/16/19 18:25*	*1*
Dibromofluoromethane (Surr)	*101*		*79 - 133*	*12/16/19 12:29*	*12/16/19 18:25*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*12/16/19 12:29*	*12/16/19 18:25*	*1*

Client Sample ID: B22-1-20191212 — **Lab Sample ID: 570-15709-40**
Date Collected: 12/12/19 14:08 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,1,1-Trichloroethane	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,1,2,2-Tetrachloroethane	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		51	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,1,2-Trichloroethane	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,1-Dichloroethane	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,1-Dichloroethene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,1-Dichloropropene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,2,3-Trichlorobenzene	ND		10	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,2,3-Trichloropropane	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,2,4-Trichlorobenzene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,2,4-Trimethylbenzene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,2-Dibromo-3-Chloropropane	ND		10	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,2-Dibromoethane	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,2-Dichlorobenzene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,2-Dichloroethane	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,2-Dichloropropane	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,3,5-Trimethylbenzene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,3-Dichlorobenzene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,3-Dichloropropane	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
1,4-Dichlorobenzene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
2,2-Dichloropropane	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
2-Butanone	ND		51	ug/Kg		12/16/19 18:13	12/16/19 20:13	1

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

Client Sample ID: B22-1-20191212
Date Collected: 12/12/19 14:08
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-40
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
2-Hexanone	ND		51	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
4-Chlorotoluene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
4-Methyl-2-pentanone	ND		51	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Acetone	ND	F1	120	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Benzene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Bromobenzene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Bromochloromethane	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Bromodichloromethane	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Bromoform	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Bromomethane	ND		26	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
cis-1,2-Dichloroethene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
cis-1,3-Dichloropropene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Carbon disulfide	ND	* F1	51	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Carbon tetrachloride	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Chlorobenzene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Chloroethane	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Chloroform	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Chloromethane	ND		26	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Dibromochloromethane	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Dibromomethane	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Dichlorodifluoromethane	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Di-isopropyl ether (DIPE)	ND		10	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Ethanol	ND		260	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Ethylbenzene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Ethyl-t-butyl ether (ETBE)	ND		10	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Isopropylbenzene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Methylene Chloride	ND		51	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Methyl-t-Butyl Ether (MTBE)	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Naphthalene	ND		51	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
n-Butylbenzene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
N-Propylbenzene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
o-Xylene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
m,p-Xylene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
p-Isopropyltoluene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
sec-Butylbenzene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Styrene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
trans-1,2-Dichloroethene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
trans-1,3-Dichloropropene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Tert-amyl-methyl ether (TAME)	ND		10	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
tert-Butyl alcohol (TBA)	ND		51	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
tert-Butylbenzene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Tetrachloroethene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Toluene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Trichloroethene	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Trichlorofluoromethane	ND		51	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Vinyl acetate	ND	F2 F1	51	ug/Kg		12/16/19 18:13	12/16/19 20:13	1
Vinyl chloride	ND		5.1	ug/Kg		12/16/19 18:13	12/16/19 20:13	1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	122		71 - 155	12/16/19 18:13	12/16/19 20:13	1
4-Bromofluorobenzene (Surr)	94		80 - 120	12/16/19 18:13	12/16/19 20:13	1
Dibromofluoromethane (Surr)	108		79 - 133	12/16/19 18:13	12/16/19 20:13	1
Toluene-d8 (Surr)	104		80 - 120	12/16/19 18:13	12/16/19 20:13	1

Client Sample ID: B22-5-20191212 **Lab Sample ID: 570-15709-41**
Date Collected: 12/12/19 14:14 **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,1,1-Trichloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,1,2,2-Tetrachloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		51	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,1,2-Trichloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,1-Dichloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,1-Dichloroethene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,1-Dichloropropene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,2,3-Trichlorobenzene	ND		10	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,2,3-Trichloropropane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,2,4-Trichlorobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,2,4-Trimethylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,2-Dibromo-3-Chloropropane	ND		10	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,2-Dibromoethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,2-Dichlorobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,2-Dichloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,2-Dichloropropane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,3,5-Trimethylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,3-Dichlorobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,3-Dichloropropane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
1,4-Dichlorobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
2,2-Dichloropropane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
2-Butanone	ND		51	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
2-Chlorotoluene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
2-Hexanone	ND		51	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
4-Chlorotoluene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
4-Methyl-2-pentanone	ND		51	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Acetone	ND		120	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Benzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Bromobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Bromochloromethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Bromodichloromethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Bromoform	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Bromomethane	ND		25	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
cis-1,2-Dichloroethene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
cis-1,3-Dichloropropene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Carbon disulfide	ND	*	51	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Carbon tetrachloride	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Chlorobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Chloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Chloroform	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Chloromethane	ND		25	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Dibromochloromethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1

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

Client Sample ID: B22-5-20191212 — **Lab Sample ID: 570-15709-41**
Date Collected: 12/12/19 14:14 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Dichlorodifluoromethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Di-isopropyl ether (DIPE)	ND		10	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Ethanol	ND		250	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Ethylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Ethyl-t-butyl ether (ETBE)	ND		10	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Isopropylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Methylene Chloride	ND		51	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Methyl-t-Butyl Ether (MTBE)	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Naphthalene	ND		51	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
n-Butylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
N-Propylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
o-Xylene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
m,p-Xylene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
p-Isopropyltoluene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
sec-Butylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Styrene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
trans-1,2-Dichloroethene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
trans-1,3-Dichloropropene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Tert-amyl-methyl ether (TAME)	ND		10	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
tert-Butyl alcohol (TBA)	ND		51	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
tert-Butylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Tetrachloroethene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Toluene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Trichloroethene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Trichlorofluoromethane	ND		51	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Vinyl acetate	ND		51	ug/Kg		12/16/19 18:19	12/16/19 21:53	1
Vinyl chloride	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 21:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*124*		*71 - 155*	*12/16/19 18:19*	*12/16/19 21:53*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*	*12/16/19 18:19*	*12/16/19 21:53*	*1*
Dibromofluoromethane (Surr)	*111*		*79 - 133*	*12/16/19 18:19*	*12/16/19 21:53*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*	*12/16/19 18:19*	*12/16/19 21:53*	*1*

Client Sample ID: B20-1-20191212 — **Lab Sample ID: 570-15709-43**
Date Collected: 12/12/19 14:46 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,1,1-Trichloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,1,2,2-Tetrachloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,1,2-Trichloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,1-Dichloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,1-Dichloroethene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,1-Dichloropropene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,2,3-Trichlorobenzene	ND		10	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,2,3-Trichloropropane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,2,4-Trichlorobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1

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

Client Sample ID: B20-1-20191212
Date Collected: 12/12/19 14:46
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-43
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,2-Dibromo-3-Chloropropane	ND		10	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,2-Dibromoethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,2-Dichlorobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,2-Dichloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,2-Dichloropropane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,3,5-Trimethylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,3-Dichlorobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,3-Dichloropropane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
1,4-Dichlorobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
2,2-Dichloropropane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
2-Butanone	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
2-Chlorotoluene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
2-Hexanone	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
4-Chlorotoluene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
4-Methyl-2-pentanone	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Acetone	ND		120	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Benzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Bromobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Bromochloromethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Bromodichloromethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Bromoform	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Bromomethane	ND		26	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
cis-1,2-Dichloroethene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
cis-1,3-Dichloropropene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Carbon disulfide	ND	*	51	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Carbon tetrachloride	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Chlorobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Chloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Chloroform	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Chloromethane	ND		26	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Dibromochloromethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Dibromomethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Dichlorodifluoromethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Di-isopropyl ether (DIPE)	ND		10	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Ethanol	ND		260	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Ethylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Ethyl-t-butyl ether (ETBE)	ND		10	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Isopropylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Methylene Chloride	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Methyl-t-Butyl Ether (MTBE)	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Naphthalene	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
n-Butylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
N-Propylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
o-Xylene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
m,p-Xylene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
p-Isopropyltoluene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
sec-Butylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Styrene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1

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

Client Sample ID: B20-1-20191212
Date Collected: 12/12/19 14:46
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-43
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
trans-1,3-Dichloropropene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Tert-amyl-methyl ether (TAME)	ND		10	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
tert-Butyl alcohol (TBA)	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
tert-Butylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Tetrachloroethene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Toluene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Trichloroethene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Trichlorofluoromethane	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Vinyl acetate	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:18	1
Vinyl chloride	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*121*		*71 - 155*	*12/16/19 18:19*	*12/16/19 22:18*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*	*12/16/19 18:19*	*12/16/19 22:18*	*1*
Dibromofluoromethane (Surr)	*110*		*79 - 133*	*12/16/19 18:19*	*12/16/19 22:18*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*	*12/16/19 18:19*	*12/16/19 22:18*	*1*

Client Sample ID: B20-5-20191212
Date Collected: 12/12/19 14:50
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-44
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,1,1-Trichloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,1,2,2-Tetrachloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,1,2-Trichloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,1-Dichloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,1-Dichloroethene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,1-Dichloropropene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,2,3-Trichlorobenzene	ND		10	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,2,3-Trichloropropane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,2,4-Trichlorobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,2,4-Trimethylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,2-Dibromo-3-Chloropropane	ND		10	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,2-Dibromoethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,2-Dichlorobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,2-Dichloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,2-Dichloropropane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,3,5-Trimethylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,3-Dichlorobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,3-Dichloropropane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
1,4-Dichlorobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
2,2-Dichloropropane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
2-Butanone	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
2-Chlorotoluene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
2-Hexanone	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
4-Chlorotoluene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
4-Methyl-2-pentanone	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Acetone	ND		120	ug/Kg		12/16/19 18:19	12/16/19 22:43	1

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

Client Sample ID: B20-5-20191212
Date Collected: 12/12/19 14:50
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-44
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Bromobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Bromochloromethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Bromodichloromethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Bromoform	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Bromomethane	ND		26	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
cis-1,2-Dichloroethene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
cis-1,3-Dichloropropene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Carbon disulfide	ND	*	51	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Carbon tetrachloride	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Chlorobenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Chloroethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Chloroform	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Chloromethane	ND		26	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Dibromochloromethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Dibromomethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Dichlorodifluoromethane	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Di-isopropyl ether (DIPE)	ND		10	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Ethanol	ND		260	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Ethylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Ethyl-t-butyl ether (ETBE)	ND		10	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Isopropylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Methylene Chloride	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Methyl-t-Butyl Ether (MTBE)	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Naphthalene	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
n-Butylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
N-Propylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
o-Xylene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
m,p-Xylene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
p-Isopropyltoluene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
sec-Butylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Styrene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
trans-1,2-Dichloroethene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
trans-1,3-Dichloropropene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Tert-amyl-methyl ether (TAME)	ND		10	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
tert-Butyl alcohol (TBA)	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
tert-Butylbenzene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Tetrachloroethene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Toluene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Trichloroethene	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Trichlorofluoromethane	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Vinyl acetate	ND		51	ug/Kg		12/16/19 18:19	12/16/19 22:43	1
Vinyl chloride	ND		5.1	ug/Kg		12/16/19 18:19	12/16/19 22:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*126*		*71 - 155*	*12/16/19 18:19*	*12/16/19 22:43*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*	*12/16/19 18:19*	*12/16/19 22:43*	*1*
Dibromofluoromethane (Surr)	*112*		*79 - 133*	*12/16/19 18:19*	*12/16/19 22:43*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*	*12/16/19 18:19*	*12/16/19 22:43*	*1*

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

Client Sample ID: B19-1-20191212
Date Collected: 12/12/19 15:35
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-47
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,1,1-Trichloroethane	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,1,2,2-Tetrachloroethane	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		49	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,1,2-Trichloroethane	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,1-Dichloroethane	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,1-Dichloroethene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,1-Dichloropropene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,2,3-Trichlorobenzene	ND		9.8	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,2,3-Trichloropropane	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,2,4-Trichlorobenzene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,2,4-Trimethylbenzene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,2-Dibromo-3-Chloropropane	ND		9.8	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,2-Dibromoethane	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,2-Dichlorobenzene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,2-Dichloroethane	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,2-Dichloropropane	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,3,5-Trimethylbenzene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,3-Dichlorobenzene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,3-Dichloropropane	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
1,4-Dichlorobenzene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
2,2-Dichloropropane	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
2-Butanone	ND		49	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
2-Chlorotoluene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
2-Hexanone	ND		49	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
4-Chlorotoluene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
4-Methyl-2-pentanone	ND		49	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Acetone	ND		120	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Benzene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Bromobenzene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Bromochloromethane	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Bromodichloromethane	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Bromoform	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Bromomethane	ND		24	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
cis-1,2-Dichloroethene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
cis-1,3-Dichloropropene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Carbon disulfide	ND	*	49	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Carbon tetrachloride	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Chlorobenzene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Chloroethane	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Chloroform	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Chloromethane	ND		24	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Dibromochloromethane	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Dibromomethane	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Dichlorodifluoromethane	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Di-isopropyl ether (DIPE)	ND		9.8	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Ethanol	ND		240	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Ethylbenzene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Ethyl-t-butyl ether (ETBE)	ND		9.8	ug/Kg		12/16/19 18:19	12/16/19 23:08	1

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

Client Sample ID: B19-1-20191212 **Lab Sample ID: 570-15709-47**
Date Collected: 12/12/19 15:35 **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Methylene Chloride	ND		49	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Methyl-t-Butyl Ether (MTBE)	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Naphthalene	ND		49	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
n-Butylbenzene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
N-Propylbenzene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
o-Xylene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
m,p-Xylene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
p-Isopropyltoluene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
sec-Butylbenzene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Styrene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
trans-1,2-Dichloroethene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
trans-1,3-Dichloropropene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Tert-amyl-methyl ether (TAME)	ND		9.8	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
tert-Butyl alcohol (TBA)	ND		49	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
tert-Butylbenzene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Tetrachloroethene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Toluene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Trichloroethene	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Trichlorofluoromethane	ND		49	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Vinyl acetate	ND		49	ug/Kg		12/16/19 18:19	12/16/19 23:08	1
Vinyl chloride	ND		4.9	ug/Kg		12/16/19 18:19	12/16/19 23:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*124*		*71 - 155*	*12/16/19 18:19*	*12/16/19 23:08*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*	*12/16/19 18:19*	*12/16/19 23:08*	*1*
Dibromofluoromethane (Surr)	*115*		*79 - 133*	*12/16/19 18:19*	*12/16/19 23:08*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*	*12/16/19 18:19*	*12/16/19 23:08*	*1*

Client Sample ID: B19-5-20191212 **Lab Sample ID: 570-15709-48**
Date Collected: 12/12/19 15:40 **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,1,1-Trichloroethane	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,1,2,2-Tetrachloroethane	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		52	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,1,2-Trichloroethane	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,1-Dichloroethane	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,1-Dichloroethene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,1-Dichloropropene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,2,3-Trichlorobenzene	ND		10	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,2,3-Trichloropropane	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,2,4-Trichlorobenzene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,2,4-Trimethylbenzene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,2-Dibromo-3-Chloropropane	ND		10	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,2-Dibromoethane	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,2-Dichlorobenzene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,2-Dichloroethane	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,2-Dichloropropane	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1

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

Client Sample ID: B19-5-20191212
Date Collected: 12/12/19 15:40
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-48
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,3-Dichlorobenzene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,3-Dichloropropane	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
1,4-Dichlorobenzene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
2,2-Dichloropropane	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
2-Butanone	ND		52	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
2-Chlorotoluene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
2-Hexanone	ND		52	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
4-Chlorotoluene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
4-Methyl-2-pentanone	ND		52	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Acetone	ND		120	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Benzene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Bromobenzene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Bromochloromethane	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Bromodichloromethane	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Bromoform	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Bromomethane	ND		26	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
cis-1,2-Dichloroethene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
cis-1,3-Dichloropropene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Carbon disulfide	ND	*	52	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Carbon tetrachloride	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Chlorobenzene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Chloroethane	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Chloroform	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Chloromethane	ND		26	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Dibromochloromethane	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Dibromomethane	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Dichlorodifluoromethane	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Di-isopropyl ether (DIPE)	ND		10	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Ethanol	ND		260	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Ethylbenzene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Ethyl-t-butyl ether (ETBE)	ND		10	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Isopropylbenzene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Methylene Chloride	ND		52	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Methyl-t-Butyl Ether (MTBE)	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Naphthalene	ND		52	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
n-Butylbenzene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
N-Propylbenzene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
o-Xylene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
m,p-Xylene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
p-Isopropyltoluene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
sec-Butylbenzene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Styrene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
trans-1,2-Dichloroethene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
trans-1,3-Dichloropropene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Tert-amyl-methyl ether (TAME)	ND		10	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
tert-Butyl alcohol (TBA)	ND		52	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
tert-Butylbenzene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Tetrachloroethene	ND		5.2	ug/Kg		12/16/19 18:19	12/16/19 23:33	1

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

Client Sample ID: B19-5-20191212
Date Collected: 12/12/19 15:40
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-48
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		5.2		ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Trichloroethene	ND		5.2		ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Trichlorofluoromethane	ND		52		ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Vinyl acetate	ND		52		ug/Kg		12/16/19 18:19	12/16/19 23:33	1
Vinyl chloride	ND		5.2		ug/Kg		12/16/19 18:19	12/16/19 23:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*127*		*71 - 155*	*12/16/19 18:19*	*12/16/19 23:33*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*	*12/16/19 18:19*	*12/16/19 23:33*	*1*
Dibromofluoromethane (Surr)	*114*		*79 - 133*	*12/16/19 18:19*	*12/16/19 23:33*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*	*12/16/19 18:19*	*12/16/19 23:33*	*1*

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

Client Sample ID: B23-1-20191212
Date Collected: 12/12/19 08:40
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-19
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
1,2-Dichlorobenzene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
1,3-Dichlorobenzene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
1,4-Dichlorobenzene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
1-Methylnaphthalene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
2,4,5-Trichlorophenol	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
2,4,6-Trichlorophenol	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
2,4-Dichlorophenol	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
2,4-Dimethylphenol	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
2,4-Dinitrophenol	ND		50	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
2,4-Dinitrotoluene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
2,6-Dichlorophenol	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
2,6-Dinitrotoluene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
2-Chloronaphthalene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
2-Chlorophenol	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
2-Methylnaphthalene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
2-Methylphenol	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
2-Nitroaniline	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
2-Nitrophenol	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
3,3'-Dichlorobenzidine	ND		62	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
3 & 4 Methylphenol	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
3-Nitroaniline	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
4,6-Dinitro-2-methylphenol	ND		62	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
4-Bromophenyl phenyl ether	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
4-Chloro-3-methylphenol	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
4-Chloroaniline	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
4-Chlorophenyl phenyl ether	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
4-Nitroaniline	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
4-Nitrophenol	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Acenaphthene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Acenaphthylene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Aniline	ND	*	12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Anthracene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Azobenzene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Benzidine	ND		120	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Benzo[a]anthracene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Benzo[a]pyrene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Benzo[b]fluoranthene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Benzo[g,h,i]perylene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Benzo[k]fluoranthene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Benzoic acid	ND		62	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Benzyl alcohol	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Bis(2-chloroethoxy)methane	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Bis(2-chloroethyl)ether	ND		62	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
bis (2-Chloroisopropyl) ether	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Bis(2-ethylhexyl) phthalate	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Butyl benzyl phthalate	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Chrysene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Dibenz(a,h)anthracene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5

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

Client Sample ID: B23-1-20191212
Date Collected: 12/12/19 08:40
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-19
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Diethyl phthalate	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Dimethyl phthalate	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Di-n-butyl phthalate	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Di-n-octyl phthalate	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Fluoranthene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Fluorene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Hexachloro-1,3-butadiene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Hexachlorobenzene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Hexachlorocyclopentadiene	ND		37	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Hexachloroethane	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Indeno[1,2,3-cd]pyrene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Isophorone	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Naphthalene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Nitrobenzene	ND		50	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
N-Nitrosodimethylamine	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
N-Nitrosodi-n-propylamine	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
N-Nitrosodiphenylamine	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Pentachlorophenol	ND		62	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Phenanthrene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Phenol	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Pyrene	ND		12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5
Pyridine	ND	*	12	mg/Kg		12/16/19 10:32	12/18/19 17:07	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*77*		*18 - 138*	*12/16/19 10:32*	*12/18/19 17:07*	*5*
2-Fluorobiphenyl (Surr)	*89*		*27 - 120*	*12/16/19 10:32*	*12/18/19 17:07*	*5*
2-Fluorophenol (Surr)	*85*		*25 - 120*	*12/16/19 10:32*	*12/18/19 17:07*	*5*
Nitrobenzene-d5 (Surr)	*82*		*33 - 123*	*12/16/19 10:32*	*12/18/19 17:07*	*5*
p-Terphenyl-d14 (Surr)	*102*		*27 - 159*	*12/16/19 10:32*	*12/18/19 17:07*	*5*
Phenol-d6 (Surr)	*84*		*26 - 122*	*12/16/19 10:32*	*12/18/19 17:07*	*5*

Client Sample ID: B23-5-20191212
Date Collected: 12/12/19 08:45
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-20
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
1,2-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
1,3-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
1,4-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
1-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
2,4,5-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
2,4,6-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
2,4-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
2,4-Dimethylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
2,4-Dinitrophenol	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
2,4-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
2,6-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
2,6-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
2-Chloronaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1

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

Client Sample ID: B23-5-20191212
Date Collected: 12/12/19 08:45
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-20
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
2-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
2-Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
2-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
2-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
3,3'-Dichlorobenzidine	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
3 & 4 Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
3-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
4,6-Dinitro-2-methylphenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
4-Bromophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
4-Chloro-3-methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
4-Chloroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
4-Chlorophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
4-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
4-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Acenaphthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Acenaphthylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Aniline	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Azobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Benzidine	ND		5.0	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Benzo[a]anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Benzo[a]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Benzo[b]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Benzo[g,h,i]perylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Benzo[k]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Benzoic acid	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Benzyl alcohol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Bis(2-chloroethoxy)methane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Bis(2-chloroethyl)ether	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
bis (2-Chloroisopropyl) ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Bis(2-ethylhexyl) phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Butyl benzyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Chrysene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Dibenz(a,h)anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Dibenzofuran	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Diethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Dimethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Di-n-butyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Di-n-octyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Fluorene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Hexachloro-1,3-butadiene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Hexachlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Hexachlorocyclopentadiene	ND		1.5	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Hexachloroethane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Indeno[1,2,3-cd]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Isophorone	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Naphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1

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

Client Sample ID: B23-5-20191212
Date Collected: 12/12/19 08:45
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-20
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
N-Nitrosodimethylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
N-Nitrosodi-n-propylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
N-Nitrosodiphenylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Pentachlorophenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Phenanthrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Phenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1
Pyridine	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 12:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*75*		*18 - 138*	*12/16/19 12:11*	*12/18/19 12:32*	*1*
2-Fluorobiphenyl (Surr)	*79*		*27 - 120*	*12/16/19 12:11*	*12/18/19 12:32*	*1*
2-Fluorophenol (Surr)	*86*		*25 - 120*	*12/16/19 12:11*	*12/18/19 12:32*	*1*
Nitrobenzene-d5 (Surr)	*82*		*33 - 123*	*12/16/19 12:11*	*12/18/19 12:32*	*1*
p-Terphenyl-d14 (Surr)	*90*		*27 - 159*	*12/16/19 12:11*	*12/18/19 12:32*	*1*
Phenol-d6 (Surr)	*83*		*26 - 122*	*12/16/19 12:11*	*12/18/19 12:32*	*1*

Client Sample ID: B26-1-20191212
Date Collected: 12/12/19 10:30
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-24
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
1,2-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
1,3-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
1,4-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
1-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
2,4,5-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
2,4,6-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
2,4-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
2,4-Dimethylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
2,4-Dinitrophenol	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
2,4-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
2,6-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
2,6-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
2-Chloronaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
2-Chlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
2-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
2-Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
2-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
2-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
3,3'-Dichlorobenzidine	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
3 & 4 Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
3-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
4,6-Dinitro-2-methylphenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
4-Bromophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
4-Chloro-3-methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
4-Chloroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
4-Chlorophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
4-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1

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

Client Sample ID: B26-1-20191212
Date Collected: 12/12/19 10:30
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-24
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Acenaphthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Acenaphthylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Aniline	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Azobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Benzidine	ND		5.0	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Benzo[a]anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Benzo[a]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Benzo[b]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Benzo[g,h,i]perylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Benzo[k]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Benzoic acid	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Benzyl alcohol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Bis(2-chloroethoxy)methane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Bis(2-chloroethyl)ether	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
bis (2-Chloroisopropyl) ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Bis(2-ethylhexyl) phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Butyl benzyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Chrysene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Dibenz(a,h)anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Dibenzofuran	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Diethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Dimethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Di-n-butyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Di-n-octyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Fluorene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Hexachloro-1,3-butadiene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Hexachlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Hexachlorocyclopentadiene	ND		1.5	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Hexachloroethane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Indeno[1,2,3-cd]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Isophorone	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Naphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Nitrobenzene	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
N-Nitrosodimethylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
N-Nitrosodi-n-propylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
N-Nitrosodiphenylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Pentachlorophenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Phenanthrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Phenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1
Pyridine	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 12:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*98*		*18 - 138*	*12/16/19 12:11*	*12/18/19 12:51*	*1*
2-Fluorobiphenyl (Surr)	*82*		*27 - 120*	*12/16/19 12:11*	*12/18/19 12:51*	*1*
2-Fluorophenol (Surr)	*85*		*25 - 120*	*12/16/19 12:11*	*12/18/19 12:51*	*1*
Nitrobenzene-d5 (Surr)	*80*		*33 - 123*	*12/16/19 12:11*	*12/18/19 12:51*	*1*

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

Client Sample ID: B26-1-20191212
Date Collected: 12/12/19 10:30
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-24
Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl-d14 (Surr)	*92*		*27 - 159*	*12/16/19 12:11*	*12/18/19 12:51*	*1*
Phenol-d6 (Surr)	*82*		*26 - 122*	*12/16/19 12:11*	*12/18/19 12:51*	*1*

Client Sample ID: B26-5-20191212
Date Collected: 12/12/19 10:35
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-25
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
1,2-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
1,3-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
1,4-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
1-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
2,4,5-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
2,4,6-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
2,4-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
2,4-Dimethylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
2,4-Dinitrophenol	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
2,4-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
2,6-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
2,6-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
2-Chloronaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
2-Chlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
2-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
2-Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
2-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
2-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
3,3'-Dichlorobenzidine	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
3 & 4 Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
3-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
4,6-Dinitro-2-methylphenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
4-Bromophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
4-Chloro-3-methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
4-Chloroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
4-Chlorophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
4-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
4-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Acenaphthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Acenaphthylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Aniline	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Azobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Benzidine	ND		5.0	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Benzo[a]anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Benzo[a]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Benzo[b]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Benzo[g,h,i]perylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Benzo[k]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Benzoic acid	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Benzyl alcohol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1

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

Client Sample ID: B26-5-20191212
Date Collected: 12/12/19 10:35
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-25
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethoxy)methane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Bis(2-chloroethyl)ether	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
bis (2-Chloroisopropyl) ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Bis(2-ethylhexyl) phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Butyl benzyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Chrysene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Dibenz(a,h)anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Dibenzofuran	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Diethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Dimethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Di-n-butyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Di-n-octyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Fluorene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Hexachloro-1,3-butadiene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Hexachlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Hexachlorocyclopentadiene	ND		1.5	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Hexachloroethane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Indeno[1,2,3-cd]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Isophorone	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Naphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Nitrobenzene	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
N-Nitrosodimethylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
N-Nitrosodi-n-propylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
N-Nitrosodiphenylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Pentachlorophenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Phenanthrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Phenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1
Pyridine	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 13:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*59*		*18 - 138*	*12/16/19 12:11*	*12/18/19 13:09*	*1*
2-Fluorobiphenyl (Surr)	*53*		*27 - 120*	*12/16/19 12:11*	*12/18/19 13:09*	*1*
2-Fluorophenol (Surr)	*48*		*25 - 120*	*12/16/19 12:11*	*12/18/19 13:09*	*1*
Nitrobenzene-d5 (Surr)	*51*		*33 - 123*	*12/16/19 12:11*	*12/18/19 13:09*	*1*
p-Terphenyl-d14 (Surr)	*84*		*27 - 159*	*12/16/19 12:11*	*12/18/19 13:09*	*1*
Phenol-d6 (Surr)	*50*		*26 - 122*	*12/16/19 12:11*	*12/18/19 13:09*	*1*

Client Sample ID: B25-1-20191212
Date Collected: 12/12/19 11:55
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-29
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
1,2-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
1,3-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
1,4-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
1-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
2,4,5-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
2,4,6-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1

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

Client Sample ID: B25-1-20191212
Date Collected: 12/12/19 11:55
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-29
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
2,4-Dimethylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
2,4-Dinitrophenol	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
2,4-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
2,6-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
2,6-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
2-Chloronaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
2-Chlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
2-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
2-Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
2-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
2-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
3,3'-Dichlorobenzidine	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
3 & 4 Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
3-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
4,6-Dinitro-2-methylphenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
4-Bromophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
4-Chloro-3-methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
4-Chloroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
4-Chlorophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
4-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
4-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Acenaphthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Acenaphthylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Aniline	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Azobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Benzidine	ND		5.0	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Benzo[a]anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Benzo[a]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Benzo[b]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Benzo[g,h,i]perylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Benzo[k]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Benzoic acid	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Benzyl alcohol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Bis(2-chloroethoxy)methane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Bis(2-chloroethyl)ether	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
bis (2-Chloroisopropyl) ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Bis(2-ethylhexyl) phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Butyl benzyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Chrysene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Dibenz(a,h)anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Dibenzofuran	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Diethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Dimethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Di-n-butyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Di-n-octyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Fluorene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1

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

Client Sample ID: B25-1-20191212
Date Collected: 12/12/19 11:55
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-29
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloro-1,3-butadiene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Hexachlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Hexachlorocyclopentadiene	ND		1.5	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Hexachloroethane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Indeno[1,2,3-cd]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Isophorone	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Naphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Nitrobenzene	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
N-Nitrosodimethylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
N-Nitrosodi-n-propylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
N-Nitrosodiphenylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Pentachlorophenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Phenanthrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Phenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1
Pyridine	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 17:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*62*		*18 - 138*	*12/16/19 12:11*	*12/18/19 17:26*	*1*
2-Fluorobiphenyl (Surr)	*42*		*27 - 120*	*12/16/19 12:11*	*12/18/19 17:26*	*1*
2-Fluorophenol (Surr)	*40*		*25 - 120*	*12/16/19 12:11*	*12/18/19 17:26*	*1*
Nitrobenzene-d5 (Surr)	*40*		*33 - 123*	*12/16/19 12:11*	*12/18/19 17:26*	*1*
p-Terphenyl-d14 (Surr)	*66*		*27 - 159*	*12/16/19 12:11*	*12/18/19 17:26*	*1*
Phenol-d6 (Surr)	*40*		*26 - 122*	*12/16/19 12:11*	*12/18/19 17:26*	*1*

Client Sample ID: B25-5-20191212
Date Collected: 12/12/19 11:58
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-30
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
1,2-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
1,3-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
1,4-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
1-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
2,4,5-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
2,4,6-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
2,4-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
2,4-Dimethylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
2,4-Dinitrophenol	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
2,4-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
2,6-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
2,6-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
2-Chloronaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
2-Chlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
2-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
2-Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
2-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
2-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
3,3'-Dichlorobenzidine	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
3 & 4 Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1

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

Client Sample ID: B25-5-20191212
Date Collected: 12/12/19 11:58
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-30
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
4,6-Dinitro-2-methylphenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
4-Bromophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
4-Chloro-3-methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
4-Chloroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
4-Chlorophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
4-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
4-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Acenaphthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Acenaphthylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Aniline	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Azobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Benzidine	ND		5.0	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Benzo[a]anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Benzo[a]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Benzo[b]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Benzo[g,h,i]perylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Benzo[k]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Benzoic acid	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Benzyl alcohol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Bis(2-chloroethoxy)methane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Bis(2-chloroethyl)ether	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
bis (2-Chloroisopropyl) ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Bis(2-ethylhexyl) phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Butyl benzyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Chrysene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Dibenz(a,h)anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Dibenzofuran	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Diethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Dimethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Di-n-butyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Di-n-octyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Fluorene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Hexachloro-1,3-butadiene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Hexachlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Hexachlorocyclopentadiene	ND		1.5	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Hexachloroethane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Indeno[1,2,3-cd]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Isophorone	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Naphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Nitrobenzene	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
N-Nitrosodimethylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
N-Nitrosodi-n-propylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
N-Nitrosodiphenylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Pentachlorophenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Phenanthrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Phenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1

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

Client Sample ID: B25-5-20191212
Date Collected: 12/12/19 11:58
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-30
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1
Pyridine	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 13:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*75*		*18 - 138*	*12/16/19 12:11*	*12/18/19 13:27*	*1*
2-Fluorobiphenyl (Surr)	*74*		*27 - 120*	*12/16/19 12:11*	*12/18/19 13:27*	*1*
2-Fluorophenol (Surr)	*69*		*25 - 120*	*12/16/19 12:11*	*12/18/19 13:27*	*1*
Nitrobenzene-d5 (Surr)	*70*		*33 - 123*	*12/16/19 12:11*	*12/18/19 13:27*	*1*
p-Terphenyl-d14 (Surr)	*87*		*27 - 159*	*12/16/19 12:11*	*12/18/19 13:27*	*1*
Phenol-d6 (Surr)	*68*		*26 - 122*	*12/16/19 12:11*	*12/18/19 13:27*	*1*

Client Sample ID: B24-1-20191212
Date Collected: 12/12/19 12:37
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-33
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
1,2-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
1,3-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
1,4-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
1-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
2,4,5-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
2,4,6-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
2,4-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
2,4-Dimethylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
2,4-Dinitrophenol	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
2,4-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
2,6-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
2,6-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
2-Chloronaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
2-Chlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
2-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
2-Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
2-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
2-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
3,3'-Dichlorobenzidine	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
3 & 4 Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
3-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
4,6-Dinitro-2-methylphenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
4-Bromophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
4-Chloro-3-methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
4-Chloroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
4-Chlorophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
4-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
4-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Acenaphthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Acenaphthylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Aniline	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Azobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Benzidine	ND		5.0	mg/Kg		12/16/19 12:11	12/18/19 13:46	1

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

Client Sample ID: B24-1-20191212
Date Collected: 12/12/19 12:37
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-33
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Benzo[a]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Benzo[b]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Benzo[g,h,i]perylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Benzo[k]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Benzoic acid	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Benzyl alcohol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Bis(2-chloroethoxy)methane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Bis(2-chloroethyl)ether	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
bis (2-Chloroisopropyl) ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Bis(2-ethylhexyl) phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Butyl benzyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Chrysene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Dibenz(a,h)anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Dibenzofuran	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Diethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Dimethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Di-n-butyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Di-n-octyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Fluorene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Hexachloro-1,3-butadiene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Hexachlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Hexachlorocyclopentadiene	ND		1.5	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Hexachloroethane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Indeno[1,2,3-cd]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Isophorone	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Naphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Nitrobenzene	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
N-Nitrosodimethylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
N-Nitrosodi-n-propylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
N-Nitrosodiphenylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Pentachlorophenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Phenanthrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Phenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1
Pyridine	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 13:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*59*		*18 - 138*	*12/16/19 12:11*	*12/18/19 13:46*	*1*
2-Fluorobiphenyl (Surr)	*47*		*27 - 120*	*12/16/19 12:11*	*12/18/19 13:46*	*1*
2-Fluorophenol (Surr)	*47*		*25 - 120*	*12/16/19 12:11*	*12/18/19 13:46*	*1*
Nitrobenzene-d5 (Surr)	*47*		*33 - 123*	*12/16/19 12:11*	*12/18/19 13:46*	*1*
p-Terphenyl-d14 (Surr)	*66*		*27 - 159*	*12/16/19 12:11*	*12/18/19 13:46*	*1*
Phenol-d6 (Surr)	*47*		*26 - 122*	*12/16/19 12:11*	*12/18/19 13:46*	*1*

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

Client Sample ID: B24-10-20191212
Date Collected: 12/12/19 12:55
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-34
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
1,2-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
1,3-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
1,4-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
1-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
2,4,5-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
2,4,6-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
2,4-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
2,4-Dimethylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
2,4-Dinitrophenol	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
2,4-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
2,6-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
2,6-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
2-Chloronaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
2-Chlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
2-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
2-Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
2-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
2-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
3,3'-Dichlorobenzidine	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
3 & 4 Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
3-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
4,6-Dinitro-2-methylphenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
4-Bromophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
4-Chloro-3-methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
4-Chloroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
4-Chlorophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
4-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
4-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Acenaphthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Acenaphthylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Aniline	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Azobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Benzidine	ND		5.0	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Benzo[a]anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Benzo[a]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Benzo[b]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Benzo[g,h,i]perylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Benzo[k]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Benzoic acid	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Benzyl alcohol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Bis(2-chloroethoxy)methane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Bis(2-chloroethyl)ether	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
bis (2-Chloroisopropyl) ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Bis(2-ethylhexyl) phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Butyl benzyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Chrysene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Dibenz(a,h)anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1

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

Client Sample ID: B24-10-20191212 **Lab Sample ID: 570-15709-34**
Date Collected: 12/12/19 12:55 **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Diethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Dimethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Di-n-butyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Di-n-octyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Fluorene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Hexachloro-1,3-butadiene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Hexachlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Hexachlorocyclopentadiene	ND		1.5	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Hexachloroethane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Indeno[1,2,3-cd]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Isophorone	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Naphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Nitrobenzene	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
N-Nitrosodimethylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
N-Nitrosodi-n-propylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
N-Nitrosodiphenylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Pentachlorophenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Phenanthrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Phenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1
Pyridine	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 14:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*35*		*18 - 138*	*12/16/19 12:11*	*12/18/19 14:04*	*1*
2-Fluorobiphenyl (Surr)	*36*		*27 - 120*	*12/16/19 12:11*	*12/18/19 14:04*	*1*
2-Fluorophenol (Surr)	*36*		*25 - 120*	*12/16/19 12:11*	*12/18/19 14:04*	*1*
Nitrobenzene-d5 (Surr)	*35*		*33 - 123*	*12/16/19 12:11*	*12/18/19 14:04*	*1*
p-Terphenyl-d14 (Surr)	*41*		*27 - 159*	*12/16/19 12:11*	*12/18/19 14:04*	*1*
Phenol-d6 (Surr)	*36*		*26 - 122*	*12/16/19 12:11*	*12/18/19 14:04*	*1*

Client Sample ID: B21-1-20191212 **Lab Sample ID: 570-15709-36**
Date Collected: 12/12/19 13:15 **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
1,2-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
1,3-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
1,4-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
1-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
2,4,5-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
2,4,6-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
2,4-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
2,4-Dimethylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
2,4-Dinitrophenol	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
2,4-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
2,6-Dichlorophenol	ND	F1	0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
2,6-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
2-Chloronaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1

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

Client Sample ID: B21-1-20191212
Date Collected: 12/12/19 13:15
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-36
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
2-Methylnaphthalene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
2-Methylphenol	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
2-Nitroaniline	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
2-Nitrophenol	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
3,3'-Dichlorobenzidine	ND	F2	2.5		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
3 & 4 Methylphenol	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
3-Nitroaniline	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
4,6-Dinitro-2-methylphenol	ND		2.5		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
4-Bromophenyl phenyl ether	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
4-Chloro-3-methylphenol	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
4-Chloroaniline	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
4-Chlorophenyl phenyl ether	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
4-Nitroaniline	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
4-Nitrophenol	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Acenaphthene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Acenaphthylene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Aniline	ND	* F1	0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Anthracene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Azobenzene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Benzidine	ND	F1	5.0		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Benzo[a]anthracene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Benzo[a]pyrene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Benzo[b]fluoranthene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Benzo[g,h,i]perylene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Benzo[k]fluoranthene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Benzoic acid	ND	F1	2.5		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Benzyl alcohol	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Bis(2-chloroethoxy)methane	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Bis(2-chloroethyl)ether	ND		2.5		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
bis (2-Chloroisopropyl) ether	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Bis(2-ethylhexyl) phthalate	ND	F2	0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Butyl benzyl phthalate	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Chrysene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Dibenz(a,h)anthracene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Dibenzofuran	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Diethyl phthalate	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Dimethyl phthalate	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Di-n-butyl phthalate	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Di-n-octyl phthalate	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Fluoranthene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Fluorene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Hexachloro-1,3-butadiene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Hexachlorobenzene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Hexachlorocyclopentadiene	ND		1.5		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Hexachloroethane	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Indeno[1,2,3-cd]pyrene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Isophorone	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Naphthalene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 14:22	1

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

Client Sample ID: B21-1-20191212
Date Collected: 12/12/19 13:15
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-36
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
N-Nitrosodimethylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
N-Nitrosodi-n-propylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
N-Nitrosodiphenylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Pentachlorophenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Phenanthrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Phenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1
Pyridine	ND	* F1	0.50	mg/Kg		12/16/19 12:11	12/18/19 14:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*66*		*18 - 138*	*12/16/19 12:11*	*12/18/19 14:22*	*1*
2-Fluorobiphenyl (Surr)	*64*		*27 - 120*	*12/16/19 12:11*	*12/18/19 14:22*	*1*
2-Fluorophenol (Surr)	*67*		*25 - 120*	*12/16/19 12:11*	*12/18/19 14:22*	*1*
Nitrobenzene-d5 (Surr)	*66*		*33 - 123*	*12/16/19 12:11*	*12/18/19 14:22*	*1*
p-Terphenyl-d14 (Surr)	*68*		*27 - 159*	*12/16/19 12:11*	*12/18/19 14:22*	*1*
Phenol-d6 (Surr)	*65*		*26 - 122*	*12/16/19 12:11*	*12/18/19 14:22*	*1*

Client Sample ID: B21-5-20191212
Date Collected: 12/12/19 13:20
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-37
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
1,2-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
1,3-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
1,4-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
1-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
2,4,5-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
2,4,6-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
2,4-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
2,4-Dimethylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
2,4-Dinitrophenol	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
2,4-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
2,6-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
2,6-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
2-Chloronaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
2-Chlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
2-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
2-Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
2-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
2-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
3,3'-Dichlorobenzidine	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
3 & 4 Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
3-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
4,6-Dinitro-2-methylphenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
4-Bromophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
4-Chloro-3-methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
4-Chloroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
4-Chlorophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
4-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1

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

Client Sample ID: B21-5-20191212
Date Collected: 12/12/19 13:20
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-37
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Acenaphthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Acenaphthylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Aniline	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Azobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Benzidine	ND		5.0	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Benzo[a]anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Benzo[a]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Benzo[b]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Benzo[g,h,i]perylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Benzo[k]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Benzoic acid	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Benzyl alcohol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Bis(2-chloroethoxy)methane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Bis(2-chloroethyl)ether	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
bis (2-Chloroisopropyl) ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Bis(2-ethylhexyl) phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Butyl benzyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Chrysene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Dibenz(a,h)anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Dibenzofuran	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Diethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Dimethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Di-n-butyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Di-n-octyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Fluorene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Hexachloro-1,3-butadiene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Hexachlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Hexachlorocyclopentadiene	ND		1.5	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Hexachloroethane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Indeno[1,2,3-cd]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Isophorone	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Naphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Nitrobenzene	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
N-Nitrosodimethylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
N-Nitrosodi-n-propylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
N-Nitrosodiphenylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Pentachlorophenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Phenanthrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Phenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1
Pyridine	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 15:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*61*		*18 - 138*	*12/16/19 12:11*	*12/18/19 15:17*	*1*
2-Fluorobiphenyl (Surr)	*61*		*27 - 120*	*12/16/19 12:11*	*12/18/19 15:17*	*1*
2-Fluorophenol (Surr)	*62*		*25 - 120*	*12/16/19 12:11*	*12/18/19 15:17*	*1*
Nitrobenzene-d5 (Surr)	*62*		*33 - 123*	*12/16/19 12:11*	*12/18/19 15:17*	*1*

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

Client Sample ID: B21-5-20191212
Date Collected: 12/12/19 13:20
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-37
Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl-d14 (Surr)	*67*		*27 - 159*	*12/16/19 12:11*	*12/18/19 15:17*	*1*
Phenol-d6 (Surr)	*60*		*26 - 122*	*12/16/19 12:11*	*12/18/19 15:17*	*1*

Client Sample ID: B22-1-20191212
Date Collected: 12/12/19 14:08
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-40
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
1,2-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
1,3-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
1,4-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
1-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
2,4,5-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
2,4,6-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
2,4-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
2,4-Dimethylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
2,4-Dinitrophenol	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
2,4-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
2,6-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
2,6-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
2-Chloronaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
2-Chlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
2-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
2-Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
2-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
2-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
3,3'-Dichlorobenzidine	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
3 & 4 Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
3-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
4,6-Dinitro-2-methylphenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
4-Bromophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
4-Chloro-3-methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
4-Chloroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
4-Chlorophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
4-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
4-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Acenaphthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Acenaphthylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Aniline	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Azobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Benzidine	ND		5.0	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Benzo[a]anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Benzo[a]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Benzo[b]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Benzo[g,h,i]perylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Benzo[k]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Benzoic acid	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Benzyl alcohol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1

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

Client Sample ID: B22-1-20191212 — **Lab Sample ID: 570-15709-40**
Date Collected: 12/12/19 14:08 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethoxy)methane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Bis(2-chloroethyl)ether	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
bis (2-Chloroisopropyl) ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Bis(2-ethylhexyl) phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Butyl benzyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Chrysene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Dibenz(a,h)anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Dibenzofuran	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Diethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Dimethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Di-n-butyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Di-n-octyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Fluorene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Hexachloro-1,3-butadiene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Hexachlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Hexachlorocyclopentadiene	ND		1.5	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Hexachloroethane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Indeno[1,2,3-cd]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Isophorone	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Naphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Nitrobenzene	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
N-Nitrosodimethylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
N-Nitrosodi-n-propylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
N-Nitrosodiphenylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Pentachlorophenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Phenanthrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Phenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1
Pyridine	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 17:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*52*		*18 - 138*	*12/16/19 12:11*	*12/18/19 17:44*	*1*
2-Fluorobiphenyl (Surr)	*50*		*27 - 120*	*12/16/19 12:11*	*12/18/19 17:44*	*1*
2-Fluorophenol (Surr)	*47*		*25 - 120*	*12/16/19 12:11*	*12/18/19 17:44*	*1*
Nitrobenzene-d5 (Surr)	*48*		*33 - 123*	*12/16/19 12:11*	*12/18/19 17:44*	*1*
p-Terphenyl-d14 (Surr)	*74*		*27 - 159*	*12/16/19 12:11*	*12/18/19 17:44*	*1*
Phenol-d6 (Surr)	*48*		*26 - 122*	*12/16/19 12:11*	*12/18/19 17:44*	*1*

Client Sample ID: B22-5-20191212 — **Lab Sample ID: 570-15709-41**
Date Collected: 12/12/19 14:14 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
1,2-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
1,3-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
1,4-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
1-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
2,4,5-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
2,4,6-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1

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

Client Sample ID: B22-5-20191212
Date Collected: 12/12/19 14:14
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-41
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
2,4-Dimethylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
2,4-Dinitrophenol	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
2,4-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
2,6-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
2,6-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
2-Chloronaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
2-Chlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
2-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
2-Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
2-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
2-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
3,3'-Dichlorobenzidine	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
3 & 4 Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
3-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
4,6-Dinitro-2-methylphenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
4-Bromophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
4-Chloro-3-methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
4-Chloroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
4-Chlorophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
4-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
4-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Acenaphthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Acenaphthylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Aniline	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Azobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Benzidine	ND		5.0	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Benzo[a]anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Benzo[a]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Benzo[b]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Benzo[g,h,i]perylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Benzo[k]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Benzoic acid	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Benzyl alcohol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Bis(2-chloroethoxy)methane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Bis(2-chloroethyl)ether	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
bis (2-Chloroisopropyl) ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Bis(2-ethylhexyl) phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Butyl benzyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Chrysene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Dibenz(a,h)anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Dibenzofuran	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Diethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Dimethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Di-n-butyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Di-n-octyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Fluorene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1

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

Client Sample ID: B22-5-20191212
Date Collected: 12/12/19 14:14
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-41
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloro-1,3-butadiene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Hexachlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Hexachlorocyclopentadiene	ND		1.5	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Hexachloroethane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Indeno[1,2,3-cd]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Isophorone	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Naphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Nitrobenzene	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
N-Nitrosodimethylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
N-Nitrosodi-n-propylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
N-Nitrosodiphenylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Pentachlorophenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Phenanthrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Phenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1
Pyridine	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 18:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*56*		*18 - 138*	*12/16/19 12:11*	*12/18/19 18:02*	*1*
2-Fluorobiphenyl (Surr)	*51*		*27 - 120*	*12/16/19 12:11*	*12/18/19 18:02*	*1*
2-Fluorophenol (Surr)	*48*		*25 - 120*	*12/16/19 12:11*	*12/18/19 18:02*	*1*
Nitrobenzene-d5 (Surr)	*50*		*33 - 123*	*12/16/19 12:11*	*12/18/19 18:02*	*1*
p-Terphenyl-d14 (Surr)	*65*		*27 - 159*	*12/16/19 12:11*	*12/18/19 18:02*	*1*
Phenol-d6 (Surr)	*47*		*26 - 122*	*12/16/19 12:11*	*12/18/19 18:02*	*1*

Client Sample ID: B20-1-20191212
Date Collected: 12/12/19 14:46
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-43
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
1,2-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
1,3-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
1,4-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
1-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
2,4,5-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
2,4,6-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
2,4-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
2,4-Dimethylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
2,4-Dinitrophenol	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
2,4-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
2,6-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
2,6-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
2-Chloronaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
2-Chlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
2-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
2-Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
2-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
2-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
3,3'-Dichlorobenzidine	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
3 & 4 Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1

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

Client Sample ID: B20-1-20191212
Date Collected: 12/12/19 14:46
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-43
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
4,6-Dinitro-2-methylphenol	ND		2.5		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
4-Bromophenyl phenyl ether	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
4-Chloro-3-methylphenol	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
4-Chloroaniline	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
4-Chlorophenyl phenyl ether	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
4-Nitroaniline	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
4-Nitrophenol	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Acenaphthene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Acenaphthylene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Aniline	ND	*	0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Anthracene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Azobenzene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Benzidine	ND		5.0		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Benzo[a]anthracene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Benzo[a]pyrene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Benzo[b]fluoranthene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Benzo[g,h,i]perylene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Benzo[k]fluoranthene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Benzoic acid	ND		2.5		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Benzyl alcohol	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Bis(2-chloroethoxy)methane	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Bis(2-chloroethyl)ether	ND		2.5		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
bis (2-Chloroisopropyl) ether	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Bis(2-ethylhexyl) phthalate	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Butyl benzyl phthalate	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Chrysene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Dibenz(a,h)anthracene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Dibenzofuran	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Diethyl phthalate	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Dimethyl phthalate	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Di-n-butyl phthalate	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Di-n-octyl phthalate	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Fluoranthene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Fluorene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Hexachloro-1,3-butadiene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Hexachlorobenzene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Hexachlorocyclopentadiene	ND		1.5		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Hexachloroethane	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Indeno[1,2,3-cd]pyrene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Isophorone	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Naphthalene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Nitrobenzene	ND		2.0		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
N-Nitrosodimethylamine	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
N-Nitrosodi-n-propylamine	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
N-Nitrosodiphenylamine	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Pentachlorophenol	ND		2.5		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Phenanthrene	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Phenol	ND		0.50		mg/Kg		12/16/19 12:11	12/18/19 15:36	1

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

Client Sample ID: B20-1-20191212
Date Collected: 12/12/19 14:46
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-43
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1
Pyridine	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 15:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*76*		*18 - 138*	*12/16/19 12:11*	*12/18/19 15:36*	*1*
2-Fluorobiphenyl (Surr)	*66*		*27 - 120*	*12/16/19 12:11*	*12/18/19 15:36*	*1*
2-Fluorophenol (Surr)	*74*		*25 - 120*	*12/16/19 12:11*	*12/18/19 15:36*	*1*
Nitrobenzene-d5 (Surr)	*65*		*33 - 123*	*12/16/19 12:11*	*12/18/19 15:36*	*1*
p-Terphenyl-d14 (Surr)	*77*		*27 - 159*	*12/16/19 12:11*	*12/18/19 15:36*	*1*
Phenol-d6 (Surr)	*71*		*26 - 122*	*12/16/19 12:11*	*12/18/19 15:36*	*1*

Client Sample ID: B20-5-20191212
Date Collected: 12/12/19 14:50
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-44
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
1,2-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
1,3-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
1,4-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
1-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
2,4,5-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
2,4,6-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
2,4-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
2,4-Dimethylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
2,4-Dinitrophenol	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
2,4-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
2,6-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
2,6-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
2-Chloronaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
2-Chlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
2-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
2-Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
2-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
2-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
3,3'-Dichlorobenzidine	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
3 & 4 Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
3-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
4,6-Dinitro-2-methylphenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
4-Bromophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
4-Chloro-3-methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
4-Chloroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
4-Chlorophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
4-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
4-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Acenaphthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Acenaphthylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Aniline	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Azobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Benzidine	ND		5.0	mg/Kg		12/16/19 12:11	12/18/19 15:54	1

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

Client Sample ID: B20-5-20191212
Date Collected: 12/12/19 14:50
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-44
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Benzo[a]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Benzo[b]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Benzo[g,h,i]perylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Benzo[k]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Benzoic acid	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Benzyl alcohol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Bis(2-chloroethoxy)methane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Bis(2-chloroethyl)ether	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
bis (2-Chloroisopropyl) ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Bis(2-ethylhexyl) phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Butyl benzyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Chrysene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Dibenz(a,h)anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Dibenzofuran	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Diethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Dimethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Di-n-butyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Di-n-octyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Fluorene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Hexachloro-1,3-butadiene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Hexachlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Hexachlorocyclopentadiene	ND		1.5	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Hexachloroethane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Indeno[1,2,3-cd]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Isophorone	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Naphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Nitrobenzene	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
N-Nitrosodimethylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
N-Nitrosodi-n-propylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
N-Nitrosodiphenylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Pentachlorophenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Phenanthrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Phenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1
Pyridine	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 15:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*67*		*18 - 138*	*12/16/19 12:11*	*12/18/19 15:54*	*1*
2-Fluorobiphenyl (Surr)	*59*		*27 - 120*	*12/16/19 12:11*	*12/18/19 15:54*	*1*
2-Fluorophenol (Surr)	*60*		*25 - 120*	*12/16/19 12:11*	*12/18/19 15:54*	*1*
Nitrobenzene-d5 (Surr)	*60*		*33 - 123*	*12/16/19 12:11*	*12/18/19 15:54*	*1*
p-Terphenyl-d14 (Surr)	*96*		*27 - 159*	*12/16/19 12:11*	*12/18/19 15:54*	*1*
Phenol-d6 (Surr)	*58*		*26 - 122*	*12/16/19 12:11*	*12/18/19 15:54*	*1*

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

Client Sample ID: B19-1-20191212
Date Collected: 12/12/19 15:35
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-47
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
1,2-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
1,3-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
1,4-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
1-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
2,4,5-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
2,4,6-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
2,4-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
2,4-Dimethylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
2,4-Dinitrophenol	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
2,4-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
2,6-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
2,6-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
2-Chloronaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
2-Chlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
2-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
2-Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
2-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
2-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
3,3'-Dichlorobenzidine	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
3 & 4 Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
3-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
4,6-Dinitro-2-methylphenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
4-Bromophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
4-Chloro-3-methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
4-Chloroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
4-Chlorophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
4-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
4-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Acenaphthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Acenaphthylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Aniline	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Azobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Benzidine	ND		5.0	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Benzo[a]anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Benzo[a]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Benzo[b]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Benzo[g,h,i]perylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Benzo[k]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Benzoic acid	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Benzyl alcohol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Bis(2-chloroethoxy)methane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Bis(2-chloroethyl)ether	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
bis (2-Chloroisopropyl) ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Bis(2-ethylhexyl) phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Butyl benzyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Chrysene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Dibenz(a,h)anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1

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

Client Sample ID: B19-1-20191212
Date Collected: 12/12/19 15:35
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-47
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Diethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Dimethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Di-n-butyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Di-n-octyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Fluorene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Hexachloro-1,3-butadiene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Hexachlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Hexachlorocyclopentadiene	ND		1.5	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Hexachloroethane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Indeno[1,2,3-cd]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Isophorone	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Naphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Nitrobenzene	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
N-Nitrosodimethylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
N-Nitrosodi-n-propylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
N-Nitrosodiphenylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Pentachlorophenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Phenanthrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Phenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1
Pyridine	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*79*		*18 - 138*	*12/16/19 12:11*	*12/18/19 18:21*	*1*
2-Fluorobiphenyl (Surr)	*46*		*27 - 120*	*12/16/19 12:11*	*12/18/19 18:21*	*1*
2-Fluorophenol (Surr)	*41*		*25 - 120*	*12/16/19 12:11*	*12/18/19 18:21*	*1*
Nitrobenzene-d5 (Surr)	*43*		*33 - 123*	*12/16/19 12:11*	*12/18/19 18:21*	*1*
p-Terphenyl-d14 (Surr)	*89*		*27 - 159*	*12/16/19 12:11*	*12/18/19 18:21*	*1*
Phenol-d6 (Surr)	*42*		*26 - 122*	*12/16/19 12:11*	*12/18/19 18:21*	*1*

Client Sample ID: B19-5-20191212
Date Collected: 12/12/19 15:40
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-48
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
1,2-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
1,3-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
1,4-Dichlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
1-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
2,4,5-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
2,4,6-Trichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
2,4-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
2,4-Dimethylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
2,4-Dinitrophenol	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
2,4-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
2,6-Dichlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
2,6-Dinitrotoluene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
2-Chloronaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1

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

Client Sample ID: B19-5-20191212
Date Collected: 12/12/19 15:40
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-48
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
2-Methylnaphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
2-Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
2-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
2-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
3,3'-Dichlorobenzidine	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
3 & 4 Methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
3-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
4,6-Dinitro-2-methylphenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
4-Bromophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
4-Chloro-3-methylphenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
4-Chloroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
4-Chlorophenyl phenyl ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
4-Nitroaniline	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
4-Nitrophenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Acenaphthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Acenaphthylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Aniline	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Azobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Benzidine	ND		5.0	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Benzo[a]anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Benzo[a]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Benzo[b]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Benzo[g,h,i]perylene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Benzo[k]fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Benzoic acid	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Benzyl alcohol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Bis(2-chloroethoxy)methane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Bis(2-chloroethyl)ether	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
bis (2-Chloroisopropyl) ether	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Bis(2-ethylhexyl) phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Butyl benzyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Chrysene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Dibenz(a,h)anthracene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Dibenzofuran	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Diethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Dimethyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Di-n-butyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Di-n-octyl phthalate	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Fluoranthene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Fluorene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Hexachloro-1,3-butadiene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Hexachlorobenzene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Hexachlorocyclopentadiene	ND		1.5	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Hexachloroethane	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Indeno[1,2,3-cd]pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Isophorone	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Naphthalene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1

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

Client Sample ID: B19-5-20191212
Date Collected: 12/12/19 15:40
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-48
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		2.0	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
N-Nitrosodimethylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
N-Nitrosodi-n-propylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
N-Nitrosodiphenylamine	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Pentachlorophenol	ND		2.5	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Phenanthrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Phenol	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Pyrene	ND		0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1
Pyridine	ND	*	0.50	mg/Kg		12/16/19 12:11	12/18/19 16:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*68*		*18 - 138*	*12/16/19 12:11*	*12/18/19 16:12*	*1*
2-Fluorobiphenyl (Surr)	*66*		*27 - 120*	*12/16/19 12:11*	*12/18/19 16:12*	*1*
2-Fluorophenol (Surr)	*67*		*25 - 120*	*12/16/19 12:11*	*12/18/19 16:12*	*1*
Nitrobenzene-d5 (Surr)	*66*		*33 - 123*	*12/16/19 12:11*	*12/18/19 16:12*	*1*
p-Terphenyl-d14 (Surr)	*82*		*27 - 159*	*12/16/19 12:11*	*12/18/19 16:12*	*1*
Phenol-d6 (Surr)	*66*		*26 - 122*	*12/16/19 12:11*	*12/18/19 16:12*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: B23-1-20191212 — **Lab Sample ID: 570-15709-19**
Date Collected: 12/12/19 08:40 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C13)	ND		0.099	mg/Kg		12/14/19 11:55	12/14/19 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*42 - 126*	*12/14/19 11:55*	*12/14/19 18:21*	*1*

Client Sample ID: B23-5-20191212 — **Lab Sample ID: 570-15709-20**
Date Collected: 12/12/19 08:45 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C13)	ND		0.10	mg/Kg		12/14/19 11:55	12/14/19 18:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*42 - 126*	*12/14/19 11:55*	*12/14/19 18:49*	*1*

Client Sample ID: B26-1-20191212 — **Lab Sample ID: 570-15709-24**
Date Collected: 12/12/19 10:30 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C13)	ND		0.10	mg/Kg		12/14/19 11:55	12/14/19 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*42 - 126*	*12/14/19 11:55*	*12/14/19 19:17*	*1*

Client Sample ID: B26-5-20191212 — **Lab Sample ID: 570-15709-25**
Date Collected: 12/12/19 10:35 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C13)	ND		0.099	mg/Kg		12/14/19 11:55	12/14/19 19:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*42 - 126*	*12/14/19 11:55*	*12/14/19 19:45*	*1*

Client Sample ID: B25-1-20191212 — **Lab Sample ID: 570-15709-29**
Date Collected: 12/12/19 11:55 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C13)	ND		0.10	mg/Kg		12/14/19 11:55	12/14/19 20:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*42 - 126*	*12/14/19 11:55*	*12/14/19 20:42*	*1*

Client Sample ID: B25-5-20191212 — **Lab Sample ID: 570-15709-30**
Date Collected: 12/12/19 11:58 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C13)	ND		0.099	mg/Kg		12/14/19 11:55	12/14/19 20:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*42 - 126*	*12/14/19 11:55*	*12/14/19 20:14*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: B24-1-20191212 — **Lab Sample ID: 570-15709-33**
Date Collected: 12/12/19 12:37 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C13)	ND		0.10	mg/Kg		12/14/19 11:55	12/14/19 21:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*42 - 126*	*12/14/19 11:55*	*12/14/19 21:38*	*1*

Client Sample ID: B24-10-20191212 — **Lab Sample ID: 570-15709-34**
Date Collected: 12/12/19 12:55 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C13)	ND		0.10	mg/Kg		12/14/19 11:55	12/14/19 22:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*42 - 126*	*12/14/19 11:55*	*12/14/19 22:06*	*1*

Client Sample ID: B21-1-20191212 — **Lab Sample ID: 570-15709-36**
Date Collected: 12/12/19 13:15 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C13)	ND		0.10	mg/Kg		12/14/19 11:55	12/14/19 22:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*42 - 126*	*12/14/19 11:55*	*12/14/19 22:34*	*1*

Client Sample ID: B21-5-20191212 — **Lab Sample ID: 570-15709-37**
Date Collected: 12/12/19 13:20 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C13)	ND		0.10	mg/Kg		12/14/19 11:55	12/14/19 23:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*42 - 126*	*12/14/19 11:55*	*12/14/19 23:02*	*1*

Client Sample ID: B22-1-20191212 — **Lab Sample ID: 570-15709-40**
Date Collected: 12/12/19 14:08 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C13)	ND		0.098	mg/Kg		12/14/19 11:55	12/14/19 23:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*42 - 126*	*12/14/19 11:55*	*12/14/19 23:31*	*1*

Client Sample ID: B22-5-20191212 — **Lab Sample ID: 570-15709-41**
Date Collected: 12/12/19 14:14 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C13)	ND		0.10	mg/Kg		12/14/19 16:40	12/14/19 23:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*42 - 126*	*12/14/19 16:40*	*12/14/19 23:59*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: B20-1-20191212 — **Lab Sample ID: 570-15709-43**
Date Collected: 12/12/19 14:46 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C13)	ND		0.10	mg/Kg		12/14/19 16:40	12/15/19 00:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*42 - 126*	*12/14/19 16:40*	*12/15/19 00:27*	*1*

Client Sample ID: B20-5-20191212 — **Lab Sample ID: 570-15709-44**
Date Collected: 12/12/19 14:50 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C13)	ND		0.099	mg/Kg		12/14/19 16:40	12/15/19 00:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*42 - 126*	*12/14/19 16:40*	*12/15/19 00:55*	*1*

Client Sample ID: B19-1-20191212 — **Lab Sample ID: 570-15709-47**
Date Collected: 12/12/19 15:35 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C13)	ND		0.10	mg/Kg		12/14/19 16:40	12/15/19 01:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*42 - 126*	*12/14/19 16:40*	*12/15/19 01:23*	*1*

Client Sample ID: B19-5-20191212 — **Lab Sample ID: 570-15709-48**
Date Collected: 12/12/19 15:40 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C13)	ND		0.10	mg/Kg		12/14/19 16:40	12/15/19 01:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*42 - 126*	*12/14/19 16:40*	*12/15/19 01:51*	*1*

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

Client Sample ID: B23-1-20191212 — **Lab Sample ID: 570-15709-19**
Date Collected: 12/12/19 08:40 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	750	Z	99	mg/Kg		12/16/19 17:07	12/17/19 16:03	20
TPH as Motor Oil (C17-C44)	4000	Z	500	mg/Kg		12/16/19 17:07	12/17/19 16:03	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*98*		*61 - 145*	*12/16/19 17:07*	*12/17/19 16:03*	*20*

Client Sample ID: B23-5-20191212 — **Lab Sample ID: 570-15709-20**
Date Collected: 12/12/19 08:45 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.0	mg/Kg		12/16/19 17:07	12/17/19 16:24	1
TPH as Motor Oil (C17-C44)	ND		25	mg/Kg		12/16/19 17:07	12/17/19 16:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*98*		*61 - 145*	*12/16/19 17:07*	*12/17/19 16:24*	*1*

Client Sample ID: B26-1-20191212 — **Lab Sample ID: 570-15709-24**
Date Collected: 12/12/19 10:30 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	84	Z	49	mg/Kg		12/16/19 17:07	12/17/19 16:45	10
TPH as Motor Oil (C17-C44)	390	Z	250	mg/Kg		12/16/19 17:07	12/17/19 16:45	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*101*		*61 - 145*	*12/16/19 17:07*	*12/17/19 16:45*	*10*

Client Sample ID: B26-5-20191212 — **Lab Sample ID: 570-15709-25**
Date Collected: 12/12/19 10:35 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	8.9	Z	5.8	mg/Kg		12/16/19 17:07	12/17/19 17:46	1
TPH as Motor Oil (C17-C44)	ND		29	mg/Kg		12/16/19 17:07	12/17/19 17:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*105*		*61 - 145*	*12/16/19 17:07*	*12/17/19 17:46*	*1*

Client Sample ID: B25-1-20191212 — **Lab Sample ID: 570-15709-29**
Date Collected: 12/12/19 11:55 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		4.9	mg/Kg		12/16/19 17:07	12/17/19 18:07	1
TPH as Motor Oil (C17-C44)	ND		25	mg/Kg		12/16/19 17:07	12/17/19 18:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*94*		*61 - 145*	*12/16/19 17:07*	*12/17/19 18:07*	*1*

Client Sample ID: B25-5-20191212 — **Lab Sample ID: 570-15709-30**
Date Collected: 12/12/19 11:58 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.0	mg/Kg		12/16/19 17:07	12/17/19 18:27	1
TPH as Motor Oil (C17-C44)	ND		25	mg/Kg		12/16/19 17:07	12/17/19 18:27	1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	95		61 - 145	12/16/19 17:07	12/17/19 18:27	1

Client Sample ID: B24-1-20191212 — **Lab Sample ID: 570-15709-33**
Date Collected: 12/12/19 12:37 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	19	Z	5.0	mg/Kg		12/16/19 17:07	12/17/19 18:48	1
TPH as Motor Oil (C17-C44)	46	Z	25	mg/Kg		12/16/19 17:07	12/17/19 18:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	104		61 - 145	12/16/19 17:07	12/17/19 18:48	1

Client Sample ID: B24-10-20191212 — **Lab Sample ID: 570-15709-34**
Date Collected: 12/12/19 12:55 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.0	mg/Kg		12/16/19 17:07	12/17/19 19:08	1
TPH as Motor Oil (C17-C44)	ND		25	mg/Kg		12/16/19 17:07	12/17/19 19:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	101		61 - 145	12/16/19 17:07	12/17/19 19:08	1

Client Sample ID: B21-1-20191212 — **Lab Sample ID: 570-15709-36**
Date Collected: 12/12/19 13:15 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	47	Z	4.9	mg/Kg		12/16/19 17:07	12/17/19 19:29	1
TPH as Motor Oil (C17-C44)	120	Z	25	mg/Kg		12/16/19 17:07	12/17/19 19:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	106		61 - 145	12/16/19 17:07	12/17/19 19:29	1

Client Sample ID: B21-5-20191212 — **Lab Sample ID: 570-15709-37**
Date Collected: 12/12/19 13:20 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.0	mg/Kg		12/16/19 17:07	12/17/19 19:49	1
TPH as Motor Oil (C17-C44)	ND		25	mg/Kg		12/16/19 17:07	12/17/19 19:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	100		61 - 145	12/16/19 17:07	12/17/19 19:49	1

Client Sample ID: B22-1-20191212 — **Lab Sample ID: 570-15709-40**
Date Collected: 12/12/19 14:08 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	12	Z	5.0	mg/Kg		12/16/19 17:07	12/17/19 20:10	1
TPH as Motor Oil (C17-C44)	ND		25	mg/Kg		12/16/19 17:07	12/17/19 20:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	100		61 - 145	12/16/19 17:07	12/17/19 20:10	1

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

Client Sample ID: B22-5-20191212 — **Lab Sample ID: 570-15709-41**
Date Collected: 12/12/19 14:14 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.0	mg/Kg		12/16/19 17:07	12/17/19 20:31	1
TPH as Motor Oil (C17-C44)	ND		25	mg/Kg		12/16/19 17:07	12/17/19 20:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*97*		*61 - 145*	*12/16/19 17:07*	*12/17/19 20:31*	*1*

Client Sample ID: B20-1-20191212 — **Lab Sample ID: 570-15709-43**
Date Collected: 12/12/19 14:46 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.0	mg/Kg		12/16/19 17:07	12/17/19 20:51	1
TPH as Motor Oil (C17-C44)	ND		25	mg/Kg		12/16/19 17:07	12/17/19 20:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*99*		*61 - 145*	*12/16/19 17:07*	*12/17/19 20:51*	*1*

Client Sample ID: B20-5-20191212 — **Lab Sample ID: 570-15709-44**
Date Collected: 12/12/19 14:50 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		4.9	mg/Kg		12/16/19 17:07	12/17/19 21:11	1
TPH as Motor Oil (C17-C44)	ND		25	mg/Kg		12/16/19 17:07	12/17/19 21:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*101*		*61 - 145*	*12/16/19 17:07*	*12/17/19 21:11*	*1*

Client Sample ID: B19-1-20191212 — **Lab Sample ID: 570-15709-47**
Date Collected: 12/12/19 15:35 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		4.9	mg/Kg		12/16/19 17:07	12/17/19 21:32	1
TPH as Motor Oil (C17-C44)	ND		25	mg/Kg		12/16/19 17:07	12/17/19 21:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*97*		*61 - 145*	*12/16/19 17:07*	*12/17/19 21:32*	*1*

Client Sample ID: B19-5-20191212 — **Lab Sample ID: 570-15709-48**
Date Collected: 12/12/19 15:40 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.0	mg/Kg		12/16/19 17:07	12/17/19 21:53	1
TPH as Motor Oil (C17-C44)	ND		25	mg/Kg		12/16/19 17:07	12/17/19 21:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*97*		*61 - 145*	*12/16/19 17:07*	*12/17/19 21:53*	*1*

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: SS-A1-0.5
Date Collected: 12/12/19 08:45
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-1
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**15**		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
4,4'-DDE	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
4,4'-DDT	**170**		50	ug/Kg		12/19/19 19:20	12/20/19 13:02	10
Aldrin	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
alpha-BHC	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
alpha-Chlordane	ND		1.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
beta-BHC	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
delta-BHC	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
Dieldrin	ND		1.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
Endosulfan I	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
Endosulfan II	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
Endrin	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
Endrin aldehyde	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
Endrin ketone	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
gamma-Chlordane	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
gamma-BHC	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
Heptachlor	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
Methoxychlor	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:30	1
Toxaphene	ND		25	ug/Kg		12/19/19 19:20	12/20/19 12:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*62*		*23 - 140*	*12/19/19 19:20*	*12/20/19 12:30*	*1*
Tetrachloro-m-xylene	*82*		*23 - 140*	*12/19/19 19:20*	*12/20/19 13:02*	*10*
DCB Decachlorobiphenyl (Surr)	*92*		*26 - 146*	*12/19/19 19:20*	*12/20/19 12:30*	*1*
DCB Decachlorobiphenyl (Surr)	*93*		*26 - 146*	*12/19/19 19:20*	*12/20/19 13:02*	*10*

Client Sample ID: SS-A1-2.0
Date Collected: 12/12/19 08:50
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-2
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**34**		5.0	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
4,4'-DDE	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
4,4'-DDT	**78**		50	ug/Kg		12/18/19 17:06	12/19/19 18:42	10
Aldrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
alpha-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
alpha-Chlordane	ND		0.99	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
beta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
delta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
Dieldrin	ND		0.99	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
Endosulfan I	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
Endosulfan II	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
Endrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
Endrin aldehyde	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
Endrin ketone	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
gamma-Chlordane	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
gamma-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
Heptachlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 12:46	1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Client Sample ID: SS-A1-2.0 — **Lab Sample ID: 570-15709-2**
Date Collected: 12/12/19 08:50 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor epoxide	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
Methoxychlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 12:46	1
Toxaphene	ND		25	ug/Kg		12/18/19 17:06	12/19/19 12:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*63*		*23 - 140*	*12/18/19 17:06*	*12/19/19 12:46*	*1*
Tetrachloro-m-xylene	*65*		*23 - 140*	*12/18/19 17:06*	*12/19/19 18:42*	*10*
DCB Decachlorobiphenyl (Surr)	*117*		*26 - 146*	*12/18/19 17:06*	*12/19/19 12:46*	*1*
DCB Decachlorobiphenyl (Surr)	*90*		*26 - 146*	*12/18/19 17:06*	*12/19/19 18:42*	*10*

Client Sample ID: SS-A2-0.5 — **Lab Sample ID: 570-15709-3**
Date Collected: 12/12/19 09:10 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**7.9**	**p**	5.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
4,4'-DDE	**7.5**	**p**	5.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
4,4'-DDT	ND		25	ug/Kg		12/18/19 17:06	12/19/19 18:56	5
Aldrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
alpha-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
alpha-Chlordane	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
beta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
delta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
Dieldrin	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
Endosulfan I	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
Endosulfan II	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
Endrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
Endrin aldehyde	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
Endrin ketone	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
gamma-Chlordane	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
gamma-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
Heptachlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
Methoxychlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:29	1
Toxaphene	ND		25	ug/Kg		12/18/19 17:06	12/19/19 13:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*58*		*23 - 140*	*12/18/19 17:06*	*12/19/19 13:29*	*1*
Tetrachloro-m-xylene	*60*		*23 - 140*	*12/18/19 17:06*	*12/19/19 18:56*	*5*
DCB Decachlorobiphenyl (Surr)	*94*		*26 - 146*	*12/18/19 17:06*	*12/19/19 13:29*	*1*
DCB Decachlorobiphenyl (Surr)	*107*		*26 - 146*	*12/18/19 17:06*	*12/19/19 18:56*	*5*

Client Sample ID: SS-A2-2.0 — **Lab Sample ID: 570-15709-4**
Date Collected: 12/12/19 09:15 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**8.5**		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
4,4'-DDE	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
4,4'-DDT	**17**		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
Aldrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Client Sample ID: SS-A2-2.0
Date Collected: 12/12/19 09:15
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-4
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
alpha-Chlordane	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
beta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
delta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
Dieldrin	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
Endosulfan I	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
Endosulfan II	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
Endrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
Endrin aldehyde	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
Endrin ketone	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
gamma-Chlordane	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
gamma-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
Heptachlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
Methoxychlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 13:43	1
Toxaphene	ND		25	ug/Kg		12/18/19 17:06	12/19/19 13:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*62*		*23 - 140*	*12/18/19 17:06*	*12/19/19 13:43*	*1*
DCB Decachlorobiphenyl (Surr)	*87*		*26 - 146*	*12/18/19 17:06*	*12/19/19 13:43*	*1*

Client Sample ID: SS-A3-0.5
Date Collected: 12/12/19 09:40
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-5
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		25	ug/Kg		12/19/19 19:20	12/20/19 13:16	5
4,4'-DDE	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
4,4'-DDT	**78**		25	ug/Kg		12/19/19 19:20	12/20/19 13:16	5
Aldrin	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
alpha-BHC	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
alpha-Chlordane	ND		1.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
beta-BHC	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
delta-BHC	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
Dieldrin	ND		1.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
Endosulfan I	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
Endosulfan II	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
Endrin	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
Endrin aldehyde	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
Endrin ketone	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
gamma-Chlordane	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
gamma-BHC	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
Heptachlor	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
Methoxychlor	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 12:44	1
Toxaphene	ND		25	ug/Kg		12/19/19 19:20	12/20/19 12:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*69*		*23 - 140*	*12/19/19 19:20*	*12/20/19 12:44*	*1*

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Client Sample ID: SS-A3-0.5
Date Collected: 12/12/19 09:40
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-5
Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*65*		*23 - 140*	*12/19/19 19:20*	*12/20/19 13:16*	*5*
DCB Decachlorobiphenyl (Surr)	*92*		*26 - 146*	*12/19/19 19:20*	*12/20/19 12:44*	*1*
DCB Decachlorobiphenyl (Surr)	*88*		*26 - 146*	*12/19/19 19:20*	*12/20/19 13:16*	*5*

Client Sample ID: SS-A3-2.0
Date Collected: 12/12/19 09:45
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-6
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**7.3**		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
4,4'-DDE	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
4,4'-DDT	**17**		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
Aldrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
alpha-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
alpha-Chlordane	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
beta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
delta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
Dieldrin	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
Endosulfan I	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
Endosulfan II	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
Endrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
Endrin aldehyde	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
Endrin ketone	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
gamma-Chlordane	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
gamma-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
Heptachlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
Methoxychlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:11	1
Toxaphene	ND		25	ug/Kg		12/18/19 17:06	12/19/19 14:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*48*		*23 - 140*	*12/18/19 17:06*	*12/19/19 14:11*	*1*
DCB Decachlorobiphenyl (Surr)	*69*		*26 - 146*	*12/18/19 17:06*	*12/19/19 14:11*	*1*

Client Sample ID: SS-A6-0.5
Date Collected: 12/12/19 10:05
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-7
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
4,4'-DDE	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
4,4'-DDT	**5.8**		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
Aldrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
alpha-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
alpha-Chlordane	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
beta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
delta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
Dieldrin	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
Endosulfan I	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
Endosulfan II	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Client Sample ID: SS-A6-0.5
Date Collected: 12/12/19 10:05
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-7
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
Endrin aldehyde	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
Endrin ketone	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
gamma-Chlordane	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
gamma-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
Heptachlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
Methoxychlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:26	1
Toxaphene	ND		25	ug/Kg		12/18/19 17:06	12/19/19 14:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*51*		*23 - 140*	*12/18/19 17:06*	*12/19/19 14:26*	*1*
DCB Decachlorobiphenyl (Surr)	*71*		*26 - 146*	*12/18/19 17:06*	*12/19/19 14:26*	*1*

Client Sample ID: SS-A6-2.0
Date Collected: 12/12/19 10:10
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-8
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**25**		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
4,4'-DDE	**12**		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
4,4'-DDT	**31**		25	ug/Kg		12/18/19 17:06	12/19/19 19:39	5
Aldrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
alpha-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
alpha-Chlordane	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
beta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
delta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
Dieldrin	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
Endosulfan I	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
Endosulfan II	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
Endrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
Endrin aldehyde	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
Endrin ketone	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
gamma-Chlordane	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
gamma-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
Heptachlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
Methoxychlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:40	1
Toxaphene	ND		25	ug/Kg		12/18/19 17:06	12/19/19 14:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*65*		*23 - 140*	*12/18/19 17:06*	*12/19/19 14:40*	*1*
Tetrachloro-m-xylene	*68*		*23 - 140*	*12/18/19 17:06*	*12/19/19 19:39*	*5*
DCB Decachlorobiphenyl (Surr)	*92*		*26 - 146*	*12/18/19 17:06*	*12/19/19 14:40*	*1*
DCB Decachlorobiphenyl (Surr)	*99*		*26 - 146*	*12/18/19 17:06*	*12/19/19 19:39*	*5*

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: SS-A5-0.5
Date Collected: 12/12/19 10:35
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-9
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
4,4'-DDE	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
4,4'-DDT	**5.6**		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
Aldrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
alpha-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
alpha-Chlordane	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
beta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
delta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
Dieldrin	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
Endosulfan I	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
Endosulfan II	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
Endrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
Endrin aldehyde	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
Endrin ketone	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
gamma-Chlordane	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
gamma-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
Heptachlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
Methoxychlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 14:54	1
Toxaphene	ND		25	ug/Kg		12/18/19 17:06	12/19/19 14:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*76*		*23 - 140*	*12/18/19 17:06*	*12/19/19 14:54*	*1*
DCB Decachlorobiphenyl (Surr)	*142*		*26 - 146*	*12/18/19 17:06*	*12/19/19 14:54*	*1*

Client Sample ID: SS-A5-2.0
Date Collected: 12/12/19 10:40
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-10
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
4,4'-DDE	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
4,4'-DDT	**5.9**		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
Aldrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
alpha-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
alpha-Chlordane	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
beta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
delta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
Dieldrin	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
Endosulfan I	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
Endosulfan II	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
Endrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
Endrin aldehyde	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
Endrin ketone	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
gamma-Chlordane	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
gamma-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
Heptachlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1
Methoxychlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:08	1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Client Sample ID: SS-A5-2.0 — **Lab Sample ID: 570-15709-10**
Date Collected: 12/12/19 10:40 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	ND		25	ug/Kg		12/18/19 17:06	12/19/19 15:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*59*		*23 - 140*	*12/18/19 17:06*	*12/19/19 15:08*	*1*
DCB Decachlorobiphenyl (Surr)	*89*		*26 - 146*	*12/18/19 17:06*	*12/19/19 15:08*	*1*

Client Sample ID: SS-A4-0.5 — **Lab Sample ID: 570-15709-11**
Date Collected: 12/12/19 11:10 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**14**		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
4,4'-DDE	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
4,4'-DDT	**14**		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
Aldrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
alpha-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
alpha-Chlordane	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
beta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
delta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
Dieldrin	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
Endosulfan I	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
Endosulfan II	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
Endrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
Endrin aldehyde	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
Endrin ketone	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
gamma-Chlordane	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
gamma-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
Heptachlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
Methoxychlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:22	1
Toxaphene	ND		25	ug/Kg		12/18/19 17:06	12/19/19 15:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*67*		*23 - 140*	*12/18/19 17:06*	*12/19/19 15:22*	*1*
DCB Decachlorobiphenyl (Surr)	*93*		*26 - 146*	*12/18/19 17:06*	*12/19/19 15:22*	*1*

Client Sample ID: SS-A4-2.0 — **Lab Sample ID: 570-15709-12**
Date Collected: 12/12/19 11:15 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
4,4'-DDE	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
4,4'-DDT	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
Aldrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
alpha-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
alpha-Chlordane	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
beta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
delta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
Dieldrin	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
Endosulfan I	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Client Sample ID: SS-A4-2.0
Date Collected: 12/12/19 11:15
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-12
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
Endrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
Endrin aldehyde	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
Endrin ketone	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
gamma-Chlordane	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
gamma-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
Heptachlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
Methoxychlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:37	1
Toxaphene	ND		25	ug/Kg		12/18/19 17:06	12/19/19 15:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*49*		*23 - 140*	*12/18/19 17:06*	*12/19/19 15:37*	*1*
DCB Decachlorobiphenyl (Surr)	*92*		*26 - 146*	*12/18/19 17:06*	*12/19/19 15:37*	*1*

Client Sample ID: SS-A7-0.5
Date Collected: 12/12/19 11:40
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-13
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
4,4'-DDE	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
4,4'-DDT	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
Aldrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
alpha-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
alpha-Chlordane	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
beta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
delta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
Dieldrin	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
Endosulfan I	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
Endosulfan II	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
Endrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
Endrin aldehyde	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
Endrin ketone	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
gamma-Chlordane	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
gamma-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
Heptachlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
Methoxychlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 15:51	1
Toxaphene	ND		25	ug/Kg		12/18/19 17:06	12/19/19 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*68*		*23 - 140*	*12/18/19 17:06*	*12/19/19 15:51*	*1*
DCB Decachlorobiphenyl (Surr)	*102*		*26 - 146*	*12/18/19 17:06*	*12/19/19 15:51*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: SS-A7-2.0
Date Collected: 12/12/19 11:45
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-14
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**6.9**		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
4,4'-DDE	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
4,4'-DDT	ND		25	ug/Kg		12/18/19 17:06	12/19/19 19:53	5
Aldrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
alpha-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
alpha-Chlordane	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
beta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
delta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
Dieldrin	**2.4**		1.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
Endosulfan I	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
Endosulfan II	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
Endrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
Endrin aldehyde	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
Endrin ketone	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
gamma-Chlordane	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
gamma-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
Heptachlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
Methoxychlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:02	1
Toxaphene	ND		25	ug/Kg		12/18/19 17:06	12/19/19 17:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*70*		*23 - 140*	*12/18/19 17:06*	*12/19/19 17:02*	*1*
Tetrachloro-m-xylene	*68*		*23 - 140*	*12/18/19 17:06*	*12/19/19 19:53*	*5*
DCB Decachlorobiphenyl (Surr)	*94*		*26 - 146*	*12/18/19 17:06*	*12/19/19 17:02*	*1*
DCB Decachlorobiphenyl (Surr)	*97*		*26 - 146*	*12/18/19 17:06*	*12/19/19 19:53*	*5*

Client Sample ID: SS-A8-0.5
Date Collected: 12/12/19 12:40
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-15
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
4,4'-DDE	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
4,4'-DDT	**7.3**		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
Aldrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
alpha-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
alpha-Chlordane	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
beta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
delta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
Dieldrin	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
Endosulfan I	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
Endosulfan II	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
Endrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
Endrin aldehyde	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
Endrin ketone	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
gamma-Chlordane	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
gamma-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
Heptachlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Client Sample ID: SS-A8-0.5 — **Lab Sample ID: 570-15709-15**
Date Collected: 12/12/19 12:40 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor epoxide	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
Methoxychlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:16	1
Toxaphene	ND		25	ug/Kg		12/18/19 17:06	12/19/19 17:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*78*		*23 - 140*	*12/18/19 17:06*	*12/19/19 17:16*	*1*
DCB Decachlorobiphenyl (Surr)	*108*		*26 - 146*	*12/18/19 17:06*	*12/19/19 17:16*	*1*

Client Sample ID: SS-A8-2.0 — **Lab Sample ID: 570-15709-16**
Date Collected: 12/12/19 12:45 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
4,4'-DDE	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
4,4'-DDT	**7.1**		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
Aldrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
alpha-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
alpha-Chlordane	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
beta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
delta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
Dieldrin	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
Endosulfan I	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
Endosulfan II	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
Endrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
Endrin aldehyde	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
Endrin ketone	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
gamma-Chlordane	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
gamma-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
Heptachlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
Methoxychlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:31	1
Toxaphene	ND		25	ug/Kg		12/18/19 17:06	12/19/19 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*70*		*23 - 140*	*12/18/19 17:06*	*12/19/19 17:31*	*1*
DCB Decachlorobiphenyl (Surr)	*91*		*26 - 146*	*12/18/19 17:06*	*12/19/19 17:31*	*1*

Client Sample ID: SS-A9-0.5 — **Lab Sample ID: 570-15709-17**
Date Collected: 12/12/19 13:00 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**6.0**	**p**	5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
4,4'-DDE	**9.3**		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
4,4'-DDT	**12**		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
Aldrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
alpha-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
alpha-Chlordane	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
beta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
delta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Client Sample ID: SS-A9-0.5
Date Collected: 12/12/19 13:00
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-17
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dieldrin	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
Endosulfan I	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
Endosulfan II	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
Endrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
Endrin aldehyde	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
Endrin ketone	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
gamma-Chlordane	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
gamma-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
Heptachlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
Methoxychlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 17:45	1
Toxaphene	ND		25	ug/Kg		12/18/19 17:06	12/19/19 17:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*76*		*23 - 140*	*12/18/19 17:06*	*12/19/19 17:45*	*1*
DCB Decachlorobiphenyl (Surr)	*103*		*26 - 146*	*12/18/19 17:06*	*12/19/19 17:45*	*1*

Client Sample ID: SS-A9-2.0
Date Collected: 12/12/19 13:10
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-18
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
4,4'-DDE	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
4,4'-DDT	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
Aldrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
alpha-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
alpha-Chlordane	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
beta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
delta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
Dieldrin	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
Endosulfan I	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
Endosulfan II	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
Endrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
Endrin aldehyde	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
Endrin ketone	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
gamma-Chlordane	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
gamma-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
Heptachlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
Methoxychlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 18:00	1
Toxaphene	ND		25	ug/Kg		12/18/19 17:06	12/19/19 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*37*		*23 - 140*	*12/18/19 17:06*	*12/19/19 18:00*	*1*
DCB Decachlorobiphenyl (Surr)	*34*		*26 - 146*	*12/18/19 17:06*	*12/19/19 18:00*	*1*

Method: 8141A - Organophosphorous Pesticides (GC)

Client Sample ID: SS-A1-0.5
Date Collected: 12/12/19 08:45
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-1
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Diazinon	ND		0.50		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Dichlorvos	ND		0.50		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Disulfoton	ND		0.50		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Ethoprop	ND		0.50		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Fensulfothion	ND		0.50		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Fenthion	ND		0.50		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Merphos	ND		0.50		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Methyl parathion	ND		0.50		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Mevinphos	ND		0.50		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Naled	ND		4.0		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Phorate	ND		0.50		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Azinphos-methyl	ND		0.50		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Bolstar	ND		0.50		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Chlorpyrifos	ND		0.50		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Ronnel	ND		0.50		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Stirophos	ND		2.0		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Tokuthion	ND		0.50		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Trichloronate	ND		0.50		mg/Kg		12/16/19 17:33	12/17/19 18:11	1
Demeton-o/s	ND		1.0		mg/Kg		12/16/19 17:33	12/17/19 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*64*		*20 - 154*	*12/16/19 17:33*	*12/17/19 18:11*	*1*

Client Sample ID: SS-A1-2.0
Date Collected: 12/12/19 08:50
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-2
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Diazinon	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Dichlorvos	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Disulfoton	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Ethoprop	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Fensulfothion	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Fenthion	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Merphos	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Methyl parathion	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Mevinphos	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Naled	ND		4.0		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Phorate	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Azinphos-methyl	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Bolstar	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Chlorpyrifos	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Ronnel	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Stirophos	ND		2.0		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Tokuthion	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Trichloronate	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 07:39	1
Demeton-o/s	ND		1.0		mg/Kg		12/16/19 17:33	12/18/19 07:39	1

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*93*		*20 - 154*	*12/16/19 17:33*	*12/18/19 07:39*	*1*

Client Sample ID: SS-A2-0.5 — **Lab Sample ID: 570-15709-3**
Date Collected: 12/12/19 09:10 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Diazinon	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Dichlorvos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Disulfoton	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Ethoprop	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Fensulfothion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Fenthion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Merphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Methyl parathion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Mevinphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Naled	ND		4.0	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Phorate	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Azinphos-methyl	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Bolstar	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Chlorpyrifos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Ronnel	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Stirophos	ND		2.0	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Tokuthion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Trichloronate	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 18:59	1
Demeton-o/s	ND		1.0	mg/Kg		12/16/19 17:33	12/17/19 18:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*82*		*20 - 154*	*12/16/19 17:33*	*12/17/19 18:59*	*1*

Client Sample ID: SS-A2-2.0 — **Lab Sample ID: 570-15709-4**
Date Collected: 12/12/19 09:15 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Diazinon	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Dichlorvos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Disulfoton	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Ethoprop	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Fensulfothion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Fenthion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Merphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Methyl parathion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Mevinphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Naled	ND		4.0	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Phorate	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Azinphos-methyl	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Bolstar	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Chlorpyrifos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Ronnel	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Stirophos	ND		2.0	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Tokuthion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 19:46	1
Trichloronate	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 19:46	1

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Client Sample ID: SS-A2-2.0 — **Lab Sample ID: 570-15709-4**
Date Collected: 12/12/19 09:15 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Demeton-o/s	ND		1.0	mg/Kg		12/16/19 17:33	12/17/19 19:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*73*		*20 - 154*	*12/16/19 17:33*	*12/17/19 19:46*	*1*

Client Sample ID: SS-A3-0.5 — **Lab Sample ID: 570-15709-5**
Date Collected: 12/12/19 09:40 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Diazinon	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Dichlorvos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Disulfoton	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Ethoprop	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Fensulfothion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Fenthion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Merphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Methyl parathion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Mevinphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Naled	ND		4.0	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Phorate	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Azinphos-methyl	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Bolstar	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Chlorpyrifos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Ronnel	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Stirophos	ND		2.0	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Tokuthion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Trichloronate	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 20:34	1
Demeton-o/s	ND		1.0	mg/Kg		12/16/19 17:33	12/17/19 20:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*75*		*20 - 154*	*12/16/19 17:33*	*12/17/19 20:34*	*1*

Client Sample ID: SS-A3-2.0 — **Lab Sample ID: 570-15709-6**
Date Collected: 12/12/19 09:45 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Diazinon	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Dichlorvos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Disulfoton	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Ethoprop	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Fensulfothion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Fenthion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Merphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Methyl parathion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Mevinphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Naled	ND		4.0	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Phorate	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Azinphos-methyl	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 21:21	1

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Client Sample ID: SS-A3-2.0 — **Lab Sample ID: 570-15709-6**
Date Collected: 12/12/19 09:45 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bolstar	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Chlorpyrifos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Ronnel	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Stirophos	ND		2.0	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Tokuthion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Trichloronate	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 21:21	1
Demeton-o/s	ND		1.0	mg/Kg		12/16/19 17:33	12/17/19 21:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*66*		*20 - 154*	*12/16/19 17:33*	*12/17/19 21:21*	*1*

Client Sample ID: SS-A6-0.5 — **Lab Sample ID: 570-15709-7**
Date Collected: 12/12/19 10:05 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Diazinon	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Dichlorvos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Disulfoton	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Ethoprop	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Fensulfothion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Fenthion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Merphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Methyl parathion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Mevinphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Naled	ND		4.0	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Phorate	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Azinphos-methyl	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Bolstar	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Chlorpyrifos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Ronnel	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Stirophos	ND		2.0	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Tokuthion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Trichloronate	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:09	1
Demeton-o/s	ND		1.0	mg/Kg		12/16/19 17:33	12/17/19 22:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*80*		*20 - 154*	*12/16/19 17:33*	*12/17/19 22:09*	*1*

Client Sample ID: SS-A6-2.0 — **Lab Sample ID: 570-15709-8**
Date Collected: 12/12/19 10:10 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Diazinon	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Dichlorvos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Disulfoton	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Ethoprop	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Fensulfothion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Fenthion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:56	1

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Client Sample ID: SS-A6-2.0 — **Lab Sample ID: 570-15709-8**
Date Collected: 12/12/19 10:10 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Merphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Methyl parathion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Mevinphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Naled	ND		4.0	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Phorate	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Azinphos-methyl	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Bolstar	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Chlorpyrifos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Ronnel	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Stirophos	ND		2.0	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Tokuthion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Trichloronate	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 22:56	1
Demeton-o/s	ND		1.0	mg/Kg		12/16/19 17:33	12/17/19 22:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*65*		*20 - 154*	*12/16/19 17:33*	*12/17/19 22:56*	*1*

Client Sample ID: SS-A5-0.5 — **Lab Sample ID: 570-15709-9**
Date Collected: 12/12/19 10:35 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Diazinon	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Dichlorvos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Disulfoton	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Ethoprop	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Fensulfothion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Fenthion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Merphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Methyl parathion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Mevinphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Naled	ND		4.0	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Phorate	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Azinphos-methyl	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Bolstar	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Chlorpyrifos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Ronnel	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Stirophos	ND		2.0	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Tokuthion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Trichloronate	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 08:27	1
Demeton-o/s	ND		1.0	mg/Kg		12/16/19 17:33	12/18/19 08:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*83*		*20 - 154*	*12/16/19 17:33*	*12/18/19 08:27*	*1*

Client Sample ID: SS-A5-2.0 — **Lab Sample ID: 570-15709-10**
Date Collected: 12/12/19 10:40 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 23:44	1

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Client Sample ID: SS-A5-2.0
Date Collected: 12/12/19 10:40
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-10
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diazinon	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Dichlorvos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Disulfoton	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Ethoprop	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Fensulfothion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Fenthion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Merphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Methyl parathion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Mevinphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Naled	ND		4.0	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Phorate	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Azinphos-methyl	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Bolstar	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Chlorpyrifos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Ronnel	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Stirophos	ND		2.0	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Tokuthion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Trichloronate	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 23:44	1
Demeton-o/s	ND		1.0	mg/Kg		12/16/19 17:33	12/17/19 23:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*75*		*20 - 154*	*12/16/19 17:33*	*12/17/19 23:44*	*1*

Client Sample ID: SS-A4-0.5
Date Collected: 12/12/19 11:10
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-11
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Diazinon	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Dichlorvos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Disulfoton	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Ethoprop	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Fensulfothion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Fenthion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Merphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Methyl parathion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Mevinphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Naled	ND		4.0	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Phorate	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Azinphos-methyl	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Bolstar	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Chlorpyrifos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Ronnel	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Stirophos	ND		2.0	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Tokuthion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Trichloronate	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 00:31	1
Demeton-o/s	ND		1.0	mg/Kg		12/16/19 17:33	12/18/19 00:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*70*		*20 - 154*	*12/16/19 17:33*	*12/18/19 00:31*	*1*

Method: 8141A - Organophosphorous Pesticides (GC)

Client Sample ID: SS-A4-2.0
Date Collected: 12/12/19 11:15
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-12
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Diazinon	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Dichlorvos	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Disulfoton	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Ethoprop	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Fensulfothion	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Fenthion	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Merphos	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Methyl parathion	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Mevinphos	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Naled	ND		4.0		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Phorate	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Azinphos-methyl	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Bolstar	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Chlorpyrifos	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Ronnel	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Stirophos	ND		2.0		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Tokuthion	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Trichloronate	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 01:19	1
Demeton-o/s	ND		1.0		mg/Kg		12/16/19 17:33	12/18/19 01:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*70*		*20 - 154*	*12/16/19 17:33*	*12/18/19 01:19*	*1*

Client Sample ID: SS-A7-0.5
Date Collected: 12/12/19 11:40
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-13
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Diazinon	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Dichlorvos	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Disulfoton	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Ethoprop	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Fensulfothion	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Fenthion	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Merphos	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Methyl parathion	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Mevinphos	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Naled	ND		4.0		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Phorate	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Azinphos-methyl	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Bolstar	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Chlorpyrifos	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Ronnel	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Stirophos	ND		2.0		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Tokuthion	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Trichloronate	ND		0.50		mg/Kg		12/16/19 17:33	12/18/19 02:54	1
Demeton-o/s	ND		1.0		mg/Kg		12/16/19 17:33	12/18/19 02:54	1

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*84*		*20 - 154*	*12/16/19 17:33*	*12/18/19 02:54*	*1*

Client Sample ID: SS-A7-2.0 — **Lab Sample ID: 570-15709-14**
Date Collected: 12/12/19 11:45 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Diazinon	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Dichlorvos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Disulfoton	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Ethoprop	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Fensulfothion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Fenthion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Merphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Methyl parathion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Mevinphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Naled	ND		4.0	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Phorate	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Azinphos-methyl	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Bolstar	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Chlorpyrifos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Ronnel	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Stirophos	ND		2.0	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Tokuthion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Trichloronate	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 03:41	1
Demeton-o/s	ND		1.0	mg/Kg		12/16/19 17:33	12/18/19 03:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*93*		*20 - 154*	*12/16/19 17:33*	*12/18/19 03:41*	*1*

Client Sample ID: SS-A8-0.5 — **Lab Sample ID: 570-15709-15**
Date Collected: 12/12/19 12:40 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Diazinon	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Dichlorvos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Disulfoton	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Ethoprop	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Fensulfothion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Fenthion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Merphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Methyl parathion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Mevinphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Naled	ND		4.0	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Phorate	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Azinphos-methyl	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Bolstar	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Chlorpyrifos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Ronnel	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Stirophos	ND		2.0	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Tokuthion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 04:29	1
Trichloronate	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 04:29	1

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Client Sample ID: SS-A8-0.5 — **Lab Sample ID: 570-15709-15**
Date Collected: 12/12/19 12:40 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Demeton-o/s	ND		1.0	mg/Kg		12/16/19 17:33	12/18/19 04:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*97*		*20 - 154*	*12/16/19 17:33*	*12/18/19 04:29*	*1*

Client Sample ID: SS-A8-2.0 — **Lab Sample ID: 570-15709-16**
Date Collected: 12/12/19 12:45 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Diazinon	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Dichlorvos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Disulfoton	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Ethoprop	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Fensulfothion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Fenthion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Merphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Methyl parathion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Mevinphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Naled	ND		4.0	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Phorate	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Azinphos-methyl	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Bolstar	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Chlorpyrifos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Ronnel	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Stirophos	ND		2.0	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Tokuthion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Trichloronate	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 05:16	1
Demeton-o/s	ND		1.0	mg/Kg		12/16/19 17:33	12/18/19 05:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*81*		*20 - 154*	*12/16/19 17:33*	*12/18/19 05:16*	*1*

Client Sample ID: SS-A9-0.5 — **Lab Sample ID: 570-15709-17**
Date Collected: 12/12/19 13:00 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Diazinon	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Dichlorvos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Disulfoton	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Ethoprop	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Fensulfothion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Fenthion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Merphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Methyl parathion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Mevinphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Naled	ND		4.0	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Phorate	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Azinphos-methyl	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:04	1

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Client Sample ID: SS-A9-0.5
Date Collected: 12/12/19 13:00
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-17
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bolstar	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Chlorpyrifos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Ronnel	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Stirophos	ND		2.0	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Tokuthion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Trichloronate	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:04	1
Demeton-o/s	ND		1.0	mg/Kg		12/16/19 17:33	12/18/19 06:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*93*		*20 - 154*	*12/16/19 17:33*	*12/18/19 06:04*	*1*

Client Sample ID: SS-A9-2.0
Date Collected: 12/12/19 13:10
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-18
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Diazinon	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Dichlorvos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Disulfoton	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Ethoprop	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Fensulfothion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Fenthion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Merphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Methyl parathion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Mevinphos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Naled	ND		4.0	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Phorate	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Azinphos-methyl	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Bolstar	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Chlorpyrifos	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Ronnel	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Stirophos	ND		2.0	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Tokuthion	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Trichloronate	ND		0.50	mg/Kg		12/16/19 17:33	12/18/19 06:51	1
Demeton-o/s	ND		1.0	mg/Kg		12/16/19 17:33	12/18/19 06:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*74*		*20 - 154*	*12/16/19 17:33*	*12/18/19 06:51*	*1*

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Method: 6010B - Metals (ICP)

Client Sample ID: SS-A1-0.5
Date Collected: 12/12/19 08:45
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-1
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lead	16.2		0.526		mg/Kg		12/16/19 14:30	12/17/19 20:04	1

Client Sample ID: SS-A1-2.0
Date Collected: 12/12/19 08:50
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-2
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lead	21.5		0.488		mg/Kg		12/16/19 14:30	12/18/19 14:10	1

Surrogate Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(71-155)	(80-120)	(79-133)	(80-120)
570-15709-19	B23-1-20191212	109	94	106	99
570-15709-19 MS	B23-1-20191212	110	96	109	100
570-15709-19 MSD	B23-1-20191212	108	97	105	100
570-15709-20	B23-5-20191212	106	98	102	100
570-15709-24	B26-1-20191212	107	98	103	101
570-15709-25	B26-5-20191212	108	98	100	102
570-15709-29	B25-1-20191212	106	98	102	100
570-15709-30	B25-5-20191212	107	98	100	100
570-15709-33	B24-1-20191212	108	99	99	100
570-15709-34	B24-10-20191212	107	97	101	102
570-15709-36	B21-1-20191212	107	98	103	100
570-15709-37	B21-5-20191212	107	99	101	100
570-15709-40	B22-1-20191212	122	94	108	104
570-15709-40 MS	B22-1-20191212	109	111	112	107
570-15709-40 MSD	B22-1-20191212	108	107	110	107
570-15709-41	B22-5-20191212	124	95	111	103
570-15709-43	B20-1-20191212	121	93	110	104
570-15709-44	B20-5-20191212	126	92	112	104
570-15709-47	B19-1-20191212	124	93	115	104
570-15709-48	B19-5-20191212	127	92	114	104
LCS 570-39246/1-A	Lab Control Sample	104	100	105	99
LCS 570-39317/4-A	Lab Control Sample	103	107	108	106
LCSD 570-39246/2-A	Lab Control Sample Dup	103	101	107	100
LCSD 570-39317/5-A	Lab Control Sample Dup	105	108	109	107
MB 570-39246/3-A	Method Blank	109	97	105	100
MB 570-39317/3-A	Method Blank	113	95	105	103

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	TPHd14	PHL6
Lab Sample ID	Client Sample ID	(18-138)	(27-120)	(25-120)	(33-123)	(27-159)	(26-122)
570-15709-19	B23-1-20191212	77	89	85	82	102	84
570-15709-20	B23-5-20191212	75	79	86	82	90	83
570-15709-24	B26-1-20191212	98	82	85	80	92	82
570-15709-25	B26-5-20191212	59	53	48	51	84	50
570-15709-29	B25-1-20191212	62	42	40	40	66	40
570-15709-30	B25-5-20191212	75	74	69	70	87	68
570-15709-33	B24-1-20191212	59	47	47	47	66	47
570-15709-34	B24-10-20191212	35	36	36	35	41	36
570-15709-36	B21-1-20191212	66	64	67	66	68	65
570-15709-36 MS	B21-1-20191212	86	67	70	65	87	70
570-15709-36 MSD	B21-1-20191212	100	76	79	75	104	79

Surrogate Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	TPHd14	PHL6
Lab Sample ID	Client Sample ID	(18-138)	(27-120)	(25-120)	(33-123)	(27-159)	(26-122)
570-15709-37	B21-5-20191212	61	61	62	62	67	60
570-15709-40	B22-1-20191212	52	50	47	48	74	48
570-15709-41	B22-5-20191212	56	51	48	50	65	47
570-15709-43	B20-1-20191212	76	66	74	65	77	71
570-15709-44	B20-5-20191212	67	59	60	60	96	58
570-15709-47	B19-1-20191212	79	46	41	43	89	42
570-15709-48	B19-5-20191212	68	66	67	66	82	66
LCS 570-39283/2-A	Lab Control Sample	105	89	94	89	102	91
LCSD 570-39283/3-A	Lab Control Sample Dup	101	87	89	86	99	87
MB 570-39283/1-A	Method Blank	68	67	69	67	82	68

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)
PHL6 = Phenol-d6 (Surr)

Method: 8015B - Gasoline Range Organics - (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)
		BFB1
Lab Sample ID	Client Sample ID	(42-126)
570-15674-B-1-C MS	Matrix Spike	99
570-15674-B-1-D MSD	Matrix Spike Duplicate	93
570-15709-19	B23-1-20191212	78
570-15709-20	B23-5-20191212	86
570-15709-24	B26-1-20191212	101
570-15709-25	B26-5-20191212	106
570-15709-29	B25-1-20191212	113
570-15709-30	B25-5-20191212	113
570-15709-33	B24-1-20191212	88
570-15709-34	B24-10-20191212	93
570-15709-36	B21-1-20191212	92
570-15709-37	B21-5-20191212	101
570-15709-40	B22-1-20191212	106
570-15709-41	B22-5-20191212	103
570-15709-43	B20-1-20191212	110
570-15709-44	B20-5-20191212	105
570-15709-47	B19-1-20191212	83
570-15709-48	B19-5-20191212	86
LCS 570-39100/3	Lab Control Sample	107
LCSD 570-39100/4	Lab Control Sample Dup	96
MB 570-39116/1-A	Method Blank	103

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Surrogate Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

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

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

Lab Sample ID	Client Sample ID	OTCSN1 (61-145)
570-15674-A-1-E MS	Matrix Spike	101
570-15674-A-1-F MSD	Matrix Spike Duplicate	103
570-15674-A-1-G MS	Matrix Spike	95
570-15674-A-1-H MSD	Matrix Spike Duplicate	90
570-15709-19	B23-1-20191212	98
570-15709-20	B23-5-20191212	98
570-15709-24	B26-1-20191212	101
570-15709-25	B26-5-20191212	105
570-15709-29	B25-1-20191212	94
570-15709-30	B25-5-20191212	95
570-15709-33	B24-1-20191212	104
570-15709-34	B24-10-20191212	101
570-15709-36	B21-1-20191212	106
570-15709-37	B21-5-20191212	100
570-15709-40	B22-1-20191212	100
570-15709-41	B22-5-20191212	97
570-15709-43	B20-1-20191212	99
570-15709-44	B20-5-20191212	101
570-15709-47	B19-1-20191212	97
570-15709-48	B19-5-20191212	97
LCS 570-39396/2-A	Lab Control Sample	109
LCS 570-39396/6-A	Lab Control Sample	97
LCSD 570-39396/3-A	Lab Control Sample Dup	104
LCSD 570-39396/7-A	Lab Control Sample Dup	96
MB 570-39396/1-A	Method Blank	103

Percent Surrogate Recovery (Acceptance Limits)

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Method: 8081A - Organochlorine Pesticides (GC)

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

Lab Sample ID	Client Sample ID	TCX1 (23-140)	DCB1 (26-146)
570-15674-A-1-Q MS	Matrix Spike	58	90
570-15674-A-1-R MSD	Matrix Spike Duplicate	73	96
570-15709-1	SS-A1-0.5	62	92
570-15709-1	SS-A1-0.5	82	93
570-15709-2	SS-A1-2.0	63	117
570-15709-2	SS-A1-2.0	65	90
570-15709-3	SS-A2-0.5	58	94
570-15709-3	SS-A2-0.5	60	107
570-15709-4	SS-A2-2.0	62	87
570-15709-5	SS-A3-0.5	69	92
570-15709-5	SS-A3-0.5	65	88
570-15709-5 MS	SS-A3-0.5	59	82
570-15709-5 MSD	SS-A3-0.5	35	49
570-15709-6	SS-A3-2.0	48	69
570-15709-7	SS-A6-0.5	51	71
570-15709-8	SS-A6-2.0	65	92

Percent Surrogate Recovery (Acceptance Limits)

Surrogate Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	TCX1 (23-140)	DCB1 (26-146)
570-15709-8	SS-A6-2.0	68	99
570-15709-9	SS-A5-0.5	76	142
570-15709-10	SS-A5-2.0	59	89
570-15709-11	SS-A4-0.5	67	93
570-15709-12	SS-A4-2.0	49	92
570-15709-13	SS-A7-0.5	68	102
570-15709-14	SS-A7-2.0	70	94
570-15709-14	SS-A7-2.0	68	97
570-15709-15	SS-A8-0.5	78	108
570-15709-16	SS-A8-2.0	70	91
570-15709-17	SS-A9-0.5	76	103
570-15709-18	SS-A9-2.0	37	34
LCS 570-39950/2-A	Lab Control Sample	80	92
LCS 570-40290/2-A	Lab Control Sample	73	83
LCSD 570-39950/3-A	Lab Control Sample Dup	82	96
LCSD 570-40290/3-A	Lab Control Sample Dup	74	80
MB 570-39950/1-A	Method Blank	81	94
MB 570-40290/1-A	Method Blank	73	83

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8141A - Organophosphorous Pesticides (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	TBPH1 (20-154)
570-15709-1	SS-A1-0.5	64
570-15709-1 MS	SS-A1-0.5	88
570-15709-1 MSD	SS-A1-0.5	86
570-15709-2	SS-A1-2.0	93
570-15709-3	SS-A2-0.5	82
570-15709-4	SS-A2-2.0	73
570-15709-5	SS-A3-0.5	75
570-15709-6	SS-A3-2.0	66
570-15709-7	SS-A6-0.5	80
570-15709-8	SS-A6-2.0	65
570-15709-9	SS-A5-0.5	83
570-15709-10	SS-A5-2.0	75
570-15709-11	SS-A4-0.5	70
570-15709-12	SS-A4-2.0	70
570-15709-13	SS-A7-0.5	84
570-15709-14	SS-A7-2.0	93
570-15709-15	SS-A8-0.5	97
570-15709-16	SS-A8-2.0	81
570-15709-17	SS-A9-0.5	93
570-15709-18	SS-A9-2.0	74
LCS 570-39413/2-A	Lab Control Sample	93
LCSD 570-39413/3-A	Lab Control Sample Dup	79

Surrogate Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**TBPH1 (20-154)**							
MB 570-39413/1-A	Method Blank	80							

Surrogate Legend

TBPH = Tributyl phosphate

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

Lab Sample ID: MB 570-39246/3-A
Matrix: Solid
Analysis Batch: 39212

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39246

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,1,1-Trichloroethane	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,1,2,2-Tetrachloroethane	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		51		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,1,2-Trichloroethane	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,1-Dichloroethane	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,1-Dichloroethene	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,1-Dichloropropene	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,2,3-Trichlorobenzene	ND		10		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,2,3-Trichloropropane	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,2,4-Trichlorobenzene	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,2,4-Trimethylbenzene	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,2-Dibromoethane	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,2-Dichlorobenzene	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,2-Dichloroethane	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,2-Dichloropropane	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,3,5-Trimethylbenzene	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,3-Dichlorobenzene	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,3-Dichloropropane	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
1,4-Dichlorobenzene	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
2,2-Dichloropropane	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
2-Butanone	ND		51		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
2-Chlorotoluene	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
2-Hexanone	ND		51		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
4-Chlorotoluene	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
4-Methyl-2-pentanone	ND		51		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Acetone	ND		120		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Benzene	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Bromobenzene	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Bromochloromethane	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Bromodichloromethane	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Bromoform	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Bromomethane	ND		25		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
cis-1,2-Dichloroethene	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
cis-1,3-Dichloropropene	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Carbon disulfide	ND		51		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Carbon tetrachloride	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Chlorobenzene	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Chloroethane	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Chloroform	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Chloromethane	ND		25		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Dibromochloromethane	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Dibromomethane	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Dichlorodifluoromethane	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Di-isopropyl ether (DIPE)	ND		10		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Ethanol	ND		250		ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Ethylbenzene	ND		5.1		ug/Kg		12/16/19 09:17	12/16/19 11:12	1

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

Lab Sample ID: MB 570-39246/3-A
Matrix: Solid
Analysis Batch: 39212

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39246

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl-t-butyl ether (ETBE)	ND		10	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Isopropylbenzene	ND		5.1	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Methylene Chloride	ND		51	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Methyl-t-Butyl Ether (MTBE)	ND		5.1	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Naphthalene	ND		51	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
n-Butylbenzene	ND		5.1	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
N-Propylbenzene	ND		5.1	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
o-Xylene	ND		5.1	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
m,p-Xylene	ND		5.1	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
p-Isopropyltoluene	ND		5.1	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
sec-Butylbenzene	ND		5.1	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Styrene	ND		5.1	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
trans-1,2-Dichloroethene	ND		5.1	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
trans-1,3-Dichloropropene	ND		5.1	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Tert-amyl-methyl ether (TAME)	ND		10	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
tert-Butyl alcohol (TBA)	ND		51	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
tert-Butylbenzene	ND		5.1	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Tetrachloroethene	ND		5.1	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Toluene	ND		5.1	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Trichloroethene	ND		5.1	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Trichlorofluoromethane	ND		51	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Vinyl acetate	ND		51	ug/Kg		12/16/19 09:17	12/16/19 11:12	1
Vinyl chloride	ND		5.1	ug/Kg		12/16/19 09:17	12/16/19 11:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*71 - 155*	*12/16/19 09:17*	*12/16/19 11:12*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*	*12/16/19 09:17*	*12/16/19 11:12*	*1*
Dibromofluoromethane (Surr)	*105*		*79 - 133*	*12/16/19 09:17*	*12/16/19 11:12*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*12/16/19 09:17*	*12/16/19 11:12*	*1*

Lab Sample ID: LCS 570-39246/1-A
Matrix: Solid
Analysis Batch: 39212

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39246

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	49.88		ug/Kg		100	70 - 130
1,1,1-Trichloroethane	50.0	49.94		ug/Kg		100	70 - 130
1,1,2,2-Tetrachloroethane	50.0	50.55		ug/Kg		101	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	42.40	J	ug/Kg		85	70 - 130
1,1,2-Trichloroethane	50.0	49.72		ug/Kg		99	70 - 130
1,1-Dichloroethane	50.0	47.60		ug/Kg		95	70 - 130
1,1-Dichloroethene	50.0	44.39		ug/Kg		89	74 - 122
1,1-Dichloropropene	50.0	47.55		ug/Kg		95	70 - 130
1,2,3-Trichlorobenzene	50.0	50.24		ug/Kg		100	70 - 130
1,2,3-Trichloropropane	50.0	52.78		ug/Kg		106	70 - 130
1,2,4-Trichlorobenzene	50.0	50.44		ug/Kg		101	70 - 130
1,2,4-Trimethylbenzene	50.0	46.32		ug/Kg		93	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	51.98		ug/Kg		104	70 - 130

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

Lab Sample ID: LCS 570-39246/1-A
Matrix: Solid
Analysis Batch: 39212

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39246

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromoethane	50.0	50.72		ug/Kg		101	70 - 130
1,2-Dichlorobenzene	50.0	47.42		ug/Kg		95	75 - 120
1,2-Dichloroethane	50.0	48.25		ug/Kg		96	70 - 130
1,2-Dichloropropane	50.0	47.78		ug/Kg		96	79 - 115
1,3,5-Trimethylbenzene	50.0	46.58		ug/Kg		93	70 - 130
1,3-Dichlorobenzene	50.0	47.54		ug/Kg		95	70 - 130
1,3-Dichloropropane	50.0	48.64		ug/Kg		97	70 - 130
1,4-Dichlorobenzene	50.0	47.03		ug/Kg		94	70 - 130
2,2-Dichloropropane	50.0	51.14		ug/Kg		102	70 - 130
2-Butanone	50.0	52.08		ug/Kg		104	70 - 130
2-Chlorotoluene	50.0	46.27		ug/Kg		93	70 - 130
2-Hexanone	50.0	52.63		ug/Kg		105	70 - 130
4-Chlorotoluene	50.0	45.83		ug/Kg		92	70 - 130
4-Methyl-2-pentanone	50.0	49.49	J	ug/Kg		99	70 - 130
Acetone	50.0	44.21	J	ug/Kg		88	70 - 130
Benzene	50.0	45.03		ug/Kg		90	78 - 120
Bromobenzene	50.0	46.88		ug/Kg		94	70 - 130
Bromochloromethane	50.0	44.54		ug/Kg		89	70 - 130
Bromodichloromethane	50.0	50.16		ug/Kg		100	70 - 130
Bromoform	50.0	56.64		ug/Kg		113	70 - 130
Bromomethane	50.0	41.14		ug/Kg		82	70 - 130
cis-1,2-Dichloroethene	50.0	47.66		ug/Kg		95	70 - 130
cis-1,3-Dichloropropene	50.0	48.91		ug/Kg		98	70 - 130
Carbon disulfide	50.0	50.36		ug/Kg		101	70 - 130
Carbon tetrachloride	50.0	53.29		ug/Kg		107	49 - 139
Chlorobenzene	50.0	47.40		ug/Kg		95	79 - 120
Chloroethane	50.0	49.26		ug/Kg		99	70 - 130
Chloroform	50.0	48.36		ug/Kg		97	70 - 130
Chloromethane	50.0	45.60		ug/Kg		91	70 - 130
Dibromochloromethane	50.0	52.92		ug/Kg		106	70 - 130
Dibromomethane	50.0	50.02		ug/Kg		100	70 - 130
Dichlorodifluoromethane	50.0	54.31		ug/Kg		109	70 - 130
Di-isopropyl ether (DIPE)	50.0	48.55		ug/Kg		97	78 - 120
Ethanol	500	649.6		ug/Kg		130	56 - 140
Ethylbenzene	50.0	46.16		ug/Kg		92	76 - 120
Ethyl-t-butyl ether (ETBE)	50.0	49.09		ug/Kg		98	70 - 124
Isopropylbenzene	50.0	46.58		ug/Kg		93	70 - 130
Methylene Chloride	50.0	46.75	J	ug/Kg		94	70 - 130
Methyl-t-Butyl Ether (MTBE)	50.0	48.88		ug/Kg		98	70 - 124
Naphthalene	50.0	50.47		ug/Kg		101	70 - 130
n-Butylbenzene	50.0	48.05		ug/Kg		96	77 - 123
N-Propylbenzene	50.0	46.43		ug/Kg		93	70 - 130
o-Xylene	50.0	47.01		ug/Kg		94	70 - 130
m,p-Xylene	100	92.81		ug/Kg		93	70 - 130
p-Isopropyltoluene	50.0	47.55		ug/Kg		95	70 - 130
sec-Butylbenzene	50.0	47.22		ug/Kg		94	70 - 130
Styrene	50.0	46.32		ug/Kg		93	70 - 130
trans-1,2-Dichloroethene	50.0	47.23		ug/Kg		94	70 - 130
trans-1,3-Dichloropropene	50.0	52.31		ug/Kg		105	70 - 130

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

Lab Sample ID: LCS 570-39246/1-A
Matrix: Solid
Analysis Batch: 39212

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39246

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tert-amyl-methyl ether (TAME)	50.0	48.06		ug/Kg		96	75 - 125
tert-Butyl alcohol (TBA)	250	247.3		ug/Kg		99	68 - 122
tert-Butylbenzene	50.0	46.51		ug/Kg		93	70 - 130
Tetrachloroethene	50.0	46.55		ug/Kg		93	70 - 130
Toluene	50.0	44.22		ug/Kg		88	77 - 120
Trichloroethene	50.0	46.33		ug/Kg		93	70 - 130
Trichlorofluoromethane	50.0	54.94		ug/Kg		110	70 - 130
Vinyl acetate	50.0	49.25	J	ug/Kg		99	70 - 130
Vinyl chloride	50.0	45.98		ug/Kg		92	68 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*71 - 155*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*79 - 133*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: LCSD 570-39246/2-A
Matrix: Solid
Analysis Batch: 39212

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39246

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	51.93		ug/Kg		104	70 - 130	4	20
1,1,1-Trichloroethane	50.0	49.21		ug/Kg		98	70 - 130	1	20
1,1,2,2-Tetrachloroethane	50.0	51.35		ug/Kg		103	70 - 130	2	20
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	42.97	J	ug/Kg		86	70 - 130	1	20
1,1,2-Trichloroethane	50.0	51.48		ug/Kg		103	70 - 130	3	20
1,1-Dichloroethane	50.0	48.06		ug/Kg		96	70 - 130	1	20
1,1-Dichloroethene	50.0	45.90		ug/Kg		92	74 - 122	3	20
1,1-Dichloropropene	50.0	47.37		ug/Kg		95	70 - 130	0	20
1,2,3-Trichlorobenzene	50.0	51.30		ug/Kg		103	70 - 130	2	20
1,2,3-Trichloropropane	50.0	54.58		ug/Kg		109	70 - 130	3	20
1,2,4-Trichlorobenzene	50.0	50.97		ug/Kg		102	70 - 130	1	20
1,2,4-Trimethylbenzene	50.0	47.33		ug/Kg		95	70 - 130	2	20
1,2-Dibromo-3-Chloropropane	50.0	52.95		ug/Kg		106	70 - 130	2	20
1,2-Dibromoethane	50.0	52.00		ug/Kg		104	70 - 130	2	20
1,2-Dichlorobenzene	50.0	48.62		ug/Kg		97	75 - 120	3	20
1,2-Dichloroethane	50.0	49.51		ug/Kg		99	70 - 130	3	20
1,2-Dichloropropane	50.0	48.66		ug/Kg		97	79 - 115	2	25
1,3,5-Trimethylbenzene	50.0	47.67		ug/Kg		95	70 - 130	2	20
1,3-Dichlorobenzene	50.0	48.24		ug/Kg		96	70 - 130	1	20
1,3-Dichloropropane	50.0	50.34		ug/Kg		101	70 - 130	3	20
1,4-Dichlorobenzene	50.0	48.21		ug/Kg		96	70 - 130	2	20
2,2-Dichloropropane	50.0	50.68		ug/Kg		101	70 - 130	1	20
2-Butanone	50.0	53.46		ug/Kg		107	70 - 130	3	20
2-Chlorotoluene	50.0	48.08		ug/Kg		96	70 - 130	4	20
2-Hexanone	50.0	55.51		ug/Kg		111	70 - 130	5	20
4-Chlorotoluene	50.0	47.67		ug/Kg		95	70 - 130	4	20
4-Methyl-2-pentanone	50.0	52.49		ug/Kg		105	70 - 130	6	20

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

Lab Sample ID: LCSD 570-39246/2-A
Matrix: Solid
Analysis Batch: 39212

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39246

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	50.0	47.41	J	ug/Kg		95	70 - 130	7	20
Benzene	50.0	45.63		ug/Kg		91	78 - 120	1	20
Bromobenzene	50.0	49.79		ug/Kg		100	70 - 130	6	20
Bromochloromethane	50.0	46.32		ug/Kg		93	70 - 130	4	20
Bromodichloromethane	50.0	51.47		ug/Kg		103	70 - 130	3	20
Bromoform	50.0	56.94		ug/Kg		114	70 - 130	1	20
Bromomethane	50.0	42.57		ug/Kg		85	70 - 130	3	20
cis-1,2-Dichloroethene	50.0	47.85		ug/Kg		96	70 - 130	0	20
cis-1,3-Dichloropropene	50.0	50.75		ug/Kg		101	70 - 130	4	20
Carbon disulfide	50.0	50.83		ug/Kg		102	70 - 130	1	20
Carbon tetrachloride	50.0	52.69		ug/Kg		105	49 - 139	1	20
Chlorobenzene	50.0	48.19		ug/Kg		96	79 - 120	2	20
Chloroethane	50.0	49.03		ug/Kg		98	70 - 130	0	20
Chloroform	50.0	48.67		ug/Kg		97	70 - 130	1	20
Chloromethane	50.0	45.09		ug/Kg		90	70 - 130	1	20
Dibromochloromethane	50.0	54.49		ug/Kg		109	70 - 130	3	20
Dibromomethane	50.0	51.10		ug/Kg		102	70 - 130	2	20
Dichlorodifluoromethane	50.0	53.73		ug/Kg		107	70 - 130	1	20
Di-isopropyl ether (DIPE)	50.0	49.04		ug/Kg		98	78 - 120	1	20
Ethanol	500	565.2		ug/Kg		113	56 - 140	14	20
Ethylbenzene	50.0	46.88		ug/Kg		94	76 - 120	2	20
Ethyl-t-butyl ether (ETBE)	50.0	50.23		ug/Kg		100	70 - 124	2	20
Isopropylbenzene	50.0	47.78		ug/Kg		96	70 - 130	3	20
Methylene Chloride	50.0	48.35	J	ug/Kg		97	70 - 130	3	20
Methyl-t-Butyl Ether (MTBE)	50.0	50.48		ug/Kg		101	70 - 124	3	20
Naphthalene	50.0	51.20		ug/Kg		102	70 - 130	1	20
n-Butylbenzene	50.0	47.52		ug/Kg		95	77 - 123	1	25
N-Propylbenzene	50.0	47.19		ug/Kg		94	70 - 130	2	20
o-Xylene	50.0	48.90		ug/Kg		98	70 - 130	4	20
m,p-Xylene	100	94.64		ug/Kg		95	70 - 130	2	20
p-Isopropyltoluene	50.0	47.59		ug/Kg		95	70 - 130	0	20
sec-Butylbenzene	50.0	47.48		ug/Kg		95	70 - 130	1	20
Styrene	50.0	47.92		ug/Kg		96	70 - 130	3	20
trans-1,2-Dichloroethene	50.0	47.04		ug/Kg		94	70 - 130	0	20
trans-1,3-Dichloropropene	50.0	54.06		ug/Kg		108	70 - 130	3	20
Tert-amyl-methyl ether (TAME)	50.0	49.44		ug/Kg		99	75 - 125	3	20
tert-Butyl alcohol (TBA)	250	260.5		ug/Kg		104	68 - 122	5	20
tert-Butylbenzene	50.0	46.33		ug/Kg		93	70 - 130	0	20
Tetrachloroethene	50.0	46.23		ug/Kg		92	70 - 130	1	20
Toluene	50.0	44.97		ug/Kg		90	77 - 120	2	20
Trichloroethene	50.0	47.35		ug/Kg		95	70 - 130	2	20
Trichlorofluoromethane	50.0	55.95		ug/Kg		112	70 - 130	2	20
Vinyl acetate	50.0	50.31		ug/Kg		101	70 - 130	2	20
Vinyl chloride	50.0	44.92		ug/Kg		90	68 - 122	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*71 - 155*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*

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

Lab Sample ID: LCSD 570-39246/2-A
Matrix: Solid
Analysis Batch: 39212

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39246

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*107*		*79 - 133*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: 570-15709-19 MS
Matrix: Solid
Analysis Batch: 39212

Client Sample ID: B23-1-20191212
Prep Type: Total/NA
Prep Batch: 39246

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND	F2 F1	48.9	26.32	F1	ug/Kg		54	70 - 130
1,1,1-Trichloroethane	ND	F2	48.9	34.02		ug/Kg		70	70 - 130
1,1,2,2-Tetrachloroethane	ND	F1	48.9	32.19	F1	ug/Kg		66	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	F2 F1	48.9	ND	F1	ug/Kg		46	70 - 130
1,1,2-Trichloroethane	ND		48.9	40.08		ug/Kg		82	70 - 130
1,1-Dichloroethane	ND		48.9	43.21		ug/Kg		88	70 - 130
1,1-Dichloroethene	ND		48.9	38.22		ug/Kg		78	47 - 143
1,1-Dichloropropene	ND	F2 F1	48.9	27.63	F1	ug/Kg		56	70 - 130
1,2,3-Trichlorobenzene	ND	F2 F1	48.9	ND	F1	ug/Kg		9	70 - 130
1,2,3-Trichloropropane	ND	F1	48.9	31.93	F1	ug/Kg		65	70 - 130
1,2,4-Trichlorobenzene	ND	F2 F1	48.9	ND	F1	ug/Kg		10	70 - 130
1,2,4-Trimethylbenzene	ND	F2 F1	48.9	10.02	F1	ug/Kg		20	70 - 130
1,2-Dibromo-3-Chloropropane	ND	F1	48.9	23.42	F1	ug/Kg		48	70 - 130
1,2-Dibromoethane	ND		48.9	36.95		ug/Kg		76	64 - 124
1,2-Dichlorobenzene	ND	F2 F1	48.9	10.57	F1	ug/Kg		22	35 - 131
1,2-Dichloroethane	ND		48.9	44.82		ug/Kg		92	70 - 130
1,2-Dichloropropane	ND		48.9	38.51		ug/Kg		79	79 - 115
1,3,5-Trimethylbenzene	ND	F2 F1	48.9	9.526	F1	ug/Kg		19	70 - 130
1,3-Dichlorobenzene	ND	F2 F1	48.9	11.18	F1	ug/Kg		23	70 - 130
1,3-Dichloropropane	ND		48.9	38.98		ug/Kg		80	70 - 130
1,4-Dichlorobenzene	ND	F2 F1	48.9	11.02	F1	ug/Kg		23	70 - 130
2,2-Dichloropropane	ND		48.9	39.71		ug/Kg		81	70 - 130
2-Butanone	ND		48.9	56.30		ug/Kg		115	70 - 130
2-Chlorotoluene	ND	F2 F1	48.9	12.01	F1	ug/Kg		25	70 - 130
2-Hexanone	ND		48.9	51.36		ug/Kg		105	70 - 130
4-Chlorotoluene	ND	F2 F1	48.9	13.33	F1	ug/Kg		27	70 - 130
4-Methyl-2-pentanone	ND		48.9	ND		ug/Kg		98	70 - 130
Acetone	ND		48.9	ND		ug/Kg		113	70 - 130
Benzene	ND		48.9	35.62		ug/Kg		73	61 - 127
Bromobenzene	ND	F2 F1	48.9	15.70	F1	ug/Kg		32	70 - 130
Bromochloromethane	ND		48.9	43.70		ug/Kg		89	70 - 130
Bromodichloromethane	ND		48.9	37.69		ug/Kg		77	70 - 130
Bromoform	ND	F1	48.9	32.60	F1	ug/Kg		67	70 - 130
Bromomethane	ND		48.9	38.30		ug/Kg		78	70 - 130
cis-1,2-Dichloroethene	ND		48.9	42.10		ug/Kg		86	70 - 130
cis-1,3-Dichloropropene	ND		48.9	36.68		ug/Kg		75	70 - 130
Carbon disulfide	ND		48.9	ND		ug/Kg		77	70 - 130
Carbon tetrachloride	ND	F2	48.9	28.36		ug/Kg		58	51 - 135
Chlorobenzene	ND	F2 F1	48.9	21.73	F1	ug/Kg		44	57 - 123
Chloroethane	ND		48.9	43.06		ug/Kg		88	70 - 130

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

Lab Sample ID: 570-15709-19 MS — **Client Sample ID: B23-1-20191212**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39212 — **Prep Batch: 39246**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroform	ND		48.9	41.71		ug/Kg		85	70 - 130
Chloromethane	ND		48.9	41.39		ug/Kg		85	70 - 130
Dibromochloromethane	ND	F1	48.9	33.81	F1	ug/Kg		69	70 - 130
Dibromomethane	ND		48.9	43.31		ug/Kg		89	70 - 130
Dichlorodifluoromethane	ND		48.9	40.80		ug/Kg		83	70 - 130
Di-isopropyl ether (DIPE)	ND		48.9	46.29		ug/Kg		95	57 - 129
Ethanol	ND		489	593.4		ug/Kg		121	17 - 167
Ethylbenzene	ND	F2 F1	48.9	17.46	F1	ug/Kg		36	57 - 129
Ethyl-t-butyl ether (ETBE)	ND		48.9	47.40		ug/Kg		97	55 - 127
Isopropylbenzene	ND	F2 F1	48.9	12.41	F1	ug/Kg		25	70 - 130
Methylene Chloride	ND		48.9	ND		ug/Kg		94	70 - 130
Methyl-t-Butyl Ether (MTBE)	ND		48.9	49.49		ug/Kg		101	57 - 123
Naphthalene	ND	F2 F1	48.9	ND	F1	ug/Kg		13	70 - 130
n-Butylbenzene	ND	F2 F1	48.9	7.370	F1	ug/Kg		15	77 - 123
N-Propylbenzene	ND	F2 F1	48.9	10.82	F1	ug/Kg		22	70 - 130
o-Xylene	ND	F2 F1	48.9	17.24	F1	ug/Kg		35	70 - 130
m,p-Xylene	ND	F2 F1	97.8	33.25	F1	ug/Kg		34	70 - 130
p-Isopropyltoluene	ND	F2 F1	48.9	8.467	F1	ug/Kg		17	70 - 130
sec-Butylbenzene	ND	F2 F1	48.9	9.592	F1	ug/Kg		20	70 - 130
Styrene	ND	F2 F1	48.9	17.47	F1	ug/Kg		36	70 - 130
trans-1,2-Dichloroethene	ND		48.9	40.74		ug/Kg		83	70 - 130
trans-1,3-Dichloropropene	ND		48.9	38.78		ug/Kg		79	70 - 130
Tert-amyl-methyl ether (TAME)	ND		48.9	45.50		ug/Kg		93	58 - 124
tert-Butyl alcohol (TBA)	ND		245	239.8		ug/Kg		98	30 - 168
tert-Butylbenzene	ND	F2 F1	48.9	10.56	F1	ug/Kg		22	70 - 130
Tetrachloroethene	ND	F2 F1	48.9	18.64	F1	ug/Kg		33	70 - 130
Toluene	ND	F2 F1	48.9	24.92	F1	ug/Kg		51	63 - 123
Trichloroethene	ND	F2	48.9	28.15		ug/Kg		58	44 - 158
Trichlorofluoromethane	ND	F2 F1	48.9	ND	F1	ug/Kg		68	70 - 130
Vinyl acetate	ND	F2 F1	48.9	ND	F1	ug/Kg		32	70 - 130
Vinyl chloride	ND		48.9	39.66		ug/Kg		81	49 - 139

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*110*		*71 - 155*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*109*		*79 - 133*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: 570-15709-19 MSD — **Client Sample ID: B23-1-20191212**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39212 — **Prep Batch: 39246**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND	F2 F1	51.0	33.10	F2 F1	ug/Kg		65	70 - 130	23	20
1,1,1-Trichloroethane	ND	F2	51.0	42.33	F2	ug/Kg		83	70 - 130	22	20
1,1,2,2-Tetrachloroethane	ND	F1	51.0	37.01		ug/Kg		73	70 - 130	14	20
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	F2 F1	51.0	ND	F2 F1	ug/Kg		63	70 - 130	36	20
1,1,2-Trichloroethane	ND		51.0	45.30		ug/Kg		89	70 - 130	12	20

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

Lab Sample ID: 570-15709-19 MSD | **Client Sample ID: B23-1-20191212**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 39212 | **Prep Batch: 39246**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethane	ND		51.0	47.58		ug/Kg		93	70 - 130	10	20
1,1-Dichloroethene	ND		51.0	44.29		ug/Kg		87	47 - 143	15	25
1,1-Dichloropropene	ND	F2 F1	51.0	37.15	F2	ug/Kg		73	70 - 130	29	20
1,2,3-Trichlorobenzene	ND	F2 F1	51.0	ND	F2 F1	ug/Kg		12	70 - 130	37	20
1,2,3-Trichloropropane	ND	F1	51.0	37.30		ug/Kg		73	70 - 130	16	20
1,2,4-Trichlorobenzene	ND	F2 F1	51.0	7.078	F2 F1	ug/Kg		14	70 - 130	40	20
1,2,4-Trimethylbenzene	ND	F2 F1	51.0	15.93	F2 F1	ug/Kg		31	70 - 130	46	20
1,2-Dibromo-3-Chloropropane	ND	F1	51.0	28.35	F1	ug/Kg		56	70 - 130	19	20
1,2-Dibromoethane	ND		51.0	41.96		ug/Kg		82	64 - 124	13	20
1,2-Dichlorobenzene	ND	F2 F1	51.0	15.06	F2 F1	ug/Kg		30	35 - 131	35	25
1,2-Dichloroethane	ND		51.0	48.10		ug/Kg		94	70 - 130	7	20
1,2-Dichloropropane	ND		51.0	43.42		ug/Kg		85	79 - 115	12	25
1,3,5-Trimethylbenzene	ND	F2 F1	51.0	15.73	F2 F1	ug/Kg		31	70 - 130	49	20
1,3-Dichlorobenzene	ND	F2 F1	51.0	15.79	F2 F1	ug/Kg		31	70 - 130	34	20
1,3-Dichloropropane	ND		51.0	43.41		ug/Kg		85	70 - 130	11	20
1,4-Dichlorobenzene	ND	F2 F1	51.0	15.68	F2 F1	ug/Kg		31	70 - 130	35	20
2,2-Dichloropropane	ND		51.0	46.41		ug/Kg		91	70 - 130	16	20
2-Butanone	ND		51.0	54.46		ug/Kg		107	70 - 130	3	20
2-Chlorotoluene	ND	F2 F1	51.0	18.45	F2 F1	ug/Kg		36	70 - 130	42	20
2-Hexanone	ND		51.0	55.34		ug/Kg		108	70 - 130	7	20
4-Chlorotoluene	ND	F2 F1	51.0	20.01	F2 F1	ug/Kg		39	70 - 130	40	20
4-Methyl-2-pentanone	ND		51.0	52.12		ug/Kg		102	70 - 130	9	20
Acetone	ND		51.0	ND		ug/Kg		123	70 - 130	13	20
Benzene	ND		51.0	41.92		ug/Kg		82	61 - 127	16	20
Bromobenzene	ND	F2 F1	51.0	22.22	F2 F1	ug/Kg		44	70 - 130	34	20
Bromochloromethane	ND		51.0	46.03		ug/Kg		90	70 - 130	5	20
Bromodichloromethane	ND		51.0	42.89		ug/Kg		84	70 - 130	13	20
Bromoform	ND	F1	51.0	38.83		ug/Kg		76	70 - 130	17	20
Bromomethane	ND		51.0	39.59		ug/Kg		78	70 - 130	3	20
cis-1,2-Dichloroethene	ND		51.0	46.49		ug/Kg		91	70 - 130	10	20
cis-1,3-Dichloropropene	ND		51.0	42.05		ug/Kg		82	70 - 130	14	20
Carbon disulfide	ND		51.0	ND		ug/Kg		90	70 - 130	20	20
Carbon tetrachloride	ND	F2	51.0	39.47	F2	ug/Kg		77	51 - 135	33	29
Chlorobenzene	ND	F2 F1	51.0	29.54	F2	ug/Kg		58	57 - 123	30	20
Chloroethane	ND		51.0	41.87		ug/Kg		82	70 - 130	3	20
Chloroform	ND		51.0	46.57		ug/Kg		91	70 - 130	11	20
Chloromethane	ND		51.0	41.91		ug/Kg		82	70 - 130	1	20
Dibromochloromethane	ND	F1	51.0	39.85		ug/Kg		78	70 - 130	16	20
Dibromomethane	ND		51.0	46.89		ug/Kg		92	70 - 130	8	20
Dichlorodifluoromethane	ND		51.0	43.53		ug/Kg		85	70 - 130	6	20
Di-isopropyl ether (DIPE)	ND		51.0	49.57		ug/Kg		97	57 - 129	7	20
Ethanol	ND		510	600.5		ug/Kg		118	17 - 167	1	47
Ethylbenzene	ND	F2 F1	51.0	25.79	F2 F1	ug/Kg		51	57 - 129	38	22
Ethyl-t-butyl ether (ETBE)	ND		51.0	50.20		ug/Kg		98	55 - 127	6	20
Isopropylbenzene	ND	F2 F1	51.0	20.04	F2 F1	ug/Kg		39	70 - 130	47	20
Methylene Chloride	ND		51.0	ND		ug/Kg		95	70 - 130	5	20
Methyl-t-Butyl Ether (MTBE)	ND		51.0	51.72		ug/Kg		101	57 - 123	4	21
Naphthalene	ND	F2 F1	51.0	ND	F2 F1	ug/Kg		17	70 - 130	32	20
n-Butylbenzene	ND	F2 F1	51.0	12.38	F2 F1	ug/Kg		24	77 - 123	51	21

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

Lab Sample ID: 570-15709-19 MSD
Matrix: Solid
Analysis Batch: 39212

Client Sample ID: B23-1-20191212
Prep Type: Total/NA
Prep Batch: 39246

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Propylbenzene	ND	F2 F1	51.0	17.65	F2 F1	ug/Kg		35	70 - 130	48	20
o-Xylene	ND	F2 F1	51.0	25.13	F2 F1	ug/Kg		49	70 - 130	37	20
m,p-Xylene	ND	F2 F1	102	49.93	F2 F1	ug/Kg		49	70 - 130	40	20
p-Isopropyltoluene	ND	F2 F1	51.0	14.17	F2 F1	ug/Kg		28	70 - 130	50	20
sec-Butylbenzene	ND	F2 F1	51.0	15.60	F2 F1	ug/Kg		31	70 - 130	48	20
Styrene	ND	F2 F1	51.0	24.94	F2 F1	ug/Kg		49	70 - 130	35	20
trans-1,2-Dichloroethene	ND		51.0	46.25		ug/Kg		91	70 - 130	13	20
trans-1,3-Dichloropropene	ND		51.0	44.30		ug/Kg		87	70 - 130	13	20
Tert-amyl-methyl ether (TAME)	ND		51.0	48.55		ug/Kg		95	58 - 124	6	20
tert-Butyl alcohol (TBA)	ND		255	252.3		ug/Kg		99	30 - 168	5	34
tert-Butylbenzene	ND	F2 F1	51.0	17.45	F2 F1	ug/Kg		34	70 - 130	49	20
Tetrachloroethene	ND	F2 F1	51.0	27.63	F2 F1	ug/Kg		49	70 - 130	39	20
Toluene	ND	F2 F1	51.0	33.26	F2	ug/Kg		65	63 - 123	29	20
Trichloroethene	ND	F2	51.0	37.39	F2	ug/Kg		73	44 - 158	28	20
Trichlorofluoromethane	ND	F2 F1	51.0	ND	F2	ug/Kg		81	70 - 130	21	20
Vinyl acetate	ND	F2 F1	51.0	ND	F2 F1	ug/Kg		25	70 - 130	23	20
Vinyl chloride	ND		51.0	39.08		ug/Kg		77	49 - 139	1	47

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*71 - 155*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*79 - 133*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 570-39317/3-A
Matrix: Solid
Analysis Batch: 39342

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39317

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,1,1-Trichloroethane	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,1,2,2-Tetrachloroethane	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		50		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,1,2-Trichloroethane	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,1-Dichloroethane	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,1-Dichloroethene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,1-Dichloropropene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,2,3-Trichlorobenzene	ND		10		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,2,3-Trichloropropane	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,2,4-Trichlorobenzene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,2,4-Trimethylbenzene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,2-Dibromoethane	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,2-Dichlorobenzene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,2-Dichloroethane	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,2-Dichloropropane	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,3-Dichlorobenzene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1

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

Lab Sample ID: MB 570-39317/3-A
Matrix: Solid
Analysis Batch: 39342

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39317

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
1,4-Dichlorobenzene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
2,2-Dichloropropane	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
2-Butanone	ND		50		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
2-Chlorotoluene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
2-Hexanone	ND		50		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
4-Chlorotoluene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
4-Methyl-2-pentanone	ND		50		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Acetone	ND		120		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Benzene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Bromobenzene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Bromochloromethane	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Bromodichloromethane	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Bromoform	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Bromomethane	ND		25		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
cis-1,2-Dichloroethene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
cis-1,3-Dichloropropene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Carbon disulfide	ND		50		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Carbon tetrachloride	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Chlorobenzene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Chloroethane	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Chloroform	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Chloromethane	ND		25		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Dibromochloromethane	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Dibromomethane	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Dichlorodifluoromethane	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Di-isopropyl ether (DIPE)	ND		10		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Ethanol	ND		250		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Ethylbenzene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Ethyl-t-butyl ether (ETBE)	ND		10		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Isopropylbenzene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Methylene Chloride	ND		50		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Naphthalene	ND		50		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
n-Butylbenzene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
N-Propylbenzene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
o-Xylene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
m,p-Xylene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
p-Isopropyltoluene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
sec-Butylbenzene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Styrene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
trans-1,2-Dichloroethene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
trans-1,3-Dichloropropene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Tert-amyl-methyl ether (TAME)	ND		10		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
tert-Butyl alcohol (TBA)	ND		50		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
tert-Butylbenzene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Tetrachloroethene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Toluene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Trichloroethene	ND		5.0		ug/Kg		12/16/19 12:18	12/16/19 18:58	1

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

Lab Sample ID: MB 570-39317/3-A
Matrix: Solid
Analysis Batch: 39342

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39317

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		50	ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Vinyl acetate	ND		50	ug/Kg		12/16/19 12:18	12/16/19 18:58	1
Vinyl chloride	ND		5.0	ug/Kg		12/16/19 12:18	12/16/19 18:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*113*		*71 - 155*	*12/16/19 12:18*	*12/16/19 18:58*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*	*12/16/19 12:18*	*12/16/19 18:58*	*1*
Dibromofluoromethane (Surr)	*105*		*79 - 133*	*12/16/19 12:18*	*12/16/19 18:58*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*	*12/16/19 12:18*	*12/16/19 18:58*	*1*

Lab Sample ID: LCS 570-39317/4-A
Matrix: Solid
Analysis Batch: 39342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39317

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	51.97		ug/Kg		104	70 - 130
1,1,1-Trichloroethane	50.0	57.34		ug/Kg		115	70 - 130
1,1,2,2-Tetrachloroethane	50.0	48.37		ug/Kg		97	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	53.76		ug/Kg		108	70 - 130
1,1,2-Trichloroethane	50.0	51.93		ug/Kg		104	70 - 130
1,1-Dichloroethane	50.0	59.57		ug/Kg		119	70 - 130
1,1-Dichloroethene	50.0	58.31		ug/Kg		117	74 - 122
1,1-Dichloropropene	50.0	56.65		ug/Kg		113	70 - 130
1,2,3-Trichlorobenzene	50.0	61.58		ug/Kg		123	70 - 130
1,2,3-Trichloropropane	50.0	51.34		ug/Kg		103	70 - 130
1,2,4-Trichlorobenzene	50.0	61.49		ug/Kg		123	70 - 130
1,2,4-Trimethylbenzene	50.0	51.44		ug/Kg		103	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	52.43		ug/Kg		105	70 - 130
1,2-Dibromoethane	50.0	52.01		ug/Kg		104	70 - 130
1,2-Dichlorobenzene	50.0	52.26		ug/Kg		105	75 - 120
1,2-Dichloroethane	50.0	47.61		ug/Kg		95	70 - 130
1,2-Dichloropropane	50.0	57.35		ug/Kg		115	79 - 115
1,3,5-Trimethylbenzene	50.0	49.87		ug/Kg		100	70 - 130
1,3-Dichlorobenzene	50.0	52.43		ug/Kg		105	70 - 130
1,3-Dichloropropane	50.0	52.64		ug/Kg		105	70 - 130
1,4-Dichlorobenzene	50.0	49.84		ug/Kg		100	70 - 130
2,2-Dichloropropane	50.0	62.60		ug/Kg		125	70 - 130
2-Butanone	50.0	55.36		ug/Kg		111	70 - 130
2-Chlorotoluene	50.0	54.62		ug/Kg		109	70 - 130
2-Hexanone	50.0	51.82		ug/Kg		104	70 - 130
4-Chlorotoluene	50.0	54.47		ug/Kg		109	70 - 130
4-Methyl-2-pentanone	50.0	52.46		ug/Kg		105	70 - 130
Acetone	50.0	59.00	J	ug/Kg		118	70 - 130
Benzene	50.0	54.13		ug/Kg		108	78 - 120
Bromobenzene	50.0	50.39		ug/Kg		101	70 - 130
Bromochloromethane	50.0	55.32		ug/Kg		111	70 - 130
Bromodichloromethane	50.0	56.86		ug/Kg		114	70 - 130
Bromoform	50.0	51.53		ug/Kg		103	70 - 130

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

Lab Sample ID: LCS 570-39317/4-A
Matrix: Solid
Analysis Batch: 39342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39317

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromomethane	50.0	38.93		ug/Kg		78	70 - 130
cis-1,2-Dichloroethene	50.0	59.08		ug/Kg		118	70 - 130
cis-1,3-Dichloropropene	50.0	59.45		ug/Kg		119	70 - 130
Carbon disulfide	50.0	69.23	* me	ug/Kg		138	70 - 130
Carbon tetrachloride	50.0	57.44		ug/Kg		115	49 - 139
Chlorobenzene	50.0	49.23		ug/Kg		98	79 - 120
Chloroethane	50.0	38.93		ug/Kg		78	70 - 130
Chloroform	50.0	57.24		ug/Kg		114	70 - 130
Chloromethane	50.0	43.10		ug/Kg		86	70 - 130
Dibromochloromethane	50.0	52.09		ug/Kg		104	70 - 130
Dibromomethane	50.0	54.24		ug/Kg		108	70 - 130
Dichlorodifluoromethane	50.0	45.95		ug/Kg		92	70 - 130
Di-isopropyl ether (DIPE)	50.0	59.02		ug/Kg		118	78 - 120
Ethanol	500	459.5		ug/Kg		92	56 - 140
Ethylbenzene	50.0	53.80		ug/Kg		108	76 - 120
Ethyl-t-butyl ether (ETBE)	50.0	60.74		ug/Kg		121	70 - 124
Isopropylbenzene	50.0	51.46		ug/Kg		103	70 - 130
Methylene Chloride	50.0	56.41		ug/Kg		113	70 - 130
Methyl-t-Butyl Ether (MTBE)	50.0	58.12		ug/Kg		116	70 - 124
Naphthalene	50.0	53.36		ug/Kg		107	70 - 130
n-Butylbenzene	50.0	55.73		ug/Kg		111	77 - 123
N-Propylbenzene	50.0	55.60		ug/Kg		111	70 - 130
o-Xylene	50.0	53.02		ug/Kg		106	70 - 130
m,p-Xylene	100	110.6		ug/Kg		111	70 - 130
p-Isopropyltoluene	50.0	52.49		ug/Kg		105	70 - 130
sec-Butylbenzene	50.0	52.03		ug/Kg		104	70 - 130
Styrene	50.0	49.37		ug/Kg		99	70 - 130
trans-1,2-Dichloroethene	50.0	58.25		ug/Kg		117	70 - 130
trans-1,3-Dichloropropene	50.0	57.49		ug/Kg		115	70 - 130
Tert-amyl-methyl ether (TAME)	50.0	58.33		ug/Kg		117	75 - 125
tert-Butyl alcohol (TBA)	250	221.4		ug/Kg		89	68 - 122
tert-Butylbenzene	50.0	55.05		ug/Kg		110	70 - 130
Tetrachloroethene	50.0	49.44		ug/Kg		99	70 - 130
Toluene	50.0	52.31		ug/Kg		105	77 - 120
Trichloroethene	50.0	55.98		ug/Kg		112	70 - 130
Trichlorofluoromethane	50.0	36.77	J	ug/Kg		74	70 - 130
Vinyl acetate	50.0	49.59	J	ug/Kg		99	70 - 130
Vinyl chloride	50.0	34.25		ug/Kg		68	68 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*71 - 155*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*
Dibromofluoromethane (Surr)	*108*		*79 - 133*
Toluene-d8 (Surr)	*106*		*80 - 120*

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

Lab Sample ID: LCSD 570-39317/5-A
Matrix: Solid
Analysis Batch: 39342

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39317

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	50.48		ug/Kg		101	70 - 130	3	20
1,1,1-Trichloroethane	50.0	55.50		ug/Kg		111	70 - 130	3	20
1,1,2,2-Tetrachloroethane	50.0	48.44		ug/Kg		97	70 - 130	0	20
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	51.61		ug/Kg		103	70 - 130	4	20
1,1,2-Trichloroethane	50.0	50.71		ug/Kg		101	70 - 130	2	20
1,1-Dichloroethane	50.0	57.39		ug/Kg		115	70 - 130	4	20
1,1-Dichloroethene	50.0	55.45		ug/Kg		111	74 - 122	5	20
1,1-Dichloropropene	50.0	55.71		ug/Kg		111	70 - 130	2	20
1,2,3-Trichlorobenzene	50.0	59.54		ug/Kg		119	70 - 130	3	20
1,2,3-Trichloropropane	50.0	50.57		ug/Kg		101	70 - 130	2	20
1,2,4-Trichlorobenzene	50.0	58.77		ug/Kg		118	70 - 130	5	20
1,2,4-Trimethylbenzene	50.0	49.55		ug/Kg		99	70 - 130	4	20
1,2-Dibromo-3-Chloropropane	50.0	51.00		ug/Kg		102	70 - 130	3	20
1,2-Dibromoethane	50.0	50.74		ug/Kg		101	70 - 130	2	20
1,2-Dichlorobenzene	50.0	50.47		ug/Kg		101	75 - 120	3	20
1,2-Dichloroethane	50.0	46.30		ug/Kg		93	70 - 130	3	20
1,2-Dichloropropane	50.0	55.84		ug/Kg		112	79 - 115	3	25
1,3,5-Trimethylbenzene	50.0	48.13		ug/Kg		96	70 - 130	4	20
1,3-Dichlorobenzene	50.0	50.68		ug/Kg		101	70 - 130	3	20
1,3-Dichloropropane	50.0	51.11		ug/Kg		102	70 - 130	3	20
1,4-Dichlorobenzene	50.0	48.18		ug/Kg		96	70 - 130	3	20
2,2-Dichloropropane	50.0	62.22		ug/Kg		124	70 - 130	1	20
2-Butanone	50.0	53.84		ug/Kg		108	70 - 130	3	20
2-Chlorotoluene	50.0	52.70		ug/Kg		105	70 - 130	4	20
2-Hexanone	50.0	53.23		ug/Kg		106	70 - 130	3	20
4-Chlorotoluene	50.0	52.13		ug/Kg		104	70 - 130	4	20
4-Methyl-2-pentanone	50.0	53.44		ug/Kg		107	70 - 130	2	20
Acetone	50.0	50.21	J	ug/Kg		100	70 - 130	16	20
Benzene	50.0	52.53		ug/Kg		105	78 - 120	3	20
Bromobenzene	50.0	49.26		ug/Kg		99	70 - 130	2	20
Bromochloromethane	50.0	54.60		ug/Kg		109	70 - 130	1	20
Bromodichloromethane	50.0	55.15		ug/Kg		110	70 - 130	3	20
Bromoform	50.0	50.02		ug/Kg		100	70 - 130	3	20
Bromomethane	50.0	38.57		ug/Kg		77	70 - 130	1	20
cis-1,2-Dichloroethene	50.0	56.81		ug/Kg		114	70 - 130	4	20
cis-1,3-Dichloropropene	50.0	58.27		ug/Kg		117	70 - 130	2	20
Carbon disulfide	50.0	66.28	* me	ug/Kg		133	70 - 130	4	20
Carbon tetrachloride	50.0	56.51		ug/Kg		113	49 - 139	2	20
Chlorobenzene	50.0	47.75		ug/Kg		95	79 - 120	3	20
Chloroethane	50.0	39.53		ug/Kg		79	70 - 130	2	20
Chloroform	50.0	55.40		ug/Kg		111	70 - 130	3	20
Chloromethane	50.0	42.31		ug/Kg		85	70 - 130	2	20
Dibromochloromethane	50.0	50.84		ug/Kg		102	70 - 130	2	20
Dibromomethane	50.0	51.84		ug/Kg		104	70 - 130	5	20
Dichlorodifluoromethane	50.0	45.00		ug/Kg		90	70 - 130	2	20
Di-isopropyl ether (DIPE)	50.0	56.91		ug/Kg		114	78 - 120	4	20
Ethanol	500	430.8		ug/Kg		86	56 - 140	6	20
Ethylbenzene	50.0	51.90		ug/Kg		104	76 - 120	4	20

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

Lab Sample ID: LCSD 570-39317/5-A
Matrix: Solid
Analysis Batch: 39342

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39317

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethyl-t-butyl ether (ETBE)	50.0	59.19		ug/Kg		118	70 - 124	3	20
Isopropylbenzene	50.0	49.96		ug/Kg		100	70 - 130	3	20
Methylene Chloride	50.0	54.49		ug/Kg		109	70 - 130	3	20
Methyl-t-Butyl Ether (MTBE)	50.0	57.18		ug/Kg		114	70 - 124	2	20
Naphthalene	50.0	53.23		ug/Kg		106	70 - 130	0	20
n-Butylbenzene	50.0	53.55		ug/Kg		107	77 - 123	4	25
N-Propylbenzene	50.0	53.83		ug/Kg		108	70 - 130	3	20
o-Xylene	50.0	51.69		ug/Kg		103	70 - 130	3	20
m,p-Xylene	100	107.2		ug/Kg		107	70 - 130	3	20
p-Isopropyltoluene	50.0	50.58		ug/Kg		101	70 - 130	4	20
sec-Butylbenzene	50.0	50.77		ug/Kg		102	70 - 130	2	20
Styrene	50.0	48.00		ug/Kg		96	70 - 130	3	20
trans-1,2-Dichloroethene	50.0	56.43		ug/Kg		113	70 - 130	3	20
trans-1,3-Dichloropropene	50.0	56.36		ug/Kg		113	70 - 130	2	20
Tert-amyl-methyl ether (TAME)	50.0	56.92		ug/Kg		114	75 - 125	2	20
tert-Butyl alcohol (TBA)	250	211.7		ug/Kg		85	68 - 122	5	20
tert-Butylbenzene	50.0	52.94		ug/Kg		106	70 - 130	4	20
Tetrachloroethene	50.0	47.56		ug/Kg		95	70 - 130	4	20
Toluene	50.0	50.95		ug/Kg		102	77 - 120	3	20
Trichloroethene	50.0	54.64		ug/Kg		109	70 - 130	2	20
Trichlorofluoromethane	50.0	37.90	J	ug/Kg		76	70 - 130	3	20
Vinyl acetate	50.0	47.14	J	ug/Kg		94	70 - 130	5	20
Vinyl chloride	50.0	34.25		ug/Kg		69	68 - 122	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*71 - 155*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*
Dibromofluoromethane (Surr)	*109*		*79 - 133*
Toluene-d8 (Surr)	*107*		*80 - 120*

Lab Sample ID: 570-15709-40 MS
Matrix: Solid
Analysis Batch: 39342

Client Sample ID: B22-1-20191212
Prep Type: Total/NA
Prep Batch: 39317

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		51.8	50.19		ug/Kg		97	70 - 130
1,1,1-Trichloroethane	ND		51.8	59.49		ug/Kg		115	70 - 130
1,1,2,2-Tetrachloroethane	ND		51.8	48.81		ug/Kg		94	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroetha ne	ND		51.8	55.54		ug/Kg		107	70 - 130
1,1,2-Trichloroethane	ND		51.8	52.71		ug/Kg		102	70 - 130
1,1-Dichloroethane	ND		51.8	61.10		ug/Kg		118	70 - 130
1,1-Dichloroethene	ND		51.8	57.99		ug/Kg		112	47 - 143
1,1-Dichloropropene	ND		51.8	59.83		ug/Kg		116	70 - 130
1,2,3-Trichlorobenzene	ND		51.8	44.92		ug/Kg		87	70 - 130
1,2,3-Trichloropropane	ND		51.8	51.82		ug/Kg		100	70 - 130
1,2,4-Trichlorobenzene	ND		51.8	44.25		ug/Kg		85	70 - 130
1,2,4-Trimethylbenzene	ND		51.8	47.44		ug/Kg		92	70 - 130
1,2-Dibromo-3-Chloropropane	ND		51.8	48.17		ug/Kg		93	70 - 130

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

Lab Sample ID: 570-15709-40 MS
Matrix: Solid
Analysis Batch: 39342

Client Sample ID: B22-1-20191212
Prep Type: Total/NA
Prep Batch: 39317

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromoethane	ND		51.8	51.32		ug/Kg		99	64 - 124
1,2-Dichlorobenzene	ND		51.8	46.32		ug/Kg		89	35 - 131
1,2-Dichloroethane	ND		51.8	48.44		ug/Kg		94	70 - 130
1,2-Dichloropropane	ND		51.8	57.06		ug/Kg		110	79 - 115
1,3,5-Trimethylbenzene	ND		51.8	47.61		ug/Kg		92	70 - 130
1,3-Dichlorobenzene	ND		51.8	46.61		ug/Kg		90	70 - 130
1,3-Dichloropropane	ND		51.8	52.92		ug/Kg		102	70 - 130
1,4-Dichlorobenzene	ND		51.8	44.22		ug/Kg		85	70 - 130
2,2-Dichloropropane	ND		51.8	65.07		ug/Kg		126	70 - 130
2-Butanone	ND		51.8	56.48		ug/Kg		109	70 - 130
2-Chlorotoluene	ND		51.8	52.19		ug/Kg		101	70 - 130
2-Hexanone	ND		51.8	53.08		ug/Kg		103	70 - 130
4-Chlorotoluene	ND		51.8	50.23		ug/Kg		97	70 - 130
4-Methyl-2-pentanone	ND		51.8	ND		ug/Kg		100	70 - 130
Acetone	ND	F1	51.8	ND	F1	ug/Kg		156	70 - 130
Benzene	ND		51.8	55.04		ug/Kg		106	61 - 127
Bromobenzene	ND		51.8	48.18		ug/Kg		93	70 - 130
Bromochloromethane	ND		51.8	57.00		ug/Kg		110	70 - 130
Bromodichloromethane	ND		51.8	55.74		ug/Kg		108	70 - 130
Bromoform	ND		51.8	47.49		ug/Kg		92	70 - 130
Bromomethane	ND		51.8	44.68		ug/Kg		86	70 - 130
cis-1,2-Dichloroethene	ND		51.8	60.57		ug/Kg		117	70 - 130
cis-1,3-Dichloropropene	ND		51.8	57.47		ug/Kg		111	70 - 130
Carbon disulfide	ND	* F1	51.8	69.56	F1	ug/Kg		134	70 - 130
Carbon tetrachloride	ND		51.8	59.82		ug/Kg		116	51 - 135
Chlorobenzene	ND		51.8	47.89		ug/Kg		93	57 - 123
Chloroethane	ND		51.8	47.84		ug/Kg		92	70 - 130
Chloroform	ND		51.8	59.12		ug/Kg		114	70 - 130
Chloromethane	ND		51.8	46.21		ug/Kg		89	70 - 130
Dibromochloromethane	ND		51.8	49.90		ug/Kg		96	70 - 130
Dibromomethane	ND		51.8	54.31		ug/Kg		105	70 - 130
Dichlorodifluoromethane	ND		51.8	56.10		ug/Kg		108	70 - 130
Di-isopropyl ether (DIPE)	ND		51.8	58.63		ug/Kg		113	57 - 129
Ethanol	ND		518	465.2		ug/Kg		90	17 - 167
Ethylbenzene	ND		51.8	52.79		ug/Kg		102	57 - 129
Ethyl-t-butyl ether (ETBE)	ND		51.8	59.11		ug/Kg		114	55 - 127
Isopropylbenzene	ND		51.8	49.39		ug/Kg		95	70 - 130
Methylene Chloride	ND		51.8	58.61		ug/Kg		113	70 - 130
Methyl-t-Butyl Ether (MTBE)	ND		51.8	58.49		ug/Kg		113	57 - 123
Naphthalene	ND		51.8	ND		ug/Kg		84	70 - 130
n-Butylbenzene	ND		51.8	47.47		ug/Kg		92	77 - 123
N-Propylbenzene	ND		51.8	53.42		ug/Kg		103	70 - 130
o-Xylene	ND		51.8	51.78		ug/Kg		100	70 - 130
m,p-Xylene	ND		104	109.3		ug/Kg		106	70 - 130
p-Isopropyltoluene	ND		51.8	47.13		ug/Kg		91	70 - 130
sec-Butylbenzene	ND		51.8	46.95		ug/Kg		91	70 - 130
Styrene	ND		51.8	47.80		ug/Kg		92	70 - 130
trans-1,2-Dichloroethene	ND		51.8	60.60		ug/Kg		117	70 - 130
trans-1,3-Dichloropropene	ND		51.8	55.47		ug/Kg		107	70 - 130

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

Lab Sample ID: 570-15709-40 MS — **Client Sample ID: B22-1-20191212**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39342 — **Prep Batch: 39317**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tert-amyl-methyl ether (TAME)	ND		51.8	56.03		ug/Kg		108	58 - 124
tert-Butyl alcohol (TBA)	ND		259	229.5		ug/Kg		89	30 - 168
tert-Butylbenzene	ND		51.8	49.81		ug/Kg		96	70 - 130
Tetrachloroethene	ND		51.8	49.57		ug/Kg		96	70 - 130
Toluene	ND		51.8	52.55		ug/Kg		102	63 - 123
Trichloroethene	ND		51.8	55.69		ug/Kg		108	44 - 158
Trichlorofluoromethane	ND		51.8	ND		ug/Kg		93	70 - 130
Vinyl acetate	ND	F2 F1	51.8	ND	F1	ug/Kg		26	70 - 130
Vinyl chloride	ND		51.8	41.18		ug/Kg		80	49 - 139

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*109*		*71 - 155*
4-Bromofluorobenzene (Surr)	*111*		*80 - 120*
Dibromofluoromethane (Surr)	*112*		*79 - 133*
Toluene-d8 (Surr)	*107*		*80 - 120*

Lab Sample ID: 570-15709-40 MSD — **Client Sample ID: B22-1-20191212**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39342 — **Prep Batch: 39317**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		51.0	49.08		ug/Kg		96	70 - 130	2	20
1,1,1-Trichloroethane	ND		51.0	57.82		ug/Kg		113	70 - 130	3	20
1,1,2,2-Tetrachloroethane	ND		51.0	49.45		ug/Kg		97	70 - 130	1	20
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		51.0	53.46		ug/Kg		105	70 - 130	4	20
1,1,2-Trichloroethane	ND		51.0	51.26		ug/Kg		100	70 - 130	3	20
1,1-Dichloroethane	ND		51.0	59.02		ug/Kg		116	70 - 130	3	20
1,1-Dichloroethene	ND		51.0	56.87		ug/Kg		111	47 - 143	2	25
1,1-Dichloropropene	ND		51.0	57.85		ug/Kg		113	70 - 130	3	20
1,2,3-Trichlorobenzene	ND		51.0	37.36		ug/Kg		73	70 - 130	18	20
1,2,3-Trichloropropane	ND		51.0	48.66		ug/Kg		95	70 - 130	6	20
1,2,4-Trichlorobenzene	ND		51.0	37.95		ug/Kg		74	70 - 130	15	20
1,2,4-Trimethylbenzene	ND		51.0	47.91		ug/Kg		94	70 - 130	1	20
1,2-Dibromo-3-Chloropropane	ND		51.0	46.73		ug/Kg		92	70 - 130	3	20
1,2-Dibromoethane	ND		51.0	50.11		ug/Kg		98	64 - 124	2	20
1,2-Dichlorobenzene	ND		51.0	45.64		ug/Kg		89	35 - 131	1	25
1,2-Dichloroethane	ND		51.0	47.09		ug/Kg		92	70 - 130	3	20
1,2-Dichloropropane	ND		51.0	55.84		ug/Kg		109	79 - 115	2	25
1,3,5-Trimethylbenzene	ND		51.0	44.73		ug/Kg		88	70 - 130	6	20
1,3-Dichlorobenzene	ND		51.0	46.22		ug/Kg		91	70 - 130	1	20
1,3-Dichloropropane	ND		51.0	50.80		ug/Kg		100	70 - 130	4	20
1,4-Dichlorobenzene	ND		51.0	43.34		ug/Kg		85	70 - 130	2	20
2,2-Dichloropropane	ND		51.0	63.96		ug/Kg		125	70 - 130	2	20
2-Butanone	ND		51.0	51.73		ug/Kg		101	70 - 130	9	20
2-Chlorotoluene	ND		51.0	49.29		ug/Kg		97	70 - 130	6	20
2-Hexanone	ND		51.0	ND		ug/Kg		97	70 - 130	7	20
4-Chlorotoluene	ND		51.0	51.32		ug/Kg		101	70 - 130	2	20
4-Methyl-2-pentanone	ND		51.0	51.43		ug/Kg		101	70 - 130	0	20

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

Lab Sample ID: 570-15709-40 MSD
Matrix: Solid
Analysis Batch: 39342

Client Sample ID: B22-1-20191212
Prep Type: Total/NA
Prep Batch: 39317

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND	F1	51.0	ND	F1	ug/Kg		153	70 - 130	3	20
Benzene	ND		51.0	52.84		ug/Kg		104	61 - 127	4	20
Bromobenzene	ND		51.0	45.78		ug/Kg		90	70 - 130	5	20
Bromochloromethane	ND		51.0	54.46		ug/Kg		107	70 - 130	5	20
Bromodichloromethane	ND		51.0	54.09		ug/Kg		106	70 - 130	3	20
Bromoform	ND		51.0	49.65		ug/Kg		97	70 - 130	4	20
Bromomethane	ND		51.0	43.38		ug/Kg		85	70 - 130	3	20
cis-1,2-Dichloroethene	ND		51.0	58.65		ug/Kg		115	70 - 130	3	20
cis-1,3-Dichloropropene	ND		51.0	55.56		ug/Kg		109	70 - 130	3	20
Carbon disulfide	ND	* F1	51.0	66.64	F1	ug/Kg		131	70 - 130	4	20
Carbon tetrachloride	ND		51.0	57.68		ug/Kg		113	51 - 135	4	29
Chlorobenzene	ND		51.0	46.44		ug/Kg		91	57 - 123	3	20
Chloroethane	ND		51.0	46.28		ug/Kg		91	70 - 130	3	20
Chloroform	ND		51.0	56.66		ug/Kg		111	70 - 130	4	20
Chloromethane	ND		51.0	46.98		ug/Kg		92	70 - 130	2	20
Dibromochloromethane	ND		51.0	48.20		ug/Kg		94	70 - 130	3	20
Dibromomethane	ND		51.0	51.91		ug/Kg		102	70 - 130	5	20
Dichlorodifluoromethane	ND		51.0	54.95		ug/Kg		108	70 - 130	2	20
Di-isopropyl ether (DIPE)	ND		51.0	56.45		ug/Kg		111	57 - 129	4	20
Ethanol	ND		510	456.7		ug/Kg		90	17 - 167	2	47
Ethylbenzene	ND		51.0	51.57		ug/Kg		101	57 - 129	2	22
Ethyl-t-butyl ether (ETBE)	ND		51.0	58.14		ug/Kg		114	55 - 127	2	20
Isopropylbenzene	ND		51.0	47.80		ug/Kg		94	70 - 130	3	20
Methylene Chloride	ND		51.0	55.41		ug/Kg		109	70 - 130	6	20
Methyl-t-Butyl Ether (MTBE)	ND		51.0	57.27		ug/Kg		112	57 - 123	2	21
Naphthalene	ND		51.0	ND		ug/Kg		74	70 - 130	14	20
n-Butylbenzene	ND		51.0	45.34		ug/Kg		89	77 - 123	5	21
N-Propylbenzene	ND		51.0	50.32		ug/Kg		99	70 - 130	6	20
o-Xylene	ND		51.0	50.04		ug/Kg		98	70 - 130	3	20
m,p-Xylene	ND		102	106.1		ug/Kg		104	70 - 130	3	20
p-Isopropyltoluene	ND		51.0	46.69		ug/Kg		92	70 - 130	1	20
sec-Butylbenzene	ND		51.0	47.61		ug/Kg		93	70 - 130	1	20
Styrene	ND		51.0	46.28		ug/Kg		91	70 - 130	3	20
trans-1,2-Dichloroethene	ND		51.0	57.84		ug/Kg		113	70 - 130	5	20
trans-1,3-Dichloropropene	ND		51.0	54.69		ug/Kg		107	70 - 130	1	20
Tert-amyl-methyl ether (TAME)	ND		51.0	55.65		ug/Kg		109	58 - 124	1	20
tert-Butyl alcohol (TBA)	ND		255	213.0		ug/Kg		83	30 - 168	7	34
tert-Butylbenzene	ND		51.0	51.34		ug/Kg		101	70 - 130	3	20
Tetrachloroethene	ND		51.0	48.40		ug/Kg		95	70 - 130	2	20
Toluene	ND		51.0	51.06		ug/Kg		100	63 - 123	3	20
Trichloroethene	ND		51.0	54.56		ug/Kg		107	44 - 158	2	20
Trichlorofluoromethane	ND		51.0	ND		ug/Kg		91	70 - 130	3	20
Vinyl acetate	ND	F2 F1	51.0	ND	F2 F1	ug/Kg		13	70 - 130	68	20
Vinyl chloride	ND		51.0	41.08		ug/Kg		81	49 - 139	0	47

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*71 - 155*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*

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

Lab Sample ID: 570-15709-40 MSD
Matrix: Solid
Analysis Batch: 39342

Client Sample ID: B22-1-20191212
Prep Type: Total/NA
Prep Batch: 39317

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Dibromofluoromethane (Surr)	110		79 - 133
Toluene-d8 (Surr)	107		80 - 120

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

Lab Sample ID: MB 570-39283/1-A
Matrix: Solid
Analysis Batch: 39842

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39283

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
1,2-Dichlorobenzene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
1,3-Dichlorobenzene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
1,4-Dichlorobenzene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
1-Methylnaphthalene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
2,4,5-Trichlorophenol	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
2,4,6-Trichlorophenol	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
2,4-Dichlorophenol	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
2,4-Dimethylphenol	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
2,4-Dinitrophenol	ND		2.0		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
2,4-Dinitrotoluene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
2,6-Dichlorophenol	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
2,6-Dinitrotoluene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
2-Chloronaphthalene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
2-Chlorophenol	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
2-Methylnaphthalene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
2-Methylphenol	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
2-Nitroaniline	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
2-Nitrophenol	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
3,3'-Dichlorobenzidine	ND		2.5		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
3 & 4 Methylphenol	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
3-Nitroaniline	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
4,6-Dinitro-2-methylphenol	ND		2.5		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
4-Bromophenyl phenyl ether	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
4-Chloro-3-methylphenol	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
4-Chloroaniline	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
4-Chlorophenyl phenyl ether	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
4-Nitroaniline	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
4-Nitrophenol	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Acenaphthene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Acenaphthylene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Aniline	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Anthracene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Azobenzene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Benzidine	ND		5.0		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Benzo[a]anthracene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Benzo[a]pyrene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Benzo[b]fluoranthene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Benzo[g,h,i]perylene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1

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

Lab Sample ID: MB 570-39283/1-A
Matrix: Solid
Analysis Batch: 39842

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39283

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Benzoic acid	ND		2.5		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Benzyl alcohol	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Bis(2-chloroethoxy)methane	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Bis(2-chloroethyl)ether	ND		2.5		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
bis (2-Chloroisopropyl) ether	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Bis(2-ethylhexyl) phthalate	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Butyl benzyl phthalate	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Chrysene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Dibenz(a,h)anthracene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Dibenzofuran	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Diethyl phthalate	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Dimethyl phthalate	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Di-n-butyl phthalate	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Di-n-octyl phthalate	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Fluoranthene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Fluorene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Hexachloro-1,3-butadiene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Hexachlorobenzene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Hexachlorocyclopentadiene	ND		1.5		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Hexachloroethane	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Indeno[1,2,3-cd]pyrene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Isophorone	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Naphthalene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Nitrobenzene	ND		2.0		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
N-Nitrosodimethylamine	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
N-Nitrosodi-n-propylamine	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
N-Nitrosodiphenylamine	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Pentachlorophenol	ND		2.5		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Phenanthrene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Phenol	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Pyrene	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1
Pyridine	ND		0.50		mg/Kg		12/16/19 10:31	12/18/19 12:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*68*		*18 - 138*	*12/16/19 10:31*	*12/18/19 12:01*	*1*
2-Fluorobiphenyl (Surr)	*67*		*27 - 120*	*12/16/19 10:31*	*12/18/19 12:01*	*1*
2-Fluorophenol (Surr)	*69*		*25 - 120*	*12/16/19 10:31*	*12/18/19 12:01*	*1*
Nitrobenzene-d5 (Surr)	*67*		*33 - 123*	*12/16/19 10:31*	*12/18/19 12:01*	*1*
p-Terphenyl-d14 (Surr)	*82*		*27 - 159*	*12/16/19 10:31*	*12/18/19 12:01*	*1*
Phenol-d6 (Surr)	*68*		*26 - 122*	*12/16/19 10:31*	*12/18/19 12:01*	*1*

Lab Sample ID: LCS 570-39283/2-A
Matrix: Solid
Analysis Batch: 39842

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39283

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2,4-Trichlorobenzene			5.00	4.105		mg/Kg		82	45 - 129		

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

Lab Sample ID: LCS 570-39283/2-A
Matrix: Solid
Analysis Batch: 39842

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39283

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	5.00	4.006		mg/Kg		80	45 - 123
1,3-Dichlorobenzene	5.00	3.957		mg/Kg		79	45 - 123
1,4-Dichlorobenzene	5.00	3.882		mg/Kg		78	42 - 132
1-Methylnaphthalene	5.00	4.114		mg/Kg		82	45 - 105
2,4,5-Trichlorophenol	5.00	4.071		mg/Kg		81	43 - 127
2,4,6-Trichlorophenol	5.00	4.122		mg/Kg		82	48 - 126
2,4-Dichlorophenol	5.00	4.165		mg/Kg		83	49 - 127
2,4-Dimethylphenol	5.00	4.272		mg/Kg		85	45 - 147
2,4-Dinitrophenol	5.00	3.494		mg/Kg		70	18 - 138
2,4-Dinitrotoluene	5.00	4.798		mg/Kg		96	51 - 129
2,6-Dichlorophenol	5.00	4.070		mg/Kg		81	80 - 120
2,6-Dinitrotoluene	5.00	4.790		mg/Kg		96	44 - 140
2-Chloronaphthalene	5.00	4.139		mg/Kg		83	45 - 129
2-Chlorophenol	5.00	4.367		mg/Kg		87	58 - 124
2-Methylnaphthalene	5.00	4.033		mg/Kg		81	42 - 132
2-Methylphenol	5.00	4.258		mg/Kg		85	45 - 129
2-Nitroaniline	5.00	4.280		mg/Kg		86	35 - 150
2-Nitrophenol	5.00	4.724		mg/Kg		94	50 - 140
3,3'-Dichlorobenzidine	5.00	3.310		mg/Kg		66	20 - 150
3 & 4 Methylphenol	10.0	6.636		mg/Kg		66	37 - 127
3-Nitroaniline	5.00	3.689		mg/Kg		74	24 - 120
4,6-Dinitro-2-methylphenol	5.00	4.926		mg/Kg		99	36 - 138
4-Bromophenyl phenyl ether	5.00	4.229		mg/Kg		85	39 - 135
4-Chloro-3-methylphenol	5.00	4.195		mg/Kg		84	55 - 151
4-Chloroaniline	5.00	2.577		mg/Kg		52	16 - 124
4-Chlorophenyl phenyl ether	5.00	4.204		mg/Kg		84	45 - 135
4-Nitroaniline	5.00	4.154		mg/Kg		83	47 - 137
4-Nitrophenol	5.00	4.421		mg/Kg		88	24 - 126
Acenaphthene	5.00	4.188		mg/Kg		84	51 - 123
Acenaphthylene	5.00	4.546		mg/Kg		91	52 - 120
Aniline	5.00	2.524	* me	mg/Kg		50	60 - 140
Anthracene	5.00	4.380		mg/Kg		88	41 - 125
Azobenzene	5.00	4.083		mg/Kg		82	60 - 140
Benzidine	5.00	1.783	J	mg/Kg		36	20 - 92
Benzo[a]anthracene	5.00	4.965		mg/Kg		99	45 - 117
Benzo[a]pyrene	5.00	4.653		mg/Kg		93	41 - 125
Benzo[b]fluoranthene	5.00	4.411		mg/Kg		88	41 - 137
Benzo[g,h,i]perylene	5.00	4.777		mg/Kg		96	16 - 124
Benzo[k]fluoranthene	5.00	4.945		mg/Kg		99	42 - 144
Benzoic acid	5.00	3.855		mg/Kg		77	18 - 150
Benzyl alcohol	5.00	3.844		mg/Kg		77	46 - 150
Bis(2-chloroethoxy)methane	5.00	3.928		mg/Kg		79	43 - 133
Bis(2-chloroethyl)ether	5.00	4.026		mg/Kg		81	46 - 124
bis (2-Chloroisopropyl) ether	5.00	3.908		mg/Kg		78	27 - 147
Bis(2-ethylhexyl) phthalate	5.00	4.885		mg/Kg		98	55 - 121
Butyl benzyl phthalate	5.00	5.101		mg/Kg		102	43 - 139
Chrysene	5.00	4.619		mg/Kg		92	45 - 117
Dibenz(a,h)anthracene	5.00	4.625		mg/Kg		93	21 - 129
Dibenzofuran	5.00	4.031		mg/Kg		81	46 - 130

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

Lab Sample ID: LCS 570-39283/2-A
Matrix: Solid
Analysis Batch: 39842

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39283

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diethyl phthalate	5.00	4.282		mg/Kg		86	44 - 134
Dimethyl phthalate	5.00	4.295		mg/Kg		86	51 - 123
Di-n-butyl phthalate	5.00	4.366		mg/Kg		87	44 - 134
Di-n-octyl phthalate	5.00	4.749		mg/Kg		95	18 - 150
Fluoranthene	5.00	4.478		mg/Kg		90	39 - 129
Fluorene	5.00	4.380		mg/Kg		88	54 - 126
Hexachloro-1,3-butadiene	5.00	4.096		mg/Kg		82	40 - 136
Hexachlorobenzene	5.00	4.095		mg/Kg		82	40 - 136
Hexachlorocyclopentadiene	5.00	5.136		mg/Kg		103	31 - 115
Hexachloroethane	5.00	3.976		mg/Kg		80	40 - 124
Indeno[1,2,3-cd]pyrene	5.00	4.582		mg/Kg		92	70 - 130
Isophorone	5.00	4.072		mg/Kg		81	70 - 130
Naphthalene	5.00	4.184		mg/Kg		84	32 - 146
Nitrobenzene	5.00	4.046		mg/Kg		81	41 - 137
N-Nitrosodimethylamine	5.00	3.425		mg/Kg		68	45 - 129
N-Nitrosodi-n-propylamine	5.00	4.208		mg/Kg		84	40 - 136
N-Nitrosodiphenylamine	5.00	4.927		mg/Kg		99	51 - 150
Pentachlorophenol	5.00	3.593		mg/Kg		72	23 - 131
Phenanthrene	5.00	4.258		mg/Kg		85	38 - 140
Phenol	5.00	4.361		mg/Kg		87	40 - 130
Pyrene	5.00	4.755		mg/Kg		95	47 - 143
Pyridine	5.00	2.369		mg/Kg		47	46 - 88

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*105*		*18 - 138*
2-Fluorobiphenyl (Surr)	*89*		*27 - 120*
2-Fluorophenol (Surr)	*94*		*25 - 120*
Nitrobenzene-d5 (Surr)	*89*		*33 - 123*
p-Terphenyl-d14 (Surr)	*102*		*27 - 159*
Phenol-d6 (Surr)	*91*		*26 - 122*

Lab Sample ID: LCSD 570-39283/3-A
Matrix: Solid
Analysis Batch: 39842

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39283

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	5.00	3.937		mg/Kg		79	45 - 129	4	27
1,2-Dichlorobenzene	5.00	3.700		mg/Kg		74	45 - 123	8	14
1,3-Dichlorobenzene	5.00	3.702		mg/Kg		74	45 - 123	7	15
1,4-Dichlorobenzene	5.00	3.595		mg/Kg		72	42 - 132	8	30
1-Methylnaphthalene	5.00	3.936		mg/Kg		79	45 - 105	4	30
2,4,5-Trichlorophenol	5.00	3.974		mg/Kg		79	43 - 127	2	13
2,4,6-Trichlorophenol	5.00	3.982		mg/Kg		80	48 - 126	3	12
2,4-Dichlorophenol	5.00	4.031		mg/Kg		81	49 - 127	3	11
2,4-Dimethylphenol	5.00	4.047		mg/Kg		81	45 - 147	5	12
2,4-Dinitrophenol	5.00	3.579		mg/Kg		72	18 - 138	2	19
2,4-Dinitrotoluene	5.00	4.669		mg/Kg		93	51 - 129	3	28
2,6-Dichlorophenol	5.00	3.980		mg/Kg		80	80 - 120	2	20

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

Lab Sample ID: LCSD 570-39283/3-A
Matrix: Solid
Analysis Batch: 39842

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39283

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,6-Dinitrotoluene	5.00	4.667		mg/Kg		93	44 - 140	3	13
2-Chloronaphthalene	5.00	3.960		mg/Kg		79	45 - 129	4	13
2-Chlorophenol	5.00	4.104		mg/Kg		82	58 - 124	6	20
2-Methylnaphthalene	5.00	3.913		mg/Kg		78	42 - 132	3	13
2-Methylphenol	5.00	4.087		mg/Kg		82	45 - 129	4	13
2-Nitroaniline	5.00	4.140		mg/Kg		83	35 - 150	3	13
2-Nitrophenol	5.00	4.590		mg/Kg		92	50 - 140	3	13
3,3'-Dichlorobenzidine	5.00	3.098		mg/Kg		62	20 - 150	7	20
3 & 4 Methylphenol	10.0	6.422		mg/Kg		64	37 - 127	3	13
3-Nitroaniline	5.00	3.513		mg/Kg		70	24 - 120	5	19
4,6-Dinitro-2-methylphenol	5.00	4.853		mg/Kg		97	36 - 138	1	17
4-Bromophenyl phenyl ether	5.00	4.004		mg/Kg		80	39 - 135	5	13
4-Chloro-3-methylphenol	5.00	3.977		mg/Kg		80	55 - 151	5	20
4-Chloroaniline	5.00	2.521		mg/Kg		50	16 - 124	2	29
4-Chlorophenyl phenyl ether	5.00	4.078		mg/Kg		82	45 - 135	3	13
4-Nitroaniline	5.00	3.943		mg/Kg		79	47 - 137	5	12
4-Nitrophenol	5.00	4.387		mg/Kg		88	24 - 126	1	27
Acenaphthene	5.00	3.993		mg/Kg		80	51 - 123	5	26
Acenaphthylene	5.00	4.385		mg/Kg		88	52 - 120	4	28
Aniline	5.00	2.328	* me	mg/Kg		47	60 - 140	8	30
Anthracene	5.00	4.192		mg/Kg		84	41 - 125	4	11
Azobenzene	5.00	3.743		mg/Kg		75	60 - 140	9	30
Benzidine	5.00	1.696	J	mg/Kg		34	20 - 92	5	24
Benzo[a]anthracene	5.00	4.657		mg/Kg		93	45 - 117	6	12
Benzo[a]pyrene	5.00	4.380		mg/Kg		88	41 - 125	6	13
Benzo[b]fluoranthene	5.00	4.467		mg/Kg		89	41 - 137	1	15
Benzo[g,h,i]perylene	5.00	4.428		mg/Kg		89	16 - 124	8	18
Benzo[k]fluoranthene	5.00	4.297		mg/Kg		86	42 - 144	14	15
Benzoic acid	5.00	3.923		mg/Kg		78	18 - 150	2	16
Benzyl alcohol	5.00	3.544		mg/Kg		71	46 - 150	8	16
Bis(2-chloroethoxy)methane	5.00	3.726		mg/Kg		75	43 - 133	5	13
Bis(2-chloroethyl)ether	5.00	3.789		mg/Kg		76	46 - 124	6	21
bis (2-Chloroisopropyl) ether	5.00	3.777		mg/Kg		76	27 - 147	3	12
Bis(2-ethylhexyl) phthalate	5.00	4.479		mg/Kg		90	55 - 121	9	10
Butyl benzyl phthalate	5.00	4.814		mg/Kg		96	43 - 139	6	29
Chrysene	5.00	4.282		mg/Kg		86	45 - 117	8	12
Dibenz(a,h)anthracene	5.00	4.319		mg/Kg		86	21 - 129	7	15
Dibenzofuran	5.00	3.879		mg/Kg		78	46 - 130	4	14
Diethyl phthalate	5.00	4.092		mg/Kg		82	44 - 134	5	13
Dimethyl phthalate	5.00	4.104		mg/Kg		82	51 - 123	5	27
Di-n-butyl phthalate	5.00	4.114		mg/Kg		82	44 - 134	6	11
Di-n-octyl phthalate	5.00	4.500		mg/Kg		90	18 - 150	5	13
Fluoranthene	5.00	4.196		mg/Kg		84	39 - 129	7	12
Fluorene	5.00	4.264		mg/Kg		85	54 - 126	3	27
Hexachloro-1,3-butadiene	5.00	3.944		mg/Kg		79	40 - 136	4	15
Hexachlorobenzene	5.00	3.831		mg/Kg		77	40 - 136	7	11
Hexachlorocyclopentadiene	5.00	5.002		mg/Kg		100	31 - 115	3	30
Hexachloroethane	5.00	3.831		mg/Kg		77	40 - 124	4	16
Indeno[1,2,3-cd]pyrene	5.00	4.272		mg/Kg		85	70 - 130	7	15

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

Lab Sample ID: LCSD 570-39283/3-A
Matrix: Solid
Analysis Batch: 39842

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39283

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Isophorone	5.00	3.852		mg/Kg		77	70 - 130	6	12
Naphthalene	5.00	3.954		mg/Kg		79	32 - 146	6	20
Nitrobenzene	5.00	3.909		mg/Kg		78	41 - 137	3	13
N-Nitrosodimethylamine	5.00	3.196		mg/Kg		64	45 - 129	7	18
N-Nitrosodi-n-propylamine	5.00	4.009		mg/Kg		80	40 - 136	5	29
N-Nitrosodiphenylamine	5.00	4.673		mg/Kg		93	51 - 150	5	11
Pentachlorophenol	5.00	3.455		mg/Kg		69	23 - 131	4	22
Phenanthrene	5.00	4.026		mg/Kg		81	38 - 140	6	11
Phenol	5.00	4.098		mg/Kg		82	40 - 130	6	20
Pyrene	5.00	4.479		mg/Kg		90	47 - 143	6	20
Pyridine	5.00	2.241	* me	mg/Kg		45	46 - 88	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*101*		*18 - 138*
2-Fluorobiphenyl (Surr)	*87*		*27 - 120*
2-Fluorophenol (Surr)	*89*		*25 - 120*
Nitrobenzene-d5 (Surr)	*86*		*33 - 123*
p-Terphenyl-d14 (Surr)	*99*		*27 - 159*
Phenol-d6 (Surr)	*87*		*26 - 122*

Lab Sample ID: 570-15709-36 MS
Matrix: Solid
Analysis Batch: 39842

Client Sample ID: B21-1-20191212
Prep Type: Total/NA
Prep Batch: 39283

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	ND		4.99	3.448		mg/Kg		69	56 - 120
1,2-Dichlorobenzene	ND		4.99	3.325		mg/Kg		67	51 - 117
1,3-Dichlorobenzene	ND		4.99	3.222		mg/Kg		65	54 - 114
1,4-Dichlorobenzene	ND		4.99	3.224		mg/Kg		65	43 - 120
1-Methylnaphthalene	ND		4.99	3.500		mg/Kg		70	45 - 105
2,4,5-Trichlorophenol	ND		4.99	3.712		mg/Kg		74	48 - 120
2,4,6-Trichlorophenol	ND		4.99	3.746		mg/Kg		75	53 - 119
2,4-Dichlorophenol	ND		4.99	3.697		mg/Kg		74	55 - 121
2,4-Dimethylphenol	ND		4.99	3.601		mg/Kg		72	45 - 135
2,4-Dinitrophenol	ND		4.99	3.484		mg/Kg		70	15 - 99
2,4-Dinitrotoluene	ND		4.99	3.881		mg/Kg		78	28 - 120
2,6-Dichlorophenol	ND	F1	4.99	3.493	F1	mg/Kg		70	75 - 125
2,6-Dinitrotoluene	ND		4.99	4.223		mg/Kg		85	49 - 139
2-Chloronaphthalene	ND		4.99	3.539		mg/Kg		71	51 - 123
2-Chlorophenol	ND		4.99	3.663		mg/Kg		73	53 - 120
2-Methylnaphthalene	ND		4.99	3.498		mg/Kg		70	51 - 123
2-Methylphenol	ND		4.99	3.724		mg/Kg		75	52 - 124
2-Nitroaniline	ND		4.99	3.878		mg/Kg		78	43 - 157
2-Nitrophenol	ND		4.99	4.060		mg/Kg		81	55 - 139
3,3'-Dichlorobenzidine	ND	F2	4.99	3.170		mg/Kg		64	15 - 225
3 & 4 Methylphenol	ND		9.98	5.903		mg/Kg		59	33 - 129
3-Nitroaniline	ND		4.99	3.452		mg/Kg		69	30 - 144
4,6-Dinitro-2-methylphenol	ND		4.99	4.516		mg/Kg		90	26 - 146

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

Lab Sample ID: 570-15709-36 MS | **Client Sample ID: B21-1-20191212**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 39842 | **Prep Batch: 39283**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Bromophenyl phenyl ether	ND		4.99	4.059		mg/Kg		81	45 - 129
4-Chloro-3-methylphenol	ND		4.99	3.683		mg/Kg		74	32 - 120
4-Chloroaniline	ND		4.99	2.476		mg/Kg		50	25 - 133
4-Chlorophenyl phenyl ether	ND		4.99	3.702		mg/Kg		74	47 - 131
4-Nitroaniline	ND		4.99	3.286		mg/Kg		66	50 - 140
4-Nitrophenol	ND		4.99	3.484		mg/Kg		70	14 - 128
Acenaphthene	ND		4.99	3.626		mg/Kg		73	34 - 148
Acenaphthylene	ND		4.99	3.920		mg/Kg		79	53 - 120
Aniline	ND	* F1	4.99	2.191	F1	mg/Kg		44	60 - 140
Anthracene	ND		4.99	3.884		mg/Kg		78	45 - 123
Azobenzene	ND		4.99	3.937		mg/Kg		79	60 - 140
Benzidine	ND	F1	4.99	ND	F1	mg/Kg		0	0.1 - 78
Benzo[a]anthracene	ND		4.99	4.630		mg/Kg		93	44 - 122
Benzo[a]pyrene	ND		4.99	4.261		mg/Kg		85	50 - 116
Benzo[b]fluoranthene	ND		4.99	4.366		mg/Kg		87	56 - 122
Benzo[g,h,i]perylene	ND		4.99	4.296		mg/Kg		86	9 - 123
Benzo[k]fluoranthene	ND		4.99	4.105		mg/Kg		82	52 - 130
Benzoic acid	ND	F1	4.99	3.489	F1	mg/Kg		70	0.1 - 28
Benzyl alcohol	ND		4.99	3.318		mg/Kg		66	54 - 150
Bis(2-chloroethoxy)methane	ND		4.99	3.265		mg/Kg		65	49 - 127
Bis(2-chloroethyl)ether	ND		4.99	3.469		mg/Kg		70	55 - 115
bis (2-Chloroisopropyl) ether	ND		4.99	3.371		mg/Kg		68	33 - 153
Bis(2-ethylhexyl) phthalate	ND	F2	4.99	4.286		mg/Kg		86	55 - 121
Butyl benzyl phthalate	ND		4.99	4.656		mg/Kg		93	15 - 189
Chrysene	ND		4.99	4.245		mg/Kg		85	42 - 120
Dibenz(a,h)anthracene	ND		4.99	3.991		mg/Kg		80	19 - 127
Dibenzofuran	ND		4.99	3.528		mg/Kg		71	48 - 126
Diethyl phthalate	ND		4.99	3.542		mg/Kg		71	52 - 124
Dimethyl phthalate	ND		4.99	3.628		mg/Kg		70	44 - 122
Di-n-butyl phthalate	ND		4.99	3.796		mg/Kg		76	49 - 127
Di-n-octyl phthalate	ND		4.99	4.168		mg/Kg		84	43 - 163
Fluoranthene	ND		4.99	3.763		mg/Kg		75	45 - 123
Fluorene	ND		4.99	3.756		mg/Kg		75	12 - 186
Hexachloro-1,3-butadiene	ND		4.99	3.441		mg/Kg		69	43 - 127
Hexachlorobenzene	ND		4.99	3.777		mg/Kg		76	43 - 133
Hexachlorocyclopentadiene	ND		4.99	3.106		mg/Kg		62	60 - 140
Hexachloroethane	ND		4.99	3.310		mg/Kg		66	48 - 114
Indeno[1,2,3-cd]pyrene	ND		4.99	4.093		mg/Kg		82	70 - 130
Isophorone	ND		4.99	3.521		mg/Kg		71	51 - 117
Naphthalene	ND		4.99	3.621		mg/Kg		73	20 - 140
Nitrobenzene	ND		4.99	3.377		mg/Kg		68	46 - 136
N-Nitrosodimethylamine	ND		4.99	2.732		mg/Kg		55	53 - 119
N-Nitrosodi-n-propylamine	ND		4.99	3.573		mg/Kg		72	38 - 140
N-Nitrosodiphenylamine	ND		4.99	4.723		mg/Kg		95	57 - 159
Pentachlorophenol	ND		4.99	2.883		mg/Kg		58	10 - 124
Phenanthrene	ND		4.99	4.018		mg/Kg		81	46 - 130
Phenol	ND		4.99	3.782		mg/Kg		76	22 - 124
Pyrene	ND		4.99	4.947		mg/Kg		99	31 - 169
Pyridine	ND	* F1	4.99	1.894	F1	mg/Kg		38	50 - 130

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

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	86		18 - 138
2-Fluorobiphenyl (Surr)	67		27 - 120
2-Fluorophenol (Surr)	70		25 - 120
Nitrobenzene-d5 (Surr)	65		33 - 123
p-Terphenyl-d14 (Surr)	87		27 - 159
Phenol-d6 (Surr)	70		26 - 122

Lab Sample ID: 570-15709-36 MSD — **Client Sample ID: B21-1-20191212**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39842 — **Prep Batch: 39283**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	ND		4.99	3.871		mg/Kg		78	56 - 120	12	20
1,2-Dichlorobenzene	ND		4.99	3.769		mg/Kg		76	51 - 117	13	18
1,3-Dichlorobenzene	ND		4.99	3.595		mg/Kg		72	54 - 114	11	18
1,4-Dichlorobenzene	ND		4.99	3.655		mg/Kg		73	43 - 120	13	26
1-Methylnaphthalene	ND		4.99	4.036		mg/Kg		81	45 - 105	14	30
2,4,5-Trichlorophenol	ND		4.99	4.260		mg/Kg		85	48 - 120	14	18
2,4,6-Trichlorophenol	ND		4.99	4.272		mg/Kg		86	53 - 119	13	18
2,4-Dichlorophenol	ND		4.99	4.187		mg/Kg		84	55 - 121	12	18
2,4-Dimethylphenol	ND		4.99	4.039		mg/Kg		81	45 - 135	11	22
2,4-Dinitrophenol	ND		4.99	3.603		mg/Kg		72	15 - 99	3	33
2,4-Dinitrotoluene	ND		4.99	4.518		mg/Kg		91	28 - 120	15	20
2,6-Dichlorophenol	ND	F1	4.99	3.965		mg/Kg		79	75 - 125	13	20
2,6-Dinitrotoluene	ND		4.99	4.931		mg/Kg		99	49 - 139	15	17
2-Chloronaphthalene	ND		4.99	3.940		mg/Kg		79	51 - 123	11	17
2-Chlorophenol	ND		4.99	4.148		mg/Kg		83	53 - 120	12	20
2-Methylnaphthalene	ND		4.99	3.989		mg/Kg		80	51 - 123	13	19
2-Methylphenol	ND		4.99	4.277		mg/Kg		86	52 - 124	14	19
2-Nitroaniline	ND		4.99	4.357		mg/Kg		87	43 - 157	12	17
2-Nitrophenol	ND		4.99	4.609		mg/Kg		92	55 - 139	13	17
3,3'-Dichlorobenzidine	ND	F2	4.99	4.096	F2	mg/Kg		82	15 - 225	25	22
3 & 4 Methylphenol	ND		9.98	6.723		mg/Kg		67	33 - 129	13	20
3-Nitroaniline	ND		4.99	4.153		mg/Kg		83	30 - 144	18	18
4,6-Dinitro-2-methylphenol	ND		4.99	4.667		mg/Kg		94	26 - 146	3	18
4-Bromophenyl phenyl ether	ND		4.99	4.612		mg/Kg		92	45 - 129	13	17
4-Chloro-3-methylphenol	ND		4.99	4.281		mg/Kg		86	32 - 120	15	20
4-Chloroaniline	ND		4.99	3.017		mg/Kg		61	25 - 133	20	22
4-Chlorophenyl phenyl ether	ND		4.99	4.221		mg/Kg		85	47 - 131	13	18
4-Nitroaniline	ND		4.99	3.914		mg/Kg		78	50 - 140	17	18
4-Nitrophenol	ND		4.99	4.252		mg/Kg		85	14 - 128	20	59
Acenaphthene	ND		4.99	4.141		mg/Kg		83	34 - 148	13	20
Acenaphthylene	ND		4.99	4.496		mg/Kg		90	53 - 120	14	20
Aniline	ND	* F1	4.99	2.535	F1	mg/Kg		51	60 - 140	15	30
Anthracene	ND		4.99	4.448		mg/Kg		89	45 - 123	14	17
Azobenzene	ND		4.99	4.535		mg/Kg		91	60 - 140	14	30
Benzidine	ND	F1	4.99	ND	F1	mg/Kg		0	0.1 - 78	NC	54
Benzo[a]anthracene	ND		4.99	5.304		mg/Kg		106	44 - 122	14	14
Benzo[a]pyrene	ND		4.99	4.816		mg/Kg		97	50 - 116	12	17
Benzo[b]fluoranthene	ND		4.99	4.780		mg/Kg		96	56 - 122	9	20
Benzo[g,h,i]perylene	ND		4.99	4.902		mg/Kg		98	9 - 123	13	18

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

Lab Sample ID: 570-15709-36 MSD
Matrix: Solid
Analysis Batch: 39842

Client Sample ID: B21-1-20191212
Prep Type: Total/NA
Prep Batch: 39283

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[k]fluoranthene	ND		4.99	4.751		mg/Kg		95	52 - 130	15	18
Benzoic acid	ND	F1	4.99	3.588	F1	mg/Kg		72	0.1 - 28	3	81
Benzyl alcohol	ND		4.99	3.789		mg/Kg		76	54 - 150	13	18
Bis(2-chloroethoxy)methane	ND		4.99	3.711		mg/Kg		74	49 - 127	13	16
Bis(2-chloroethyl)ether	ND		4.99	3.883		mg/Kg		78	55 - 115	11	18
bis (2-Chloroisopropyl) ether	ND		4.99	3.807		mg/Kg		76	33 - 153	12	18
Bis(2-ethylhexyl) phthalate	ND	F2	4.99	5.098	F2	mg/Kg		102	55 - 121	17	15
Butyl benzyl phthalate	ND		4.99	5.510		mg/Kg		110	15 - 189	17	20
Chrysene	ND		4.99	4.855		mg/Kg		97	42 - 120	13	16
Dibenz(a,h)anthracene	ND		4.99	4.608		mg/Kg		92	19 - 127	14	16
Dibenzofuran	ND		4.99	4.008		mg/Kg		80	48 - 126	13	18
Diethyl phthalate	ND		4.99	4.069		mg/Kg		82	52 - 124	14	16
Dimethyl phthalate	ND		4.99	4.225		mg/Kg		82	44 - 122	15	20
Di-n-butyl phthalate	ND		4.99	4.434		mg/Kg		89	49 - 127	16	17
Di-n-octyl phthalate	ND		4.99	4.894		mg/Kg		98	43 - 163	16	19
Fluoranthene	ND		4.99	4.257		mg/Kg		85	45 - 123	12	18
Fluorene	ND		4.99	4.300		mg/Kg		86	12 - 186	13	20
Hexachloro-1,3-butadiene	ND		4.99	3.730		mg/Kg		75	43 - 127	8	17
Hexachlorobenzene	ND		4.99	4.297		mg/Kg		86	43 - 133	13	17
Hexachlorocyclopentadiene	ND		4.99	3.007		mg/Kg		60	60 - 140	3	30
Hexachloroethane	ND		4.99	3.666		mg/Kg		74	48 - 114	10	17
Indeno[1,2,3-cd]pyrene	ND		4.99	4.667		mg/Kg		94	70 - 130	13	16
Isophorone	ND		4.99	4.051		mg/Kg		81	51 - 117	14	16
Naphthalene	ND		4.99	4.010		mg/Kg		80	20 - 140	10	20
Nitrobenzene	ND		4.99	3.825		mg/Kg		77	46 - 136	12	17
N-Nitrosodimethylamine	ND		4.99	3.048		mg/Kg		61	53 - 119	11	18
N-Nitrosodi-n-propylamine	ND		4.99	4.069		mg/Kg		82	38 - 140	13	20
N-Nitrosodiphenylamine	ND		4.99	5.396		mg/Kg		108	57 - 159	13	20
Pentachlorophenol	ND		4.99	3.202		mg/Kg		64	10 - 124	11	20
Phenanthrene	ND		4.99	4.508		mg/Kg		90	46 - 130	11	17
Phenol	ND		4.99	4.275		mg/Kg		86	22 - 124	12	20
Pyrene	ND		4.99	5.786		mg/Kg		116	31 - 169	16	20
Pyridine	ND	* F1	4.99	2.129	F1	mg/Kg		43	50 - 130	12	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*100*		*18 - 138*
2-Fluorobiphenyl (Surr)	*76*		*27 - 120*
2-Fluorophenol (Surr)	*79*		*25 - 120*
Nitrobenzene-d5 (Surr)	*75*		*33 - 123*
p-Terphenyl-d14 (Surr)	*104*		*27 - 159*
Phenol-d6 (Surr)	*79*		*26 - 122*

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: LCS 570-39100/3
Matrix: Solid
Analysis Batch: 39100

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (C4-C13)			2.00	2.010		mg/Kg		101	70 - 124		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*42 - 126*

Lab Sample ID: LCSD 570-39100/4
Matrix: Solid
Analysis Batch: 39100

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)			2.00	2.079		mg/Kg		104	70 - 124	3	18

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*42 - 126*

Lab Sample ID: MB 570-39116/1-A
Matrix: Solid
Analysis Batch: 39100

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39116

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C13)	ND		0.10		mg/Kg		12/14/19 11:55	12/14/19 13:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*42 - 126*	*12/14/19 11:55*	*12/14/19 13:44*	*1*

Lab Sample ID: 570-15674-B-1-C MS
Matrix: Solid
Analysis Batch: 39100

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39116

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (C4-C13)	ND		2.02	2.026		mg/Kg		100	48 - 114		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*42 - 126*

Lab Sample ID: 570-15674-B-1-D MSD
Matrix: Solid
Analysis Batch: 39100

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 39116

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	ND		1.98	1.940		mg/Kg		98	48 - 114	4	23

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*42 - 126*

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

Lab Sample ID: MB 570-39396/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39568 — **Prep Batch: 39396**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.0		mg/Kg		12/16/19 17:07	12/17/19 12:18	1
TPH as Motor Oil (C17-C44)	ND		25		mg/Kg		12/16/19 17:07	12/17/19 12:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*103*		*61 - 145*	*12/16/19 17:07*	*12/17/19 12:18*	*1*

Lab Sample ID: LCS 570-39396/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39568 — **Prep Batch: 39396**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics [C10-C28]			400	430.7		mg/Kg		108	67 - 121		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*109*		*61 - 145*

Lab Sample ID: LCS 570-39396/6-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39568 — **Prep Batch: 39396**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
TPH as Motor Oil (C17-C44)			400	377.0		mg/Kg		94	75 - 123		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*97*		*61 - 145*

Lab Sample ID: LCSD 570-39396/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39568 — **Prep Batch: 39396**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]			400	417.1		mg/Kg		104	67 - 121	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*104*		*61 - 145*

Lab Sample ID: LCSD 570-39396/7-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39568 — **Prep Batch: 39396**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
TPH as Motor Oil (C17-C44)			400	376.5		mg/Kg		94	75 - 123	0	12

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*96*		*61 - 145*

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

Lab Sample ID: 570-15674-A-1-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39568 — **Prep Batch: 39396**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	ND		400	409.9		mg/Kg		102	33 - 153

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
n-Octacosane (Surr)	*101*		*61 - 145*

Lab Sample ID: 570-15674-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39568 — **Prep Batch: 39396**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	ND		400	413.2		mg/Kg		103	33 - 153	1	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
n-Octacosane (Surr)	*103*		*61 - 145*

Lab Sample ID: 570-15674-A-1-G MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39568 — **Prep Batch: 39396**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
TPH as Motor Oil (C17-C44)	ND		397	387.1		mg/Kg		98	64 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
n-Octacosane (Surr)	*95*		*61 - 145*

Lab Sample ID: 570-15674-A-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39568 — **Prep Batch: 39396**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
TPH as Motor Oil (C17-C44)	ND		397	363.8		mg/Kg		92	64 - 130	6	15

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
n-Octacosane (Surr)	*90*		*61 - 145*

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 570-39950/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39997 — **Prep Batch: 39950**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
4,4'-DDE	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
4,4'-DDT	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
Aldrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 570-39950/1-A
Matrix: Solid
Analysis Batch: 39997

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39950

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
alpha-Chlordane	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
beta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
delta-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
Dieldrin	ND		1.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
Endosulfan I	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
Endosulfan II	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
Endrin	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
Endrin aldehyde	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
Endrin ketone	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
gamma-Chlordane	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
gamma-BHC	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
Heptachlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
Methoxychlor	ND		5.0	ug/Kg		12/18/19 17:06	12/19/19 11:21	1
Toxaphene	ND		25	ug/Kg		12/18/19 17:06	12/19/19 11:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*81*		*23 - 140*	*12/18/19 17:06*	*12/19/19 11:21*	*1*
DCB Decachlorobiphenyl (Surr)	*94*		*26 - 146*	*12/18/19 17:06*	*12/19/19 11:21*	*1*

Lab Sample ID: LCS 570-39950/2-A
Matrix: Solid
Analysis Batch: 39997

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39950

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	25.0	24.81		ug/Kg		99	50 - 149
4,4'-DDE	25.0	23.40		ug/Kg		94	48 - 144
4,4'-DDT	25.0	24.69		ug/Kg		99	37 - 149
Aldrin	25.0	22.49		ug/Kg		90	43 - 139
alpha-BHC	25.0	21.55		ug/Kg		86	51 - 138
alpha-Chlordane	25.0	22.83		ug/Kg		91	47 - 136
beta-BHC	25.0	21.79		ug/Kg		87	47 - 135
delta-BHC	25.0	13.16		ug/Kg		53	40 - 146
Dieldrin	25.0	24.14		ug/Kg		97	48 - 141
Endosulfan I	25.0	23.34		ug/Kg		93	43 - 139
Endosulfan II	25.0	25.28		ug/Kg		101	48 - 142
Endosulfan sulfate	25.0	22.77		ug/Kg		91	47 - 144
Endrin	25.0	22.96		ug/Kg		92	35 - 144
Endrin aldehyde	25.0	25.67		ug/Kg		103	35 - 138
gamma-Chlordane	25.0	23.06		ug/Kg		92	33 - 155
gamma-BHC	25.0	21.91		ug/Kg		88	51 - 137
Heptachlor	25.0	22.32		ug/Kg		89	47 - 137
Heptachlor epoxide	25.0	22.96		ug/Kg		92	49 - 135
Methoxychlor	25.0	25.13		ug/Kg		101	39 - 142

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 570-39950/2-A
Matrix: Solid
Analysis Batch: 39997

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39950

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*80*		*23 - 140*
DCB Decachlorobiphenyl (Surr)	*92*		*26 - 146*

Lab Sample ID: LCSD 570-39950/3-A
Matrix: Solid
Analysis Batch: 39997

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39950

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD			25.0	25.81		ug/Kg		103	50 - 149	4	17
4,4'-DDE			25.0	24.60		ug/Kg		98	48 - 144	5	18
4,4'-DDT			25.0	25.04		ug/Kg		100	37 - 149	1	17
Aldrin			25.0	23.57		ug/Kg		94	43 - 139	5	15
alpha-BHC			25.0	22.49		ug/Kg		90	51 - 138	4	17
alpha-Chlordane			25.0	23.86		ug/Kg		95	47 - 136	4	16
beta-BHC			25.0	22.86		ug/Kg		91	47 - 135	5	17
delta-BHC			25.0	13.64		ug/Kg		55	40 - 146	4	20
Dieldrin			25.0	24.87		ug/Kg		99	48 - 141	3	16
Endosulfan I			25.0	24.23		ug/Kg		97	43 - 139	4	16
Endosulfan II			25.0	25.67		ug/Kg		103	48 - 142	2	16
Endosulfan sulfate			25.0	23.15		ug/Kg		93	47 - 144	2	16
Endrin			25.0	24.50		ug/Kg		98	35 - 144	7	18
Endrin aldehyde			25.0	24.84		ug/Kg		99	35 - 138	3	13
gamma-Chlordane			25.0	24.11		ug/Kg		96	33 - 155	4	59
gamma-BHC			25.0	22.90		ug/Kg		92	51 - 137	4	17
Heptachlor			25.0	23.25		ug/Kg		93	47 - 137	4	17
Heptachlor epoxide			25.0	23.78		ug/Kg		95	49 - 135	4	17
Methoxychlor			25.0	25.38		ug/Kg		102	39 - 142	1	17

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*82*		*23 - 140*
DCB Decachlorobiphenyl (Surr)	*96*		*26 - 146*

Lab Sample ID: 570-15674-A-1-Q MS
Matrix: Solid
Analysis Batch: 39997

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39950

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
4,4'-DDD	ND		24.9	19.34		ug/Kg		74	12 - 180		
4,4'-DDE	ND		24.9	22.25		ug/Kg		89	8 - 184		
4,4'-DDT	ND		24.9	22.24		ug/Kg		83	2 - 187		
Aldrin	ND		24.9	15.85	p	ug/Kg		64	9 - 153		
alpha-BHC	ND		24.9	14.81		ug/Kg		60	10 - 149		
alpha-Chlordane	ND		24.9	17.04	p	ug/Kg		69	9 - 161		
beta-BHC	ND		24.9	13.86		ug/Kg		56	9 - 156		
delta-BHC	ND		24.9	9.043		ug/Kg		36	6 - 162		
Dieldrin	ND		24.9	16.95		ug/Kg		68	11 - 164		
Endosulfan I	ND		24.9	17.69		ug/Kg		71	4 - 156		
Endosulfan II	ND		24.9	16.21		ug/Kg		65	12 - 161		

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 570-15674-A-1-Q MS
Matrix: Solid
Analysis Batch: 39997

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39950

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Endosulfan sulfate	ND		24.9	16.26		ug/Kg		65	10 - 165
Endrin	ND		24.9	16.06		ug/Kg		65	6 - 166
Endrin aldehyde	ND		24.9	13.46		ug/Kg		54	1 - 156
gamma-Chlordane	ND		24.9	27.14		ug/Kg		109	7 - 177
gamma-BHC	ND		24.9	15.35		ug/Kg		62	9 - 154
Heptachlor	ND		24.9	15.68		ug/Kg		63	3 - 150
Heptachlor epoxide	ND		24.9	16.26	p	ug/Kg		65	7 - 169
Methoxychlor	ND		24.9	18.31		ug/Kg		74	8 - 163

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tetrachloro-m-xylene	*58*		*23 - 140*
DCB Decachlorobiphenyl (Surr)	*90*		*26 - 146*

Lab Sample ID: 570-15674-A-1-R MSD
Matrix: Solid
Analysis Batch: 39997

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 39950

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	ND		24.9	26.23		ug/Kg		101	12 - 180	30	79
4,4'-DDE	ND		24.9	27.96		ug/Kg		113	8 - 184	23	76
4,4'-DDT	ND		24.9	29.95		ug/Kg		114	2 - 187	30	78
Aldrin	ND		24.9	20.09	p	ug/Kg		81	9 - 153	24	77
alpha-BHC	ND		24.9	18.82		ug/Kg		76	10 - 149	24	85
alpha-Chlordane	ND		24.9	22.60	p	ug/Kg		91	9 - 161	28	79
beta-BHC	ND		24.9	18.01		ug/Kg		72	9 - 156	26	78
delta-BHC	ND		24.9	12.02		ug/Kg		48	6 - 162	28	85
Dieldrin	ND		24.9	22.44		ug/Kg		90	11 - 164	28	77
Endosulfan I	ND		24.9	22.32		ug/Kg		90	4 - 156	23	77
Endosulfan II	ND		24.9	21.44		ug/Kg		86	12 - 161	28	77
Endosulfan sulfate	ND		24.9	27.26		ug/Kg		110	10 - 165	51	73
Endrin	ND		24.9	22.59		ug/Kg		91	6 - 166	34	82
Endrin aldehyde	ND		24.9	19.85		ug/Kg		80	1 - 156	38	83
gamma-Chlordane	ND		24.9	29.75		ug/Kg		120	7 - 177	9	84
gamma-BHC	ND		24.9	19.41		ug/Kg		78	9 - 154	23	79
Heptachlor	ND		24.9	19.94		ug/Kg		80	3 - 150	24	85
Heptachlor epoxide	ND		24.9	23.32	p	ug/Kg		94	7 - 169	36	79
Methoxychlor	ND		24.9	28.07		ug/Kg		113	8 - 163	42	78

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*73*		*23 - 140*
DCB Decachlorobiphenyl (Surr)	*96*		*26 - 146*

Lab Sample ID: MB 570-40290/1-A
Matrix: Solid
Analysis Batch: 40376

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 40290

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		5.0		ug/Kg		12/19/19 19:20	12/20/19 11:20	1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 570-40290/1-A
Matrix: Solid
Analysis Batch: 40376

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 40290

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
4,4'-DDT	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
Aldrin	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
alpha-BHC	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
alpha-Chlordane	ND		1.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
beta-BHC	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
delta-BHC	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
Dieldrin	ND		1.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
Endosulfan I	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
Endosulfan II	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
Endosulfan sulfate	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
Endrin	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
Endrin aldehyde	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
Endrin ketone	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
gamma-Chlordane	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
gamma-BHC	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
Heptachlor	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
Heptachlor epoxide	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
Methoxychlor	ND		5.0	ug/Kg		12/19/19 19:20	12/20/19 11:20	1
Toxaphene	ND		25	ug/Kg		12/19/19 19:20	12/20/19 11:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*73*		*23 - 140*	*12/19/19 19:20*	*12/20/19 11:20*	*1*
DCB Decachlorobiphenyl (Surr)	*83*		*26 - 146*	*12/19/19 19:20*	*12/20/19 11:20*	*1*

Lab Sample ID: LCS 570-40290/2-A
Matrix: Solid
Analysis Batch: 40376

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 40290

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	25.0	18.63		ug/Kg		75	50 - 149
4,4'-DDE	25.0	17.72		ug/Kg		71	48 - 144
4,4'-DDT	25.0	18.83		ug/Kg		75	37 - 149
Aldrin	25.0	17.67		ug/Kg		71	43 - 139
alpha-BHC	25.0	17.18		ug/Kg		69	51 - 138
alpha-Chlordane	25.0	17.37		ug/Kg		69	47 - 136
beta-BHC	25.0	17.35		ug/Kg		69	47 - 135
delta-BHC	25.0	10.13		ug/Kg		41	40 - 146
Dieldrin	25.0	18.12		ug/Kg		72	48 - 141
Endosulfan I	25.0	17.72		ug/Kg		71	43 - 139
Endosulfan II	25.0	19.09		ug/Kg		76	48 - 142
Endosulfan sulfate	25.0	17.48		ug/Kg		70	47 - 144
Endrin	25.0	17.57		ug/Kg		70	35 - 144
Endrin aldehyde	25.0	17.84		ug/Kg		71	35 - 138
gamma-Chlordane	25.0	17.54		ug/Kg		70	33 - 155
gamma-BHC	25.0	17.41		ug/Kg		70	51 - 137
Heptachlor	25.0	17.77		ug/Kg		71	47 - 137
Heptachlor epoxide	25.0	17.59		ug/Kg		70	49 - 135

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 570-40290/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40376 — **Prep Batch: 40290**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methoxychlor	25.0	19.92		ug/Kg		80	39 - 142

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*73*		*23 - 140*
DCB Decachlorobiphenyl (Surr)	*83*		*26 - 146*

Lab Sample ID: LCSD 570-40290/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40376 — **Prep Batch: 40290**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	25.0	20.08		ug/Kg		80	50 - 149	8	17
4,4'-DDE	25.0	19.57		ug/Kg		78	48 - 144	10	18
4,4'-DDT	25.0	20.40		ug/Kg		82	37 - 149	8	17
Aldrin	25.0	19.76		ug/Kg		79	43 - 139	11	15
alpha-BHC	25.0	19.13		ug/Kg		77	51 - 138	11	17
alpha-Chlordane	25.0	19.30		ug/Kg		77	47 - 136	11	16
beta-BHC	25.0	19.34		ug/Kg		77	47 - 135	11	17
delta-BHC	25.0	11.35		ug/Kg		45	40 - 146	11	20
Dieldrin	25.0	19.96		ug/Kg		80	48 - 141	10	16
Endosulfan I	25.0	19.67		ug/Kg		79	43 - 139	10	16
Endosulfan II	25.0	20.57		ug/Kg		82	48 - 142	7	16
Endosulfan sulfate	25.0	18.71		ug/Kg		75	47 - 144	7	16
Endrin	25.0	19.30		ug/Kg		77	35 - 144	9	18
Endrin aldehyde	25.0	19.25		ug/Kg		77	35 - 138	8	13
gamma-Chlordane	25.0	19.53		ug/Kg		78	33 - 155	11	59
gamma-BHC	25.0	19.49		ug/Kg		78	51 - 137	11	17
Heptachlor	25.0	19.86		ug/Kg		79	47 - 137	11	17
Heptachlor epoxide	25.0	19.55		ug/Kg		78	49 - 135	11	17
Methoxychlor	25.0	21.22		ug/Kg		85	39 - 142	6	17

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*74*		*23 - 140*
DCB Decachlorobiphenyl (Surr)	*80*		*26 - 146*

Lab Sample ID: 570-15709-5 MS — **Client Sample ID: SS-A3-0.5**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40376 — **Prep Batch: 40290**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	ND		25.0	34.42		ug/Kg		120	12 - 180
4,4'-DDE	ND		25.0	23.98		ug/Kg		90	8 - 184
4,4'-DDT	84	E F1	25.0	136.9	E F1	ug/Kg		211	2 - 187
Aldrin	ND		25.0	17.42		ug/Kg		70	9 - 153
alpha-BHC	ND		25.0	15.78		ug/Kg		63	10 - 149
alpha-Chlordane	ND		25.0	19.40		ug/Kg		78	9 - 161
beta-BHC	ND		25.0	18.06		ug/Kg		72	9 - 156
delta-BHC	ND		25.0	11.68		ug/Kg		47	6 - 162

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 570-15709-5 MS
Matrix: Solid
Analysis Batch: 40376

Client Sample ID: SS-A3-0.5
Prep Type: Total/NA
Prep Batch: 40290

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dieldrin	ND		25.0	21.68		ug/Kg		87	11 - 164
Endosulfan I	ND		25.0	19.17		ug/Kg		77	4 - 156
Endosulfan II	ND		25.0	23.97		ug/Kg		96	12 - 161
Endosulfan sulfate	ND		25.0	20.52		ug/Kg		82	10 - 165
Endrin	ND		25.0	18.99		ug/Kg		76	6 - 166
Endrin aldehyde	ND		25.0	22.27		ug/Kg		89	1 - 156
gamma-Chlordane	ND		25.0	24.26		ug/Kg		97	7 - 177
gamma-BHC	ND		25.0	16.83		ug/Kg		67	9 - 154
Heptachlor	ND		25.0	16.92		ug/Kg		68	3 - 150
Heptachlor epoxide	ND		25.0	19.46		ug/Kg		78	7 - 169
Methoxychlor	ND		25.0	24.53		ug/Kg		98	8 - 163

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tetrachloro-m-xylene	*59*		*23 - 140*
DCB Decachlorobiphenyl (Surr)	*82*		*26 - 146*

Lab Sample ID: 570-15709-5 MSD
Matrix: Solid
Analysis Batch: 40376

Client Sample ID: SS-A3-0.5
Prep Type: Total/NA
Prep Batch: 40290

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	ND		24.9	20.31		ug/Kg		64	12 - 180	52	79
4,4'-DDE	ND		24.9	17.04		ug/Kg		62	8 - 184	34	76
4,4'-DDT	84	E F1	24.9	121.7	E	ug/Kg		150	2 - 187	12	78
Aldrin	ND		24.9	12.24		ug/Kg		49	9 - 153	35	77
alpha-BHC	ND		24.9	9.208		ug/Kg		37	10 - 149	53	85
alpha-Chlordane	ND		24.9	14.71		ug/Kg		59	9 - 161	28	79
beta-BHC	ND		24.9	11.27		ug/Kg		45	9 - 156	46	78
delta-BHC	ND		24.9	6.750		ug/Kg		27	6 - 162	53	85
Dieldrin	ND		24.9	12.33		ug/Kg		49	11 - 164	55	77
Endosulfan I	ND		24.9	13.05		ug/Kg		52	4 - 156	38	77
Endosulfan II	ND		24.9	12.52		ug/Kg		50	12 - 161	63	77
Endosulfan sulfate	ND		24.9	11.27		ug/Kg		45	10 - 165	58	73
Endrin	ND		24.9	11.08		ug/Kg		44	6 - 166	53	82
Endrin aldehyde	ND		24.9	11.73		ug/Kg		47	1 - 156	62	83
gamma-Chlordane	ND		24.9	14.25		ug/Kg		57	7 - 177	52	84
gamma-BHC	ND		24.9	9.901		ug/Kg		40	9 - 154	52	79
Heptachlor	ND		24.9	9.882		ug/Kg		40	3 - 150	53	85
Heptachlor epoxide	ND		24.9	12.38		ug/Kg		50	7 - 169	44	79
Methoxychlor	ND		24.9	13.73		ug/Kg		55	8 - 163	56	78

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*35*		*23 - 140*
DCB Decachlorobiphenyl (Surr)	*49*		*26 - 146*

Method: 8141A - Organophosphorous Pesticides (GC)

Lab Sample ID: MB 570-39413/1-A
Matrix: Solid
Analysis Batch: 39561

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39413

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Diazinon	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Dichlorvos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Disulfoton	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Ethoprop	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Fensulfothion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Fenthion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Merphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Methyl parathion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Mevinphos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Naled	ND		4.0	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Phorate	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Azinphos-methyl	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Bolstar	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Chlorpyrifos	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Ronnel	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Stirophos	ND		2.0	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Tokuthion	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Trichloronate	ND		0.50	mg/Kg		12/16/19 17:33	12/17/19 13:21	1
Demeton-o/s	ND		1.0	mg/Kg		12/16/19 17:33	12/17/19 13:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*80*		*20 - 154*	*12/16/19 17:33*	*12/17/19 13:21*	*1*

Lab Sample ID: LCS 570-39413/2-A
Matrix: Solid
Analysis Batch: 39561

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39413

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Coumaphos	4.00	4.043		mg/Kg		101	40 - 142
Diazinon	4.00	3.539		mg/Kg		88	38 - 146
Disulfoton	4.00	3.115		mg/Kg		78	39 - 153
Ethoprop	4.00	3.373		mg/Kg		84	39 - 141
Fensulfothion	4.00	4.027		mg/Kg		101	31 - 163
Fenthion	4.00	2.749	p	mg/Kg		69	37 - 145
Merphos	4.00	3.212		mg/Kg		80	39 - 135
Methyl parathion	4.00	3.469		mg/Kg		87	45 - 153
Phorate	4.00	3.215		mg/Kg		80	48 - 162
Azinphos-methyl	4.00	3.741		mg/Kg		94	30 - 150
Bolstar	4.00	3.716		mg/Kg		93	42 - 150
Chlorpyrifos	4.00	3.318		mg/Kg		83	44 - 128
Ronnel	4.00	3.318		mg/Kg		83	44 - 122
Stirophos	4.00	3.646		mg/Kg		91	33 - 141
Tokuthion	4.00	3.224		mg/Kg		81	44 - 128
Trichloronate	4.00	3.773		mg/Kg		94	35 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tributyl phosphate	*93*		*20 - 154*

Method: 8141A - Organophosphorous Pesticides (GC)

Lab Sample ID: LCSD 570-39413/3-A
Matrix: Solid
Analysis Batch: 39561

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39413

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Coumaphos			4.00	3.744		mg/Kg		94	40 - 142	8	20
Diazinon			4.00	3.166		mg/Kg		79	38 - 146	11	20
Disulfoton			4.00	2.915		mg/Kg		73	39 - 153	7	20
Ethoprop			4.00	3.105		mg/Kg		78	39 - 141	8	20
Fensulfothion			4.00	3.639		mg/Kg		91	31 - 163	10	20
Fenthion			4.00	2.660	p	mg/Kg		67	37 - 145	3	20
Merphos			4.00	2.723		mg/Kg		68	39 - 135	16	20
Methyl parathion			4.00	3.418		mg/Kg		85	45 - 153	1	20
Phorate			4.00	3.079		mg/Kg		77	48 - 162	4	20
Azinphos-methyl			4.00	3.170		mg/Kg		79	30 - 150	17	20
Bolstar			4.00	3.213		mg/Kg		80	42 - 150	15	20
Chlorpyrifos			4.00	3.159		mg/Kg		79	44 - 128	5	20
Ronnel			4.00	3.253		mg/Kg		81	44 - 122	2	20
Stirophos			4.00	3.290		mg/Kg		82	33 - 141	10	20
Tokuthion			4.00	3.032		mg/Kg		76	44 - 128	6	20
Trichloronate			4.00	3.576		mg/Kg		89	35 - 137	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tributyl phosphate	*79*		*20 - 154*

Lab Sample ID: 570-15709-1 MS
Matrix: Solid
Analysis Batch: 39561

Client Sample ID: SS-A1-0.5
Prep Type: Total/NA
Prep Batch: 39413

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Coumaphos	ND		4.00	4.848		mg/Kg		121	30 - 130		
Diazinon	ND		4.00	3.816		mg/Kg		95	30 - 130		
Disulfoton	ND		4.00	3.503		mg/Kg		88	10 - 130		
Ethoprop	ND		4.00	3.457		mg/Kg		87	30 - 130		
Fensulfothion	ND		4.00	4.358		mg/Kg		109	30 - 130		
Fenthion	ND		4.00	5.073		mg/Kg		127	30 - 130		
Merphos	ND		4.00	3.814		mg/Kg		95	30 - 130		
Methyl parathion	ND		4.00	4.218		mg/Kg		106	30 - 130		
Phorate	ND		4.00	3.314		mg/Kg		83	30 - 130		
Azinphos-methyl	ND		4.00	5.169		mg/Kg		129	30 - 130		
Bolstar	ND		4.00	3.908		mg/Kg		98	30 - 130		
Chlorpyrifos	ND		4.00	3.805		mg/Kg		95	30 - 130		
Ronnel	ND		4.00	3.783		mg/Kg		95	30 - 130		
Stirophos	ND		4.00	4.462		mg/Kg		112	30 - 130		
Tokuthion	ND		4.00	3.851		mg/Kg		96	30 - 130		
Trichloronate	ND		4.00	4.199		mg/Kg		105	30 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tributyl phosphate	*88*		*20 - 154*

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 570-15709-1 MSD — **Client Sample ID: SS-A1-0.5**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39561 — **Prep Batch: 39413**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Coumaphos	ND		3.99	5.092		mg/Kg		128	30 - 130	5	30
Diazinon	ND		3.99	3.677		mg/Kg		92	30 - 130	4	30
Disulfoton	ND		3.99	3.388		mg/Kg		85	10 - 130	3	30
Ethoprop	ND		3.99	3.379		mg/Kg		85	30 - 130	2	30
Fensulfothion	ND		3.99	4.413		mg/Kg		111	30 - 130	1	30
Fenthion	ND		3.99	4.951		mg/Kg		124	30 - 130	2	30
Merphos	ND		3.99	3.679		mg/Kg		92	30 - 130	4	30
Methyl parathion	ND		3.99	4.024		mg/Kg		101	30 - 130	5	30
Phorate	ND		3.99	3.378		mg/Kg		85	30 - 130	2	30
Azinphos-methyl	ND		3.99	5.028		mg/Kg		126	30 - 130	3	30
Bolstar	ND		3.99	3.944		mg/Kg		99	30 - 130	1	30
Chlorpyrifos	ND		3.99	3.726		mg/Kg		93	30 - 130	2	30
Ronnel	ND		3.99	3.775		mg/Kg		95	30 - 130	0	30
Stirophos	ND		3.99	4.289		mg/Kg		108	30 - 130	4	30
Tokuthion	ND		3.99	3.664		mg/Kg		92	30 - 130	5	30
Trichloronate	ND		3.99	4.462		mg/Kg		112	30 - 130	6	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tributyl phosphate	*86*		*20 - 154*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-39119/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39906 — **Prep Batch: 39119**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.488		mg/Kg		12/16/19 14:30	12/17/19 19:32	1

Lab Sample ID: LCS 570-39119/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39906 — **Prep Batch: 39119**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lead			24.6	23.02		mg/Kg		93	80 - 120		

Lab Sample ID: LCSD 570-39119/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39906 — **Prep Batch: 39119**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead			25.8	24.60		mg/Kg		95	80 - 120	7	20

Lab Sample ID: 570-15399-A-1-H MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39906 — **Prep Batch: 39119**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lead	ND		24.3	21.78		mg/Kg		90	75 - 125		

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

Lab Sample ID: 570-15399-A-1-I MSD
Matrix: Solid
Analysis Batch: 39906

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 39119

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	ND		24.8	22.78		mg/Kg		92	75 - 125	4	20

Marginal Exceedance (ME) Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

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

Lab Sample ID: LCS 570-39317/4-A
Matrix: Solid

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	%Rec	%Rec. Limits	ME %Rec. Limits	Marginal Exceedance Status
1,1,1,2-Tetrachloroethane	50.0	51.97		ug/Kg	104	70 - 130	60 - 140	
1,1,1-Trichloroethane	50.0	57.34		ug/Kg	115	70 - 130	60 - 140	
1,1,2,2-Tetrachloroethane	50.0	48.37		ug/Kg	97	70 - 130	60 - 140	
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	53.76		ug/Kg	108	70 - 130	60 - 140	
1,1,2-Trichloroethane	50.0	51.93		ug/Kg	104	70 - 130	60 - 140	
1,1-Dichloroethane	50.0	59.57		ug/Kg	119	70 - 130	60 - 140	
1,1-Dichloroethene	50.0	58.31		ug/Kg	117	74 - 122	66 - 130	
1,1-Dichloropropene	50.0	56.65		ug/Kg	113	70 - 130	60 - 140	
1,2,3-Trichlorobenzene	50.0	61.58		ug/Kg	123	70 - 130	60 - 140	
1,2,3-Trichloropropane	50.0	51.34		ug/Kg	103	70 - 130	60 - 140	
1,2,4-Trichlorobenzene	50.0	61.49		ug/Kg	123	70 - 130	60 - 140	
1,2,4-Trimethylbenzene	50.0	51.44		ug/Kg	103	70 - 130	60 - 140	
1,2-Dibromo-3-Chloropropane	50.0	52.43		ug/Kg	105	70 - 130	60 - 140	
1,2-Dibromoethane	50.0	52.01		ug/Kg	104	70 - 130	60 - 140	
1,2-Dichlorobenzene	50.0	52.26		ug/Kg	105	75 - 120	68 - 128	
1,2-Dichloroethane	50.0	47.61		ug/Kg	95	70 - 130	60 - 140	
1,2-Dichloropropane	50.0	57.35		ug/Kg	115	79 - 115	73 - 121	
1,3,5-Trimethylbenzene	50.0	49.87		ug/Kg	100	70 - 130	60 - 140	
1,3-Dichlorobenzene	50.0	52.43		ug/Kg	105	70 - 130	60 - 140	
1,3-Dichloropropane	50.0	52.64		ug/Kg	105	70 - 130	60 - 140	
1,4-Dichlorobenzene	50.0	49.84		ug/Kg	100	70 - 130	60 - 140	
2,2-Dichloropropane	50.0	62.60		ug/Kg	125	70 - 130	60 - 140	
2-Butanone	50.0	55.36		ug/Kg	111	70 - 130	60 - 140	
2-Chlorotoluene	50.0	54.62		ug/Kg	109	70 - 130	60 - 140	
2-Hexanone	50.0	51.82		ug/Kg	104	70 - 130	60 - 140	
4-Chlorotoluene	50.0	54.47		ug/Kg	109	70 - 130	60 - 140	
4-Methyl-2-pentanone	50.0	52.46		ug/Kg	105	70 - 130	60 - 140	
Acetone	50.0	59.00	J	ug/Kg	118	70 - 130	60 - 140	
Benzene	50.0	54.13		ug/Kg	108	78 - 120	71 - 127	
Bromobenzene	50.0	50.39		ug/Kg	101	70 - 130	60 - 140	
Bromochloromethane	50.0	55.32		ug/Kg	111	70 - 130	60 - 140	
Bromodichloromethane	50.0	56.86		ug/Kg	114	70 - 130	60 - 140	
Bromoform	50.0	51.53		ug/Kg	103	70 - 130	60 - 140	
Bromomethane	50.0	38.93		ug/Kg	78	70 - 130	60 - 140	
cis-1,2-Dichloroethene	50.0	59.08		ug/Kg	118	70 - 130	60 - 140	
cis-1,3-Dichloropropene	50.0	59.45		ug/Kg	119	70 - 130	60 - 140	
Carbon disulfide	50.0	69.23	* me	ug/Kg	138	70 - 130	60 - 140	ME
Carbon tetrachloride	50.0	57.44		ug/Kg	115	49 - 139	34 - 154	
Chlorobenzene	50.0	49.23		ug/Kg	98	79 - 120	72 - 127	
Chloroethane	50.0	38.93		ug/Kg	78	70 - 130	60 - 140	
Chloroform	50.0	57.24		ug/Kg	114	70 - 130	60 - 140	
Chloromethane	50.0	43.10		ug/Kg	86	70 - 130	60 - 140	
Dibromochloromethane	50.0	52.09		ug/Kg	104	70 - 130	60 - 140	
Dibromomethane	50.0	54.24		ug/Kg	108	70 - 130	60 - 140	
Dichlorodifluoromethane	50.0	45.95		ug/Kg	92	70 - 130	60 - 140	
Di-isopropyl ether (DIPE)	50.0	59.02		ug/Kg	118	78 - 120	71 - 127	
Ethanol	500	459.5		ug/Kg	92	56 - 140	42 - 154	
Ethylbenzene	50.0	53.80		ug/Kg	108	76 - 120	69 - 127	
Ethyl-t-butyl ether (ETBE)	50.0	60.74		ug/Kg	121	70 - 124	61 - 133	

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

Lab Sample ID: LCS 570-39317/4-A
Matrix: Solid

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	%Rec	%Rec. Limits	ME %Rec. Limits	Marginal Exceedance Status
Isopropylbenzene	50.0	51.46		ug/Kg	103	70 - 130	60 - 140	
Methylene Chloride	50.0	56.41		ug/Kg	113	70 - 130	60 - 140	
Methyl-t-Butyl Ether (MTBE)	50.0	58.12		ug/Kg	116	70 - 124	61 - 133	
Naphthalene	50.0	53.36		ug/Kg	107	70 - 130	60 - 140	
n-Butylbenzene	50.0	55.73		ug/Kg	111	77 - 123	69 - 131	
N-Propylbenzene	50.0	55.60		ug/Kg	111	70 - 130	60 - 140	
o-Xylene	50.0	53.02		ug/Kg	106	70 - 130	60 - 140	
m,p-Xylene	100	110.6		ug/Kg	111	70 - 130	60 - 140	
p-Isopropyltoluene	50.0	52.49		ug/Kg	105	70 - 130	60 - 140	
sec-Butylbenzene	50.0	52.03		ug/Kg	104	70 - 130	60 - 140	
Styrene	50.0	49.37		ug/Kg	99	70 - 130	60 - 140	
trans-1,2-Dichloroethene	50.0	58.25		ug/Kg	117	70 - 130	60 - 140	
trans-1,3-Dichloropropene	50.0	57.49		ug/Kg	115	70 - 130	60 - 140	
Tert-amyl-methyl ether (TAME)	50.0	58.33		ug/Kg	117	75 - 125	67 - 133	
tert-Butyl alcohol (TBA)	250	221.4		ug/Kg	89	68 - 122	59 - 131	
tert-Butylbenzene	50.0	55.05		ug/Kg	110	70 - 130	60 - 140	
Tetrachloroethene	50.0	49.44		ug/Kg	99	70 - 130	60 - 140	
Toluene	50.0	52.31		ug/Kg	105	77 - 120	70 - 127	
Trichloroethene	50.0	55.98		ug/Kg	112	70 - 130	60 - 140	
Trichlorofluoromethane	50.0	36.77	J	ug/Kg	74	70 - 130	60 - 140	
Vinyl acetate	50.0	49.59	J	ug/Kg	99	70 - 130	60 - 140	
Vinyl chloride	50.0	34.25		ug/Kg	68	68 - 122	59 - 131	

Summary

Number of Analytes Reported	Number of Marginal Exceedances Allowed	Number of Marginal Exceedances Found
71	4	1

ME = Marginal Exceedance

Lab Sample ID: LCSD 570-39317/5-A
Matrix: Solid

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	%Rec	%Rec. Limits	ME %Rec. Limits	Marginal Exceedance Status
1,1,1,2-Tetrachloroethane	50.0	50.48		ug/Kg	101	70 - 130	60 - 140	
1,1,1-Trichloroethane	50.0	55.50		ug/Kg	111	70 - 130	60 - 140	
1,1,2,2-Tetrachloroethane	50.0	48.44		ug/Kg	97	70 - 130	60 - 140	
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	51.61		ug/Kg	103	70 - 130	60 - 140	
1,1,2-Trichloroethane	50.0	50.71		ug/Kg	101	70 - 130	60 - 140	
1,1-Dichloroethane	50.0	57.39		ug/Kg	115	70 - 130	60 - 140	
1,1-Dichloroethene	50.0	55.45		ug/Kg	111	74 - 122	66 - 130	
1,1-Dichloropropene	50.0	55.71		ug/Kg	111	70 - 130	60 - 140	
1,2,3-Trichlorobenzene	50.0	59.54		ug/Kg	119	70 - 130	60 - 140	
1,2,3-Trichloropropane	50.0	50.57		ug/Kg	101	70 - 130	60 - 140	
1,2,4-Trichlorobenzene	50.0	58.77		ug/Kg	118	70 - 130	60 - 140	
1,2,4-Trimethylbenzene	50.0	49.55		ug/Kg	99	70 - 130	60 - 140	
1,2-Dibromo-3-Chloropropane	50.0	51.00		ug/Kg	102	70 - 130	60 - 140	
1,2-Dibromoethane	50.0	50.74		ug/Kg	101	70 - 130	60 - 140	
1,2-Dichlorobenzene	50.0	50.47		ug/Kg	101	75 - 120	68 - 128	
1,2-Dichloroethane	50.0	46.30		ug/Kg	93	70 - 130	60 - 140	

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

Lab Sample ID: LCSD 570-39317/5-A
Matrix: Solid

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	%Rec	%Rec. Limits	ME %Rec. Limits	Marginal Exceedance Status
1,2-Dichloropropane	50.0	55.84		ug/Kg	112	79 - 115	73 - 121	
1,3,5-Trimethylbenzene	50.0	48.13		ug/Kg	96	70 - 130	60 - 140	
1,3-Dichlorobenzene	50.0	50.68		ug/Kg	101	70 - 130	60 - 140	
1,3-Dichloropropane	50.0	51.11		ug/Kg	102	70 - 130	60 - 140	
1,4-Dichlorobenzene	50.0	48.18		ug/Kg	96	70 - 130	60 - 140	
2,2-Dichloropropane	50.0	62.22		ug/Kg	124	70 - 130	60 - 140	
2-Butanone	50.0	53.84		ug/Kg	108	70 - 130	60 - 140	
2-Chlorotoluene	50.0	52.70		ug/Kg	105	70 - 130	60 - 140	
2-Hexanone	50.0	53.23		ug/Kg	106	70 - 130	60 - 140	
4-Chlorotoluene	50.0	52.13		ug/Kg	104	70 - 130	60 - 140	
4-Methyl-2-pentanone	50.0	53.44		ug/Kg	107	70 - 130	60 - 140	
Acetone	50.0	50.21	J	ug/Kg	100	70 - 130	60 - 140	
Benzene	50.0	52.53		ug/Kg	105	78 - 120	71 - 127	
Bromobenzene	50.0	49.26		ug/Kg	99	70 - 130	60 - 140	
Bromochloromethane	50.0	54.60		ug/Kg	109	70 - 130	60 - 140	
Bromodichloromethane	50.0	55.15		ug/Kg	110	70 - 130	60 - 140	
Bromoform	50.0	50.02		ug/Kg	100	70 - 130	60 - 140	
Bromomethane	50.0	38.57		ug/Kg	77	70 - 130	60 - 140	
cis-1,2-Dichloroethene	50.0	56.81		ug/Kg	114	70 - 130	60 - 140	
cis-1,3-Dichloropropene	50.0	58.27		ug/Kg	117	70 - 130	60 - 140	
Carbon disulfide	50.0	66.28	* me	ug/Kg	133	70 - 130	60 - 140	ME
Carbon tetrachloride	50.0	56.51		ug/Kg	113	49 - 139	34 - 154	
Chlorobenzene	50.0	47.75		ug/Kg	95	79 - 120	72 - 127	
Chloroethane	50.0	39.53		ug/Kg	79	70 - 130	60 - 140	
Chloroform	50.0	55.40		ug/Kg	111	70 - 130	60 - 140	
Chloromethane	50.0	42.31		ug/Kg	85	70 - 130	60 - 140	
Dibromochloromethane	50.0	50.84		ug/Kg	102	70 - 130	60 - 140	
Dibromomethane	50.0	51.84		ug/Kg	104	70 - 130	60 - 140	
Dichlorodifluoromethane	50.0	45.00		ug/Kg	90	70 - 130	60 - 140	
Di-isopropyl ether (DIPE)	50.0	56.91		ug/Kg	114	78 - 120	71 - 127	
Ethanol	500	430.8		ug/Kg	86	56 - 140	42 - 154	
Ethylbenzene	50.0	51.90		ug/Kg	104	76 - 120	69 - 127	
Ethyl-t-butyl ether (ETBE)	50.0	59.19		ug/Kg	118	70 - 124	61 - 133	
Isopropylbenzene	50.0	49.96		ug/Kg	100	70 - 130	60 - 140	
Methylene Chloride	50.0	54.49		ug/Kg	109	70 - 130	60 - 140	
Methyl-t-Butyl Ether (MTBE)	50.0	57.18		ug/Kg	114	70 - 124	61 - 133	
Naphthalene	50.0	53.23		ug/Kg	106	70 - 130	60 - 140	
n-Butylbenzene	50.0	53.55		ug/Kg	107	77 - 123	69 - 131	
N-Propylbenzene	50.0	53.83		ug/Kg	108	70 - 130	60 - 140	
o-Xylene	50.0	51.69		ug/Kg	103	70 - 130	60 - 140	
m,p-Xylene	100	107.2		ug/Kg	107	70 - 130	60 - 140	
p-Isopropyltoluene	50.0	50.58		ug/Kg	101	70 - 130	60 - 140	
sec-Butylbenzene	50.0	50.77		ug/Kg	102	70 - 130	60 - 140	
Styrene	50.0	48.00		ug/Kg	96	70 - 130	60 - 140	
trans-1,2-Dichloroethene	50.0	56.43		ug/Kg	113	70 - 130	60 - 140	
trans-1,3-Dichloropropene	50.0	56.36		ug/Kg	113	70 - 130	60 - 140	
Tert-amyl-methyl ether (TAME)	50.0	56.92		ug/Kg	114	75 - 125	67 - 133	
tert-Butyl alcohol (TBA)	250	211.7		ug/Kg	85	68 - 122	59 - 131	
tert-Butylbenzene	50.0	52.94		ug/Kg	106	70 - 130	60 - 140	
Tetrachloroethene	50.0	47.56		ug/Kg	95	70 - 130	60 - 140	

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

Lab Sample ID: LCSD 570-39317/5-A
Matrix: Solid

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	%Rec	%Rec. Limits	ME %Rec. Limits	Marginal Exceedance Status
Toluene	50.0	50.95		ug/Kg	102	77 - 120	70 - 127	
Trichloroethene	50.0	54.64		ug/Kg	109	70 - 130	60 - 140	
Trichlorofluoromethane	50.0	37.90	J	ug/Kg	76	70 - 130	60 - 140	
Vinyl acetate	50.0	47.14	J	ug/Kg	94	70 - 130	60 - 140	
Vinyl chloride	50.0	34.25		ug/Kg	69	68 - 122	59 - 131	

Summary

Number of Analytes Reported	Number of Marginal Exceedances Allowed	Number of Marginal Exceedances Found
71	4	1

ME = Marginal Exceedance

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

Lab Sample ID: LCS 570-39283/2-A
Matrix: Solid

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	%Rec	%Rec. Limits	ME %Rec. Limits	Marginal Exceedance Status
1,2,4-Trichlorobenzene	5.00	4.105		mg/Kg	82	45 - 129	31 - 143	
1,2-Dichlorobenzene	5.00	4.006		mg/Kg	80	45 - 123	32 - 136	
1,3-Dichlorobenzene	5.00	3.957		mg/Kg	79	45 - 123	32 - 136	
1,4-Dichlorobenzene	5.00	3.882		mg/Kg	78	42 - 132	27 - 147	
1-Methylnaphthalene	5.00	4.114		mg/Kg	82	45 - 105	35 - 115	
2,4,5-Trichlorophenol	5.00	4.071		mg/Kg	81	43 - 127	29 - 141	
2,4,6-Trichlorophenol	5.00	4.122		mg/Kg	82	48 - 126	35 - 139	
2,4-Dichlorophenol	5.00	4.165		mg/Kg	83	49 - 127	36 - 140	
2,4-Dimethylphenol	5.00	4.272		mg/Kg	85	45 - 147	28 - 164	
2,4-Dinitrophenol	5.00	3.494		mg/Kg	70	18 - 138	1 - 158	
2,4-Dinitrotoluene	5.00	4.798		mg/Kg	96	51 - 129	38 - 142	
2,6-Dichlorophenol	5.00	4.070		mg/Kg	81	80 - 120	73 - 127	
2,6-Dinitrotoluene	5.00	4.790		mg/Kg	96	44 - 140	28 - 156	
2-Chloronaphthalene	5.00	4.139		mg/Kg	83	45 - 129	31 - 143	
2-Chlorophenol	5.00	4.367		mg/Kg	87	58 - 124	47 - 135	
2-Methylnaphthalene	5.00	4.033		mg/Kg	81	42 - 132	27 - 147	
2-Methylphenol	5.00	4.258		mg/Kg	85	45 - 129	31 - 143	
2-Nitroaniline	5.00	4.280		mg/Kg	86	35 - 150	16 - 169	
2-Nitrophenol	5.00	4.724		mg/Kg	94	50 - 140	35 - 155	
3,3'-Dichlorobenzidine	5.00	3.310		mg/Kg	66	20 - 150	1 - 172	
3 & 4 Methylphenol	10.0	6.636		mg/Kg	66	37 - 127	22 - 142	
3-Nitroaniline	5.00	3.689		mg/Kg	74	24 - 120	8 - 136	
4,6-Dinitro-2-methylphenol	5.00	4.926		mg/Kg	99	36 - 138	19 - 155	
4-Bromophenyl phenyl ether	5.00	4.229		mg/Kg	85	39 - 135	23 - 151	
4-Chloro-3-methylphenol	5.00	4.195		mg/Kg	84	55 - 151	39 - 167	
4-Chloroaniline	5.00	2.577		mg/Kg	52	16 - 124	1 - 142	
4-Chlorophenyl phenyl ether	5.00	4.204		mg/Kg	84	45 - 135	30 - 150	
4-Nitroaniline	5.00	4.154		mg/Kg	83	47 - 137	32 - 152	
4-Nitrophenol	5.00	4.421		mg/Kg	88	24 - 126	7 - 143	
Acenaphthene	5.00	4.188		mg/Kg	84	51 - 123	39 - 135	
Acenaphthylene	5.00	4.546		mg/Kg	91	52 - 120	41 - 131	
Aniline	5.00	2.524	* me	mg/Kg	50	60 - 140	47 - 153	ME

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

Lab Sample ID: LCS 570-39283/2-A
Matrix: Solid

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	%Rec	%Rec. Limits	ME %Rec. Limits	Marginal Exceedance Status
Anthracene	5.00	4.380		mg/Kg	88	41 - 125	27 - 139	
Azobenzene	5.00	4.083		mg/Kg	82	60 - 140	47 - 153	
Benzidine	5.00	1.783	J	mg/Kg	36	20 - 92	8 - 104	
Benzo[a]anthracene	5.00	4.965		mg/Kg	99	45 - 117	33 - 129	
Benzo[a]pyrene	5.00	4.653		mg/Kg	93	41 - 125	27 - 139	
Benzo[b]fluoranthene	5.00	4.411		mg/Kg	88	41 - 137	25 - 153	
Benzo[g,h,i]perylene	5.00	4.777		mg/Kg	96	16 - 124	1 - 142	
Benzo[k]fluoranthene	5.00	4.945		mg/Kg	99	42 - 144	25 - 161	
Benzoic acid	5.00	3.855		mg/Kg	77	18 - 150	1 - 172	
Benzyl alcohol	5.00	3.844		mg/Kg	77	46 - 150	29 - 167	
Bis(2-chloroethoxy)methane	5.00	3.928		mg/Kg	79	43 - 133	28 - 148	
Bis(2-chloroethyl)ether	5.00	4.026		mg/Kg	81	46 - 124	33 - 137	
bis (2-Chloroisopropyl) ether	5.00	3.908		mg/Kg	78	27 - 147	7 - 167	
Bis(2-ethylhexyl) phthalate	5.00	4.885		mg/Kg	98	55 - 121	44 - 132	
Butyl benzyl phthalate	5.00	5.101		mg/Kg	102	43 - 139	27 - 155	
Chrysene	5.00	4.619		mg/Kg	92	45 - 117	33 - 129	
Dibenz(a,h)anthracene	5.00	4.625		mg/Kg	93	21 - 129	3 - 147	
Dibenzofuran	5.00	4.031		mg/Kg	81	46 - 130	32 - 144	
Diethyl phthalate	5.00	4.282		mg/Kg	86	44 - 134	29 - 149	
Dimethyl phthalate	5.00	4.295		mg/Kg	86	51 - 123	39 - 135	
Di-n-butyl phthalate	5.00	4.366		mg/Kg	87	44 - 134	29 - 149	
Di-n-octyl phthalate	5.00	4.749		mg/Kg	95	18 - 150	1 - 172	
Fluoranthene	5.00	4.478		mg/Kg	90	39 - 129	24 - 144	
Fluorene	5.00	4.380		mg/Kg	88	54 - 126	42 - 138	
Hexachloro-1,3-butadiene	5.00	4.096		mg/Kg	82	40 - 136	24 - 152	
Hexachlorobenzene	5.00	4.095		mg/Kg	82	40 - 136	24 - 152	
Hexachlorocyclopentadiene	5.00	5.136		mg/Kg	103	31 - 115	17 - 129	
Hexachloroethane	5.00	3.976		mg/Kg	80	40 - 124	26 - 138	
Indeno[1,2,3-cd]pyrene	5.00	4.582		mg/Kg	92	70 - 130	60 - 140	
Isophorone	5.00	4.072		mg/Kg	81	70 - 130	60 - 140	
Naphthalene	5.00	4.184		mg/Kg	84	32 - 146	13 - 165	
Nitrobenzene	5.00	4.046		mg/Kg	81	41 - 137	25 - 153	
N-Nitrosodimethylamine	5.00	3.425		mg/Kg	68	45 - 129	31 - 143	
N-Nitrosodi-n-propylamine	5.00	4.208		mg/Kg	84	40 - 136	24 - 152	
N-Nitrosodiphenylamine	5.00	4.927		mg/Kg	99	51 - 150	34 - 166	
Pentachlorophenol	5.00	3.593		mg/Kg	72	23 - 131	5 - 149	
Phenanthrene	5.00	4.258		mg/Kg	85	38 - 140	21 - 157	
Phenol	5.00	4.361		mg/Kg	87	40 - 130	25 - 145	
Pyrene	5.00	4.755		mg/Kg	95	47 - 143	31 - 159	
Pyridine	5.00	2.369		mg/Kg	47	46 - 88	39 - 95	

Summary

Number of Analytes Reported	Number of Marginal Exceedances Allowed	Number of Marginal Exceedances Found
72	4	1

ME = Marginal Exceedance

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

Lab Sample ID: LCSD 570-39283/3-A
Matrix: Solid

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	%Rec	%Rec. Limits	ME %Rec. Limits	Marginal Exceedance Status
1,2,4-Trichlorobenzene	5.00	3.937		mg/Kg	79	45 - 129	31 - 143	
1,2-Dichlorobenzene	5.00	3.700		mg/Kg	74	45 - 123	32 - 136	
1,3-Dichlorobenzene	5.00	3.702		mg/Kg	74	45 - 123	32 - 136	
1,4-Dichlorobenzene	5.00	3.595		mg/Kg	72	42 - 132	27 - 147	
1-Methylnaphthalene	5.00	3.936		mg/Kg	79	45 - 105	35 - 115	
2,4,5-Trichlorophenol	5.00	3.974		mg/Kg	79	43 - 127	29 - 141	
2,4,6-Trichlorophenol	5.00	3.982		mg/Kg	80	48 - 126	35 - 139	
2,4-Dichlorophenol	5.00	4.031		mg/Kg	81	49 - 127	36 - 140	
2,4-Dimethylphenol	5.00	4.047		mg/Kg	81	45 - 147	28 - 164	
2,4-Dinitrophenol	5.00	3.579		mg/Kg	72	18 - 138	1 - 158	
2,4-Dinitrotoluene	5.00	4.669		mg/Kg	93	51 - 129	38 - 142	
2,6-Dichlorophenol	5.00	3.980		mg/Kg	80	80 - 120	73 - 127	
2,6-Dinitrotoluene	5.00	4.667		mg/Kg	93	44 - 140	28 - 156	
2-Chloronaphthalene	5.00	3.960		mg/Kg	79	45 - 129	31 - 143	
2-Chlorophenol	5.00	4.104		mg/Kg	82	58 - 124	47 - 135	
2-Methylnaphthalene	5.00	3.913		mg/Kg	78	42 - 132	27 - 147	
2-Methylphenol	5.00	4.087		mg/Kg	82	45 - 129	31 - 143	
2-Nitroaniline	5.00	4.140		mg/Kg	83	35 - 150	16 - 169	
2-Nitrophenol	5.00	4.590		mg/Kg	92	50 - 140	35 - 155	
3,3'-Dichlorobenzidine	5.00	3.098		mg/Kg	62	20 - 150	1 - 172	
3 & 4 Methylphenol	10.0	6.422		mg/Kg	64	37 - 127	22 - 142	
3-Nitroaniline	5.00	3.513		mg/Kg	70	24 - 120	8 - 136	
4,6-Dinitro-2-methylphenol	5.00	4.853		mg/Kg	97	36 - 138	19 - 155	
4-Bromophenyl phenyl ether	5.00	4.004		mg/Kg	80	39 - 135	23 - 151	
4-Chloro-3-methylphenol	5.00	3.977		mg/Kg	80	55 - 151	39 - 167	
4-Chloroaniline	5.00	2.521		mg/Kg	50	16 - 124	1 - 142	
4-Chlorophenyl phenyl ether	5.00	4.078		mg/Kg	82	45 - 135	30 - 150	
4-Nitroaniline	5.00	3.943		mg/Kg	79	47 - 137	32 - 152	
4-Nitrophenol	5.00	4.387		mg/Kg	88	24 - 126	7 - 143	
Acenaphthene	5.00	3.993		mg/Kg	80	51 - 123	39 - 135	
Acenaphthylene	5.00	4.385		mg/Kg	88	52 - 120	41 - 131	
Aniline	5.00	2.328	* me	mg/Kg	47	60 - 140	47 - 153	ME
Anthracene	5.00	4.192		mg/Kg	84	41 - 125	27 - 139	
Azobenzene	5.00	3.743		mg/Kg	75	60 - 140	47 - 153	
Benzidine	5.00	1.696	J	mg/Kg	34	20 - 92	8 - 104	
Benzo[a]anthracene	5.00	4.657		mg/Kg	93	45 - 117	33 - 129	
Benzo[a]pyrene	5.00	4.380		mg/Kg	88	41 - 125	27 - 139	
Benzo[b]fluoranthene	5.00	4.467		mg/Kg	89	41 - 137	25 - 153	
Benzo[g,h,i]perylene	5.00	4.428		mg/Kg	89	16 - 124	1 - 142	
Benzo[k]fluoranthene	5.00	4.297		mg/Kg	86	42 - 144	25 - 161	
Benzoic acid	5.00	3.923		mg/Kg	78	18 - 150	1 - 172	
Benzyl alcohol	5.00	3.544		mg/Kg	71	46 - 150	29 - 167	
Bis(2-chloroethoxy)methane	5.00	3.726		mg/Kg	75	43 - 133	28 - 148	
Bis(2-chloroethyl)ether	5.00	3.789		mg/Kg	76	46 - 124	33 - 137	
bis (2-Chloroisopropyl) ether	5.00	3.777		mg/Kg	76	27 - 147	7 - 167	
Bis(2-ethylhexyl) phthalate	5.00	4.479		mg/Kg	90	55 - 121	44 - 132	
Butyl benzyl phthalate	5.00	4.814		mg/Kg	96	43 - 139	27 - 155	
Chrysene	5.00	4.282		mg/Kg	86	45 - 117	33 - 129	
Dibenz(a,h)anthracene	5.00	4.319		mg/Kg	86	21 - 129	3 - 147	

Marginal Exceedance (ME) Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

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

Lab Sample ID: LCSD 570-39283/3-A
Matrix: Solid

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	%Rec	%Rec. Limits	ME %Rec. Limits	Marginal Exceedance Status
Dibenzofuran	5.00	3.879		mg/Kg	78	46 - 130	32 - 144	
Diethyl phthalate	5.00	4.092		mg/Kg	82	44 - 134	29 - 149	
Dimethyl phthalate	5.00	4.104		mg/Kg	82	51 - 123	39 - 135	
Di-n-butyl phthalate	5.00	4.114		mg/Kg	82	44 - 134	29 - 149	
Di-n-octyl phthalate	5.00	4.500		mg/Kg	90	18 - 150	1 - 172	
Fluoranthene	5.00	4.196		mg/Kg	84	39 - 129	24 - 144	
Fluorene	5.00	4.264		mg/Kg	85	54 - 126	42 - 138	
Hexachloro-1,3-butadiene	5.00	3.944		mg/Kg	79	40 - 136	24 - 152	
Hexachlorobenzene	5.00	3.831		mg/Kg	77	40 - 136	24 - 152	
Hexachlorocyclopentadiene	5.00	5.002		mg/Kg	100	31 - 115	17 - 129	
Hexachloroethane	5.00	3.831		mg/Kg	77	40 - 124	26 - 138	
Indeno[1,2,3-cd]pyrene	5.00	4.272		mg/Kg	85	70 - 130	60 - 140	
Isophorone	5.00	3.852		mg/Kg	77	70 - 130	60 - 140	
Naphthalene	5.00	3.954		mg/Kg	79	32 - 146	13 - 165	
Nitrobenzene	5.00	3.909		mg/Kg	78	41 - 137	25 - 153	
N-Nitrosodimethylamine	5.00	3.196		mg/Kg	64	45 - 129	31 - 143	
N-Nitrosodi-n-propylamine	5.00	4.009		mg/Kg	80	40 - 136	24 - 152	
N-Nitrosodiphenylamine	5.00	4.673		mg/Kg	93	51 - 150	34 - 166	
Pentachlorophenol	5.00	3.455		mg/Kg	69	23 - 131	5 - 149	
Phenanthrene	5.00	4.026		mg/Kg	81	38 - 140	21 - 157	
Phenol	5.00	4.098		mg/Kg	82	40 - 130	25 - 145	
Pyrene	5.00	4.479		mg/Kg	90	47 - 143	31 - 159	
Pyridine	5.00	2.241	* me	mg/Kg	45	46 - 88	39 - 95	ME

Summary

Number of Analytes Reported	Number of Marginal Exceedances Allowed	Number of Marginal Exceedances Found
72	4	2

ME = Marginal Exceedance

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

GC/MS VOA

Analysis Batch: 39212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-19	B23-1-20191212	Total/NA	Solid	8260B	39246
570-15709-20	B23-5-20191212	Total/NA	Solid	8260B	39246
570-15709-24	B26-1-20191212	Total/NA	Solid	8260B	39246
570-15709-25	B26-5-20191212	Total/NA	Solid	8260B	39246
570-15709-29	B25-1-20191212	Total/NA	Solid	8260B	39246
570-15709-30	B25-5-20191212	Total/NA	Solid	8260B	39246
570-15709-33	B24-1-20191212	Total/NA	Solid	8260B	39246
570-15709-34	B24-10-20191212	Total/NA	Solid	8260B	39246
570-15709-36	B21-1-20191212	Total/NA	Solid	8260B	39246
570-15709-37	B21-5-20191212	Total/NA	Solid	8260B	39246
MB 570-39246/3-A	Method Blank	Total/NA	Solid	8260B	39246
LCS 570-39246/1-A	Lab Control Sample	Total/NA	Solid	8260B	39246
LCSD 570-39246/2-A	Lab Control Sample Dup	Total/NA	Solid	8260B	39246
570-15709-19 MS	B23-1-20191212	Total/NA	Solid	8260B	39246
570-15709-19 MSD	B23-1-20191212	Total/NA	Solid	8260B	39246

Prep Batch: 39246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-19	B23-1-20191212	Total/NA	Solid	5030C	
570-15709-20	B23-5-20191212	Total/NA	Solid	5030C	
570-15709-24	B26-1-20191212	Total/NA	Solid	5030C	
570-15709-25	B26-5-20191212	Total/NA	Solid	5030C	
570-15709-29	B25-1-20191212	Total/NA	Solid	5030C	
570-15709-30	B25-5-20191212	Total/NA	Solid	5030C	
570-15709-33	B24-1-20191212	Total/NA	Solid	5030C	
570-15709-34	B24-10-20191212	Total/NA	Solid	5030C	
570-15709-36	B21-1-20191212	Total/NA	Solid	5030C	
570-15709-37	B21-5-20191212	Total/NA	Solid	5030C	
MB 570-39246/3-A	Method Blank	Total/NA	Solid	5030C	
LCS 570-39246/1-A	Lab Control Sample	Total/NA	Solid	5030C	
LCSD 570-39246/2-A	Lab Control Sample Dup	Total/NA	Solid	5030C	
570-15709-19 MS	B23-1-20191212	Total/NA	Solid	5030C	
570-15709-19 MSD	B23-1-20191212	Total/NA	Solid	5030C	

Prep Batch: 39317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-40	B22-1-20191212	Total/NA	Solid	5030C	
570-15709-41	B22-5-20191212	Total/NA	Solid	5030C	
570-15709-43	B20-1-20191212	Total/NA	Solid	5030C	
570-15709-44	B20-5-20191212	Total/NA	Solid	5030C	
570-15709-47	B19-1-20191212	Total/NA	Solid	5030C	
570-15709-48	B19-5-20191212	Total/NA	Solid	5030C	
MB 570-39317/3-A	Method Blank	Total/NA	Solid	5030C	
LCS 570-39317/4-A	Lab Control Sample	Total/NA	Solid	5030C	
LCSD 570-39317/5-A	Lab Control Sample Dup	Total/NA	Solid	5030C	
570-15709-40 MS	B22-1-20191212	Total/NA	Solid	5030C	
570-15709-40 MSD	B22-1-20191212	Total/NA	Solid	5030C	

Analysis Batch: 39342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-40	B22-1-20191212	Total/NA	Solid	8260B	39317

GC/MS VOA (Continued)

Analysis Batch: 39342 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-41	B22-5-20191212	Total/NA	Solid	8260B	39317
570-15709-43	B20-1-20191212	Total/NA	Solid	8260B	39317
570-15709-44	B20-5-20191212	Total/NA	Solid	8260B	39317
570-15709-47	B19-1-20191212	Total/NA	Solid	8260B	39317
570-15709-48	B19-5-20191212	Total/NA	Solid	8260B	39317
MB 570-39317/3-A	Method Blank	Total/NA	Solid	8260B	39317
LCS 570-39317/4-A	Lab Control Sample	Total/NA	Solid	8260B	39317
LCSD 570-39317/5-A	Lab Control Sample Dup	Total/NA	Solid	8260B	39317
570-15709-40 MS	B22-1-20191212	Total/NA	Solid	8260B	39317
570-15709-40 MSD	B22-1-20191212	Total/NA	Solid	8260B	39317

GC/MS Semi VOA

Prep Batch: 39283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-19	B23-1-20191212	Total/NA	Solid	3545	
570-15709-20	B23-5-20191212	Total/NA	Solid	3545	
570-15709-24	B26-1-20191212	Total/NA	Solid	3545	
570-15709-25	B26-5-20191212	Total/NA	Solid	3545	
570-15709-29	B25-1-20191212	Total/NA	Solid	3545	
570-15709-30	B25-5-20191212	Total/NA	Solid	3545	
570-15709-33	B24-1-20191212	Total/NA	Solid	3545	
570-15709-34	B24-10-20191212	Total/NA	Solid	3545	
570-15709-36	B21-1-20191212	Total/NA	Solid	3545	
570-15709-37	B21-5-20191212	Total/NA	Solid	3545	
570-15709-40	B22-1-20191212	Total/NA	Solid	3545	
570-15709-41	B22-5-20191212	Total/NA	Solid	3545	
570-15709-43	B20-1-20191212	Total/NA	Solid	3545	
570-15709-44	B20-5-20191212	Total/NA	Solid	3545	
570-15709-47	B19-1-20191212	Total/NA	Solid	3545	
570-15709-48	B19-5-20191212	Total/NA	Solid	3545	
MB 570-39283/1-A	Method Blank	Total/NA	Solid	3545	
LCS 570-39283/2-A	Lab Control Sample	Total/NA	Solid	3545	
LCSD 570-39283/3-A	Lab Control Sample Dup	Total/NA	Solid	3545	
570-15709-36 MS	B21-1-20191212	Total/NA	Solid	3545	
570-15709-36 MSD	B21-1-20191212	Total/NA	Solid	3545	

Analysis Batch: 39842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-19	B23-1-20191212	Total/NA	Solid	8270C	39283
570-15709-20	B23-5-20191212	Total/NA	Solid	8270C	39283
570-15709-24	B26-1-20191212	Total/NA	Solid	8270C	39283
570-15709-25	B26-5-20191212	Total/NA	Solid	8270C	39283
570-15709-29	B25-1-20191212	Total/NA	Solid	8270C	39283
570-15709-30	B25-5-20191212	Total/NA	Solid	8270C	39283
570-15709-33	B24-1-20191212	Total/NA	Solid	8270C	39283
570-15709-34	B24-10-20191212	Total/NA	Solid	8270C	39283
570-15709-36	B21-1-20191212	Total/NA	Solid	8270C	39283
570-15709-37	B21-5-20191212	Total/NA	Solid	8270C	39283
570-15709-40	B22-1-20191212	Total/NA	Solid	8270C	39283
570-15709-41	B22-5-20191212	Total/NA	Solid	8270C	39283

GC/MS Semi VOA (Continued)

Analysis Batch: 39842 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-43	B20-1-20191212	Total/NA	Solid	8270C	39283
570-15709-44	B20-5-20191212	Total/NA	Solid	8270C	39283
570-15709-47	B19-1-20191212	Total/NA	Solid	8270C	39283
570-15709-48	B19-5-20191212	Total/NA	Solid	8270C	39283
MB 570-39283/1-A	Method Blank	Total/NA	Solid	8270C	39283
LCS 570-39283/2-A	Lab Control Sample	Total/NA	Solid	8270C	39283
LCSD 570-39283/3-A	Lab Control Sample Dup	Total/NA	Solid	8270C	39283
570-15709-36 MS	B21-1-20191212	Total/NA	Solid	8270C	39283
570-15709-36 MSD	B21-1-20191212	Total/NA	Solid	8270C	39283

GC VOA

Analysis Batch: 39100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-19	B23-1-20191212	Total/NA	Solid	8015B	39116
570-15709-20	B23-5-20191212	Total/NA	Solid	8015B	39116
570-15709-24	B26-1-20191212	Total/NA	Solid	8015B	39116
570-15709-25	B26-5-20191212	Total/NA	Solid	8015B	39116
570-15709-29	B25-1-20191212	Total/NA	Solid	8015B	39116
570-15709-30	B25-5-20191212	Total/NA	Solid	8015B	39116
570-15709-33	B24-1-20191212	Total/NA	Solid	8015B	39116
570-15709-34	B24-10-20191212	Total/NA	Solid	8015B	39116
570-15709-36	B21-1-20191212	Total/NA	Solid	8015B	39116
570-15709-37	B21-5-20191212	Total/NA	Solid	8015B	39116
570-15709-40	B22-1-20191212	Total/NA	Solid	8015B	39116
570-15709-41	B22-5-20191212	Total/NA	Solid	8015B	39116
570-15709-43	B20-1-20191212	Total/NA	Solid	8015B	39116
570-15709-44	B20-5-20191212	Total/NA	Solid	8015B	39116
570-15709-47	B19-1-20191212	Total/NA	Solid	8015B	39116
570-15709-48	B19-5-20191212	Total/NA	Solid	8015B	39116
MB 570-39116/1-A	Method Blank	Total/NA	Solid	8015B	39116
LCS 570-39100/3	Lab Control Sample	Total/NA	Solid	8015B	
LCSD 570-39100/4	Lab Control Sample Dup	Total/NA	Solid	8015B	
570-15674-B-1-C MS	Matrix Spike	Total/NA	Solid	8015B	39116
570-15674-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	39116

Prep Batch: 39116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-19	B23-1-20191212	Total/NA	Solid	5030C	
570-15709-20	B23-5-20191212	Total/NA	Solid	5030C	
570-15709-24	B26-1-20191212	Total/NA	Solid	5030C	
570-15709-25	B26-5-20191212	Total/NA	Solid	5030C	
570-15709-29	B25-1-20191212	Total/NA	Solid	5030C	
570-15709-30	B25-5-20191212	Total/NA	Solid	5030C	
570-15709-33	B24-1-20191212	Total/NA	Solid	5030C	
570-15709-34	B24-10-20191212	Total/NA	Solid	5030C	
570-15709-36	B21-1-20191212	Total/NA	Solid	5030C	
570-15709-37	B21-5-20191212	Total/NA	Solid	5030C	
570-15709-40	B22-1-20191212	Total/NA	Solid	5030C	
570-15709-41	B22-5-20191212	Total/NA	Solid	5030C	
570-15709-43	B20-1-20191212	Total/NA	Solid	5030C	

GC VOA (Continued)

Prep Batch: 39116 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-44	B20-5-20191212	Total/NA	Solid	5030C	
570-15709-47	B19-1-20191212	Total/NA	Solid	5030C	
570-15709-48	B19-5-20191212	Total/NA	Solid	5030C	
MB 570-39116/1-A	Method Blank	Total/NA	Solid	5030C	
570-15674-B-1-C MS	Matrix Spike	Total/NA	Solid	5030C	
570-15674-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5030C	

GC Semi VOA

Prep Batch: 39396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-19	B23-1-20191212	Total/NA	Solid	3550C	
570-15709-20	B23-5-20191212	Total/NA	Solid	3550C	
570-15709-24	B26-1-20191212	Total/NA	Solid	3550C	
570-15709-25	B26-5-20191212	Total/NA	Solid	3550C	
570-15709-29	B25-1-20191212	Total/NA	Solid	3550C	
570-15709-30	B25-5-20191212	Total/NA	Solid	3550C	
570-15709-33	B24-1-20191212	Total/NA	Solid	3550C	
570-15709-34	B24-10-20191212	Total/NA	Solid	3550C	
570-15709-36	B21-1-20191212	Total/NA	Solid	3550C	
570-15709-37	B21-5-20191212	Total/NA	Solid	3550C	
570-15709-40	B22-1-20191212	Total/NA	Solid	3550C	
570-15709-41	B22-5-20191212	Total/NA	Solid	3550C	
570-15709-43	B20-1-20191212	Total/NA	Solid	3550C	
570-15709-44	B20-5-20191212	Total/NA	Solid	3550C	
570-15709-47	B19-1-20191212	Total/NA	Solid	3550C	
570-15709-48	B19-5-20191212	Total/NA	Solid	3550C	
MB 570-39396/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 570-39396/2-A	Lab Control Sample	Total/NA	Solid	3550C	
LCS 570-39396/6-A	Lab Control Sample	Total/NA	Solid	3550C	
LCSD 570-39396/3-A	Lab Control Sample Dup	Total/NA	Solid	3550C	
LCSD 570-39396/7-A	Lab Control Sample Dup	Total/NA	Solid	3550C	
570-15674-A-1-E MS	Matrix Spike	Total/NA	Solid	3550C	
570-15674-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	3550C	
570-15674-A-1-G MS	Matrix Spike	Total/NA	Solid	3550C	
570-15674-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	3550C	

Prep Batch: 39413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-1	SS-A1-0.5	Total/NA	Solid	3545	
570-15709-2	SS-A1-2.0	Total/NA	Solid	3545	
570-15709-3	SS-A2-0.5	Total/NA	Solid	3545	
570-15709-4	SS-A2-2.0	Total/NA	Solid	3545	
570-15709-5	SS-A3-0.5	Total/NA	Solid	3545	
570-15709-6	SS-A3-2.0	Total/NA	Solid	3545	
570-15709-7	SS-A6-0.5	Total/NA	Solid	3545	
570-15709-8	SS-A6-2.0	Total/NA	Solid	3545	
570-15709-9	SS-A5-0.5	Total/NA	Solid	3545	
570-15709-10	SS-A5-2.0	Total/NA	Solid	3545	
570-15709-11	SS-A4-0.5	Total/NA	Solid	3545	
570-15709-12	SS-A4-2.0	Total/NA	Solid	3545	

GC Semi VOA (Continued)

Prep Batch: 39413 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-13	SS-A7-0.5	Total/NA	Solid	3545	
570-15709-14	SS-A7-2.0	Total/NA	Solid	3545	
570-15709-15	SS-A8-0.5	Total/NA	Solid	3545	
570-15709-16	SS-A8-2.0	Total/NA	Solid	3545	
570-15709-17	SS-A9-0.5	Total/NA	Solid	3545	
570-15709-18	SS-A9-2.0	Total/NA	Solid	3545	
MB 570-39413/1-A	Method Blank	Total/NA	Solid	3545	
LCS 570-39413/2-A	Lab Control Sample	Total/NA	Solid	3545	
LCSD 570-39413/3-A	Lab Control Sample Dup	Total/NA	Solid	3545	
570-15709-1 MS	SS-A1-0.5	Total/NA	Solid	3545	
570-15709-1 MSD	SS-A1-0.5	Total/NA	Solid	3545	

Analysis Batch: 39561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-1	SS-A1-0.5	Total/NA	Solid	8141A	39413
570-15709-2	SS-A1-2.0	Total/NA	Solid	8141A	39413
570-15709-3	SS-A2-0.5	Total/NA	Solid	8141A	39413
570-15709-4	SS-A2-2.0	Total/NA	Solid	8141A	39413
570-15709-5	SS-A3-0.5	Total/NA	Solid	8141A	39413
570-15709-6	SS-A3-2.0	Total/NA	Solid	8141A	39413
570-15709-7	SS-A6-0.5	Total/NA	Solid	8141A	39413
570-15709-8	SS-A6-2.0	Total/NA	Solid	8141A	39413
570-15709-9	SS-A5-0.5	Total/NA	Solid	8141A	39413
570-15709-10	SS-A5-2.0	Total/NA	Solid	8141A	39413
570-15709-11	SS-A4-0.5	Total/NA	Solid	8141A	39413
570-15709-12	SS-A4-2.0	Total/NA	Solid	8141A	39413
570-15709-13	SS-A7-0.5	Total/NA	Solid	8141A	39413
570-15709-14	SS-A7-2.0	Total/NA	Solid	8141A	39413
570-15709-15	SS-A8-0.5	Total/NA	Solid	8141A	39413
570-15709-16	SS-A8-2.0	Total/NA	Solid	8141A	39413
570-15709-17	SS-A9-0.5	Total/NA	Solid	8141A	39413
570-15709-18	SS-A9-2.0	Total/NA	Solid	8141A	39413
MB 570-39413/1-A	Method Blank	Total/NA	Solid	8141A	39413
LCS 570-39413/2-A	Lab Control Sample	Total/NA	Solid	8141A	39413
LCSD 570-39413/3-A	Lab Control Sample Dup	Total/NA	Solid	8141A	39413
570-15709-1 MS	SS-A1-0.5	Total/NA	Solid	8141A	39413
570-15709-1 MSD	SS-A1-0.5	Total/NA	Solid	8141A	39413

Analysis Batch: 39568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-19	B23-1-20191212	Total/NA	Solid	8015B	39396
570-15709-20	B23-5-20191212	Total/NA	Solid	8015B	39396
570-15709-24	B26-1-20191212	Total/NA	Solid	8015B	39396
570-15709-25	B26-5-20191212	Total/NA	Solid	8015B	39396
570-15709-29	B25-1-20191212	Total/NA	Solid	8015B	39396
570-15709-30	B25-5-20191212	Total/NA	Solid	8015B	39396
570-15709-33	B24-1-20191212	Total/NA	Solid	8015B	39396
570-15709-34	B24-10-20191212	Total/NA	Solid	8015B	39396
570-15709-36	B21-1-20191212	Total/NA	Solid	8015B	39396
570-15709-37	B21-5-20191212	Total/NA	Solid	8015B	39396
570-15709-40	B22-1-20191212	Total/NA	Solid	8015B	39396

GC Semi VOA (Continued)

Analysis Batch: 39568 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-41	B22-5-20191212	Total/NA	Solid	8015B	39396
570-15709-43	B20-1-20191212	Total/NA	Solid	8015B	39396
570-15709-44	B20-5-20191212	Total/NA	Solid	8015B	39396
570-15709-47	B19-1-20191212	Total/NA	Solid	8015B	39396
570-15709-48	B19-5-20191212	Total/NA	Solid	8015B	39396
MB 570-39396/1-A	Method Blank	Total/NA	Solid	8015B	39396
LCS 570-39396/2-A	Lab Control Sample	Total/NA	Solid	8015B	39396
LCS 570-39396/6-A	Lab Control Sample	Total/NA	Solid	8015B	39396
LCSD 570-39396/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B	39396
LCSD 570-39396/7-A	Lab Control Sample Dup	Total/NA	Solid	8015B	39396
570-15674-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B	39396
570-15674-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	39396
570-15674-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B	39396
570-15674-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	39396

Prep Batch: 39950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-2	SS-A1-2.0	Total/NA	Solid	3545	
570-15709-3	SS-A2-0.5	Total/NA	Solid	3545	
570-15709-4	SS-A2-2.0	Total/NA	Solid	3545	
570-15709-6	SS-A3-2.0	Total/NA	Solid	3545	
570-15709-7	SS-A6-0.5	Total/NA	Solid	3545	
570-15709-8	SS-A6-2.0	Total/NA	Solid	3545	
570-15709-9	SS-A5-0.5	Total/NA	Solid	3545	
570-15709-10	SS-A5-2.0	Total/NA	Solid	3545	
570-15709-11	SS-A4-0.5	Total/NA	Solid	3545	
570-15709-12	SS-A4-2.0	Total/NA	Solid	3545	
570-15709-13	SS-A7-0.5	Total/NA	Solid	3545	
570-15709-14	SS-A7-2.0	Total/NA	Solid	3545	
570-15709-15	SS-A8-0.5	Total/NA	Solid	3545	
570-15709-16	SS-A8-2.0	Total/NA	Solid	3545	
570-15709-17	SS-A9-0.5	Total/NA	Solid	3545	
570-15709-18	SS-A9-2.0	Total/NA	Solid	3545	
MB 570-39950/1-A	Method Blank	Total/NA	Solid	3545	
LCS 570-39950/2-A	Lab Control Sample	Total/NA	Solid	3545	
LCSD 570-39950/3-A	Lab Control Sample Dup	Total/NA	Solid	3545	
570-15674-A-1-Q MS	Matrix Spike	Total/NA	Solid	3545	
570-15674-A-1-R MSD	Matrix Spike Duplicate	Total/NA	Solid	3545	

Analysis Batch: 39997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-2	SS-A1-2.0	Total/NA	Solid	8081A	39950
570-15709-2	SS-A1-2.0	Total/NA	Solid	8081A	39950
570-15709-3	SS-A2-0.5	Total/NA	Solid	8081A	39950
570-15709-3	SS-A2-0.5	Total/NA	Solid	8081A	39950
570-15709-4	SS-A2-2.0	Total/NA	Solid	8081A	39950
570-15709-6	SS-A3-2.0	Total/NA	Solid	8081A	39950
570-15709-7	SS-A6-0.5	Total/NA	Solid	8081A	39950
570-15709-8	SS-A6-2.0	Total/NA	Solid	8081A	39950
570-15709-8	SS-A6-2.0	Total/NA	Solid	8081A	39950
570-15709-9	SS-A5-0.5	Total/NA	Solid	8081A	39950

GC Semi VOA (Continued)

Analysis Batch: 39997 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-10	SS-A5-2.0	Total/NA	Solid	8081A	39950
570-15709-11	SS-A4-0.5	Total/NA	Solid	8081A	39950
570-15709-12	SS-A4-2.0	Total/NA	Solid	8081A	39950
570-15709-13	SS-A7-0.5	Total/NA	Solid	8081A	39950
570-15709-14	SS-A7-2.0	Total/NA	Solid	8081A	39950
570-15709-14	SS-A7-2.0	Total/NA	Solid	8081A	39950
570-15709-15	SS-A8-0.5	Total/NA	Solid	8081A	39950
570-15709-16	SS-A8-2.0	Total/NA	Solid	8081A	39950
570-15709-17	SS-A9-0.5	Total/NA	Solid	8081A	39950
570-15709-18	SS-A9-2.0	Total/NA	Solid	8081A	39950
MB 570-39950/1-A	Method Blank	Total/NA	Solid	8081A	39950
LCS 570-39950/2-A	Lab Control Sample	Total/NA	Solid	8081A	39950
LCSD 570-39950/3-A	Lab Control Sample Dup	Total/NA	Solid	8081A	39950
570-15674-A-1-Q MS	Matrix Spike	Total/NA	Solid	8081A	39950
570-15674-A-1-R MSD	Matrix Spike Duplicate	Total/NA	Solid	8081A	39950

Prep Batch: 40290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-1	SS-A1-0.5	Total/NA	Solid	3545	
570-15709-5	SS-A3-0.5	Total/NA	Solid	3545	
MB 570-40290/1-A	Method Blank	Total/NA	Solid	3545	
LCS 570-40290/2-A	Lab Control Sample	Total/NA	Solid	3545	
LCSD 570-40290/3-A	Lab Control Sample Dup	Total/NA	Solid	3545	
570-15709-5 MS	SS-A3-0.5	Total/NA	Solid	3545	
570-15709-5 MSD	SS-A3-0.5	Total/NA	Solid	3545	

Analysis Batch: 40376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-1	SS-A1-0.5	Total/NA	Solid	8081A	40290
570-15709-1	SS-A1-0.5	Total/NA	Solid	8081A	40290
570-15709-5	SS-A3-0.5	Total/NA	Solid	8081A	40290
570-15709-5	SS-A3-0.5	Total/NA	Solid	8081A	40290
MB 570-40290/1-A	Method Blank	Total/NA	Solid	8081A	40290
LCS 570-40290/2-A	Lab Control Sample	Total/NA	Solid	8081A	40290
LCSD 570-40290/3-A	Lab Control Sample Dup	Total/NA	Solid	8081A	40290
570-15709-5 MS	SS-A3-0.5	Total/NA	Solid	8081A	40290
570-15709-5 MSD	SS-A3-0.5	Total/NA	Solid	8081A	40290

Metals

Prep Batch: 39119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-1	SS-A1-0.5	Total/NA	Solid	3050B	
570-15709-2	SS-A1-2.0	Total/NA	Solid	3050B	
MB 570-39119/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-39119/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-39119/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-15399-A-1-H MS	Matrix Spike	Total/NA	Solid	3050B	
570-15399-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	3050B	

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Metals

Analysis Batch: 39906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-1	SS-A1-0.5	Total/NA	Solid	6010B	39119
MB 570-39119/1-A	Method Blank	Total/NA	Solid	6010B	39119
LCS 570-39119/2-A	Lab Control Sample	Total/NA	Solid	6010B	39119
LCSD 570-39119/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	39119
570-15399-A-1-H MS	Matrix Spike	Total/NA	Solid	6010B	39119
570-15399-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	6010B	39119

Analysis Batch: 39935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-15709-2	SS-A1-2.0	Total/NA	Solid	6010B	39119

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Client Sample ID: SS-A1-0.5

Lab Sample ID: 570-15709-1
Date Collected: 12/12/19 08:45
Matrix: Solid
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			20.02 g	10 mL	40290	12/19/19 19:20	USUL	ECL 1
Total/NA	Analysis	8081A		1			40376	12/20/19 12:30	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Prep	3545			20.02 g	10 mL	40290	12/19/19 19:20	USUL	ECL 1
Total/NA	Analysis	8081A		10			40376	12/20/19 13:02	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Prep	3545			10.05 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/17/19 18:11	UJ3K	ECL 1
	Instrument ID: GC69									
Total/NA	Prep	3050B			1.90 g	100 mL	39119	12/16/19 14:30	X7RL	ECL 1
Total/NA	Analysis	6010B		1			39906	12/17/19 20:04	OYW3	ECL 1
	Instrument ID: ICP8									

Client Sample ID: SS-A1-2.0

Lab Sample ID: 570-15709-2
Date Collected: 12/12/19 08:50
Matrix: Solid
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			20.13 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		1			39997	12/19/19 12:46	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Prep	3545			20.13 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		10			39997	12/19/19 18:42	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Prep	3545			10.00 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/18/19 07:39	UJ3K	ECL 1
	Instrument ID: GC69									
Total/NA	Prep	3050B			2.05 g	100 mL	39119	12/16/19 14:30	X7RL	ECL 1
Total/NA	Analysis	6010B		1			39935	12/18/19 14:10	ULPF	ECL 1
	Instrument ID: ICP8									

Client Sample ID: SS-A2-0.5

Lab Sample ID: 570-15709-3
Date Collected: 12/12/19 09:10
Matrix: Solid
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			19.98 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		1			39997	12/19/19 13:29	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Prep	3545			19.98 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		5			39997	12/19/19 18:56	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Prep	3545			10.00 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/17/19 18:59	UJ3K	ECL 1
	Instrument ID: GC69									

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Client Sample ID: SS-A2-2.0

Lab Sample ID: 570-15709-4
Date Collected: 12/12/19 09:15
Matrix: Solid
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			20.01 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		1			39997	12/19/19 13:43	UHHN	ECL 1
	Instrument ID:	GC44								
Total/NA	Prep	3545			10.03 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/17/19 19:46	UJ3K	ECL 1
	Instrument ID:	GC69								

Client Sample ID: SS-A3-0.5

Lab Sample ID: 570-15709-5
Date Collected: 12/12/19 09:40
Matrix: Solid
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			20.02 g	10 mL	40290	12/19/19 19:20	USUL	ECL 1
Total/NA	Analysis	8081A		1			40376	12/20/19 12:44	UHHN	ECL 1
	Instrument ID:	GC44								
Total/NA	Prep	3545			20.02 g	10 mL	40290	12/19/19 19:20	USUL	ECL 1
Total/NA	Analysis	8081A		5			40376	12/20/19 13:16	UHHN	ECL 1
	Instrument ID:	GC44								
Total/NA	Prep	3545			10.03 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/17/19 20:34	UJ3K	ECL 1
	Instrument ID:	GC69								

Client Sample ID: SS-A3-2.0

Lab Sample ID: 570-15709-6
Date Collected: 12/12/19 09:45
Matrix: Solid
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			20.10 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		1			39997	12/19/19 14:11	UHHN	ECL 1
	Instrument ID:	GC44								
Total/NA	Prep	3545			10.04 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/17/19 21:21	UJ3K	ECL 1
	Instrument ID:	GC69								

Client Sample ID: SS-A6-0.5

Lab Sample ID: 570-15709-7
Date Collected: 12/12/19 10:05
Matrix: Solid
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			20.09 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		1			39997	12/19/19 14:26	UHHN	ECL 1
	Instrument ID:	GC44								
Total/NA	Prep	3545			10.00 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/17/19 22:09	UJ3K	ECL 1
	Instrument ID:	GC69								

Client Sample ID: SS-A6-2.0 — Lab Sample ID: 570-15709-8

Date Collected: 12/12/19 10:10 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			19.99 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		1			39997	12/19/19 14:40	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Prep	3545			19.99 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		5			39997	12/19/19 19:39	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Prep	3545			9.99 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/17/19 22:56	UJ3K	ECL 1
	Instrument ID: GC69									

Client Sample ID: SS-A5-0.5 — Lab Sample ID: 570-15709-9

Date Collected: 12/12/19 10:35 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			20.01 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		1			39997	12/19/19 14:54	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Prep	3545			9.97 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/18/19 08:27	UJ3K	ECL 1
	Instrument ID: GC69									

Client Sample ID: SS-A5-2.0 — Lab Sample ID: 570-15709-10

Date Collected: 12/12/19 10:40 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			20.08 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		1			39997	12/19/19 15:08	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Prep	3545			9.98 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/17/19 23:44	UJ3K	ECL 1
	Instrument ID: GC69									

Client Sample ID: SS-A4-0.5 — Lab Sample ID: 570-15709-11

Date Collected: 12/12/19 11:10 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			20.00 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		1			39997	12/19/19 15:22	UHHN	ECL 1
	Instrument ID: GC44									
Total/NA	Prep	3545			10.00 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/18/19 00:31	UJ3K	ECL 1
	Instrument ID: GC69									

Client Sample ID: SS-A4-2.0 — Lab Sample ID: 570-15709-12

Date Collected: 12/12/19 11:15 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			20.04 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		1			39997	12/19/19 15:37	UHHN	ECL 1
	Instrument ID:	GC44								
Total/NA	Prep	3545			9.99 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/18/19 01:19	UJ3K	ECL 1
	Instrument ID:	GC69								

Client Sample ID: SS-A7-0.5 — Lab Sample ID: 570-15709-13

Date Collected: 12/12/19 11:40 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			20.04 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		1			39997	12/19/19 15:51	UHHN	ECL 1
	Instrument ID:	GC44								
Total/NA	Prep	3545			10.04 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/18/19 02:54	UJ3K	ECL 1
	Instrument ID:	GC69								

Client Sample ID: SS-A7-2.0 — Lab Sample ID: 570-15709-14

Date Collected: 12/12/19 11:45 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			20.00 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		1			39997	12/19/19 17:02	UHHN	ECL 1
	Instrument ID:	GC44								
Total/NA	Prep	3545			20.00 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		5			39997	12/19/19 19:53	UHHN	ECL 1
	Instrument ID:	GC44								
Total/NA	Prep	3545			10.00 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/18/19 03:41	UJ3K	ECL 1
	Instrument ID:	GC69								

Client Sample ID: SS-A8-0.5 — Lab Sample ID: 570-15709-15

Date Collected: 12/12/19 12:40 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			20.01 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		1			39997	12/19/19 17:16	UHHN	ECL 1
	Instrument ID:	GC44								
Total/NA	Prep	3545			10.02 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/18/19 04:29	UJ3K	ECL 1
	Instrument ID:	GC69								

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Client Sample ID: SS-A8-2.0 — Lab Sample ID: 570-15709-16

Date Collected: 12/12/19 12:45
Date Received: 12/13/19 18:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			20.00 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		1			39997	12/19/19 17:31	UHHN	ECL 1
	Instrument ID:	GC44								
Total/NA	Prep	3545			10.01 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/18/19 05:16	UJ3K	ECL 1
	Instrument ID:	GC69								

Client Sample ID: SS-A9-0.5 — Lab Sample ID: 570-15709-17

Date Collected: 12/12/19 13:00
Date Received: 12/13/19 18:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			20.03 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		1			39997	12/19/19 17:45	UHHN	ECL 1
	Instrument ID:	GC44								
Total/NA	Prep	3545			9.99 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/18/19 06:04	UJ3K	ECL 1
	Instrument ID:	GC69								

Client Sample ID: SS-A9-2.0 — Lab Sample ID: 570-15709-18

Date Collected: 12/12/19 13:10
Date Received: 12/13/19 18:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			20.03 g	10 mL	39950	12/18/19 17:06	F7UI	ECL 1
Total/NA	Analysis	8081A		1			39997	12/19/19 18:00	UHHN	ECL 1
	Instrument ID:	GC44								
Total/NA	Prep	3545			9.99 g	10 mL	39413	12/16/19 17:33	F7UI	ECL 1
Total/NA	Analysis	8141A		1			39561	12/18/19 06:51	UJ3K	ECL 1
	Instrument ID:	GC69								

Client Sample ID: B23-1-20191212 — Lab Sample ID: 570-15709-19

Date Collected: 12/12/19 08:40
Date Received: 12/13/19 18:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			4.98 g	5 mL	39246	12/16/19 11:38	BE5H	ECL 2
Total/NA	Analysis	8260B		1	5 mL	5 mL	39212	12/16/19 12:33	MGX6	ECL 2
	Instrument ID:	GCMSCC								
Total/NA	Prep	3545			20.04 g	10 mL	39283	12/16/19 10:32	USUL	ECL 1
Total/NA	Analysis	8270C		5			39842	12/18/19 17:07	N8CZ	ECL 1
	Instrument ID:	GCMSCCC								
Total/NA	Prep	5030C			5.06 g	5 mL	39116	12/14/19 11:55	W6MG	ECL 2
Total/NA	Analysis	8015B		1	5 g	5 mL	39100	12/14/19 18:21	U1MC	ECL 2
	Instrument ID:	GC56								

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Client Sample ID: B23-1-20191212 — Lab Sample ID: 570-15709-19

Date Collected: 12/12/19 08:40
Date Received: 12/13/19 18:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			10.09 g	10 mL	39396	12/16/19 17:07	SP7J	ECL 1
Total/NA	Analysis	8015B		20			39568	12/17/19 16:03	I9H5	ECL 1
	Instrument ID:	GC48								

Client Sample ID: B23-5-20191212 — Lab Sample ID: 570-15709-20

Date Collected: 12/12/19 08:45
Date Received: 12/13/19 18:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			5.15 g	5 mL	39246	12/16/19 12:29	BE5H	ECL 2
Total/NA	Analysis	8260B		1	5 mL	5 mL	39212	12/16/19 14:49	MGX6	ECL 2
	Instrument ID:	GCMSCC								
Total/NA	Prep	3545			20.03 g	2 mL	39283	12/16/19 12:11	USUL	ECL 1
Total/NA	Analysis	8270C		1			39842	12/18/19 12:32	N8CZ	ECL 1
	Instrument ID:	GCMSCCC								
Total/NA	Prep	5030C			5.01 g	5 mL	39116	12/14/19 11:55	W6MG	ECL 2
Total/NA	Analysis	8015B		1	5 g	5 mL	39100	12/14/19 18:49	U1MC	ECL 2
	Instrument ID:	GC56								
Total/NA	Prep	3550C			10.02 g	10 mL	39396	12/16/19 17:07	SP7J	ECL 1
Total/NA	Analysis	8015B		1			39568	12/17/19 16:24	I9H5	ECL 1
	Instrument ID:	GC48								

Client Sample ID: B26-1-20191212 — Lab Sample ID: 570-15709-24

Date Collected: 12/12/19 10:30
Date Received: 12/13/19 18:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			4.93 g	5 mL	39246	12/16/19 12:29	BE5H	ECL 2
Total/NA	Analysis	8260B		1	5 mL	5 mL	39212	12/16/19 15:16	MGX6	ECL 2
	Instrument ID:	GCMSCC								
Total/NA	Prep	3545			19.96 g	2 mL	39283	12/16/19 12:11	USUL	ECL 1
Total/NA	Analysis	8270C		1			39842	12/18/19 12:51	N8CZ	ECL 1
	Instrument ID:	GCMSCCC								
Total/NA	Prep	5030C			5.00 g	5 mL	39116	12/14/19 11:55	W6MG	ECL 2
Total/NA	Analysis	8015B		1	5 g	5 mL	39100	12/14/19 19:17	U1MC	ECL 2
	Instrument ID:	GC56								
Total/NA	Prep	3550C			10.11 g	10 mL	39396	12/16/19 17:07	SP7J	ECL 1
Total/NA	Analysis	8015B		10			39568	12/17/19 16:45	I9H5	ECL 1
	Instrument ID:	GC48								

Client Sample ID: B26-5-20191212 — Lab Sample ID: 570-15709-25

Date Collected: 12/12/19 10:35 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			5.14 g	5 mL	39246	12/16/19 12:29	BE5H	ECL 2
Total/NA	Analysis	8260B		1	5 mL	5 mL	39212	12/16/19 15:44	MGX6	ECL 2
	Instrument ID: GCMSCC									
Total/NA	Prep	3545			20.00 g	2 mL	39283	12/16/19 12:11	USUL	ECL 1
Total/NA	Analysis	8270C		1			39842	12/18/19 13:09	N8CZ	ECL 1
	Instrument ID: GCMSCCC									
Total/NA	Prep	5030C			5.06 g	5 mL	39116	12/14/19 11:55	W6MG	ECL 2
Total/NA	Analysis	8015B		1	5 g	5 mL	39100	12/14/19 19:45	U1MC	ECL 2
	Instrument ID: GC56									
Total/NA	Prep	3550C			8.56 g	10 mL	39396	12/16/19 17:07	SP7J	ECL 1
Total/NA	Analysis	8015B		1			39568	12/17/19 17:46	I9H5	ECL 1
	Instrument ID: GC48									

Client Sample ID: B25-1-20191212 — Lab Sample ID: 570-15709-29

Date Collected: 12/12/19 11:55 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			5.07 g	5 mL	39246	12/16/19 12:29	BE5H	ECL 2
Total/NA	Analysis	8260B		1	5 mL	5 mL	39212	12/16/19 16:11	MGX6	ECL 2
	Instrument ID: GCMSCC									
Total/NA	Prep	3545			20.10 g	2 mL	39283	12/16/19 12:11	USUL	ECL 1
Total/NA	Analysis	8270C		1			39842	12/18/19 17:26	N8CZ	ECL 1
	Instrument ID: GCMSCCC									
Total/NA	Prep	5030C			4.92 g	5 mL	39116	12/14/19 11:55	W6MG	ECL 2
Total/NA	Analysis	8015B		1	5 g	5 mL	39100	12/14/19 20:42	U1MC	ECL 2
	Instrument ID: GC56									
Total/NA	Prep	3550C			10.14 g	10 mL	39396	12/16/19 17:07	SP7J	ECL 1
Total/NA	Analysis	8015B		1			39568	12/17/19 18:07	I9H5	ECL 1
	Instrument ID: GC48									

Client Sample ID: B25-5-20191212 — Lab Sample ID: 570-15709-30

Date Collected: 12/12/19 11:58 — **Matrix: Solid**
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			5.13 g	5 mL	39246	12/16/19 12:29	BE5H	ECL 2
Total/NA	Analysis	8260B		1	5 mL	5 mL	39212	12/16/19 16:38	MGX6	ECL 2
	Instrument ID: GCMSCC									
Total/NA	Prep	3545			20.01 g	2 mL	39283	12/16/19 12:11	USUL	ECL 1
Total/NA	Analysis	8270C		1			39842	12/18/19 13:27	N8CZ	ECL 1
	Instrument ID: GCMSCCC									
Total/NA	Prep	5030C			5.06 g	5 mL	39116	12/14/19 11:55	W6MG	ECL 2
Total/NA	Analysis	8015B		1	5 g	5 mL	39100	12/14/19 20:14	U1MC	ECL 2
	Instrument ID: GC56									

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Client Sample ID: B25-5-20191212 — Lab Sample ID: 570-15709-30

Date Collected: 12/12/19 11:58
Date Received: 12/13/19 18:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			10.02 g	10 mL	39396	12/16/19 17:07	SP7J	ECL 1
Total/NA	Analysis	8015B		1			39568	12/17/19 18:27	I9H5	ECL 1
	Instrument ID:	GC48								

Client Sample ID: B24-1-20191212 — Lab Sample ID: 570-15709-33

Date Collected: 12/12/19 12:37
Date Received: 12/13/19 18:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			5.00 g	5 mL	39246	12/16/19 12:29	BE5H	ECL 2
Total/NA	Analysis	8260B		1	5 mL	5 mL	39212	12/16/19 17:05	MGX6	ECL 2
	Instrument ID:	GCMSCC								
Total/NA	Prep	3545			20.00 g	2 mL	39283	12/16/19 12:11	USUL	ECL 1
Total/NA	Analysis	8270C		1			39842	12/18/19 13:46	N8CZ	ECL 1
	Instrument ID:	GCMSCCC								
Total/NA	Prep	5030C			4.90 g	5 mL	39116	12/14/19 11:55	W6MG	ECL 2
Total/NA	Analysis	8015B		1	5 g	5 mL	39100	12/14/19 21:38	U1MC	ECL 2
	Instrument ID:	GC56								
Total/NA	Prep	3550C			10.09 g	10 mL	39396	12/16/19 17:07	SP7J	ECL 1
Total/NA	Analysis	8015B		1			39568	12/17/19 18:48	I9H5	ECL 1
	Instrument ID:	GC48								

Client Sample ID: B24-10-20191212 — Lab Sample ID: 570-15709-34

Date Collected: 12/12/19 12:55
Date Received: 12/13/19 18:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			5.06 g	5 mL	39246	12/16/19 12:29	BE5H	ECL 2
Total/NA	Analysis	8260B		1	5 mL	5 mL	39212	12/16/19 17:31	MGX6	ECL 2
	Instrument ID:	GCMSCC								
Total/NA	Prep	3545			20.07 g	2 mL	39283	12/16/19 12:11	USUL	ECL 1
Total/NA	Analysis	8270C		1			39842	12/18/19 14:04	N8CZ	ECL 1
	Instrument ID:	GCMSCCC								
Total/NA	Prep	5030C			5.00 g	5 mL	39116	12/14/19 11:55	W6MG	ECL 2
Total/NA	Analysis	8015B		1	5 g	5 mL	39100	12/14/19 22:06	U1MC	ECL 2
	Instrument ID:	GC56								
Total/NA	Prep	3550C			10.09 g	10 mL	39396	12/16/19 17:07	SP7J	ECL 1
Total/NA	Analysis	8015B		1			39568	12/17/19 19:08	I9H5	ECL 1
	Instrument ID:	GC48								

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Client Sample ID: B21-1-20191212

Lab Sample ID: 570-15709-36

Date Collected: 12/12/19 13:15
Matrix: Solid
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			4.98 g	5 mL	39246	12/16/19 12:29	BE5H	ECL 2
Total/NA	Analysis	8260B		1	5 mL	5 mL	39212	12/16/19 17:58	MGX6	ECL 2
	Instrument ID:	GCMSCC								
Total/NA	Prep	3545			19.93 g	2 mL	39283	12/16/19 12:11	USUL	ECL 1
Total/NA	Analysis	8270C		1			39842	12/18/19 14:22	N8CZ	ECL 1
	Instrument ID:	GCMSCCC								
Total/NA	Prep	5030C			4.99 g	5 mL	39116	12/14/19 11:55	W6MG	ECL 2
Total/NA	Analysis	8015B		1	5 g	5 mL	39100	12/14/19 22:34	U1MC	ECL 2
	Instrument ID:	GC56								
Total/NA	Prep	3550C			10.14 g	10 mL	39396	12/16/19 17:07	SP7J	ECL 1
Total/NA	Analysis	8015B		1			39568	12/17/19 19:29	I9H5	ECL 1
	Instrument ID:	GC48								

Client Sample ID: B21-5-20191212

Lab Sample ID: 570-15709-37

Date Collected: 12/12/19 13:20
Matrix: Solid
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			4.97 g	5 mL	39246	12/16/19 12:29	BE5H	ECL 2
Total/NA	Analysis	8260B		1	5 mL	5 mL	39212	12/16/19 18:25	MGX6	ECL 2
	Instrument ID:	GCMSCC								
Total/NA	Prep	3545			20.14 g	2 mL	39283	12/16/19 12:11	USUL	ECL 1
Total/NA	Analysis	8270C		1			39842	12/18/19 15:17	N8CZ	ECL 1
	Instrument ID:	GCMSCCC								
Total/NA	Prep	5030C			4.97 g	5 mL	39116	12/14/19 11:55	W6MG	ECL 2
Total/NA	Analysis	8015B		1	5 g	5 mL	39100	12/14/19 23:02	U1MC	ECL 2
	Instrument ID:	GC56								
Total/NA	Prep	3550C			10.05 g	10 mL	39396	12/16/19 17:07	SP7J	ECL 1
Total/NA	Analysis	8015B		1			39568	12/17/19 19:49	I9H5	ECL 1
	Instrument ID:	GC48								

Client Sample ID: B22-1-20191212

Lab Sample ID: 570-15709-40

Date Collected: 12/12/19 14:08
Matrix: Solid
Date Received: 12/13/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			4.88 g	5 mL	39317	12/16/19 18:13	BE5H	ECL 2
Total/NA	Analysis	8260B		1	5 mL	5 mL	39342	12/16/19 20:13	MGX6	ECL 2
	Instrument ID:	GCMSGGG								
Total/NA	Prep	3545			20.04 g	2 mL	39283	12/16/19 12:11	USUL	ECL 1
Total/NA	Analysis	8270C		1			39842	12/18/19 17:44	N8CZ	ECL 1
	Instrument ID:	GCMSCCC								
Total/NA	Prep	5030C			5.09 g	5 mL	39116	12/14/19 11:55	W6MG	ECL 2
Total/NA	Analysis	8015B		1	5 g	5 mL	39100	12/14/19 23:31	U1MC	ECL 2
	Instrument ID:	GC56								

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Client Sample ID: B22-1-20191212 — Lab Sample ID: 570-15709-40

Date Collected: 12/12/19 14:08
Date Received: 12/13/19 18:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			10.07 g	10 mL	39396	12/16/19 17:07	SP7J	ECL 1
Total/NA	Analysis	8015B		1			39568	12/17/19 20:10	I9H5	ECL 1
	Instrument ID:	GC48								

Client Sample ID: B22-5-20191212 — Lab Sample ID: 570-15709-41

Date Collected: 12/12/19 14:14
Date Received: 12/13/19 18:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			4.91 g	5 mL	39317	12/16/19 18:19	BE5H	ECL 2
Total/NA	Analysis	8260B		1	5 mL	5 mL	39342	12/16/19 21:53	MGX6	ECL 2
	Instrument ID:	GCMSGGG								
Total/NA	Prep	3545			19.96 g	2 mL	39283	12/16/19 12:11	USUL	ECL 1
Total/NA	Analysis	8270C		1			39842	12/18/19 18:02	N8CZ	ECL 1
	Instrument ID:	GCMSCCC								
Total/NA	Prep	5030C			4.97 g	5 mL	39116	12/14/19 16:40	W6MG	ECL 2
Total/NA	Analysis	8015B		1	5 g	5 mL	39100	12/14/19 23:59	U1MC	ECL 2
	Instrument ID:	GC56								
Total/NA	Prep	3550C			10.07 g	10 mL	39396	12/16/19 17:07	SP7J	ECL 1
Total/NA	Analysis	8015B		1			39568	12/17/19 20:31	I9H5	ECL 1
	Instrument ID:	GC48								

Client Sample ID: B20-1-20191212 — Lab Sample ID: 570-15709-43

Date Collected: 12/12/19 14:46
Date Received: 12/13/19 18:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			4.87 g	5 mL	39317	12/16/19 18:19	BE5H	ECL 2
Total/NA	Analysis	8260B		1	5 mL	5 mL	39342	12/16/19 22:18	MGX6	ECL 2
	Instrument ID:	GCMSGGG								
Total/NA	Prep	3545			20.07 g	2 mL	39283	12/16/19 12:11	USUL	ECL 1
Total/NA	Analysis	8270C		1			39842	12/18/19 15:36	N8CZ	ECL 1
	Instrument ID:	GCMSCCC								
Total/NA	Prep	5030C			4.99 g	5 mL	39116	12/14/19 16:40	W6MG	ECL 2
Total/NA	Analysis	8015B		1	5 g	5 mL	39100	12/15/19 00:27	U1MC	ECL 2
	Instrument ID:	GC56								
Total/NA	Prep	3550C			9.97 g	10 mL	39396	12/16/19 17:07	SP7J	ECL 1
Total/NA	Analysis	8015B		1			39568	12/17/19 20:51	I9H5	ECL 1
	Instrument ID:	GC48								

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Client Sample ID: B20-5-20191212 — Lab Sample ID: 570-15709-44

Date Collected: 12/12/19 14:50
Date Received: 12/13/19 18:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			4.89 g	5 mL	39317	12/16/19 18:19	BE5H	ECL 2
Total/NA	Analysis	8260B		1	5 mL	5 mL	39342	12/16/19 22:43	MGX6	ECL 2
	Instrument ID: GCMSGGG									
Total/NA	Prep	3545			20.09 g	2 mL	39283	12/16/19 12:11	USUL	ECL 1
Total/NA	Analysis	8270C		1			39842	12/18/19 15:54	N8CZ	ECL 1
	Instrument ID: GCMSCCC									
Total/NA	Prep	5030C			5.05 g	5 mL	39116	12/14/19 16:40	W6MG	ECL 2
Total/NA	Analysis	8015B		1	5 g	5 mL	39100	12/15/19 00:55	U1MC	ECL 2
	Instrument ID: GC56									
Total/NA	Prep	3550C			10.15 g	10 mL	39396	12/16/19 17:07	SP7J	ECL 1
Total/NA	Analysis	8015B		1			39568	12/17/19 21:11	I9H5	ECL 1
	Instrument ID: GC48									

Client Sample ID: B19-1-20191212 — Lab Sample ID: 570-15709-47

Date Collected: 12/12/19 15:35
Date Received: 12/13/19 18:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			5.12 g	5 mL	39317	12/16/19 18:19	BE5H	ECL 2
Total/NA	Analysis	8260B		1	5 mL	5 mL	39342	12/16/19 23:08	MGX6	ECL 2
	Instrument ID: GCMSGGG									
Total/NA	Prep	3545			20.04 g	2 mL	39283	12/16/19 12:11	USUL	ECL 1
Total/NA	Analysis	8270C		1			39842	12/18/19 18:21	N8CZ	ECL 1
	Instrument ID: GCMSCCC									
Total/NA	Prep	5030C			5.00 g	5 mL	39116	12/14/19 16:40	W6MG	ECL 2
Total/NA	Analysis	8015B		1	5 g	5 mL	39100	12/15/19 01:23	U1MC	ECL 2
	Instrument ID: GC56									
Total/NA	Prep	3550C			10.15 g	10 mL	39396	12/16/19 17:07	SP7J	ECL 1
Total/NA	Analysis	8015B		1			39568	12/17/19 21:32	I9H5	ECL 1
	Instrument ID: GC48									

Client Sample ID: B19-5-20191212 — Lab Sample ID: 570-15709-48

Date Collected: 12/12/19 15:40
Date Received: 12/13/19 18:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			4.84 g	5 mL	39317	12/16/19 18:19	BE5H	ECL 2
Total/NA	Analysis	8260B		1	5 mL	5 mL	39342	12/16/19 23:33	MGX6	ECL 2
	Instrument ID: GCMSGGG									
Total/NA	Prep	3545			20.01 g	2 mL	39283	12/16/19 12:11	USUL	ECL 1
Total/NA	Analysis	8270C		1			39842	12/18/19 16:12	N8CZ	ECL 1
	Instrument ID: GCMSCCC									
Total/NA	Prep	5030C			5.00 g	5 mL	39116	12/14/19 16:40	W6MG	ECL 2
Total/NA	Analysis	8015B		1	5 g	5 mL	39100	12/15/19 01:51	U1MC	ECL 2
	Instrument ID: GC56									

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Client Sample ID: B19-5-20191212

Date Collected: 12/12/19 15:40
Date Received: 12/13/19 18:50

Lab Sample ID: 570-15709-48

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			10.03 g	10 mL	39396	12/16/19 17:07	SP7J	ECL 1
Total/NA	Analysis	8015B		1			39568	12/17/19 21:53	I9H5	ECL 1
	Instrument ID:	GC48								

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience LLC Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Laboratory: Eurofins Calscience LLC

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

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0781	03-13-20
California	SCAQMD LAP	17LA0919	11-30-20
California	State	2944	09-29-20
Hawaii	State	<cert No.>	07-02-20
Nevada	State	CA00111	07-31-20
Oregon	NELAP	CA300001	01-29-20

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	ECL 2
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	ECL 1
8015B	Gasoline Range Organics - (GC)	SW846	ECL 2
8015B	Diesel Range Organics (DRO) (GC)	SW846	ECL 1
8081A	Organochlorine Pesticides (GC)	SW846	ECL 1
8141A	Organophosphorous Pesticides (GC)	SW846	ECL 1
6010B	Metals (ICP)	SW846	ECL 1
3050B	Preparation, Metals	SW846	ECL 1
3545	Pressurized Fluid Extraction	SW846	ECL 1
3550C	Ultrasonic Extraction	SW846	ECL 1
5030C	Purge and Trap	SW846	ECL 2

Protocol References:

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

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience LLC Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Almond Avenue / SC1021

Job ID: 570-15709-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-15709-1	SS-A1-0.5	Solid	12/12/19 08:45	12/13/19 18:50	
570-15709-2	SS-A1-2.0	Solid	12/12/19 08:50	12/13/19 18:50	
570-15709-3	SS-A2-0.5	Solid	12/12/19 09:10	12/13/19 18:50	
570-15709-4	SS-A2-2.0	Solid	12/12/19 09:15	12/13/19 18:50	
570-15709-5	SS-A3-0.5	Solid	12/12/19 09:40	12/13/19 18:50	
570-15709-6	SS-A3-2.0	Solid	12/12/19 09:45	12/13/19 18:50	
570-15709-7	SS-A6-0.5	Solid	12/12/19 10:05	12/13/19 18:50	
570-15709-8	SS-A6-2.0	Solid	12/12/19 10:10	12/13/19 18:50	
570-15709-9	SS-A5-0.5	Solid	12/12/19 10:35	12/13/19 18:50	
570-15709-10	SS-A5-2.0	Solid	12/12/19 10:40	12/13/19 18:50	
570-15709-11	SS-A4-0.5	Solid	12/12/19 11:10	12/13/19 18:50	
570-15709-12	SS-A4-2.0	Solid	12/12/19 11:15	12/13/19 18:50	
570-15709-13	SS-A7-0.5	Solid	12/12/19 11:40	12/13/19 18:50	
570-15709-14	SS-A7-2.0	Solid	12/12/19 11:45	12/13/19 18:50	
570-15709-15	SS-A8-0.5	Solid	12/12/19 12:40	12/13/19 18:50	
570-15709-16	SS-A8-2.0	Solid	12/12/19 12:45	12/13/19 18:50	
570-15709-17	SS-A9-0.5	Solid	12/12/19 13:00	12/13/19 18:50	
570-15709-18	SS-A9-2.0	Solid	12/12/19 13:10	12/13/19 18:50	
570-15709-19	B23-1-20191212	Solid	12/12/19 08:40	12/13/19 18:50	
570-15709-20	B23-5-20191212	Solid	12/12/19 08:45	12/13/19 18:50	
570-15709-24	B26-1-20191212	Solid	12/12/19 10:30	12/13/19 18:50	
570-15709-25	B26-5-20191212	Solid	12/12/19 10:35	12/13/19 18:50	
570-15709-29	B25-1-20191212	Solid	12/12/19 11:55	12/13/19 18:50	
570-15709-30	B25-5-20191212	Solid	12/12/19 11:58	12/13/19 18:50	
570-15709-33	B24-1-20191212	Solid	12/12/19 12:37	12/13/19 18:50	
570-15709-34	B24-10-20191212	Solid	12/12/19 12:55	12/13/19 18:50	
570-15709-36	B21-1-20191212	Solid	12/12/19 13:15	12/13/19 18:50	
570-15709-37	B21-5-20191212	Solid	12/12/19 13:20	12/13/19 18:50	
570-15709-40	B22-1-20191212	Solid	12/12/19 14:08	12/13/19 18:50	
570-15709-41	B22-5-20191212	Solid	12/12/19 14:14	12/13/19 18:50	
570-15709-43	B20-1-20191212	Solid	12/12/19 14:46	12/13/19 18:50	
570-15709-44	B20-5-20191212	Solid	12/12/19 14:50	12/13/19 18:50	
570-15709-47	B19-1-20191212	Solid	12/12/19 15:35	12/13/19 18:50	
570-15709-48	B19-5-20191212	Solid	12/12/19 15:40	12/13/19 18:50	

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570-15709 Chain of Custody

CHAIN OF CUSTODY RECORD 15709

DATE: 12/12/19

PAGE: 1 OF 6

LABORATORY CLIENT: Geosyntec Consultants, Inc.

ADDRESS: 2355 Northside Drive Ste 250

CITY: San Diego STATE: CA ZIP: 92108

TEL: 619.810.4035

E-MAIL: clieder@geosyntec.com, rpropst@geosyntec.com, bpierce@geosyntec.com

CLIENT PROJECT NAME / NUMBER: Almond Avenue SC1021

P.O. NO.:

PROJECT CONTACT: Chris Lieder, Rose Propst

SAMPLER(S): (PRINT) B. Pierce, D. Kapalla

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR (x 72 HR) ☐ 5 DAYS o STANDARD

☐ COELT EDF

GLOBAL ID:

LOG CODE:

SPECIAL INSTRUCTIONS: Excel EDD

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Total Lead (6010B)	OCPs by 8081A	OPPs by 8141B	VOCs by 8260	SVOCs by 8270	TPH (GRO, DRO, MRO)	Title 22 Metals (6010B/7471A)
1	SS-A1-0.5	12/12/19	845	Soil	2				X	X	X				
2	SS-A1-2.0		850		2				X	X	X				
3	SS-A2-0.5		910		1					X	X				
4	SS-A2-2.0		915		1					X	X				
5	SS-A3-0.5		940		1					X	X				
6	SS-A3-2.0		945		1					X	X				
7	SS-A6-0.5		1005		1					X	X				
8	SS-A6-2.0		1010		1					X	X				
9	SS-A5-0.5		1035		1					X	X				
10	SS-A5-2.0		1040		1					X	X				

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
	EC	12/13/19	13:40
		12/13/19	1850

06/02/14 Revision

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY:

DATE: 12/12/19

PAGE: 2 OF 6

LABORATORY CLIENT: Geosyntec Consultants, Inc.

ADDRESS: 2355 Northside Drive Ste 250

CITY: San Diego STATE: CA ZIP: 92108

TEL: 619.810.4035

E-MAIL: clieder@geosyntec.com, rpropst@geosyntec.com, bpierce@geosyntec.com

CLIENT PROJECT NAME / NUMBER: Almond Avenue SC1021

P.O. NO.:

PROJECT CONTACT: Chris Lieder, Rose Propst

SAMPLER(S): (PRINT) B. Pierce, D. Kapalla

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR x 72 HR ☐ 5 DAYS o STANDARD

☐ COELT EDF

GLOBAL ID:

LOG CODE:

SPECIAL INSTRUCTIONS: Excel EDD

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Total Lead (6010B)	OCPs by 8081A	OPPs by 8141B	VOCs by 8260	SVOCs by 8270	TPH (GRO, DRO, MRO)	Title 22 Metals (6010B/7471A)
11	SS-A4-0.5	12/12/19	1110	Soil	1					X	X				
12	SS-A4-2.0	↓	1115	↓	1					X	X				
13	SS-A7-0.5	↓	1140	↓	1					X	X				
14	SS-A7-2.0	↓	1145	↓	1					X	X				
15	SS-A8-0.5	↓	1240	↓	1					X	X				
16	SS-A8-2.0	↓	1245	↓	1					X	X				
17	SS-A9-0.5	↓	1300	↓	1					X	X				
18	SS-A9-2.0	↓	1310	↓	1					X	X				

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
		12/13/19	13:40
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	12/13/19	1850
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY

DATE: 12/12/19

PAGE: 3 OF 6

LABORATORY CLIENT: Geosyntec Consultants, Inc.

ADDRESS: 2355 Northside Drive Ste 250

CITY: San Diego STATE: CA ZIP: 92108

TEL: 619.810.4035

E-MAIL: clieder@geosyntec.com, rpropst@geosyntec.com, bpierce@geosyntec.com

CLIENT PROJECT NAME / NUMBER: Almond Avenue SC1021

P.O. NO.:

PROJECT CONTACT: Chris Lieder, Rose Propst

SAMPLER(S): (PRINT) B. Pierce, D. Kapalla

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR x 72 HR ☐ 5 DAYS o STANDARD

☐ COELT EDF GLOBAL ID: LOG CODE:

SPECIAL INSTRUCTIONS: Excel EDD

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Total Lead (6010B)	OCPs by 8081A	OPPs by 8141B	VOCs by 8260	SVOCs by 8270	TPH (GRO, DRO, MRO)	Title 22 Metals (6010B/7471A)	HOLD
19	B23-1-20191212	12/12/19	8:40	S	1		4°					X	X	X		
20	B23-5-20191212		8:45									X	X	X		
21	B23-10-20191212		8:50													X
22	B23-15-20191212		9:05													X
23	B238-18-20191212		10:10													X
24	B26-1-20191212		10:30									X	X	X		
25	B26-5-20191212		10:35									X	X	X		
26	B26-10-20191212		10:45													X
27	B26-14-20191212		11:05													X
28	B26-18-20191212		11:35													X

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	EC	12/13/19	13:40
		12/13/19	1852

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CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY:

DATE: 12/12/19

PAGE: 4 OF 6

LABORATORY CLIENT: Geosyntec Consultants, Inc.

ADDRESS: 2355 Northside Drive Ste 250

CITY: San Diego STATE: CA ZIP: 92108

TEL: 619.810.4035 E-MAIL: clieder@geosyntec.com, rpropst@geosyntec.com, bpierce@geosyntec.com

CLIENT PROJECT NAME / NUMBER: Almond Avenue SC1021

P.O. NO.:

PROJECT CONTACT: Chris Lieder, Rose Propst

SAMPLER(S): (PRINT) B. Pierce, D. Kapalla

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR x 72 HR ☐ 5 DAYS o STANDARD

☐ COELT EDF GLOBAL ID: LOG CODE:

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Total Lead (6010B)	OCPs by 8081A	OPPs by 8141B	VOCs by 8260	SVOCs by 8270	TPH (GRO, DRO, MRO)	Title 22 Metals (6010B/7471A)	Hold
29	B25-1-20191212	12/12/19	11:55	S	1		4°					X	X	X		
30	B25-5-20191212		11:58									X	X	X		
31	B25-10-20191212		12:05													X
32	B25-13-20191212		12:20													X
33	B24-1-20191212		12:37									X	X	X		
34	B24-10-20191212		12:55									X	X	X		
35	B24-13-20191212		1300													X
36	B22-1-20191212		1315									X	X	X		
37	B22-5-20191212		1320									X	X	X		
38	B21-10-20191212		1335													X

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39	B21-20-20191212	12/12/19	13:50	S	1		4°										X									
40	B22-1-20191212		14:08									X	X	X												
41	B22-5-20191212		14:14									X	X	X												
42	B22-30-20191212		14:30														X									
43	B20-1-20191212		14:46									X	X	X												
44	B20-5-20191212		14:50									X	X	X												
45	B20-10-20191212		15:05														X									
46	B20-20-20191212		15:22														X									
47	B19-1-20191212		15:35									X	X	X												
48	B19-5-20191212		15:40									X	X	X												

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		12/13/19	13:40
		12/13/19	1852

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49	B19-10-2019-121212	12/12/19	15:50	S	1		4°									X
50	B19-14-2019121212	↓	15:59	S	1		4°									X

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
	ER	12/13/19	13:40
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 570-15709-1

Login Number: 15709

List Source: Eurofins Calscience

List Number: 1

Creator: Ramos, Maribel

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

Geosyntec consultants

16644 West Bernardo Drive, Suite 301
San Diego, CA 92127
PH 858.674.6559
FAX 858.674.6586
www.geosyntec.com

19 February 2020

VIA EMAIL

Mr. Josh Cox
Hillwood Enterprises, L.P.
Vice President, Development
901 Via Piemonte, Suite 175
Ontario, CA 91764

Subject: **Pre-Demolition Hazardous Material Survey Report**
Fontana Farmhouse Residence – 8565 Almond Avenue, Fontana, California

Dear Mr. Cox:

Geosyntec Consultants, Inc. (**Geosyntec**) is pleased to submit this letter report documenting the pre-demoltion hazardous material survey report for the property located at 8565 Almond Avenue, Fontana, California (**Site**).

PRE-DEMOLITION HAZARDOUS MATERIAL SURVEY ACTIVITES AND FINDINGS

Geosyntec's subcontractor Entech Environmental Group, LLC (Entech) performed a pre-demolition hazardous material survey at the Site on 14 February 2020. Entech collected a total of thirty-seven (37) bulk samples of suspect asbestos containing material (ACM) and four (4) lead chip samples of suspect lead containing material (LCM). The work was performed by a California licensed asbestos Certified Asbestos Consultant (CAC) and California licensed asbestos Certified Site Surveillance Technician (CSST). Entech identified the following ACM located at the property based on the sample results from their survey: 1,800 square feet (sf) of roofing material, 50 sf of roofing mastic, 80 sf of window putty, and 10 linear feet of transite pipe. Additionally, Entech identified LCM in 30 sf of paint on paint on window frames. Specific locations of ACM and LCM at the property can be found in Attachment A. Prior to demolition of the structures on the Site, all identified ACM and LCM must be handled and disposed of by trained and licensed ACM/LCM contractor.

Geosyntec is pleased to support Hillwood Enterprises, L.P. in pre-demolition activities for 8565 Almond Avenue, Fontana, California. If you have any questions or require further information, please contact the undersigned below at 619-810-4034.

Sincerely,

GEOSYNTEC CONSULTANTS

Chris Lieder, PG
Principal Geologist

ATTACHMENTS:

Attachment A: Pre-Demolition Hazardous Material Survey Report, 17 February 2020

Attachment A

PRE-DEMOLITION HAZARDOUS MATERIAL SURVEY REPORT

Fontana Farmhouse Residence
8565 Almond Avenue
Fontana, CA

Single-Family Residence

PREPARED FOR

Mr. Chris Lieder
Geosyntec Consultants, Inc.
2355 Northside Drive, Suite 250
San Diego, CA 92108

PREPARED BY

Mr. Abbas Sam
CAC #09-4551

Entech Environmental Group, LLC
6968 El Camino Real, Suite 105
Carlsbad, CA 92009

February 17, 2020

EXECUTIVE SUMMARY

Entech Environmental Group, LLC (Entech) was requested by Geosyntec Consultants, Inc. (Geosyntec) to perform a pre-demolition hazardous materials survey for the property located at 8565 Almond Avenue, Fontana, California (Project Site). The purpose of the survey was to determine and report the presence of hazardous materials such as Asbestos Containing Materials (ACM), Lead-Based Paint (LBP), and Lead-Containing Paint (LCP) that may be impacted during the demolition activities at the Project Site.

Entech performed the surveys on February 14, 2020. Entech reviewed and to the extent available, supplied data, conducted walkthrough to identify and collect information regarding all hazardous materials included under the intended upcoming scope of work. Entech used the information to create a sampling strategy that would represent the suspect materials located at the Project Site. For the asbestos survey, Entech collected a total of thirty-seven (37) (45 layers) bulk samples during the sampling event. For the lead survey, Entech collected a total of four (4) lead chip samples of painted during the sampling event to identify lead concentrations.

Note: Estimated quantities of any positive materials reported are only estimates and are not intended for bidding purposes. Estimated quantities are either reported in square feet (sf), linear feet (lf) or cubic feet (cf).

According to the analytical results, the following materials were identified as Asbestos Containing Material (ACM):

Location	Material	Estimated Quantity[1]
House & Garage - Roof	Roofing Material – Black/Gray	1,800 sf
House - Roof	Roofing Mastic - Black/Gray	50 sf
House - Windows	Window Putty Associated with Wood Windows – Off-White	80 sf
House – Hallway thru Roof	Transite Pipe Associated with Wall Heater - Gray	10 lf

[1] Material quantity estimates are subject to a 15% +/- variance.

According to the results of the Lead Survey, the following is a list of components that contained variable and reportable concentrations of Lead (should this be lead containing and lead-based paint):

Location	Material	Estimated Quantity[1]
House - Exterior Windows	Paint on Wood Window Frames	30 sf

[1] Material quantity estimates are subject to a 15% +/- variance.

Prior to demolition, all defined regulated materials must be handled and disposed by trained, licensed contractors.

This summary is not to be read as a stand-alone document. The report shall be read in its entirety. The reader must review the detailed information provided in the accompanying text along with any laboratory results and drawings/plans. Any interpretation, use and conclusion resulting from the data contained in this report are the responsibility of the reader.

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ACRONYM GUIDE

ACM	Asbestos-Containing Material
ACCM	Asbestos-Containing Construction Material
Cal OSHA	California Occupational Safety and Health Administration
CCR	California Code of Regulations
CFR	Code of Federal Regulations
CPSC	Consumer Product Safety Commission
DHS	California Department of Health Services
EPA	Environmental Protection Agency
HSG	Homogeneous Sampling Group
HUD	U.S. Department of Housing and Urban Development
HVAC	Heating Ventilation and Air Conditioning
LBP	Lead-Based Paint
LCP	Lead-Containing Paint
NEA	Negative Exposure Assessment
NESHAP	National Emission Standards for Hazardous Air Pollutants
PLM	Polarized Light Microscopy
ppm	Parts per million
PQL	Practical Quantification Limit
RACM	Regulated Asbestos Containing Material
RFT	Resilient Floor Tile
TSI	Thermal System Insulation

1.0 INTRODUCTION

Entech Environmental Group, LLC (Entech) was requested by Geosyntec Consultants, Inc. (Geosyntec) to perform a pre-demolition hazardous materials survey for the property located at 8565 Almond Avenue, Fontana, California (Project Site). The purpose of the survey was to determine and report the presence of hazardous materials such as Asbestos Containing Materials (ACM), Lead-Based Paint (LBP), and Lead-Containing Paint (LCP) that may be impacted during the demolition activities at the Project Site.

This hazardous materials survey was carried out under the general supervision of Abbas Sam (CAC 09-4551) as required by 1529 (b) of Title 8 of the California Code of Regulations (CCR); data collection was conducted by Abbas Sam and Antonio Chavez (CSST 04-3632, CDPH 1201), the report was prepared by Abbas Sam

Note: Estimated quantities of any positive materials reported are only estimates, are not intended for bidding purposes and should be field verified. Estimated quantities are either reported in square feet (sf), linear feet (lf) or cubic feet (cf).

Based on Entech's understanding of the client's needs, the following scope of services was conducted:

1. Performed ACM survey of the subject property in accordance with the listed criteria in California Occupational Safety and Health Administration (Cal OSHA) standard 8 California Code of Regulations (CCR) 1529, OSHA standard 29 Code of Federal Regulations (CFR) 1926.1101 and Environmental Protection Agency (EPA) standard 40 CFR Part 61.145 (a), including the analysis of bulk samples via polarized light microscopy (PLM) methodology;
2. Performed LBP survey to assess for painted surfaces that may require removal prior to or specific work practices during construction activities. Provided a written report detailing the Survey information including description of the samples and sample locations, analytical results in tabular form, quantity and condition of surfaces identified and interpretation of results.

2.0 BACKGROUND

2.1 Site Description

The scope of work consists of demolition of the single-family house at detached garage located at 8565 Almond Avenue, Fontana, CA. The Project Site consists of an approximately 1,400 sf single story house with a detached 2-car garage, an approximately 10'x 15'concrete pad to the East of the house. The house at the Project Site was originally constructed in the early 1940s. The Project Site is located on a 1.14 Acre lot.

2.2 Scope of Work

Entech conducted the pre-demolition hazardous materials assessment for the house, detached garage and concrete pad located at 8565 Almond Avenue, Fontana, California. The purpose of the pre-demolition survey was to determine and report the presence of hazardous materials including ACM, LBP and LCP that may be impacted during the demolition activities.

2.3 Records Review

Entech was provided project scope of work to determine materials being impacted by the demolition activities at the subject site.

3.0 WORK DESCRIPTION: SURVEYS AND FINDINGS

This hazardous materials survey was carried out under the general supervision of Abbas Sam (CAC 09-4551) as required by 1529 (b) of Title 8 of the California Code of Regulations (CCR); data collection was conducted by Abbas Sam and Antonio Chavez (CSST 04-3632, CDPH 1201), the report was prepared by Abbas Sam

3.1 Asbestos Site Inspection/Assessment

A preliminary walk-through of the subject site was performed to familiarize the inspector with the structures and to identify suspect ACM. The following materials were included in the sampling plan:

- Floors
- Interior/Exterior Windows
- Walls
- Ceilings/Ceiling Space
- Crawl Space

3.1.1 Asbestos Bulk Sampling Collection and Analysis

During the walk-through, the project site was assessed for suspect asbestos-containing surfacing materials, suspect asbestos-containing miscellaneous friable materials, suspect asbestos-containing Category I non-friable materials, and suspect asbestos-containing Category II non-friable materials. Friable materials are defined as materials that when dry, can be crumbled or reduced to a powder by hand pressure. Category I non-friable materials are defined as packing, gaskets, asphaltic roofing materials, and resilient flooring materials and associated mastics in which the asbestos fibers are bound within a resinous matrix. Category II non-friable materials are defined as other non-friable materials (e.g., transite) in which the asbestos fibers are bound within a cement-like matrix.

Sampling of suspect ACM was conducted on identified suspect materials regardless of their condition (i.e., friability) at the time of the survey. The assessment and sampling of suspect non-friable materials were included in the scope of work because their condition could change during demolition and/or demolition activities. Their change in condition could result in their reclassification from non-friable ACM to regulated ACM (RACM) that are subject to the EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) asbestos standard (40 CFR Part 61, Subpart M). During the walk-through, homogeneous sample groups were identified in the building. Based on the identified sampling groups, a bulk-sampling plan for suspect ACM was developed.

Bulk sampling was conducted in accordance with procedures outlined in the Asbestos Hazard Emergency Response Act (40 CFR 763.86, Sampling). The procedure requires the inspector to select random sampling locations from homogeneous materials suspected to contain asbestos.

Entech collected thirty-seven (37) (45 layers) bulk samples throughout the project site, which were held and sent to a certified laboratory under chain of custody to AmeriSci Laboratories (ASL) located in Carson, California. ASL is accredited by the California Environmental Laboratory Accreditation Program and National Institute of Standards and Technology's National Voluntary Laboratory Accreditation Program (NVLAP No. 101048-3). While the EPA Method of Asbestos in Bulk Insulation Samples is defined in 40 CFR 763, Appendix E to Subpart E (EPA Method 600/M4-82-

020), the ACM bulk samples were analyzed for asbestos content using the EPA Method 600/R-93/116, 1993. This method is referred to as the "Improved Method" and is recommended by EPA as a preferred substitute to the Interim Method EPA 600/M4-82-020, 1982.

The EPA regulations define ACM as any material with an asbestos content greater than one percent (>1%). EPA regulations regarding the proper handling of ACMs must be followed for materials containing greater than one percent asbestos. If based on the results of the initial sampling, NESHAP Point Count reanalysis is necessary for positive asbestos results of less than 10%. This quantification can be necessary to establish the most cost effective abatement practices required for some materials, particularly drywall systems.

3.1.2 ACM Survey Results and Discussion

A complete breakdown of the materials sampled, location, analytical results for positive results are provided in Table 1 located within the report, summarizes the types of positive materials, the EPA NESHAP Categories, and the estimated quantity, respectively.

According to the visual investigation, bulk sampling of suspect materials, and interpretation of the laboratory data, the following **asbestos-containing materials are present** in the form of:

- Roofing Material – Black/Gray, House & Detached Garage– Approximately 1,800 sf.
- Roofing Mastic – Black/Gray, at Roof Penetrations and Joints
- Window Putty – Off-White, at Exterior Wood Windows
- Transite Pipe – Gray, Associated with Wall Heater

Furthermore, based on our survey results and interpretation of the laboratory data, the remainder of suspect building materials sampled/analyzed during this investigation did not contain asbestos in detectable concentrations.

To assist in the management, handling, or reporting of ACM identified in this report, a description and quantity of said materials is presented in Table 1 below. Materials are described by type (i.e., Thermal System Insulation or Surfacing Material or Miscellaneous Material) and category (i.e., Regulated Asbestos-Containing Material or Category I Non-friable ACM or Category II Non-friable ACM). The quantities are expressed in terms of square-feet (sf), lineal-feet (lf), or cubic feet (cf).

Table 1: Description and Quantity of Asbestos-Containing Materials

Description of Asbestos-Containing Material	Thermal System Insulation	Surfacing Material	Miscellaneous Material	Regulated Asbestos-Containing Material	Category I Non-friable ACM*	Category II Non-friable ACM*	Quantity of ACM**
Roofing Material – Black/Gray			X			X	~1,800 sf
Roofing Mastic – Black/Gray			X			X	~50 sf
Window Putty – Off-White							~80 sf
Transite Pipe - Gray	X			X			~10 sf

**Indicates condition of material at the time of sampling. Material may become friable and, thus, a Regulated Asbestos-Containing Material depending on the method of demolition and/or age. Material should be re-evaluated at the time of the project.*

***Quantities are approximate and are not intended for bidding or reporting purposes, and must be field verified.*

It will be necessary to comply with all applicable provisions of local, EPA, OSHA, Cal/OSHA, and ICAPCD regulations during any removal, demolition, or repair activities that may disturb the asbestos-containing materials.

3.2 Lead-Based Paint Site Inspection/Assessment

Entech conducted the LBP survey to assess for paint and other components that would require specialized handling prior to or during the demolition/construction activities and to identify painted surfaces which may contain lead and, therefore, specific work practices during demolition activities. The sampling was not a comprehensive HUD-style survey and, as such, was not intended to be compliant with HUD sampling requirements. Entech performed the LBP survey in general accordance with industry standards.

3.2.1 LBP Regulatory Overview

HUD and the Title 17 California DHS defines “lead-based paint” as paint and other surface coatings that contain an amount equal to, or in excess of 5,000 parts per million (ppm) or 1.0 milligrams per

square centimeter (mg/cm^2). The Consumer Product Safety Commission (CPSC) indicated that the allowable lead level in paint was 90 ppm.

In California, the Department of Occupational Safety and Health is charged with implementing and enforcing Lead in Construction rules. Title 8 of the CCR Section 1532.1 requires employers to provide sufficient worker protection when any detectable concentration of lead is present. This standard applies to all sources of lead, including lead in painted surfaces. Lead-containing paint, defined as any detectable concentration of lead, does not necessarily require special handling, mitigation or disposal. Factors that determine the appropriate mitigation strategy include the concentration of lead, the condition of the lead-containing material and the proposed contractor work methods. Generally, building components that include lead-containing painted materials, which are intact and that will not undergo any activities that cause lead-containing dust and/or debris to be generated, will not require special handling and disposal. However, employers are still required to provide sufficient worker protection when any detectable concentration of lead is present.

Additionally, employers are required to demonstrate that employee exposure is consistently below the 8-hour Permissible Exposure Limit (PEL) of 50 micrograms per cubic meter ($\mu g/m^3$) by completing a Negative Exposure Assessment (NEA) prior to demolition activities. The action level for demolition is established at 30 $\mu g/m^3$ for airborne lead. Airborne lead concentrations exceeding the Cal OSHA PEL triggers such requirements as exposure monitoring, containments for lead-related tasks, training and certification, respiratory protection, and medical surveillance during construction activities in the vicinity of LBP.

Current California and Federal regulations do mandate that generators determine if a waste is hazardous or non-hazardous by testing representative samples of the waste. The total lead by Total Threshold Limit Concentration (TTLC), California WET-method Soluble Threshold Limit Concentration (STLC), and Toxicity Characteristic Leaching Procedure (TCLP) analyses should be performed to characterize each waste stream as Federal RCRA hazardous waste, California hazardous waste, non-hazardous waste, or as construction debris. The waste stream must be handled as RCRA environmentally hazardous waste if TCLP lead levels exceed 5.0 milligrams per liter (mg/l), or as California hazardous waste if TTLC lead exceeds 1,000 milligrams per kilogram (mg/kg), and/or STLC lead exceeds 5.0 mg/l, respectively. By calculation, if a sample analyzed for lead by TTLC is found to contain less than 50 mg/kg, then the waste stream represented by the sample result is non-hazardous by definition (a completely soluble waste at this concentration would produce a TCLP lead concentration of less than 5.0 mg/l). Similarly, total lead less than 50 mg/kg will produce an STLC lead concentration of less than 5.0 mg/l.

3.2.2 LBP Survey Summary

A preliminary walk-through of the subject property was completed to visually identify suspect surfaces. All of the interior and exterior painted surfaces observed during the site reconnaissance were in fair to poor condition. A total of four (4) representative chip sample of painted building components were collected to identify lead concentrations during the February 2020 sampling event. The results are summarized below:

- Paint on Exterior Windows – on Wood (Brown/Tan) – House

All demolition activities will require compliance with Cal-OSHA regulations found in Title 8 of the CCR Section 1532.1. Special waste handling and disposal requirements will apply to the painted exterior eves; the contractor will be required to conduct additional waste characterization for disposal purposes.

4.0 REGULATORY CONSIDERATIONS

4.1.1 Worker Protection and Waste Definitions for Asbestos

Construction materials containing asbestos greater than 1 percent are defined as an Asbestos Containing Material (ACM) and are regulated under both federal and state regulations. Construction materials containing asbestos greater than 0.1% are defined as an Asbestos Containing Construction Material (ACCM) and are regulated by the State of California. Cal/OSHA regulates the removal of both ACM and ACCM.

Please refer to Title 8§1529-*Asbestos* for the regulatory requirements associated with working with both ACM and ACCM. Additionally, refer to §1529(r)-*Report of Use and Asbestos-related Work Registration* for the registration requirement of contractors involved in asbestos-related work involving over 100 square feet of ACCM/ACM. In instances where a material contains asbestos in concentrations below the ACCM regulatory threshold, the employer is required to comply with Cal/OSHA 5194-*Hazard Communication* in addition to pertinent sections of §1529-*Asbestos*.

In California, ACMs that are friable or will become friable during abatement are classified as a California-Hazardous Waste, and require special handling, packaging and disposal.

4.1.2 Worker Protection and Waste Definitions of Lead (in paint and construction materials)

Other Regulatory Definitions of lead-containing materials are detailed in 8 CCR and 22 CCR and CFR title 40 regulations. Cal/OSHA 1532.1-*Lead* regulates the removal of materials with detectable levels of lead. Please refer to §1532.1-*Lead* for the regulatory requirements associated with working with lead-containing materials.

It is important to understand that Cal/OSHA does not give a regulatory definition of a "lead-containing material." Cal/OSHA and Federal OSHA are concerned with "an employee occupationally exposed to lead." This is understood to mean material disturbed during construction work containing lead in any amount (i.e., lead-containing paint and lead-based paint) is covered under the lead in construction standard. Additionally, Federal OSHA has determined that the uses of XRF data and/or bulk sampling data (e.g., paint chips) are not acceptable for predicting employee exposures to lead. This fact means that contractors cannot use XRF data, paint chip data or bulk sample data as a surrogate for employee exposures during construction work (or the bidding process) as defined in 8 CCR 1532.1(a). The two OSHA interpretation letters below should be reviewed. Again, in summary they state, the burden of proof is on the employer in regards to employee exposures to lead in construction work and not the reliance on XRF data, bulk sampling data or paint chip sampling data.

1. www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=23455
2. www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=22701

Current California and Federal regulations do mandate that generators determine if a waste is hazardous or non-hazardous by testing representative samples of the waste. The total lead by Total Threshold Limit Concentration (TTLC), California WET-method Soluble Threshold Limit Concentration (STLC), and Toxicity Characteristic Leaching Procedure (TCLP) analyses should be performed to characterize each waste stream as Federal RCRA hazardous waste, California hazardous waste, non-hazardous waste, or as construction debris. The waste stream must be handled as RCRA environmentally hazardous waste if TCLP lead levels exceed 5.0 milligrams per liter (mg/l), or as California hazardous waste if TTLC lead exceeds 1,000 milligrams per kilogram (mg/kg), and/or STLC lead exceeds 5.0 mg/l, respectively. By calculation, if a sample analyzed for lead by TTLC is found to contain less than 50 mg/kg, then the waste stream represented by the sample result is non-hazardous by definition (a completely soluble waste at this concentration would produce a TCLP lead concentration of less than 5.0 mg/l). Similarly, total lead less than 50 mg/kg will generally produce an STLC lead concentration of less than 5.0 mg/l.

5.0 LIMITING CONDITIONS

Entech conducted a limited hazardous materials survey for the Fontana Farmhouse Demolition Project in February 2020 in general accordance with industry standards for bulk asbestos and lead-based paint (LBP) sampling procedures in existence at the time of the project. The conclusions and recommendations presented in this report are based on the applicable standards of our profession at the time this report was prepared. Copies of this report are furnished to provide the factual data that were gathered and summarized in the report.

The analysis and recommendations submitted in this report are based in part on the data obtained from specific and discrete sampling locations. However, the nature and extent of variations between the sampling locations may not become evident until planned demolition procedures commence. If potential variations are identified during demolition activities, it may be necessary to conduct additional bulk sampling.

This report has been prepared for the exclusive use of Geosyntec for specific application to the ACM and LBP building survey performed on the property, specifically, the structures located at 8565 Almond Avenue, Fontana, CA. This report may not be copied (except by our client) without the written permission of Entech. No other representation, expressed or implied is made.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The Subject Property located at 8565 Almond Avenue, Fontana, CA has been surveyed for ACM and LBP and categorized based on the listed criteria. Asbestos and lead components have been detected in the components at the project site, exceeding a variety of regulatory criteria. To ensure safe handling of material, protection of worker and public health and safety, and compliance with regulatory requirements, we make the following recommendations.

Asbestos Containing Material Survey

PLM analysis of suspect ACM and ACCM applications indicated the presence of asbestos in the materials which were sampled. These include:

- Roofing Material – Black/Gray, House & Detached Garage– Approximately 1,800 sf.
- Roofing Mastic – Black/Gray, at Roof Penetrations and Joints
- Window Putty – Off-White, at Exterior Wood Windows
- Transite Pipe – Gray, Associated with Wall Heater

All Regulated Asbestos-containing Materials (RACM) that will be affected by the planned demolition shall be removed prior to demolition of the subject building in compliance with the asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP), and Cal-OSHA Asbestos in the Construction Industry Standard, 8 CCR 1529. Additionally, all Category I and Category II non-friable asbestos-containing materials that may become friable as a result of demolition work and that will be affected by the planned demolition shall be removed prior to demolition of the subject building in compliance with the asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP), and Cal-OSHA Asbestos in the Construction Industry Standard, 8 CCR 1529.

Should materials be impacted which were not sampled in this survey, Entech recommends said materials to be sampled and tested for asbestos content.

Lead-Based Paint Material Survey

Based on the analytical results of the paints sampled during the site inspection indicate that locations contained lead in concentrations which are regulated by Cal/OSHA (i.e., LCP). These include:

- Paint on Exterior Windows – on Wood (Brown/Tan) – House

Due to the presence of lead containing building materials, compliance with Cal-OSHA 8 CCR 1532.1, Lead in the Construction Industry Standard will be required for the general demolition contractor. Workers shall have, at a minimum, lead awareness training for any work that disturbs lead containing materials. Additionally, should any trigger task activity listed in section (d)(2)(A-D) of 8 CCR 1532.1, including, but not limited to, manual demolition, manual scraping, manual sanding, power tool cleaning with or without local exhaust ventilation, abrasive blasting, welding, and cutting where lead-containing paints or components are present be performed, the contractor shall comply with the following requirements:

1. Provide a negative exposure assessment performed within the past 12 months for each anticipated trigger task.

OR

2. Provide workers with interim protections including, but not limited to, provision of a written lead compliance plan, medical surveillance, provision of PPE, a respiratory protection program, provision of hygiene facilities, and performance of exposure assessments in compliance the Lead in Construction Standard.

Typical demolition tasks, such as manual demolition, manual paint scraping, or manual sanding of building components containing lead that might be required for this project fall under Trigger Task 1. Because performance of these tasks requires either a negative exposure assessment or performance of the above listed interim protections, it may be difficult for a general contractor to comply with the Cal-OSHA requirements. In that case, the alternative of using an experienced lead-related contractor to perform limited lead-related work prior to/during general demolition may be a good option. Please note that heavy demolition of lead-containing building components using powered equipment is NOT a trigger task activity and may be performed by the general contractor so long as they comply with the training, work practices, and exposure assessment requirements of the Lead Standard.

APPENDIX A

Asbestos & Lead Bulk Sample Analytical Laboratory Reports

Please Reply To:

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

FACSIMILE TELECOPY TRANSMISSION

To: Abbas Sam
Entech Environmental Management, Inc.
Fax #:
Email: abbas@entechenvironmental.com

From: Wesene Sebhat
AmeriSci Job #: 920021329
Subject: PLM 24 hour Results
Client Project: Fontana Farmhouse Haz Mat Survey; Asb & LBP Survey / 8565 Almond Ave Fontana CA

Date: Saturday, February 15, 2020
Time: 12:44:37
Comments:

Number of Pages: _____
(including cover sheet)

CONFIDENTIALITY NOTICE: Unless otherwise indicated, the information contained in this communication is confidential information intended for use of the individual named above. If the reader of this communication is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is prohibited. If you have received this communication in error, please immediately notify the sender by telephone and return the original message to the above address via the US Postal Service at our expense. Samples are disposed of in 60 days or unless otherwise instructed by the protocol or special instructions in writing. Thank you.

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Entech Environmental Management, Inc
Attn: Abbas Sam
5355 Mira Sorrento Place
Suite 100
San Diego, CA 92121

Date Received 02/14/20
Date Examined 02/15/20

AmeriSci Job # 920021329
P.O. #

RE: Fontana Farmhouse Haz Mat Survey; Asb & LBP Survey / 8565 Almond Ave Fontana CA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
1 01	920021329-01.1 **Location:** Drywall Wall / Joint Comp.	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: White, Homogeneous, Non-Fibrous, Joint Compound **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
1 01	920021329-01.2 **Location:** Drywall Wall / Joint Comp.	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: White/Brown, Heterogeneous, Fibrous, Drywall **Asbestos Types:** **Other Material:** Cellulose 15 %, Non-fibrous 85 %			
2 01	920021329-02.1 **Location:** Drywall Wall / Joint Comp.	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: White, Heterogeneous, Non-Fibrous, Joint Compound **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
2 01	920021329-02.2 **Location:** Drywall Wall / Joint Comp.	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: White/Brown, Heterogeneous, Fibrous, Drywall **Asbestos Types:** **Other Material:** Cellulose 15 %, Non-fibrous 85 %			
3 01	920021329-03.1 **Location:** Drywall Wall / Joint Comp.	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: White, Homogeneous, Non-Fibrous, Joint Compound **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

Fontana Farmhouse Haz Mat Survey; Asb & LBP Survey / 8565
Almond Ave Fontana CA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
3 01	920021329-03.2 **Location:** Drywall Wall / Joint Comp.	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: White/Brown, Heterogeneous, Fibrous, Drywall **Asbestos Types:** **Other Material:** Cellulose 15 %, Non-fibrous 85 %			
4 02	920021329-04 **Location:** Skim Coat On Plaster Wall / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
5 02	920021329-05 **Location:** Skim Coat On Plaster Wall / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: White, Heterogeneous, Non-Fibrous, Skim Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
6 02	920021329-06 **Location:** Skim Coat On Plaster Wall / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: White, Homogeneous, Non-Fibrous, Skim Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
7 03	920021329-07 **Location:** Plaster Wall / Ceiling / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: White/Purple, Heterogeneous, Non-Fibrous, Plaster **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
8 03	920021329-08 **Location:** Plaster Wall / Ceiling / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: White/Purple, Heterogeneous, Non-Fibrous, Plaster **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

Fontana Farmhouse Haz Mat Survey; Asb & LBP Survey / 8565
Almond Ave Fontana CA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
9 03	920021329-09 **Location:** Plaster Wall / Ceiling / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: White/Purple, Heterogeneous, Non-Fibrous, Plaster **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
10 04	920021329-10 **Location:** Barrier Paper @ Walls / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Black, Heterogeneous, Fibrous, Barrier Paper **Asbestos Types:** **Other Material:** Cellulose 60 %, Non-fibrous 40 %			
11 04	920021329-11 **Location:** Barrier Paper @ Walls / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Black, Heterogeneous, Fibrous, Barrier Paper **Asbestos Types:** **Other Material:** Cellulose 60 %, Non-fibrous 40 %			
12 04	920021329-12 **Location:** Barrier Paper @ Walls / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Black, Heterogeneous, Fibrous, Barrier Paper **Asbestos Types:** **Other Material:** Cellulose 60 %, Non-fibrous 40 %			
13 05	920021329-13 **Location:** Window Putty / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Grey/Beige, Heterogeneous, Non-Fibrous, Window Putty **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
14 05	920021329-14 **Location:** Window Putty / Composite	***Yes***	Trace (<1 %) (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Grey/Beige, Heterogeneous, Non-Fibrous, Window Putty **Asbestos Types:** Chrysotile <1. % **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

Fontana Farmhouse Haz Mat Survey; Asb & LBP Survey / 8565
Almond Ave Fontana CA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
15 05	920021329-15 **Location:** Window Putty / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Grey/Beige, Heterogeneous, Non-Fibrous, Window Putty **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
16 06	920021329-16 **Location:** 12"x12" Floor Tile & Mastic / Paper / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Beige, Heterogeneous, Fibrous, Composite **Asbestos Types:** **Other Material:** Cellulose 30 %, Non-fibrous 70 %			
17 06	920021329-17 **Location:** 12"x12" Floor Tile & Mastic / Paper / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Grey/Beige, Heterogeneous, Fibrous, Composite **Asbestos Types:** **Other Material:** Cellulose 40 %, Non-fibrous 60 %			
18 06	920021329-18 **Location:** 12"x12" Floor Tile & Mastic / Paper / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Beige/Grey, Heterogeneous, Fibrous, Composite **Asbestos Types:** **Other Material:** Cellulose 10 %, Non-fibrous 90 %			
19 07	920021329-19 **Location:** Floor Sheeting & Mastic / Paper / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Beige, Heterogeneous, Fibrous, Composite **Asbestos Types:** **Other Material:** Cellulose 10 %, Non-fibrous 90 %			
20 07	920021329-20 **Location:** Floor Sheeting & Mastic / Paper / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Tan, Heterogeneous, Non-Fibrous, Composite **Asbestos Types:** **Other Material:** Cellulose 10 %, Non-fibrous 90 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

Fontana Farmhouse Haz Mat Survey; Asb & LBP Survey / 8565
Almond Ave Fontana CA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
21 07	920021329-21 **Location:** Floor Sheeting & Mastic / Paper / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: White/Brown, Heterogeneous, Fibrous, Composite **Asbestos Types:** **Other Material:** Cellulose 10 %, Non-fibrous 90 %			
22 08	920021329-22 **Location:** Exterior Stucco / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Grey/White, Heterogeneous, Non-Fibrous, Cementitious, Composite **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
23 08	920021329-23 **Location:** Exterior Stucco / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Grey/white, Heterogeneous, Non-Fibrous, Cementitious, Composite **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
24 08	920021329-24 **Location:** Exterior Stucco / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Grey/White, Heterogeneous, Non-Fibrous, Cementitious, Composite **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
25 09	920021329-25 **Location:** Brick Mortar / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Composite **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
26 09	920021329-26 **Location:** Brick Mortar / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Composite **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

Fontana Farmhouse Haz Mat Survey; Asb & LBP Survey / 8565
Almond Ave Fontana CA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
27 09	920021329-27 **Location:** Brick Mortar / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Composite **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
28 10	920021329-28 **Location:** Driveway / Exterior Concrete Driveway / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Concrete **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
29 10	920021329-29 **Location:** House / Garage / Concrete Slab / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Red/Grey, Heterogeneous, Non-Fibrous, Cementitious, Composite **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
30 10	920021329-30 **Location:** House / Garage / Concrete Slab / Composite	***No***	NAD (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Red/Grey, Heterogeneous, Non-Fibrous, Cementitious, Concrete **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
31 11	920021329-31 **Location:** Roofing Material / Composite	***Yes***	2 % (by CVES) by Wesene Sebhat on 02/15/20
Analyst Description: Black/Grey, Heterogeneous, Fibrous, Composite **Asbestos Types:** Chrysotile 2.0 % **Other Material:** Fibrous glass 10 %, Non-fibrous 88 %			
32 11	920021329-32 **Location:** Roofing Material / Composite		NA/PS
Analyst Description: Composite **Asbestos Types:** **Other Material:**			

See Reporting notes on last page

PLM Bulk Asbestos Report

Fontana Farmhouse Haz Mat Survey; Asb & LBP Survey / 8565
Almond Ave Fontana CA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
33 11	920021329-33 **Location:** Roofing Material / Composite **Analyst Description:** Composite **Asbestos Types:** **Other Material:**		NA/PS
34 12	920021329-34 **Location:** Roofing Mastic / Composite **Analyst Description:** Black, Homogeneous, Non-Fibrous, Composite **Asbestos Types:** Chrysotile 5.0 % **Other Material:** Non-fibrous 95 %	***Yes***	5 % (by CVES) by Wesene Sebhat on 02/15/20
35 12	920021329-35 **Location:** Roofing Mastic / Composite **Analyst Description:** Composite **Asbestos Types:** **Other Material:**		NA/PS
36 12	920021329-36 **Location:** Roofing Mastic / Composite **Analyst Description:** Bulk Material **Asbestos Types:** **Other Material:**		NA/PS
37 13	920021329-37 **Location:** Transite Pipe / Composite **Analyst Description:** Grey, Heterogeneous, Fibrous, Transite **Asbestos Types:** Crocidolite <1. %, Chrysotile 15.0 % **Other Material:** Non-fibrous 85 %	***Yes***	15 % (by CVES) by Wesene Sebhat on 02/15/20

See Reporting notes on last page

PLM Bulk Asbestos Report

Fontana Farmhouse Haz Mat Survey; Asb & LBP Survey / 8565
Almond Ave Fontana CA

Reporting Notes:

Analyzed By: Wesene Sebhat _____; Date Analyzed: 2/15/2020 2/15/2020

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/R-93/116, including requirements for EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By:_____

AMERISCI
www.amerisci.com

Asbestos, Lead Analysis Chain of Custody

AMERISCI JOB #:

AMERISCI LOS ANGELES
24416 S Main St. Suite 308
Carson, CA 90745
Phone (310) 834-4868
Fax (310) 834-4772

COMPANY: Entech

ADDRESS: 208 Monquette Ave, S San Marcos Ca

P.O.#:

PROJECT INFORMATION

JOB NAME: Fonta Funnhouse Survey

JOB NUMBER:

JOB MANAGER: Abbas Sam

JOB DESCRIPTION: Asb & LPB Survey.

ANALYSIS TYPE	TURNAROUND TIME: RUSH	24 HR	48 HR	72 HR	5 DAY
ASBESTOS TEM AHERA					
ASBESTOS PLM BULK		✓			
ASBESTOS PCM AIR					
ASBESTOS PLM 1000 P.C.					
LEAD AIR					
LEAD WIPE					
LEAD PAINT / SOLID					
OTHER:					

AIR FILTER INFORMATION:

MCE	
PC	
25 mm	
37 mm	
0.45 um	
0.80 um	
TEMP:	
OTHER:	

INITIAL RESULTS DELIVERY: ☐ FAX ☑ EMAIL ☐ VERBAL ☐ MAIL ONLY

REPORTS TO: Abbas Sam

INVOICE TO: Entech

COMMENTS: Thank You

RETURN SAMPLES YES_____

PHONE: 310-720-2321

FAX:

EMAIL: abbas@entechenvironmental.com

PAGER/CELL:

SAMPLE ID	SAMPLE LOCATION	START TIME	STOP TIME	TOTAL TIME	X LITERS /MIN.	= TOTAL VOLUME	AREA SQUARE FT
	Please See attached log						

SAMPLED BY: Abbas Sam DATE/TIME: 2/14/20 / 9am

RELINQUISHED BY: [signature] DATE/TIME: 2/14/20 5:30 pm

RELINQUISHED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RECEIVED IN LAB BY: [signature] 2/14/20 @ 1710 DATE/TIME:

ENTECH

ASBESTOS BULK SAMPLING FORM

Project Name: Fontana Farmhouse Haz Mat. Survey.

Project Address: 8565 Almond Ave. Fontana, CA

Job #:

Sampler/Certification: Abbas Sam / Antonio Chavez

Date: 2/14/20

Sample #	Sample Location	Material Description	Condition/Comments
1	Living Room	Dry wall wall/joint comp.	Fair
2	Bed Room/Den	//	//
3	GARAGE	//	//
4	Bedroom/Den	Skim coat on Plaster wall	Fair / Composite
5	Living Room	//	//
6	Kitchen	//	//
7	Bedroom	Plaster wall/Cily	Fair
8	Living Room	//	//
9	Bedroom/Den	//	//
10	Exterior - West	Barrier Paper @ walls	Fair
11	Exterior - South	//	//
12	Garage - East.	//	//

Turnaround Time (circle one): <8 hrs/Same Day 24 hrs 48 hrs 72 hrs 5 days

Email Results ASAP to Abbas Sam @ [illegible]

Notes:

Released by: [illegible] Date: 2/14/20 Time: 5:30pm

Received by: Date: Time:

Rec'd by [illegible] 2/14/20 @1710

Entech Environmental Group
Environmental Consulting . Stormwater Management . Building Sciences . Sustainability
Tel.: 858-2308515 Cell: 310-720-2321

ENTECH

ASBESTOS BULK SAMPLING FORM

Project Name: Fontana Farmhouse Haz Mat. Survey.

Project Address: 8565 Almond Ave. Fontana, CA

Job #:

Sampler/Certification: Abbas Sam / Antonio Chavez

Date: 2/14/20

Sample #	Sample Location	Material Description	Condition/Comments
13	House - South	Window Putty	Damaged / Composite
14	House - West	//	// //
15	House - South	//	// //
16	House - Restroom	12"x12" Floor Tile & Mastic/Paper	Fair / Composite
17	House - Restroom	//	// //
18	House - Restroom	/	// //
19	House - Kitchen	Floor Sheeting & Mastic/Paper.	// //
20	House - Kitchen	//	// //
21	House - Kitchen	//	Fair //
22	House - North	Exterior Stucco	// //
23	House - East	//	// //
24	Garage - South	//	// //

Turnaround Time (circle one): <8 hrs/Same Day 24 hrs 48 hrs 72 hrs 5 days

Email Results ASAP to Abbas Sam @ abbas@entechenvironmental.com

Notes:

Released by: [signature] Date: 2/14/20 Time: 5:30 pm

Received by: Date: Time:

Rec'd by [signature] 2/14/20 1700

3 of 5

Entech Environmental Group
Environmental Consulting . Stormwater Management . Building Sciences . Sustainability
Tel.: 858-2308515 Cell: 310-720-2321

ENTECH

ASBESTOS BULK SAMPLING FORM

Project Name: Fontana Farmhouse Haz Mat. Survey.

Project Address: 8565 Almond Ave. Fontana, CA

Job #:

Sampler/Certification: Abbas Sam / Antonio Chavez

Date: 2/14/20

Sample #	Sample Location	Material Description	Condition/Comments
25	Famih Room	Brick Mortar	Good / Composite
26	Family Room	"	" "
27	Family Room.	"	" "
28	Driveway.	Exterior Concrete Driveway	Fair / Composite
29	House / Garage	Concrete Slab	" "
30	"	"	" "
31	Roof	Roofing Material	" "
32	Roof	"	" "
33	Roof	"	" "
34	Roof	Roofing Mastic	Fair "
35	Roof	"	" "
36	Roof	"	" "

Turnaround Time (circle one): <8 hrs/Same Day 24 hrs 48 hrs 72 hrs 5 days

Email Results ASAP to Abbas Sam @ abbas@entechenvironmental.com

Notes:

Released by: Date: 2/14/20 Time: 5:30 pm

Received by: Date: Time:

Rec'd by BJ 2/14/20 @1710

4 of 5

Entech Environmental Group
Environmental Consulting . Stormwater Management . Building Sciences . Sustainability
Tel.: 858-2308515 Cell: 310-720-2321

ENTECH

ASBESTOS BULK SAMPLING FORM

Project Name: Fontana Farmhouse Haz Mat. Survey.

Project Address: 8565 Almond Ave. Fontana, CA

Job #:

Sampler/Certification: Abbas Sam / Antonio Chavez

Date: 2/14/20

Sample #	Sample Location	Material Description	Condition/Comments
37	Hallway / Roof.	Transite Pipe.	Good / Composite

Turnaround Time (circle one): <8 hrs/Same Day 24 hrs 48 hrs 72 hrs 5 days

Email Results ASAP to Abbas Sam @ abbas@entechenvironmental.com

Notes:

Released by: [signature] Date: 2/14/20 Time: 5:30 pm

Received by: Date: Time:

Rec'd by RJ 2/14/20 @1710

Entech Environmental Group
Environmental Consulting . Stormwater Management . Building Sciences . Sustainability
Tel.: 858-2308515 Cell: 310-720-2321

5 of 5

Please Reply To:

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

FACSIMILE TELECOPY TRANSMISSION

To: Abbas Sam
Entech Environmental Management, Inc.
Fax #:
Email: abbas@entechenvironmental.com

From:
AmeriSci Job #: 420021122
Subject: Lead (paint) 24 hour Results
Client Project: Fontana Farmhouse Survey; Asb & LBP Survey

Date: Sunday, February 16, 2020
Time: 13:05:14
Comments:

Number of Pages: 04
(including cover sheet)

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AmeriSci Los Angeles
24416 S Main St., Ste. 308
Carson, CA 90745
Phone: (310) 834-4868 Fax: (310) 834-4772

Laboratory Report

Report Date: 2/16/2020
Workorder No: **420021122**

Customer: **Entech Environmental Management, Inc.**
5355 Mira Sorrento Place Suite 100
San Diego, CA 92121

Attention: Abbas Sam

Subject: **Fontana Farmhouse Survey; Asb & LBP Survey**

Sample 1: **1** Description: Interior Walls @ DW / Plaster
Collection Date: 02/14/2020 Received Date:02/14/2020 Time: 17:10
Matrix: Solid

Parameter	Method	Results	Unit	PQL	Tech	Analysis Date	Qual
Lead, Solid, ICP	EPA 3050B/6010B	0.036	wt%	0.00050	MP	2/16/2020	M

Sample 2: **2** Description: Interior Walls / Framers On Wood
Collection Date: 02/14/2020 Received Date:02/14/2020 Time: 17:10
Matrix: Solid

Parameter	Method	Results	Unit	PQL	Tech	Analysis Date	Qual
Lead, Solid, ICP	EPA 3050B/6010B	0.0066	wt%	0.0010	MP	2/16/2020	

Sample 3: **3** Description: Exterior Walls On Stucco
Collection Date: 02/14/2020 Received Date:02/14/2020 Time: 17:10
Matrix: Solid

Parameter	Method	Results	Unit	PQL	Tech	Analysis Date	Qual
Lead, Solid, ICP	EPA 3050B/6010B	0.0035	wt%	0.00050	MP	2/16/2020	

Sample 4: **4** Description: Exterior Window / Door On WD
Collection Date: 02/14/2020 Received Date:02/14/2020 Time: 17:10
Matrix: Solid

Parameter	Method	Results	Unit	PQL	Tech	Analysis Date	Qual
Lead, Solid, ICP	EPA 3050B/6010B	0.49	wt%	0.00050	MP	2/16/2020	

AmeriSci Los Angeles
24416 S Main St., Ste. 308
Carson, CA 90745
Phone: (310) 834-4868 Fax: (310) 834-4772

Customer: **Entech Environmental Management, Inc.** Workorder No: **420021122**

M: matrix spike / matrix spike duplicate (MS/MSD) recoveries were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control (LCS/LCSD) sample recovery was within acceptance limits.

AmeriSci Reporting Limit is represented by the PQL. The analytical results within this report relate only to the specific compounds and samples investigated, and may not necessarily reflect other apparently similar material from a similar location. This report shall not be reproduced, except in full, without the written approval of AmeriSci Los Angeles. All analytical Batch data met quality control criteria unless other wise noted.

To the best of my knowledge this report is true and accurate.

Authorized by/Title: _____ Date: 2/16/2020

Minh Phung / Metal Superv.

AMERISCI
www.amerisci.com

Asbestos, Lead Analysis Chain of Custody

AMERISCI JOB #: 420021122

AMERISCI LOS ANGELES
24416 S Main St. Suite 308
Carson, CA 90745
Phone (310) 834-4868
Fax (310) 834-4772

COMPANY:	ADDRESS:	P.O.#:
Entech	208 Monaguette Ave, San Mateo, CA	

PROJECT INFORMATION	ANALYSIS TYPE	TURNAROUND TIME: RUSH	24 HR	48 HR	72 HR	5 DAY	AIR FILTER INFORMATION:	
JOB NAME: Fontana Farmhouse Sy	ASBESTOS TEM AHERA						MCE	
	ASBESTOS PLM BULK						PC	
JOB NUMBER:	ASBESTOS PCM AIR						25 mm	
	ASBESTOS PLM 1000 P.C.						37 mm	
JOB MANAGER: Abbas Sam	LEAD AIR						0.45 um	
	LEAD WIPE						0.80 um	
JOB DESCRIPTION: Asbst LBP Survey	LEAD PAINT / SOLID		✓				TEMP:	
	OTHER:						OTHER:	

INITIAL RESULTS DELIVERY: ☐ FAX ☑ EMAIL ☐ VERBAL ☐ MAIL ONLY

RETURN SAMPLES YES_____

REPORTS TO: Abbas Sam

PHONE: 310-720-2321

INVOICE TO: Entech

FAX:

COMMENTS: Thank you

EMAIL: abbas@entechenvironmental

PAGER/CELL:

SAMPLE ID	SAMPLE LOCATION	START TIME	STOP TIME	TOTAL TIME	X LITERS /MIN.	= TOTAL VOLUME	AREA SQUARE FT
1	Interior walls @ DW/Plaster.						
2	Interior doors/ Frames on Wall						
3	Exterior walls on stucco						
4	Exterior Windows/Doors on WD.						

SAMPLED BY: Antonio Chavez	DATE/TIME: 2/14/20	RECEIVED BY:	DATE/TIME:
RELINQUISHED BY:	DATE/TIME: 2/14/20	RECEIVED BY:	DATE/TIME:
RELINQUISHED BY:	DATE/TIME:	RECEIVED IN LAB BY: RJ 2/14/20 @1710	DATE/TIME:

Asbestos, Environmental Chemistry and Microbiology Analysis
Boston Los Angeles New York Richmond

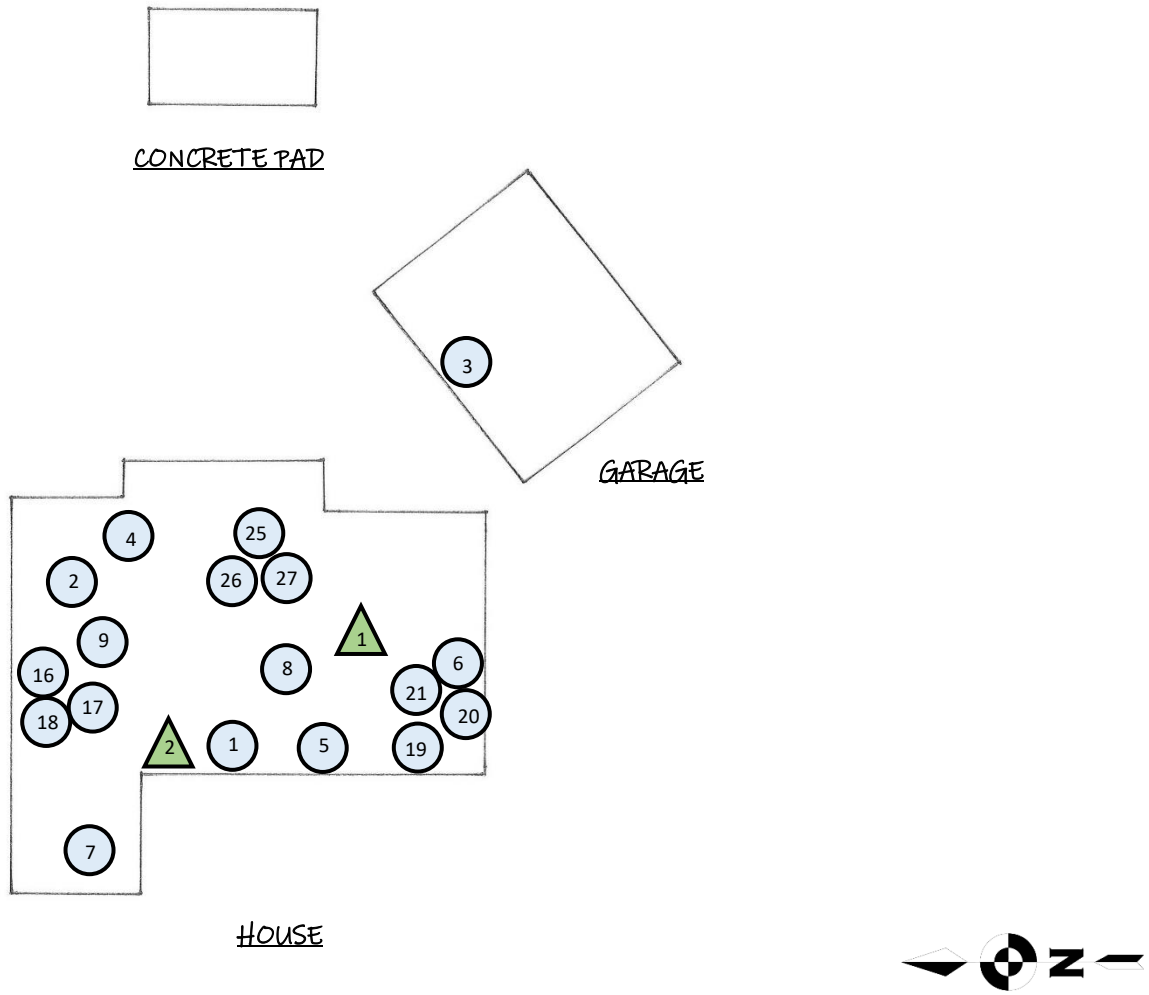
APPENDIX B

Hazardous Material Site Vicinity & Sample Location Plans

Legend	
	Property Line

Prepared for: **Geosyntec Consultants, Inc.**	**Fontana Farmhouse Property** **8565 Almond Drive, Fontana, CA** **Asbestos & Lead-Based Paint Pre-Demolition Survey**	**Figure-1** **Site Plan**
Prepared by: **Entech Environmental Group, LLC**		***Date:*** **2/17/2020** ***Drawn by:*** *AAS*

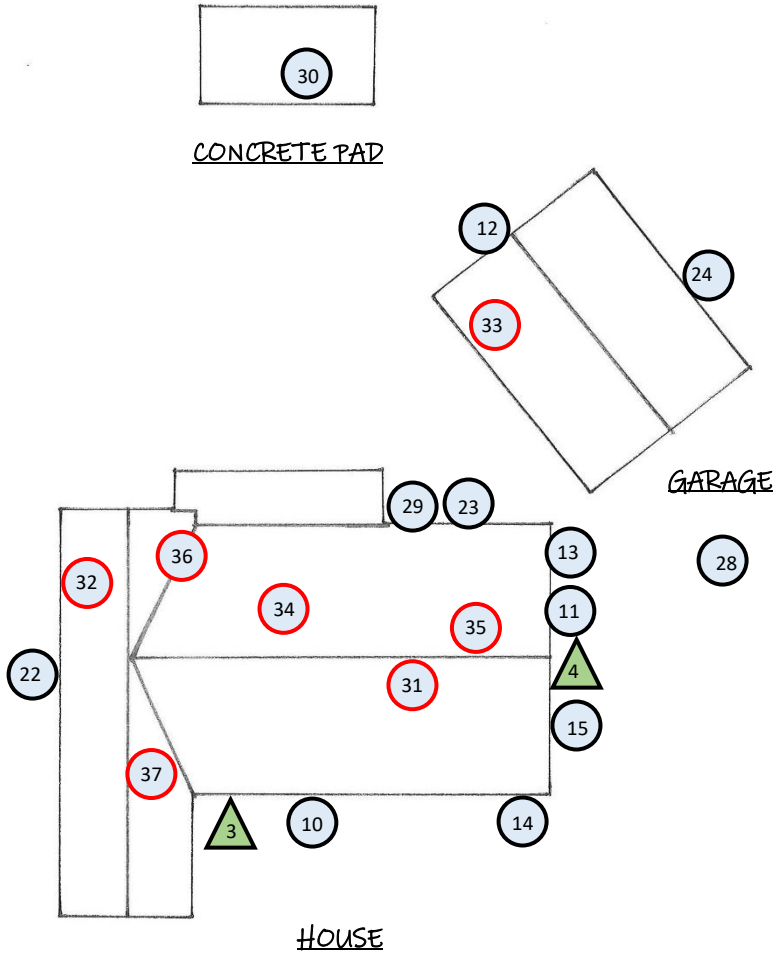
ENTECH



Legend	
1	PLM Sample – Negative for ACM
1	Paint Chip Sample – Negative for LBP

Prepared for: **Geosyntec Consultants, Inc.**	**Fontana Farmhouse Property** **8565 Almond Drive, Fontana, CA** **Asbestos & Lead-Based Paint Pre-Demolition Survey**	**Figure-2** **Sampling Floor Plan**
Prepared by: **Entech Environmental Group, LLC**		***Date:*** **2/17/2020** ***Drawn by:*** *AAS*

ENTECH



Legend	
1	PLM Sample – Positive for ACM
1	PLM Sample – Negative for ACM
1	Paint Chip Sample – Negative for LBP

Prepared for: **Geosyntec Consultants, Inc.**	**Fontana Farmhouse Property** **8565 Almond Drive, Fontana, CA** **Asbestos & Lead-Based Paint Pre-Demolition Survey**	**Figure-3** **Exterior & Roof Sampling Plan**
Prepared by: **Entech Environmental Group, LLC**		***Date:*** **2/17/2020** ***Drawn by:*** *AAS*

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APPENDIX C

Photo Log

Fontana Farmhouse Pre-Demolition Survey
8565 Almond Drive, Fontana, CA
February 14, 2020

Photo 1 – Front Façade of the Subject Property (West)

Photo 2 – Rear Façade of the Subject Property (East)

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Photo 3 – House Roof Looking North

Photo 4 – Composite Roofing Material

Photo 5 – Roof Mastic at Penetrations (Chimney)

Photo 6 – Roof Mastic at Joints and Penetrations

Photo 7 – Transite Pipe Vent Associated with Wall Heater

Photo 8 – Window Putty at Exterior of Wooden Windows

APPENDIX D

Consultant's Certificates

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

Amir Abbas Sam
Name

Certification No. **09-4551**

Expires on **08/20/20**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

Appendix K

Preliminary Water Quality Management Plan

Preliminary

Water Quality Management Plan

For:

Hillwood – Almond at Whittram Industrial

APN: 0230-131-19, -28, -29

Prepared for:

Hillwood Enterprises

901 Via Piemonte, Suite 175

Ontario, CA 91764

909–382–0033

Prepared by:

Huitt-Zollars, Inc

3990 Concours, Suite 330

Ontario, CA 91764

909-941-7799

Submittal Date: 02/17/2020

Revision Date: _____

Approval Date:_____

Project Owner's Certification

This Water Quality Management Plan (WQMP) has been prepared for Hillwood Enterprises, LP by Huitt-Zollars. Inc. The WQMP is intended to comply with the requirements of the County of San Bernardino and the NPDES Area-wide Stormwater Program requiring the preparation of a WQMP. The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan and will ensure that this plan is amended as appropriate to reflect up-to-date conditions on the site consistent with San Bernardino County's Municipal Storm Water Management Program and the intent of the NPDES Permit for San Bernardino County and the incorporated cities of San Bernardino County within the Santa Ana Region. Once the undersigned transfers its interest in the property, its successors in interest and the city/county shall be notified of the transfer. The new owner will be informed of its responsibility under this WQMP. A copy of the approved WQMP shall be available on the subject site in perpetuity.

"I certify under a penalty of law that the provisions (implementation, operation, maintenance, and funding) of the WQMP have been accepted and that the plan will be transferred to future successors."

Project Data			
Permit/Application Number(s):	TBD	Grading Permit Number(s):	TBD
Tract/Parcel Map Number(s):	N/A	Building Permit Number(s):	TBD
CUP, SUP, and/or APN (Specify Lot Numbers if Portions of Tract):			APN: 0230-131-19, -28, -29

Owner's Signature			
Owner Name: Joshua Cox			
Title	Vice President, Development		
Company	Hillwood Enterprises, LP		
Address	901 Via Piemonte, Suite 175, Ontario, CA 91764		
Email	Josh.Cox@hillwood.com		
Telephone #	909-382-0033		
Signature		Date	

2nd submittal to be signed

Preparer's Certification

Project Data			
Permit/Application Number(s):	TBD	Grading Permit Number(s):	TBD
Tract/Parcel Map Number(s):	N/A	Building Permit Number(s):	TBD
CUP, SUP, and/or APN (Specify Lot Numbers if Portions of Tract):			APN: 0230-131-19, -28, -29

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control measures in this plan were prepared under my oversight and meet the requirements of Regional Water Quality Control Board Order No. R8-2010-0036."

Engineer: Manuel (Manny) Gonzales, PE		PE Stamp Below
Title	Project Manager	
Company	Huitt-Zollars, Inc	
Address	3990 Concours, Suite 330. Ontario, CA 91764	
Email	mgonzales@huitt-zollars.com	
Telephone #	909-941-7799 X11450	
Signature		
Date		

2nd submittal to be signed

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Attachment A: WQMP Site Map

Attachment B: BMP Details and Calculations

Attachment C: Sample Educational Materials

Attachment D: Infiltration Report

Attachment E: Rainfall Data (NOAA Atlas 14) and Worksheet H

Attachment F: Fact Sheets

Section 1 Discretionary Permit(s)

Form 1-1 Project Information					
Project Name	Hillwood - Almond at Whittram Industrial				
Project Owner Contact Name:	Joshua Cox				
Mailing Address:	901 Via Piemonte, Suite 175, Ontario, CA 91764	E-mail Address:	Josh.Cox@hillwood.com	Telephone:	909-382-0033
Permit/Application Number(s):	TBD		Tract/Parcel Map Number(s):	N/A	
Additional Information/ Comments:	N/A				
Description of Project:	This project is a new development of an industrial warehouse facility located in an unincorporated region in the County of San Bernardino, on Almond Avenue between Arrow Route and Whittram Avenue. Three parcel were merged to create one. One of the existing parcels has a single family home, but the other two are undeveloped. The site slopes from the northeast corner to the southwest corner. The proposed building is approximately 185,600 square feet in size, on approximately 9.5 acres. All on-site runoff will be collected by catch basins with Bioclean catch basin filters (or approved equal) installed and conveyed to an on-site detention/infiltration basin along the southerly boundary where the excess flow will be discharged onto Almond Avenue.				
Provide summary of Conceptual WQMP conditions (if previously submitted and approved). Attach complete copy.	N/A				

Section 2 Project Description

2.1 Project Information

This section of the WQMP should provide the information listed below. The information provided for Conceptual/ Preliminary WQMP should give sufficient detail to identify the major proposed site design and LID BMPs and other anticipated water quality features that impact site planning. Final Project WQMP must specifically identify all BMP incorporated into the final site design and provide other detailed information as described herein.

The purpose of this information is to help determine the applicable development category, pollutants of concern, watershed description, and long term maintenance responsibilities for the project, and any applicable water quality credits. This information will be used in conjunction with the information in Section 3, Site Description, to establish the performance criteria and to select the LID BMP or other BMP for the project or other alternative programs that the project will participate in, which are described in Section 4.

Form 2.1-1 Description of Proposed Project

1 Development Category (Select all that apply):			
☐ Significant re-development involving the addition or replacement of 5,000 ft^2 or more of impervious surface on an already developed site	☒ New development involving the creation of 10,000 ft^2 or more of impervious surface collectively over entire site	☐ Automotive repair shops with standard industrial classification (SIC) codes 5013, 5014, 5541, 7532- 7534, 7536-7539	☐ Restaurants (with SIC code 5812) where the land area of development is 5,000 ft^2 or more
☐ Hillside developments of 5,000 ft^2 or more which are located on areas with known erosive soil conditions or where the natural slope is 25 percent or more	☐ Developments of 2,500 ft^2 of impervious surface or more adjacent to (within 200 ft) or discharging directly into environmentally sensitive areas or waterbodies listed on the CWA Section 303(d) list of impaired waters.	☐ Parking lots of 5,000 ft^2 or more exposed to storm water	☐ Retail gasoline outlets that are either 5,000 ft^2 or more, or have a projected average daily traffic of 100 or more vehicles per day
☐ Non-Priority / Non-Category Project *May require source control LID BMPs and other LIP requirements. Please consult with local jurisdiction on specific requirements*.			

2 Project Area (ft2):	413,779	**3** Number of Dwelling Units:	N/A	**4** SIC Code:	1541

5 Is Project going to be phased? Yes ☐ No ☒ *If yes, ensure that the WQMP evaluates each phase as a distinct DA, requiring LID BMPs to address runoff at time of completion.*

6 Does Project include roads? Yes ☐ No ☒ *If yes, ensure that applicable requirements for transportation projects are addressed (see Appendix A of TGD for WQMP)*

2.2 Property Ownership/Management

Describe the ownership/management of all portions of the project and site. State whether any infrastructure will transfer to public agencies (City, County, Caltrans, etc.) after project completion. State if a homeowners or property owners association will be formed and be responsible for the long-term maintenance of project stormwater facilities. Describe any lot-level stormwater features that will be the responsibility of individual property owners.

Form 2.2-1 Property Ownership/Management
Describe property ownership/management responsible for long-term maintenance of WQMP stormwater facilities:
The property is being developed by Hillwood Enterprises, LP. Hillwood Enterprises or subsequent ownership entity will be the entity responsible for long term maintenance of WQMP Storm Water Facilities throughout the site. Name: Hillwood Enterprises, LP Address: 901 Via Piemonte, Suite 175, Ontario, CA 91764 Contact Person: Joshua Cox/ Vice President, Development Phone: 909-382-0033

2.3 Potential Stormwater Pollutants

Determine and describe expected stormwater pollutants of concern based on land uses and site activities (refer to Table 3-3 in the TGD for WQMP).

Form 2.3-1 Pollutants of Concern			
Pollutant	Please check: E=Expected, N=Not Expected		Additional Information and Comments
Pathogens (Bacterial / Virus)	E ☒	N ☐	Pathogens are typically caused by the transport of animal or human fecal wastes from the watershed.
Nutrients - Phosphorous	E ☒	N ☐	Primary sources of nutrients in urban runoff are fertilizers and eroded soils.
Nutrients - Nitrogen	E ☒	N ☐	Primary sources of nutrients in urban runoff are fertilizers and eroded soils.
Noxious Aquatic Plants	E ☒	N ☐	Noxious aquatic plants are typically from animals or vehicle transport that grow aggressively, multiply quickly without natural controls (native herbivores, soil chemistry, etc.), and adversely affect native habitats.
Sediment	E ☒	N ☐	Sediments are solid materials that are eroded from the land surface.
Metals	E ☒	N ☐	The primary source of metal pollution in stormwater is typically commercially available metals and metal products, as well as emissions from brake pad and tire tread wear associated with driving.
Oil and Grease	E ☒	N ☐	Primary sources of oil and grease are petroleum hydrocarbon products, motor products from leaking vehicles, esters, oils, fats, waxes, and high molecular-weight fatty acids.
Trash/Debris	E ☒	N ☐	Trash (such as paper, plastic, polystyrene packing foam, and aluminum materials) and biodegradable organic matter (such as leaves, grass cuttings, and food waste) are general waste from human or animals
Pesticides / Herbicides	E ☒	N ☐	Pesticides and herbicides can be washed off urban landscapes during storm events.
Organic Compounds	E ☒	N ☐	Sources of organic compounds may include waste handling areas and vehicle or landscape maintenance areas.
Other:	E ☐	N ☐	
Other:	E ☐	N ☐	
Other:	E ☐	N ☐	
Other:	E ☐	N ☐	

2.4 Water Quality Credits (N/A)

A water quality credit program is applicable for certain types of development projects if it is not feasible to meet the requirements for on-site LID. Proponents for eligible projects, as described below, can apply for water quality credits that would reduce project obligations for selecting and sizing other treatment BMP or participating in other alternative compliance programs. Refer to Section 6.2 in the TGD for WQMP to determine if water quality credits are applicable for the project.

Form 2.4-1 Water Quality Credits			
1 Project Types that Qualify for Water Quality Credits: *Select all that apply*			
☐ Redevelopment projects that reduce the overall impervious footprint of the project site. [Credit = % impervious reduced]	Higher density development projects ☐ Vertical density [20%] ☐ 7 units/ acre [5%]	☐ Mixed use development, (combination of residential, commercial, industrial, office, institutional, or other land uses which incorporate design principles that demonstrate environmental benefits not realized through single use projects) [20%]	☐ Brownfield redevelopment (redevelop real property complicated by presence or potential of hazardous contaminants) [25%]
☐ Redevelopment projects in established historic district, historic preservation area, or similar significant core city center areas [10%]	☐ Transit-oriented developments (mixed use residential or commercial area designed to maximize access to public transportation) [20%]	☐ In-fill projects (conversion of empty lots & other underused spaces < 5 acres, substantially surrounded by urban land uses, into more beneficially used spaces, such as residential or commercial areas) [10%]	☐ Live-Work developments (variety of developments designed to support residential and vocational needs) [20%]
2 Total Credit % 0 *(Total all credit percentages up to a maximum allowable credit of 50 percent)*			
Description of Water Quality Credit Eligibility (if applicable)	NOT APPLICABLE		

Section 3 Site and Watershed Description

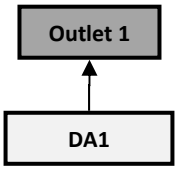
Describe the project site conditions that will facilitate the selection of BMP through an analysis of the physical conditions and limitations of the site and its receiving waters. Identify distinct drainage areas (DA) that collect flow from a portion of the site and describe how runoff from each DA (and sub-watershed DMAs) is conveyed to the site outlet(s). Refer to Section 3.2 in the TGD for WQMP. The form below is provided as an example. Then complete Forms 3.2 and 3.3 for each DA on the project site. ***If the project has more than one drainage area for stormwater management, then complete additional versions of these forms for each DA / outlet.***

Form 3-1 Site Location and Hydrologic Features

Site coordinates *take GPS measurement at approximate center of site*	Latitude 34.0973°	Longitude -117.4925°	Thomas Bros Map page 604

1 San Bernardino County climatic region: ☒ Valley ☐ Mountain

2 Does the site have more than one drainage area (DA): Yes☐ No☒ *If no, proceed to Form 3-2. If yes, then use this form to show a conceptual schematic describing DMAs and hydrologic feature connecting DMAs to the site outlet(s). An example is provided below that can be modified for proposed project or a drawing clearly showing DMA and flow routing may be attached*



Conveyance	Briefly describe on-site drainage features to convey runoff that is not retained within a DMA
DA1 DMA A to Outlet 1	Runoff from the area DA1 will be directed to the proposed detention/infiltration basin along the southerly boundary of the site and excess will discharge onto Almond Avenue.

Form 3-2 Existing Hydrologic Characteristics for Drainage Area 1				
For Drainage Area 1's sub-watershed DMA, provide the following characteristics	DMA A	DMA B	DMA C	DMA D
1 DMA drainage area (ft^2)	413,779	N/A	N/A	N/A
2 Existing site impervious area (ft^2)	0	N/A	N/A	N/A
3 Antecedent moisture condition *For desert areas, use http://www.sbcounty.gov/dpw/floodcontrol/pdf/20100412_map.pdf*	AMC II	N/A	N/A	N/A
4 Hydrologic soil group *Refer to Watershed Mapping Tool – http://permitrack.sbcounty.gov/wap/*	A	N/A	N/A	N/A
5 Longest flowpath length (ft)	958	N/A	N/A	N/A
6 Longest flowpath slope (ft/ft)	0.014	N/A	N/A	N/A
7 Current land cover type(s) *Select from Fig C-3 of Hydrology Manual*	Residential/ Barren	N/A	N/A	N/A
8 Pre-developed pervious area condition: *Based on the extent of wet season vegetated cover good >75%; Fair 50-75%; Poor <50% Attach photos of site to support rating*	Poor	N/A	N/A	N/A

Form 3-2 Existing Hydrologic Characteristics for Drainage Area 1 (use only as needed for additional DMA w/in DA 1)				
For Drainage Area 1's sub-watershed DMA, provide the following characteristics	DMA E	DMA F	DMA G	DMA H
1 DMA drainage area (ft^2)	N/A	N/A	N/A	N/A
2 Existing site impervious area (ft^2)	N/A	N/A	N/A	N/A
3 Antecedent moisture condition *For desert areas, use http://www.sbcounty.gov/dpw/floodcontrol/pdf/20100412_map.pdf*	N/A	N/A	N/A	N/A
4 Hydrologic soil group *Refer to Watershed Mapping Tool – http://permitrack.sbcounty.gov/wap/*	N/A	N/A	N/A	N/A
5 Longest flowpath length (ft)	N/A	N/A	N/A	N/A
6 Longest flowpath slope (ft/ft)	N/A	N/A	N/A	N/A
7 Current land cover type(s) *Select from Fig C-3 of Hydrology Manual*	N/A	N/A	N/A	N/A
8 Pre-developed pervious area condition: *Based on the extent of wet season vegetated cover good >75%; Fair 50-75%; Poor <50% Attach photos of site to support rating*	N/A	N/A	N/A	N/A

Form 3-3 Watershed Description for Drainage Area	
Receiving waters *Refer to Watershed Mapping Tool - http://permitrack.sbcounty.gov/wap/* *See 'Drainage Facilities" link at this website*	San Sevaine Channel, Santa Ana River Reach 3,2,1, Prado Control basin, and Pacific Ocean.
Applicable TMDLs *Refer to Local Implementation Plan*	Per 2010 303(d) list, Santa Ana River Reach 3: TMDL still required. Prado Flood Control Basin: TMDL still required.
303(d) listed impairments *Refer to Local Implementation Plan and Watershed Mapping Tool – http://permitrack.sbcounty.gov/wap/ and State Water Resources Control Board website – http://www.waterboards.ca.gov/santaana/water_issues/programs/tmdl/index.shtml*	The project expects to generate Pathogens, Nutrients and Metals (Copper & Lead) which are listed for downstream receiving waters on the latest CWA 303(d) list.
Environmentally Sensitive Areas (ESA) *Refer to Watershed Mapping Tool – http://permitrack.sbcounty.gov/wap/*	None
Unlined Downstream Water Bodies *Refer to Watershed Mapping Tool – http://permitrack.sbcounty.gov/wap/*	Santa Ana River
Hydrologic Conditions of Concern	☐ Yes *Complete Hydrologic Conditions of Concern (HCOC) Assessment. Include Forms 4.2-2 through Form 4.2-5 and Hydromodification BMP Form 4.3-10 in submittal* ☒ No
Watershed–based BMP included in a RWQCB approved WAP	☐ Yes *Attach verification of regional BMP evaluation criteria in WAP* • *More Effective than On-site LID* • *Remaining Capacity for Project DCV* • *Upstream of any Water of the US* • *Operational at Project Completion* • *Long-Term Maintenance Plan* ☒ No

Section 4 Best Management Practices (BMP)

4.1 Source Control BMP

4.1.1 Pollution Prevention

Non-structural and structural source control BMP are required to be incorporated into all new development and significant redevelopment projects. Form 4.1-1 and 4.1-2 are used to describe specific source control BMPs used in the WQMP or to explain why a certain BMP is not applicable. Table 7-3 of the TGD for WQMP provides a list of applicable source control BMP for projects with specific types of potential pollutant sources or activities. The source control BMP in this table must be implemented for projects with these specific types of potential pollutant sources or activities.

The preparers of this WQMP have reviewed the source control BMP requirements for new development and significant redevelopment projects. The preparers have also reviewed the specific BMP required for project as specified in Forms 4.1-1 and 4.1-2. All applicable non-structural and structural source control BMP shall be implemented in the project.

Form 4.1-1 Non-Structural Source Control BMPs

Identifier	Name	Check One		Describe BMP Implementation OR, if not applicable, state reason
		Included	Not Applicable	
N1	Education of Property Owners, Tenants and Occupants on Stormwater BMPs	☒	☐	Property owners shall review and become familiar with the site specific WQMP. Additional educational materials for day to day operations are contained in Attachment C. Additional materials can be obtained from the local water pollution prevention program. Education of property owners begin with the review/preparation of the site specific WQMP and continues through the review of additional educational material as it applies to their project.
N2	Activity Restrictions	☒	☐	Activity restriction shall be stated in the owners lease terms prior to occupancy: • Fuelling areas, air/water supply areas, maintenance bays, vehicle washing areas, outdoor material storage areas, outdoor work areas, outdoor processing areas, wash water from food preparation areas within the project site will not be allowed on the project site. • Storage of hazardous materials will not be allowed on the project site. • All pesticide applications shall be performed by a licensed contractor certified by the California Department of Pesticide Regulation. • All dumpster lids shall be kept closed at all times. • Blowing, Sweeping or hosing of debris (leaf, litter, grass clippings, trash or debris) into the streets, underground stormdrain facilities or other storm water conveyance areas shall be strictly prohibited
N3	Landscape Management BMPs	☒	☐	A landscape architect will provide design plans for the on-site landscaping and irrigation system. The design shall incorporate the use of native and drought tolerant trees and shrubs throughout the project site.
N4	BMP Maintenance	☒	☐	Property owners shall maintain the designated on-site BMP areas, see Section 5 for self inspection and maintenance form
N5	Title 22 CCR Compliance (How development will comply)	☐	☒	Industrial purposed warehouse does not apply to Title 22 CCR.
N6	Local Water Quality Ordinances	☒	☐	Local Water Quality Ordinances will be addressed by implementation of this WQMP

Form 4.1-1 Non-Structural Source Control BMPs				
N7	Spill Contingency Plan	☒	☐	Industrial Warehouse buildings and truck dock areas have potential for spills and therefore each tenant shall be required to prepare a spill contingency plan and it shall be implemented in accordance with section 6.95 of the California Health and Safety Code. The spill contingency plan shall identify responsible persons in the event of a spill, an action item list identifying how the spill should be contained, cleaned up and who should be contacted in the event of a spill. Documentation of any spill event and cleanup process shall be kept on site in perpetuity.
N8	Underground Storage Tank Compliance	☐	☒	No underground storage tanks are proposed for this site.
N9	Hazardous Materials Disclosure Compliance	☐	☒	No hazardous materials are planned to be stored on this site.

Form 4.1-1 Non-Structural Source Control BMPs

Identifier	Name	Check One		Describe BMP Implementation OR, if not applicable, state reason
		Included	Not Applicable	
N10	Uniform Fire Code Implementation	☒	☐	Underground fire protection service and fire sprinklers will be provided per the uniform fire code and the requirements of the County of San Bernardino Fire Department.
N11	Litter/Debris Control Program	☒	☐	Trash storage areas will be designed to have adjacent areas drain away from the trash storage areas. The entire site, with a focus on the trash storage areas shall be inspected and maintained on a monthly basis. Collection of trash from the trash storage areas shall occur on a regular basis to ensure that the trash receptacles are not overflowing. Documentation of such inspection/maintenance and trash collection shall be kept by the owner in perpetuity. See the WQMP site map in Attachment A for anticipated location of trash storage areas.
N12	Employee Training	☒	☐	The following requirements shall be stated in the owners lease terms; an Employee Training/Education program shall be provided annually to help educate employees about storm water quality management and practices that help prevent storm water pollution. Documentation of such training/education program implementation shall be kept by the owner for a minimum of ten years. Sample education materials have been provided in Attachment C. Additional educational materials can be obtained from the City of Fontana or the County of San Bernardino storm water program.
N13	Housekeeping of Loading Docks	☒	☐	The project site will have truck docks. The truck docks shall be inspected on a weekly basis to help ensure that any trash and debris are collected prior to being washed into the underground storm drain system. All storm water runoff from the loading dock areas will be discharged into infiltration basins and/or underground infiltration system prior to conveyance to the public storm drain system. Documentation of such inspection/maintenance shall be kept by the owner in perpetuity.
N14	Catch Basin Inspection Program	☒	☐	The onsite catch basins shall be inspected on a quarterly basis. Inspection of the on-site catch basins shall consist of visual inspection of any sediment, trash or debris collected in the bottom of each catch basin. Any sediment, trash or debris found shall be removed from the catch basins and disposed of in a legal manner. Documentation of such inspection/maintenance shall be kept by the owner in perpetuity.

N15	Vacuum Sweeping of Private Streets and Parking Lots	☒	☐	The on-site parking lots, drive aisles, and loading dock areas shall be swept on a monthly basis. Documentation of such sweeping shall be kept by the owner in perpetuity. Frequency of sweeping shall be adjusted as needed to maintain a clean site.
N16	Other Non-structural Measures for Public Agency Projects	☐	☒	Not Applicable since this is not a public agency project.
N17	Comply with all other applicable NPDES permits	☒	☐	General construction permit "SWRCB Orders No. 2009-009-DWQ as amended by Order 2010-0014-DWQ"

Form 4.1-2 Structural Source Control BMPs

Identifier	Name	Check One		Describe BMP Implementation OR, If not applicable, state reason
		Included	Not Applicable	
S1	Provide storm drain system stencilling and signage (CASQA New Development BMP Handbook SD-13)	☒	☐	The on-site storm drain catch basins shall be stenciled with the phrase "Drains to River" or other approved language. The signage shall be inspected on an annual basis. Missing or faded signage shall be replaced. Documentation of such inspection/maintenance shall be kept by the owner in perpetuity.
S2	Design and construct outdoor material storage areas to reduce pollution introduction (CASQA New Development BMP Handbook SD-34)	☐	☒	No outdoor material storage areas are proposed for this site.
S3	Design and construct trash and waste storage areas to reduce pollution introduction (CASQA New Development BMP Handbook SD-32)	☒	☐	Trash storage areas will be designed to have adjacent areas drain away from the trash storage areas as well as have a permanent roof over them. The trash storage areas shall be inspected and maintained on a monthly basis. Collection of trash from the trash storage areas shall occur on a regular basis to ensure that the trash receptacles are not overflowing. A permanent roofing shall be provided. Documentation of such inspection/maintenance and trash collection shall be kept by the owner in perpetuity. See the WQMP site map in Attachment A for anticipated location of trash storage areas.
S4	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control (Statewide Model Landscape Ordinance; CASQA New Development BMP Handbook SD-12)	☒	☐	The landscape architect will provide design plans for the on-site irrigation system. The irrigation system shall be inspected on a monthly basis to ensure proper operation. Any broken sprinkler heads shall be repaired immediately to ensure that the system continues to operate efficiently. Documentation of such inspection/maintenance shall be kept by the owner in perpetuity.
S5	Finish grade of landscaped areas at a minimum of 1-2 inches below top of curb, sidewalk, or pavement	☒	☐	The landscape architect will provide design plans for the on-site landscaping and irrigation system. The design shall incorporate a finish grade of landscaping areas at a minimum of 1-2 inches below top of curb, sidewalk, or pavement throughout the project site.
S6	Protect slopes and channels and provide energy dissipation (CASQA New Development BMP Handbook SD-10)	☒	☐	Proposed slopes shall be stabilized with drought tolerant vegetation. Most slopes will be 3:1, but may be as steep as 2:1 max.
S7	Covered dock areas (CASQA New Development BMP Handbook SD-31)	☐	☒	Docks are not covered.

Form 4.1-2 Structural Source Control BMPs

Identifier	Name	Check One		Describe BMP Implementation OR, If not applicable, state reason
		Included	Not Applicable	
S8	Covered maintenance bays with spill containment plans (CASQA New Development BMP Handbook SD-31)	☐	☒	No maintenance bays are planned for this site.
S9	Vehicle wash areas with spill containment plans (CASQA New Development BMP Handbook SD-33)	☐	☒	No vehicle wash areas are planned for this site.
S10	Covered outdoor processing areas (CASQA New Development BMP Handbook SD-36)	☐	☒	No outdoor processing areas are planned for this site.
S11	Equipment wash areas with spill containment plans (CASQA New Development BMP Handbook SD-33)	☐	☒	No equipment wash areas are planned for this site.
S12	Fueling areas (CASQA New Development BMP Handbook SD-30)	☐	☒	No fueling areas are planned for this site.
S13	Hillside landscaping (CASQA New Development BMP Handbook SD-10)	☐	☒	No hillside landscaping are planned in this area.
S14	Wash water control for food preparation areas	☐	☒	Food preparation areas are not planned for this site.
S15	Community car wash racks (CASQA New Development BMP Handbook SD-33)	☐	☒	No community car wash racks are planned for this site.

4.1.2 Preventative LID Site Design Practices

Site design practices associated with new LID requirements in the MS4 Permit should be considered in the earliest phases of a project. Preventative site design practices can result in smaller DCV for LID BMP and hydromodification control BMP by reducing runoff generation. Describe site design and drainage plan including:

- A narrative of site design practices utilized or rationale for not using practices
- A narrative of how site plan incorporates preventive site design practices
- Include an attached Site Plan layout which shows how preventative site design practices are included in WQMP

Refer to Section 5.2 of the TGD for WQMP for more details.

Form 4.1-3 Preventative LID Site Design Practices Checklist
Site Design Practices *If yes, explain how preventative site design practice is addressed in project site plan. If no, other LID BMPs must be selected to meet targets*
Site Design Practices *If yes, explain how preventative site design practice is addressed in project site plan. If no, other LID BMPs must be selected to meet targets*
Minimize impervious areas: Yes ☒ No ☐ Explanation: An open infiltration/detention basin is provided to minimize impervious areas.
Maximize natural infiltration capacity: Yes ☒ No ☐ Explanation: The entire site drains to the infiltration/detention basin system thereby maximizing the natural infiltration capacity.
Preserve existing drainage patterns and time of concentration: Yes ☒ No ☐ Explanation: The proposed condition will mimic the existing northeast-to-southwest drainage pattern. The detention basin will lengthen the time of concentration thus mimicking the existing conditions.
Disconnect impervious areas: Yes ☐ No ☒ Explanation: Although roof and pavement runoff will be directly connected to the underground storm drain, they will be routed through the proposed earthen basin.
Protect existing vegetation and sensitive areas: Yes ☐ No ☒ Explanation: The site has no existing vegetation or sensitive areas to protect. The planting of new vegetation will occur throughout the site.
Re-vegetate disturbed areas: Yes ☒ No ☐ Explanation: All Landscape area will be vegetated for stabilization.
Minimize unnecessary compaction in stormwater retention/infiltration basin/trench areas: Yes ☒ No ☐ Explanation: The soils in the proposed infiltration system footprint will be uncompacted in-place native material.
Utilize vegetated drainage swales in place of underground piping or imperviously lined swales: Yes ☐ No ☒ Explanation: No separate vegetated drainage swales are proposed, except for the proposed vegetated earthen basin.

4.2 Project Performance Criteria

The purpose of this section of the Project WQMP is to establish targets for post-development hydrology based on performance criteria specified in the MS4 Permit. These targets include runoff volume for water quality control (referred to as LID design capture volume), and runoff volume, time of concentration, and peak runoff for protection of any downstream waterbody segments with a HCOC. If the project has more than one outlet for stormwater runoff, then complete additional versions of these forms for each DA / outlet.

Methods applied in the following forms include:

- For LID BMP Design Capture Volume (DCV), the San Bernardino County Stormwater Program requires use of the P_6 method (MS4 Permit Section XI.D.6a.ii) – Form 4.2-1
- For HCOC pre- and post-development hydrologic calculation, the San Bernardino County Stormwater Program requires the use of the Rational Method (San Bernardino County Hydrology Manual Section D). Forms 4.2-2 through Form 4.2-5 calculate hydrologic variables including runoff volume, time of concentration, and peak runoff from the project site pre- and post-development using the Hydrology Manual Rational Method approach. For projects greater than 640 acres (1.0 mi^2), the Rational Method and these forms should not be used. For such projects, the Unit Hydrograph Method (San Bernardino County Hydrology Manual Section E) shall be applied for hydrologic calculations for HCOC performance criteria.

Refer to Section 4 in the TGD for WQMP for detailed guidance and instructions.

Form 4.2-1 LID BMP Performance Criteria for Design Capture Volume (DA 1)		
1 Project area DA 1 (ft^2): 413,779	**2** Imperviousness after applying preventative site design practices (Imp%): 0.82	**3** Runoff Coefficient (Rc): 0.62 *$R_c = 0.858(Imp\%)^{3} - 0.78(Imp\%)^{2} + 0.774(Imp\%) + 0.04$*
4 Determine 1-hour rainfall depth for a 2-year return period $P_{2yr\text{-}1hr}$ (in): 0.55 *http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html*		
5 Compute P_6, Mean 6-hr Precipitation (inches): 0.81 *P_6 = Item 4 *C_1, where C_1 is a function of site climatic region specified in Form 3-1 Item 1 (Valley = 1.4807; Mountain = 1.909; Desert = 1.2371)*		
6 Drawdown Rate *Use 48 hours as the default condition. Selection and use of the 24 hour drawdown time condition is subject to approval by the local jurisdiction. The necessary BMP footprint is a function of drawdown time. While shorter drawdown times reduce the performance criteria for LID BMP design capture volume, the depth of water that can be stored is also reduced.*		24-hrs ☐ 48-hrs ☒
7 Compute design capture volume, DCV (ft^3): **33,993** *DCV = 1/12 * [Item 1* Item 3 *Item 5 * C_2], where C_2 is a function of drawdown rate (24-hr = 1.582; 48-hr = 1.963)* *Compute separate DCV for each outlet from the project site per schematic drawn in Form 3-1 Item 2*		

Form 4.2-2 Summary of HCOC Assessment (DA 1)

Does project have the potential to cause or contribute to an HCOC in a downstream channel: Yes ☐ No ☒

Go to: *http://permitrack.sbcounty.gov/wap/*

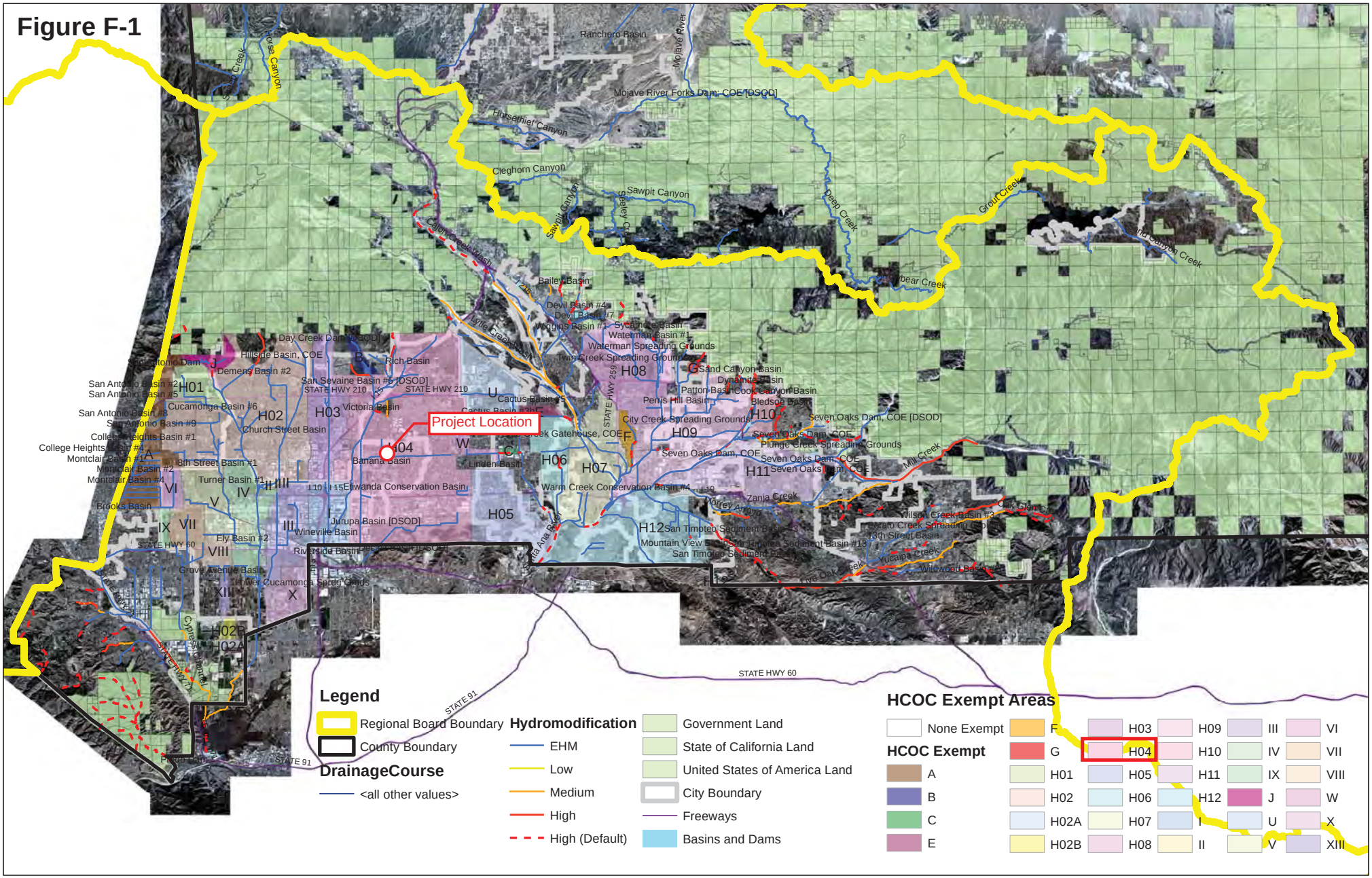
If "Yes", then complete HCOC assessment of site hydrology for 2yr storm event using Forms 4.2-3 through 4.2-5 and insert results below

(Forms 4.2-3 through 4.2-5 may be replaced by computer software analysis based on the San Bernardino County Hydrology Manual)

If "No," then proceed to Section 4.3 Project Conformance Analysis

Condition	Runoff Volume (ft^3)	Time of Concentration (min)	Peak Runoff (cfs)
Pre-developed	**1** N/A *Form 4.2-3 Item 12*	**2** N/A *Form 4.2-4 Item 13*	**3** N/A *Form 4.2-5 Item 10*
Post-developed	**4** N/A *Form 4.2-3 Item 13*	**5** N/A *Form 4.2-4 Item 14*	**6** N/A *Form 4.2-5 Item 14*
Difference	**7** N/A *Item 4 – Item 1*	**8** N/A *Item 2 – Item 5*	**9** N/A *Item 6 – Item 3*
Difference (as % of pre-developed)	**10** N/A *Item 7 / Item 1*	**11** N/A *Item 8 / Item 2*	**12** N/A *Item 9 / Item 3*

Figure F-1


Project Location
Legend
Regional Board Boundary
County Boundary
DrainageCourse
<all other values>
Hydromodification
EHM
Low
Medium
High
High (Default)
Government Land
State of California Land
United States of America Land
City Boundary
Freeways
Basins and Dams
HCOC Exempt Areas
None Exempt
HCOC Exempt
A
B
C
E
F
G
H01
H02
H02A
H02B
H03
H04
H05
H06
H07
H08
H09
H10
H11
H12
I
II
III
IV
V
VI
VII
VIII
IX
X
XIII
J
W
U
STATE HWY 60
STATE 91
STATE HWY 210
STATE HWY 259
Mojave River
Mojave River Forks Dam, COE [DSOD]
Horsethief Canyon
Cleghorn Canyon
Sawpit Canyon
Deep Creek
Grout Creek
Mill Creek
Cajon Creek Wash
Lytle Creek Wash
Day Creek Dam [DSOD]
Hillside Basin, COE
Demens Basin #2
San Antonio Dam
San Antonio Basin #2
San Antonio Basin #5
San Antonio Basin #8
San Antonio Basin #9
College Heights Basin #1
College Heights Basin #4
Montclair Basin #1
Montclair Basin #2
Montclair Basin #4
Cucamonga Basin #6
Church Street Basin
8th Street Basin #1
Turner Basin #1
Brooks Basin
Ely Basin #2
Grove Avenue Basin
Lower Cucamonga Spreading Grounds
San Sevaine Basin #5 [DSOD]
Victoria Basin
Rich Basin
Banana Basin
Etiwanda Conservation Basin
Jurupa Basin [DSOD]
Wineville Basin
Riverside Basin
Linden Basin
Cactus Basin #3
Warm Creek Conservation Basin #4
Bailey Basin
Devil Basin #4
Devil Basin #7
Waterman Spreading Grounds
Twin Creek Spreading Grounds
City Creek Spreading Grounds
Sand Canyon Basin
Dynamite Basin
Patton Basin
Cook Canyon Basin
Bledsoe Basin
Pemis Hill Basin
Seven Oaks Dam, COE [DSOD]
Seven Oaks Dam, COE
Plunge Creek Spreading Grounds
Zanja Creek
Wilson Creek Basin #3
San Timoteo Sediment Basin #3
Mountain View Basin
San Timoteo Sediment Basin #13
13th Street Basin
Yucaipa Creek
Wildwood Basin
Santa Ana River
Cypress Channel
Ranchero Basin

Hydromodification

A.1 Hydrologic Conditions of Concern (HCOC) Analysis

HCOC Exemption:

1. **Sump Condition:** All downstream conveyance channel to an adequate sump (for example, Prado Dam, Santa Ana River, or other Lake, Reservoir or naturally erosion resistant feature) that will receive runoff from the project are engineered and regularly maintained to ensure design flow capacity; no sensitive stream habitat areas will be adversely affected; or are not identified on the Co-Permittees Hydromodification Sensitivity Maps.

2. **Pre = Post**: The runoff flow rate, volume and velocity for the post-development condition of the Priority Development Project do not exceed the pre-development (i.e, naturally occurring condition for the 2-year, 24-hour rainfall event utilizing latest San Bernardino County Hydrology Manual.

    a. Submit a substantiated hydrologic analysis to justify your request.

3. **Diversion to Storage Area**: The drainage areas that divert to water storage areas which are considered as control/release point and utilized for water conservation.

    a. See Appendix F for the HCOC Exemption Map and the on-line Watershed Geodatabase (http://sbcounty.permitrack.com/wap) for reference.

4. **Less than One Acre**: The Priority Development Project disturbs less than one acre. The Co-permittee has the discretion to require a Project Specific WQMP to address HCOCs on projects less than one acre on a case by case basis. The project disturbs less than one acre and is not part of a common plan of development.

5. **Built Out Area**: The contributing watershed area to which the project discharges has a developed area percentage greater than 90 percent.

    a. See Appendix F for the HCOC Exemption Map and the on-line Watershed Geodatabase (http://sbcounty.permitrack.com/wap) for reference.

Summary of HCOC Exempted Area

	HCOC Exemption reasoning				
	1	2	3	4	5
Area					
A			X		X
B			X		
C					X
E			X		
F					X
G			X		X
H01	X		X		
H02	X		X		
H02A	X		X		
H02B			X		
H03			X		
H04	X		X		
H05	X				
H06			X		
H07	X				
H08	X		X		
H09	X				
H10	X		X		
H11	X		X		
H12	X				
J			X		
U			X		
W			X		
I			X		
II			X		
III					X
IV			X		X
V			X*		
VI					X
VII					X
VIII			X		
IX					X
X			X		
XIII			X		

*Detention/Conservation Basin

Form 4.2-3 HCOC Assessment for Runoff Volume (DA 1) N/A

Weighted Curve Number Determination for: Pre-developed DA	DMA A	DMA B	DMA C	DMA D	DMA E	DMA F	DMA G	DMA H
1a Land Cover type	Barren	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2a Hydrologic Soil Group (HSG)	A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3a DMA Area, ft^2 *sum of areas of DMA should equal area of DA*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4a Curve Number (CN) *use Items 1 and 2 to select the appropriate CN from Appendix C-2 of the TGD for WQMP*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Weighted Curve Number Determination for: Post-developed DA	DMA A	DMA B	DMA C	DMA D	DMA E	DMA F	DMA G	DMA H
1b Land Cover type	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2b Hydrologic Soil Group (HSG)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3b DMA Area, ft^2 *sum of areas of DMA should equal area of DA*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4b Curve Number (CN) *use Items 5 and 6 to select the appropriate CN from Appendix C-2 of the TGD for WQMP*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

5 Pre-Developed area-weighted CN: N/A	**7** Pre-developed soil storage capacity, S (in): N/A *S = (1000 / Item 5) - 10*	**9** Initial abstraction, I_a (in): N/A *I_a = 0.2 * Item 7*
6 Post-Developed area-weighted CN: N/A	**8** Post-developed soil storage capacity, S (in): N/A *S = (1000 / Item 6) - 10*	**10** Initial abstraction, I_a (in): N/A *I_a = 0.2 * Item 8*

11 Precipitation for 2 yr, 24 hr storm (in): N/A
Go to: http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html

12 Pre-developed Volume (ft^3): N/A
*V_{pre} =(1 / 12) * (Item sum of Item 3) * [(Item 11 – Item 9)^2 / ((Item 11 – Item 9 + Item 7)*

13 Post-developed Volume (ft^3): N/A
*V_{pre} =(1 / 12) * (Item sum of Item 3) * [(Item 11 – Item 10)^2 / ((Item 11 – Item 10 + Item 8)*

14 Volume Reduction needed to meet HCOC Requirement, (ft^3): N/A
*V_{HCOC} = (Item 13 * 0.95) – Item 12*

Form 4.2-4 HCOC Assessment for Time of Concentration (DA 1)

Compute time of concentration for pre and post developed conditions for each DA *(For projects using the Hydrology Manual complete the form below)*

Variables	Pre-developed DA1 *Use additional forms if there are more than 4 DMA*				Post-developed DA1 *Use additional forms if there are more than 4 DMA*			
	DMA A	DMA B	DMA C	DMA D	DMA A	DMA B	DMA C	DMA D
1 Length of flowpath (ft) *Use Form 3-2 Item 5 for pre-developed condition*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2 Change in elevation (ft)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3 Slope (ft/ft), S_o = *Item 2 / Item 1*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 Land cover	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5 Initial DMA Time of Concentration (min) *Appendix C-1 of the TGD for WQMP*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6 Length of conveyance from DMA outlet to project site outlet (ft) *May be zero if DMA outlet is at project site outlet*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7 Cross-sectional area of channel (ft^2)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8 Wetted perimeter of channel (ft)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9 Manning's roughness of channel (n)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10 Channel flow velocity (ft/sec) V_{fps} = *(1.49 / Item 9) * (Item 7/Item 8)^0.67 * (Item 3)^0.5*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11 Travel time to outlet (min) T_t = *Item 6 / (Item 10 * 60)*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12 Total time of concentration (min) T_c = *Item 5 + Item 11*	N/A	N/A	N/A	N/A	11.50	N/A	N/A	N/A

13 Pre-developed time of concentration (min): N/A *Minimum of Item 12 pre-developed DMA*

14 Post-developed time of concentration (min): N/A *Minimum of Item 12 post-developed DMA*

15 Additional time of concentration needed to meet HCOC requirement (min): N/A $T_{C\text{-}HCOC}$ = *(Item 13 * 0.95) – Item 14*

Form 4.2-5 HCOC Assessment for Peak Runoff (DA 1)

Compute peak runoff for pre- and post-developed conditions

Variables		Pre-developed DA to Project Outlet (*Use additional forms if more than 3 DMA)*			Post-developed DA to Project Outlet (*Use additional forms if more than 3 DMA)*		
		DMA A	DMA B	DMA C	DMA A	DMA B	DMA C
1 Rainfall Intensity for storm duration equal to time of concentration *I_{peak} = 10^(LOG Form 4.2-1 Item 4 - 0.6 LOG Form 4.2-4 Item 5 /60)*		N/A	N/A	N/A	N/A	N/A	N/A
2 Drainage Area of each DMA (Acres) *For DMA with outlet at project site outlet, include upstream DMA (Using example schematic in Form 3-1, DMA A will include drainage from DMA C)*		N/A	N/A	N/A	N/A	N/A	N/A
3 Ratio of pervious area to total area *For DMA with outlet at project site outlet, include upstream DMA (Using example schematic in Form 3-1, DMA A will include drainage from DMA C)*		N/A	N/A	N/A	N/A	N/A	N/A
4 Pervious area infiltration rate (in/hr) *Use pervious area CN and antecedent moisture condition with Appendix C-3 of the TGD for WQMP*		N/A	N/A	N/A	N/A	N/A	N/A
5 Maximum loss rate (in/hr) *F_m = Item 3 * Item 4* *Use area-weighted F_m from DMA with outlet at project site outlet, include upstream DMA (Using example schematic in Form 3-1, DMA A will include drainage from DMA C)*		N/A	N/A	N/A	N/A	N/A	N/A
6 Peak Flow from DMA (cfs) *Q_p =Item 2 * 0.9 * (Item 1 - Item 5)*		N/A	N/A	N/A	N/A	N/A	N/A
7 Time of concentration adjustment factor for other DMA to site discharge point *Form 4.2-4 Item 12 DMA / Other DMA upstream of site discharge point (If ratio is greater than 1.0, then use maximum value of 1.0)*	DMA A	*n/a*	N/A	N/A	*n/a*	N/A	N/A
	DMA B	N/A	*n/a*	N/A	N/A	*n/a*	N/A
	DMA C	N/A	N/A	*n/a*	N/A	N/A	*n/a*

8 Pre-developed Q_p at T_c for DMA A: N/A *Q_p = Item 6_{DMAA} + [Item 6_{DMAB} * (Item 1_{DMAA} - Item 5_{DMAB})/(Item 1_{DMAB} - Item 5_{DMAB})* Item $7_{DMAA/2}$] + [Item 6_{DMAC} * (Item 1_{DMAA} - Item 5_{DMAC})/(Item 1_{DMAC} - Item 5_{DMAC})* Item $7_{DMAA/3}$]*	**9** Pre-developed Q_p at T_c for DMA B: N/A *Q_p = Item 6_{DMAB} + [Item 6_{DMAA} * (Item 1_{DMAB} - Item 5_{DMAA})/(Item 1_{DMAA} - Item 5_{DMAA})* Item $7_{DMAB/1}$] + [Item 6_{DMAC} * (Item 1_{DMAB} - Item 5_{DMAC})/(Item 1_{DMAC} - Item 5_{DMAC})* Item $7_{DMAB/3}$]*	**10** Pre-developed Q_p at T_c for DMA C: N/A *Q_p = Item 6_{DMAC} + [Item 6_{DMAA} * (Item 1_{DMAC} - Item 5_{DMAA})/(Item 1_{DMAA} - Item 5_{DMAA})* Item $7_{DMAC/1}$] + [Item 6_{DMAB} * (Item 1_{DMAC} - Item 5_{DMAB})/(Item 1_{DMAB} - Item 5_{DMAB})* Item $7_{DMAC/2}$]*

10 Peak runoff from pre-developed condition confluence analysis (cfs): N/A *Maximum of Item 8, 9, and 10 (including additional forms as needed)*

11 Post-developed Q_p at T_c for DMA A: N/A *Same as Item 8 for post-developed values*	**12** Post-developed Q_p at T_c for DMA B: N/A *Same as Item 9 for post-developed values*	**13** Post-developed Q_p at T_c for DMA C: N/A *Same as Item 10 for post-developed values*

14 Peak runoff from post-developed condition confluence analysis (cfs): N/A *Maximum of Item 11, 12, and 13 (including additional forms as needed)*

15 Peak runoff reduction needed to meet HCOC Requirement (cfs): N/A *$Q_{p\text{-}HCOC}$ = (Item 14 * 0.95) – Item 10*

4.3 Project Conformance Analysis

Complete the following forms for each project site DA to document that the proposed LID BMPs conform to the project DCV developed to meet performance criteria specified in the MS4 Permit (WQMP Template Section 4.2). For the LID DCV, the forms are ordered according to hierarchy of BMP selection as required by the MS4 Permit (see Section 5.3.1 in the TGD for WQMP). The forms compute the following for on-site LID BMP:

- Site Design and Hydrologic Source Controls (Form 4.3-2)
- Retention and Infiltration (Form 4.3-3)
- Harvested and Use (Form 4.3-4) or
- Biotreatment (Form 4.3-5).

At the end of each form, additional fields facilitate the determination of the extent of mitigation provided by the specific BMP category, allowing for use of the next category of BMP in the hierarchy, if necessary.

The first step in the analysis, using Section 5.3.2.1 of the TGD for WQMP, is to complete Forms 4.3-1 and 4.3-3) to determine if retention and infiltration BMPs are infeasible for the project. For each feasibility criterion in Form 4.3-1, if the answer is "Yes," provide all study findings that includes relevant calculations, maps, data sources, etc. used to make the determination of infeasibility.

Next, complete Forms 4.3-2 and 4.3-4 to determine the feasibility of applicable HSC and harvest and use BMPs, and, if their implementation is feasible, the extent of mitigation of the DCV.

If no site constraints exist that would limit the type of BMP to be implemented in a DA, evaluate the use of combinations of LID BMPs, including all applicable HSC BMPs to maximize on-site retention of the DCV. If no combination of BMP can mitigate the entire DCV, implement the single BMP type, or combination of BMP types, that maximizes on-site retention of the DCV within the minimum effective area.

If the combination of LID HSC, retention and infiltration, and harvest and use BMPs are unable to mitigate the entire DCV, then biotreatment BMPs may be implemented by the project proponent. If biotreatment BMPs are used, then they must be sized to provide sufficient capacity for effective treatment of the remainder of the volume-based performance criteria that cannot be achieved with LID BMPs (TGD for WQMP Section 5.4.4.2). **Under no circumstances shall any portion of the DCV be released from the site without effective mitigation and/or treatment**.

Form 4.3-1 Infiltration BMP Feasibility (DA 1)

Feasibility Criterion – Complete evaluation for each DA on the Project Site

[1] Would infiltration BMP pose significant risk for groundwater related concerns? Yes ☐ No ☒
Refer to Section 5.3.2.1 of the TGD for WQMP

If Yes, Provide basis: (attach)

[2] Would installation of infiltration BMP significantly increase the risk of geotechnical hazards? Yes ☐ No ☒
(Yes, if the answer to any of the following questions is yes, as established by a geotechnical expert):

- The location is less than 50 feet away from slopes steeper than 15 percent
- The location is less than eight feet from building foundations or an alternative setback.
- A study certified by a geotechnical professional or an available watershed study determines that stormwater infiltration would result in significantly increased risks of geotechnical hazards.

If Yes, Provide basis: (attach)

[3] Would infiltration of runoff on a Project site violate downstream water rights? Yes ☐ No ☒

If Yes, Provide basis: (attach)

[4] Is proposed infiltration facility located on hydrologic soil group (HSG) D soils or does the site geotechnical investigation indicate presence of soil characteristics, which support categorization as D soils? Yes ☐ No ☒

If Yes, Provide basis: (attach)

[5] Is the design infiltration rate, after accounting for safety factor of 2.0, below proposed facility less than 0.3 in/hr (accounting for soil amendments)? Yes ☐ No ☒

If Yes, Provide basis: (attach)

[6] Would on-site infiltration or reduction of runoff over pre-developed conditions be partially or fully inconsistent with watershed management strategies as defined in the WAP, or impair beneficial uses? Yes ☐ No ☒
See Section 3.5 of the TGD for WQMP and WAP

If Yes, Provide basis: (attach)

[7] Any answer from Item 1 through Item 3 is "Yes": Yes ☐ No ☒
If yes, infiltration of any volume is not feasible onsite. Proceed to Form 4.3-4, Harvest and Use BMP. If no, then proceed to Item 8 below.

[8] Any answer from Item 4 through Item 6 is "Yes": Yes ☐ No ☒
If yes, infiltration is permissible but is not required to be considered. Proceed to Form 4.3-2, Hydrologic Source Control BMP.
If no, then proceed to Item 9, below.

[9] All answers to Item 1 through Item 6 are "No":
Infiltration of the full DCV is potentially feasible, LID infiltration BMP must be designed to infiltrate the full DCV to the MEP.
Proceed to Form 4.3-2, Hydrologic Source Control BMP.

4.3.1 Site Design Hydrologic Source Control BMP

Section XI.E. of the Permit emphasizes the use of LID preventative measures; and the use of LID HSC BMPs reduces the portion of the DCV that must be addressed in downstream BMPs. Therefore, all applicable HSC shall be provided except where they are mutually exclusive with each other, or with other BMPs. Mutual exclusivity may result from overlapping BMP footprints such that either would be potentially feasible by itself, but both could not be implemented. Please note that while there are no numeric standards regarding the use of HSC, if a project cannot feasibly meet BMP sizing requirements or cannot fully address HCOCs, feasibility of all applicable HSC must be part of demonstrating that the BMP system has been designed to retain the maximum feasible portion of the DCV. Complete Form 4.3-2 to identify and calculate estimated retention volume from implementing site design HSC BMP. Refer to Section 5.4.1 in the TGD for more detailed guidance.

Form 4.3-2 Site Design Hydrologic Source Control BMPs (DA 1)			
1 Implementation of Impervious Area Dispersion BMP (i.e. routing runoff from impervious to pervious areas), excluding impervious areas planned for routing to on-lot infiltration BMP: Yes ☐ No ☒ *If yes, complete Items 2-5; If no, proceed to Item 6*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
2 Total impervious area draining to pervious area (ft^2)			
3 Ratio of pervious area receiving runoff to impervious area			
4 Retention volume achieved from impervious area dispersion (ft^3) *V = Item2 * Item 3 * (0.5/12), assuming retention of 0.5 inches of runoff*			
5 Sum of retention volume achieved from impervious area dispersion (ft^3):	$V_{retention}$ *=Sum of Item 4 for all BMPs*		
6 Implementation of Localized On-lot Infiltration BMPs (e.g. on-lot rain gardens): Yes ☐ No ☒ *If yes, complete Items 7-13 for aggregate of all on-lot infiltration BMP in each DA; If no, proceed to Item 14*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
7 Ponding surface area (ft^2)			
8 Ponding depth (ft)			
9 Surface area of amended soil/gravel (ft^2)			
10 Average depth of amended soil/gravel (ft)			
11 Average porosity of amended soil/gravel			
12 Retention volume achieved from on-lot infiltration (ft^3) $V_{retention}$ *= (Item 7 *Item 8) + (Item 9 * Item 10 * Item 11)*			
13 Runoff volume retention from on-lot infiltration (ft^3):	$V_{retention}$ *=Sum of Item 12 for all BMPs*		

Form 4.3-2 cont. Site Design Hydrologic Source Control BMPs (DA 1)

14 Implementation of evapotranspiration BMP (green, brown, or blue roofs): Yes ☐ No ☒ *If yes, complete Items 15-20. If no, proceed to Item 21*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
15 Rooftop area planned for ET BMP (ft^2)			
16 Average wet season ET demand (in/day) *Use local values, typical ~ 0.1*			
17 Daily ET demand (ft^3/day) *Item 15 * (Item 16 / 12)*			
18 Drawdown time (hrs) *Copy Item 6 in Form 4.2-1*			
19 Retention Volume (ft^3) *$V_{retention}$ = Item 17 * (Item 18 / 24)*			
20 Runoff volume retention from evapotranspiration BMPs (ft^3): *$V_{retention}$ =Sum of Item 19 for all BMPs*			
21 Implementation of Street Trees: Yes ☐ No ☒ *If yes, complete Items 22-25. If no, proceed to Item 26*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
22 Number of Street Trees			
23 Average canopy cover over impervious area (ft^2)			
24 Runoff volume retention from street trees (ft^3) *$V_{retention}$ = Item 22 * Item 23 * (0.05/12) assume runoff retention of 0.05 inches*			
25 Runoff volume retention from street tree BMPs (ft^3): *$V_{retention}$ = Sum of Item 24 for all BMPs*			
26 Implementation of residential rain barrel/cisterns: Yes ☐ No ☒ *If yes, complete Items 27-29; If no, proceed to Item 30*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
27 Number of rain barrels/cisterns			
28 Runoff volume retention from rain barrels/cisterns (ft^3) *$V_{retention}$ = Item 27 * 3*			
29 Runoff volume retention from residential rain barrels/Cisterns (ft3): *$V_{retention}$ =Sum of Item 28 for all BMPs*			
30 Total Retention Volume from Site Design Hydrologic Source Control BMPs: *Sum of Items 5, 13, 20, 25 and 29*			

4.3.2 Infiltration BMPs

Use Form 4.3-3 to compute on-site retention of runoff from proposed retention and infiltration BMPs. Volume retention estimates are sensitive to the percolation rate used, which determines the amount of runoff that can be infiltrated within the specified drawdown time. The infiltration safety factor reduces field measured percolation to account for potential inaccuracy associated with field measurements, declining BMP performance over time, and compaction during construction. Appendix D of the TGD for WQMP provides guidance on estimating an appropriate safety factor to use in Form 4.3-3.

If site constraints limit the use of BMPs to a single type and implementation of retention and infiltration BMPs mitigate no more than 40% of the DCV, then they are considered infeasible and the Project Proponent may evaluate the effectiveness of BMPs lower in the LID hierarchy of use (Section 5.5.1 of the TGD for WQMP)

If implementation of infiltrations BMPs is feasible as determined using Form 4.3-1, then LID infiltration BMPs shall be implemented to the MEP (section 4.1 of the TGD for WQMP).

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Form 4.3-3 Infiltration LID BMP - including underground BMPs (DA 1)

1 Remaining LID DCV not met by site design HSC BMP (ft^3): **33,993** *V_{unmet} = Form 4.2-1 Item 7 - Form 4.3-2 Item 30*			
BMP Type *Use columns to the right to compute runoff volume retention from proposed infiltration BMP (select BMP from Table 5-4 in TGD for WQMP) - Use additional forms for more BMPs*	DA 1 DMA 1 BMP Type ug	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
2 Infiltration rate of underlying soils (in/hr) *See Section 5.4.2 and Appendix D of the TGD for WQMP for minimum requirements for assessment methods*	6	N/A	N/A
3 Infiltration safety factor *See TGD Section 5.4.2 and Appendix D*	3	N/A	N/A
4 Design percolation rate (in/hr) *P_{design} = Item 2 / Item 3*	2	N/A	N/A
5 Ponded water drawdown time (hr) *Copy Item 6 in Form 4.2-1*	48	N/A	N/A
6 Maximum ponding depth (ft) *BMP specific, see Table 5-4 of the TGD for WQMP for BMP design details*	4	N/A	N/A
7 Ponding Depth (ft) *d_{BMP} = Minimum of (1/12*Item 4*Item 5) or Item 6*	4	N/A	N/A
8 Infiltrating surface area, SA_{BMP} (ft^2) *the lesser of the area needed for infiltration of full DCV or minimum space requirements from Table 5.7 of the TGD for WQMP*	9,465	N/A	N/A
9 Amended soil depth, d_{media} (ft) *Only included in certain BMP types, see Table 5-4 in the TGD for WQMP for reference to BMP design details*	N/A	N/A	N/A
10 Amended soil porosity	N/A	N/A	N/A
11 Gravel depth, d_{media} (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*	2	N/A	N/A
12 Gravel porosity	0.4	N/A	N/A
13 Duration of storm as basin is filling (hrs) *Typical ~ 3hrs*	3	N/A	N/A
14 Above Ground Retention Volume (ft^3) *$V_{retention}$ = Item 8 * [Item7 + (Item 9 * Item 10) + (Item 11 * Item 12) + (Item 13 * (Item 4 / 12))]*	35,308 cf @outlet Actual 50,165 CF	N/A	N/A
15 Underground Retention Volume (ft^3) *Volume determined using manufacturer's specifications and calculations*	-	N/A	N/A
16 Total Retention Volume from LID Infiltration BMPs: 35,308 *(Sum of Items 14 and 15 for all infiltration BMP included in plan)*			
17 Fraction of DCV achieved with infiltration BMP: 100% *Retention% = Item 16 / Form 4.2-1 Item 7*			
18 Is full LID DCV retained onsite with combination of hydrologic source control and LID retention/infiltration BMPs? Yes ☒ No ☐ *If yes, demonstrate conformance using Form 4.3-10; If no, then reduce Item 3, Factor of Safety to 2.0 and increase Item 8, Infiltrating Surface Area, such that the portion of the site area used for retention and infiltration BMPs equals or exceeds the minimum effective area thresholds (Table 5-7 of the TGD for WQMP) for the applicable category of development and repeat all above calculations.*			

4.3.3 Harvest and Use BMP

Harvest and use BMP may be considered if the full LID DCV cannot be met by maximizing infiltration BMPs. Use Form 4.3-4 to compute on-site retention of runoff from proposed harvest and use BMPs.

Volume retention estimates for harvest and use BMPs are sensitive to the on-site demand for captured stormwater. Since irrigation water demand is low in the wet season, when most rainfall events occur in San Bernardino County, the volume of water that can be used within a specified drawdown period is relatively low. The bottom portion of Form 4.3-4 facilitates the necessary computations to show infeasibility if a minimum incremental benefit of 40 percent of the LID DCV would not be achievable with MEP implementation of on-site harvest and use of stormwater (Section 5.5.4 of the TGD for WQMP).

Form 4.3-4 Harvest and Use BMPs (DA 1) N/A			
1 Remaining LID DCV not met by site design HSC or infiltration BMP (ft^3): *V_{unmet} = Form 4.2-1 Item 7 - Form 4.3-2 Item 30 – Form 4.3-3 Item 16*			
BMP Type(s) *Compute runoff volume retention from proposed harvest and use BMP (Select BMPs from Table 5-4 of the TGD for WQMP) - Use additional forms for more BMPs*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
2 Describe cistern or runoff detention facility	N/A	N/A	N/A
3 Storage volume for proposed detention type (ft^3) *Volume of cistern*	N/A	N/A	N/A
4 Landscaped area planned for use of harvested stormwater (ft^2)	N/A	N/A	N/A
5 Average wet season daily irrigation demand (in/day) Use local values, typical ~ 0.1 in/day	N/A	N/A	N/A
6 Daily water demand (ft^3/day) *Item 4 * (Item 5 / 12)*	N/A	N/A	N/A
7 Drawdown time (hrs) *Copy Item 6 from Form 4.2-1*	N/A	N/A	N/A
8 Retention Volume (ft^3) *$V_{retention}$ = Minimum of (Item 3) or (Item 6 * (Item 7 / 24))*	N/A	N/A	N/A
9 Total Retention Volume (ft^3) from Harvest and Use BMP = 0 *Sum of Item 8 for all harvest and use BMP included in plan*			
10 Is the full DCV retained with a combination of LID HSC, retention and infiltration, and harvest & use BMPs? Yes ☒ No ☐ *If yes, demonstrate conformance using Form 4.3-10. If no, then re-evaluate combinations of all LID BMP and optimize their implementation such that the maximum portion of the DCV is retained on-site (using a single BMP type or combination of BMP types). If the full DCV cannot be mitigated after this optimization process, proceed to Section 4.3.4.*			

4.3.4 Biotreatment BMP

Biotreatment BMPs may be considered if the full LID DCV cannot be met by maximizing retention and infiltration, and harvest and use BMPs. A key consideration when using biotreatment BMP is the effectiveness of the proposed BMP in addressing the pollutants of concern for the project (see Table 5-5 of the TGD for WQMP).

Use Form 4.3-5 to summarize the potential for volume based and/or flow based biotreatment options to biotreat the remaining unmet LID DCV w. Biotreatment computations are included as follows:

- Use Form 4.3-6 to compute biotreatment in small volume based biotreatment BMP (e.g. bioretention w/underdrains);
- Use Form 4.3-7 to compute biotreatment in large volume based biotreatment BMP (e.g. constructed wetlands);
- Use Form 4.3-8 to compute sizing criteria for flow-based biotreatment BMP (e.g. bioswales)

Form 4.3-5 Selection and Evaluation of Biotreatment BMP (DA 1)

1 Remaining LID DCV not met by site design HSC, infiltration, or harvest and use BMP for potential biotreatment (ft^3): **0** *Form 4.2-1 Item 7 - Form 4.3-2 Item 30 – Form 4.3-3 Item 16- Form 4.3-4 Item 9*	List pollutants of concern *Copy from Form 2.3-1.*	
2 Biotreatment BMP Selected *(Select biotreatment BMP(s) necessary to ensure all pollutants of concern are addressed through Unit Operations and Processes, described in Table 5-5 of the TGD for WQMP)*	Volume-based biotreatment *Use Forms 4.3-6 and 4.3-7 to compute treated volume*	Flow-based biotreatment *Use Form 4.3-8 to compute treated volume*
	☐ Bioretention with underdrain ☐ Planter box with underdrain ☐ Constructed wetlands ☐ Wet extended detention ☐ Dry extended detention	☐ Vegetated swale ☐ Vegetated filter strip ☐ Proprietary biotreatment
3 Volume biotreated in volume based biotreatment BMP (ft^3): *Form 4.3-6 Item 15 + Form 4.3-7 Item 13*	**4** Compute remaining LID DCV with implementation of volume based biotreatment BMP (ft^3): *Item 1 – Item 3*	**5** Remaining fraction of LID DCV for sizing flow based biotreatment BMP: % *Item 4 / Item 1*
6 Flow-based biotreatment BMP capacity provided (cfs): *Use Figure 5-2 of the TGD for WQMP to determine flow capacity required to provide biotreatment of remaining percentage of unmet LID DCV (Item 5), for the project's precipitation zone (Form 3-1 Item 1)*		
7 Metrics for MEP determination: • Provided a WQMP with the portion of site area used for suite of LID BMP equal to minimum thresholds in Table 5-7 of the TGD for WQMP for the proposed category of development: ☐ *If maximized on-site retention BMPs is feasible for partial capture, then LID BMP implementation must be optimized to retain and infiltrate the maximum portion of the DCV possible within the prescribed minimum effective area. The remaining portion of the DCV shall then be mitigated using biotreatment BMP.*		

Form 4.3-6 Volume Based Biotreatment (DA 1) – Bioretention and Planter Boxes with Underdrains N/A

Biotreatment BMP Type *(Bioretention w/underdrain, planter box w/underdrain, other comparable BMP)*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
1 Pollutants addressed with BMP *List all pollutant of concern that will be effectively reduced through specific Unit Operations and Processes described in Table 5-5 of the TGD for WQMP*	N/A	N/A	N/A
2 Amended soil infiltration rate *Typical ~ 5.0*	N/A	N/A	N/A
3 Amended soil infiltration safety factor *Typical ~ 2.0*	N/A	N/A	N/A
4 Amended soil design percolation rate (in/hr) P_{design} *= Item 2 / Item 3*	N/A	N/A	N/A
5 Ponded water drawdown time (hr) *Copy Item 6 from Form 4.2-1*	N/A	N/A	N/A
6 Maximum ponding depth (ft) *see Table 5-6 of the TGD for WQMP for reference to BMP design details*	N/A	N/A	N/A
7 Ponding Depth (ft) d_{BMP} *= Minimum of (1/12 * Item 4 * Item 5) or Item 6*	N/A	N/A	N/A
8 Amended soil surface area (ft^2)	N/A	N/A	N/A
9 Amended soil depth (ft) *see Table 5-6 of the TGD for WQMP for reference to BMP design details*	N/A	N/A	N/A
10 Amended soil porosity, *n*	N/A	N/A	N/A
11 Gravel depth (ft) *see Table 5-6 of the TGD for WQMP for reference to BMP design details*	N/A	N/A	N/A
12 Gravel porosity, *n*	N/A	N/A	N/A
13 Duration of storm as basin is filling (hrs) *Typical ~ 3hrs*	N/A	N/A	N/A
14 Biotreated Volume (ft^3) $V_{biotreated}$ *= Item 8 * [(Item 7/2) + (Item 9 * Item 10) +(Item 11 * Item 12) + (Item 13 * (Item 4 / 12))]*	N/A	N/A	N/A
15 Total biotreated volume from bioretention and/or planter box with underdrains BMP: 0 *Sum of Item 14 for all volume-based BMPs included in this form*			

Form 4.3-7 Volume Based Biotreatment (DA 1) – N/A Constructed Wetlands and Extended Detention

Biotreatment BMP Type *Constructed wetlands, extended wet detention, extended dry detention, or other comparable proprietary BMP. If BMP includes multiple modules (e.g. forebay and main basin), provide separate estimates for storage and pollutants treated in each module.*	DA DMA BMP Type		DA DMA BMP Type *(Use additional forms for more BMPs)*	
	Forebay	Basin	Forebay	Basin
1 Pollutants addressed with BMP forebay and basin *List all pollutant of concern that will be effectively reduced through specific Unit Operations and Processes described in Table 5-5 of the TGD for WQMP*	N/A	N/A	N/A	N/A
2 Bottom width (ft)	N/A	N/A	N/A	N/A
3 Bottom length (ft)	N/A	N/A	N/A	N/A
4 Bottom area (ft^2) A_{bottom} = *Item 2 * Item 3*	N/A	N/A	N/A	N/A
5 Side slope (ft/ft)	N/A	N/A	N/A	N/A
6 Depth of storage (ft)	N/A	N/A	N/A	N/A
7 Water surface area (ft^2) $A_{surface}$ =*(Item 2 + (2 * Item 5 * Item 6)) * (Item 3 + (2 * Item 5 * Item 6))*	N/A	N/A	N/A	N/A
8 Storage volume (ft^3) *For BMP with a forebay, ensure fraction of total storage is within ranges specified in BMP specific fact sheets, see Table 5-6 of the TGD for WQMP for reference to BMP design details* V =*Item 6 / 3 * [Item 4 + Item 7 + (Item 4 * Item 7)^0.5]*	N/A	N/A	N/A	N/A
9 Drawdown Time (hrs) *Copy Item 6 from Form 2.1*	N/A		N/A	
10 Outflow rate (cfs) Q_{BMP} = *(Item* $8_{forebay}$ *+ Item* 8_{basin}*) / (Item 9 * 3600)*	N/A		N/A	
11 Duration of design storm event (hrs)	N/A		N/A	
12 Biotreated Volume (ft^3) $V_{biotreated}$ = *(Item* $8_{forebay}$ *+ Item* 8_{basin}*) +(Item 10 * Item 11 * 3600)*	N/A		N/A	
13 Total biotreated volume from constructed wetlands, extended dry detention, or extended wet detention : 0 *(Sum of Item 12 for all BMP included in plan)*				

Form 4.3-8 Flow Based Biotreatment (DA 1) N/A			
Biotreatment BMP Type *Vegetated swale, vegetated filter strip, or other comparable proprietary BMP*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
1 Pollutants addressed with BMP *List all pollutant of concern that will be effectively reduced through specific Unit Operations and Processes described in TGD Table 5-5*	N/A	N/A	N/A
2 Flow depth for water quality treatment (ft) *BMP specific, see Table 5-6 of the TGD for WQMP for reference to BMP design details*	N/A	N/A	N/A
3 Bed slope (ft/ft) *BMP specific, see Table 5-6 of the TGD for WQMP for reference to BMP design details*	N/A	N/A	N/A
4 Manning's roughness coefficient	N/A	N/A	N/A
5 Bottom width (ft) *b_w = (Form 4.3-5 Item 6 * Item 4) / (1.49 * Item 2^1.67 * Item 3^0.5)*	N/A	N/A	N/A
6 Side Slope (ft/ft) *BMP specific, see Table 5-6 of the TGD for WQMP for reference to BMP design details*	N/A	N/A	N/A
7 Cross sectional area (ft^2) *A = (Item 5 * Item 2) + (Item 6 * Item 2^2)*	N/A	N/A	N/A
8 Water quality flow velocity (ft/sec) *V = Form 4.3-5 Item 6 / Item 7*	N/A	N/A	N/A
9 Hydraulic residence time (min) *Pollutant specific, see Table 5-6 of the TGD for WQMP for reference to BMP design details*	N/A	N/A	N/A
10 Length of flow based BMP (ft) *L = Item 8 * Item 9 * 60*	N/A	N/A	N/A
11 Water surface area at water quality flow depth (ft^2) *SA_{top} = (Item 5 + (2 * Item 2 * Item 6)) * Item 10*	N/A	N/A	N/A

4.3.5 Conformance Summary

Complete Form 4.3-9 to demonstrate how on-site LID DCV is met with proposed site design hydrologic source control, infiltration, harvest and use, and/or biotreatment BMP. The bottom line of the form is used to describe the basis for infeasibility determination for on-site LID BMP to achieve full LID DCV, and provides methods for computing remaining volume to be addressed in an alternative compliance plan. If the project has more than one outlet, then complete additional versions of this form for each outlet.

Form 4.3-9 Conformance Summary and Alternative Compliance Volume Estimate (DA 1)

1 Total LID DCV for the Project DA-1 (ft^3): **33,993** *Copy Item 7 in Form 4.2-1*

2 On-site retention with site design hydrologic source control LID BMP (ft^3): 0 *Copy Item 30 in Form 4.3-2*

3 On-site retention with LID infiltration BMP (ft^3): > **35,308** *Copy Item 16 in Form 4.3-3*

4 On-site retention with LID harvest and use BMP (ft^3): 0 *Copy Item 9 in Form 4.3-4*

5 On-site biotreatment with volume based biotreatment BMP (ft^3): 0 *Copy Item 3 in Form 4.3-5*

6 Flow capacity provided by flow based biotreatment BMP (cfs): 0 *Copy Item 6 in Form 4.3-5*

7 LID BMP performance criteria are achieved if answer to any of the following is "Yes":

- Full retention of LID DCV with site design HSC, infiltration, or harvest and use BMP: Yes ☒ No ☐
  If yes, sum of Items 2, 3, and 4 is greater than Item 1
- Combination of on-site retention BMPs for a portion of the LID DCV and volume-based biotreatment BMP that address all pollutants of concern for the remaining LID DCV: Yes ☐ No ☐
  If yes, a) sum of Items 2, 3, 4, and 5 is greater than Item 1, and Items 2, 3 and 4 are maximized; or b) Item 6 is greater than Form 4.3--5 Item 6 and Items 2, 3 and 4 are maximized
- On-site retention and infiltration is determined to be infeasible and biotreatment BMP provide biotreatment for all pollutants of concern for full LID DCV: Yes ☐ No ☐
  If yes, Form 4.3-1 Items 7 and 8 were both checked yes

8 If the LID DCV is not achieved by any of these means, then the project may be allowed to develop an alternative compliance plan. Check box that describes the scenario which caused the need for alternative compliance:

- Combination of HSC, retention and infiltration, harvest and use, and biotreatment BMPs provide less than full LID DCV capture: ☐
  Checked yes for Form 4.3-5 Item 7, Item 6 is zero, and sum of Items 2, 3, 4, and 5 is less than Item 1. If so, apply water quality credits and calculate volume for alternative compliance, V_{alt} *= (Item 1 – Item 2 – Item 3 – Item 4 – Item 5) * (100 - Form 2.4-1 Item 2)%*
- An approved Watershed Action Plan (WAP) demonstrates that water quality and hydrologic impacts of urbanization are more effective when managed in at an off-site facility: ☐
  Attach appropriate WAP section, including technical documentation, showing effectiveness comparisons for the project site and regional watershed

4.3.6 Hydromodification Control BMP

Use Form 4.3-10 to compute the remaining runoff volume retention, after LID BMP are implemented, needed to address HCOC, and the increase in time of concentration and decrease in peak runoff necessary to meet targets for protection of waterbodies with a potential HCOC. Describe hydromodification control BMP that address HCOC, which may include off-site BMP and/or in-stream controls. Section 5.6 of the TGD for WQMP provides additional details on selection and evaluation of hydromodification control BMP.

Form 4.3-10 Hydromodification Control BMPs (DA 1)	
1 Volume reduction needed for HCOC performance criteria (ft^3): **0** *(Form 4.2-2 Item 4 * 0.95) – Form 4.2-2 Item 1*	**2** On-site retention with site design hydrologic source control, infiltration, and harvest and use LID BMP (ft^3): **> 35,308** *Sum of Form 4.3-9 Items 2, 3, and 4 Evaluate option to increase implementation of on-site retention in Forms 4.3-2, 4.3-3, and 4.3-4 in excess of LID DCV toward achieving HCOC volume reduction*
3 Remaining volume for HCOC volume capture (ft^3): 0 *Item 1 – Item 2*	**4** Volume capture provided by incorporating additional on-site or off-site retention BMPs (ft^3): 0 *Existing downstream BMP may be used to demonstrate additional volume capture (if so, attach to this WQMP a hydrologic analysis showing how the additional volume would be retained during a 2-yr storm event for the regional watershed)*
5 If Item 4 is less than Item 3, incorporate in-stream controls on downstream waterbody segment to prevent impacts due to hydromodification ☐ *Attach in-stream control BMP selection and evaluation to this WQMP*	
6 Is Form 4.2-2 Item 11 less than or equal to 5%: Yes ☐ No ☐ n/a *If yes, HCOC performance criteria is achieved. If no, select one or more mitigation options below:* • Demonstrate increase in time of concentration achieved by proposed LID site design, LID BMP, and additional on-site or off-site retention BMP ☐ *BMP upstream of a waterbody segment with a potential HCOC may be used to demonstrate increased time of concentration through hydrograph attenuation (if so, show that the hydraulic residence time provided in BMP for a 2-year storm event is equal or greater than the addition time of concentration requirement in Form 4.2-4 Item 15)* • Increase time of concentration by preserving pre-developed flow path and/or increase travel time by reducing slope and increasing cross-sectional area and roughness for proposed on-site conveyance facilities ☐ • Incorporate appropriate in-stream controls for downstream waterbody segment to prevent impacts due to hydromodification, in a plan approved and signed by a licensed engineer in the State of California ☐	
7 Form 4.2-2 Item 12 less than or equal to 5%: Yes ☐ No ☐ n/a *If yes, HCOC performance criteria is achieved. If no, select one or more mitigation options below:* • Demonstrate reduction in peak runoff achieved by proposed LID site design, LID BMPs, and additional on-site or off-site retention BMPs ☐ *BMPs upstream of a waterbody segment with a potential HCOC may be used to demonstrate additional peak runoff reduction through hydrograph attenuation (if so, attach to this WQMP, a hydrograph analysis showing how the peak runoff would be reduced during a 2-yr storm event)* • Incorporate appropriate in-stream controls for downstream waterbody segment to prevent impacts due to hydromodification, in a plan approved and signed by a licensed engineer in the State of California ☐	

4.4 Alternative Compliance Plan (if applicable)

Describe an alternative compliance plan (if applicable) for projects not fully able to infiltrate, harvest and use, or biotreat the DCV via on-site LID practices. A project proponent must develop an alternative compliance plan to address the remainder of the LID DCV. Depending on project type some projects may qualify for water quality credits that can be applied to reduce the DCV that must be treated prior to development of an alternative compliance plan (see Form 2.4-1, Water Quality Credits). Form 4.3-9 Item 8 includes instructions on how to apply water quality credits when computing the DCV that must be met through alternative compliance. Alternative compliance plans may include one or more of the following elements:

- On-site structural treatment control BMP - All treatment control BMP should be located as close to possible to the pollutant sources and should not be located within receiving waters;
- Off-site structural treatment control BMP - Pollutant removal should occur prior to discharge of runoff to receiving waters;
- Urban runoff fund or In-lieu program, if available

Depending upon the proposed alternative compliance plan, approval by the executive officer may or may not be required (see Section 6 of the TGD for WQMP).

Section 5 Inspection and Maintenance Responsibility for Post Construction BMP

All BMP included as part of the project WQMP are required to be maintained through regular scheduled inspection and maintenance (refer to Section 8, Post Construction BMP Requirements, in the TGD for WQMP). Fully complete Form 5-1 summarizing all BMP included in the WQMP. Attach additional forms as needed. The WQMP shall also include a detailed Operation and Maintenance Plan for all BMP and may require a Maintenance Agreement (consult the jurisdiction's LIP). If a Maintenance Agreement is required, it must also be attached to the WQMP.

Form 5-1 BMP Inspection and Maintenance (use additional forms as necessary)			
BMP	Reponsible Party(s)	Inspection/ Maintenance Activities Required	Minimum Frequency of Activities
Detention / Infiltration System N4	Owner	-Inspections and maintenance to ensure that water infiltrates into the subsurface completely and that vegetation is carefully managed to prevent creating mosquito and other vector habitats. -Observe drain time for the design storm after completion or modification of the facility to confirm that the desired drain time has been obtained. -Schedule semiannual inspections for beginning and end of the wet season to identify potential problems such as erosion of the basin side slopes and invert, standing water, trash and debris, and sediment accumulation -Remove accumulated trash and debris in the basin at the start and end of the wet season -Inspect standing water at the end of the wet season -Trim vegetation at the beginning and end of the wet season to prevent establishment of woody vegetation and for aesthetic and vector reasons -Remove accumulated sediment and regrade when the accumulated sediment volume exceeds	Bi-monthly and Prior to storm event and 48 hours after storm has passed

		10% of the basin -If erosion is occurring within the basin, revegetate immediately and stabilize with an erosion control mulch or mat until vegetation cover is established -To avoid reversing soil development, scarification or other disturbance should only be performed when there are actual signs of clogging, rather than on a routine basis. Always remove deposited sediments before scarification, and use a hand-guided rotary tiller, if possible, or a disc harrow pulled by a very light tractor	
Loading Dock and Parking Lot Vacuum Sweeping N15	Owner	Vacuum Sweep loading dock and parking lot and truck courts.	Monthly / As needed.
Catch Basin Filter N17	Owner	- Inspect and maintain catch basin filters as required. - Inspect catch basin bottom for debris / remove debris and dispose as required.	Quarterly
Truck Dock N13	Owner	- Inspect loading dock for trash debris and sediments. - Inspect loading dock for evidence of spills and broken containers. - Clean up spills and dispose of collected material in a legal manner.	Weekly
Planting N3	Owner	- Inspect health of planting and erosion of landscape area. - Trimming trees and bushes when needed.	Monthly
Efficient Irrigation S4	Owner	- Inspect irrigation system general operation and durations. - Repair damaged sprinkler and drip irrigation lines as needed. - Reduce durations during the winter season to prevent over irrigation.	Monthly

Trash Storage Areas and Litter Control (SD-32) N2	Owner	Inspect trash container, lids, screens and clean trash storage areas along with the entire site.	Weekly
Employee Training / Education Program N12	Owner	Building tenants to provide BMP training and hand out educational materials.	Annually or upon hire
Roof Runoff Controls (SD-11)	Owner	Inspect / repair roof drains	Quarterly
Storm drain system signage S1	Owner	Inspect Catch basin signage for faded or lost signs / repair or replace as needed.	Annually

Section 6 WQMP Attachments

6.1. Site Plan and Drainage Plan

Include a site plan and drainage plan sheet set containing the following minimum information:

- Project location
- Site boundary
- Land uses and land covers, as applicable
- Suitability/feasibility constraints
- Structural Source Control BMP locations
- Site Design Hydrologic Source Control BMP locations
- LID BMP details
- Drainage delineations and flow information
- Drainage connections

6.2 Electronic Data Submittal

Minimum requirements include submittal of PDF exhibits in addition to hard copies. Format must not require specialized software to open. If the local jurisdiction requires specialized electronic document formats (as described in their local Local Implementation Plan), this section will describe the contents (e.g., layering, nomenclature, geo-referencing, etc.) of these documents so that they may be interpreted efficiently and accurately.

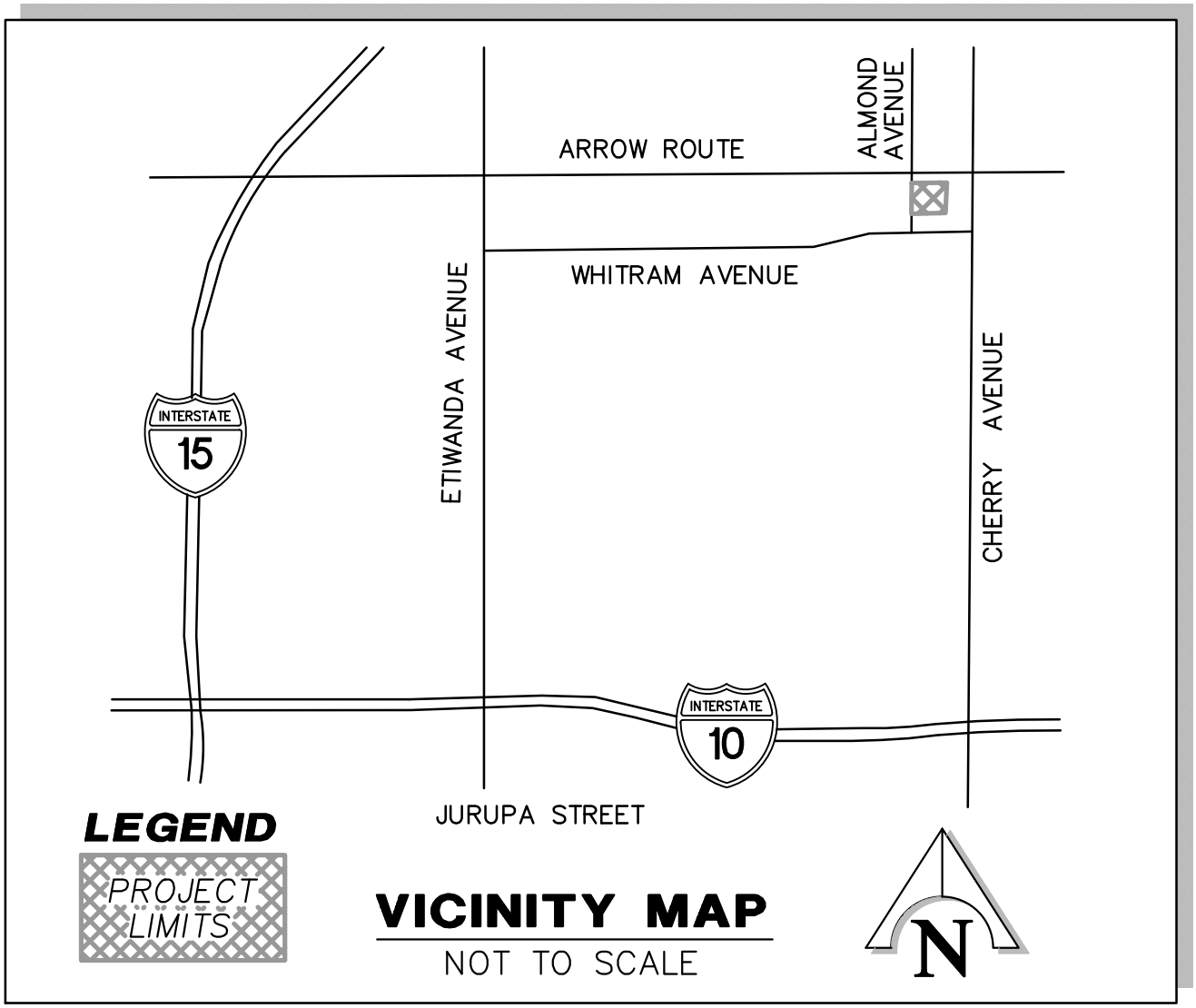
6.3 Post Construction

Attach all O&M Plans and Maintenance Agreements for BMP to the WQMP.

6.4 Other Supporting Documentation

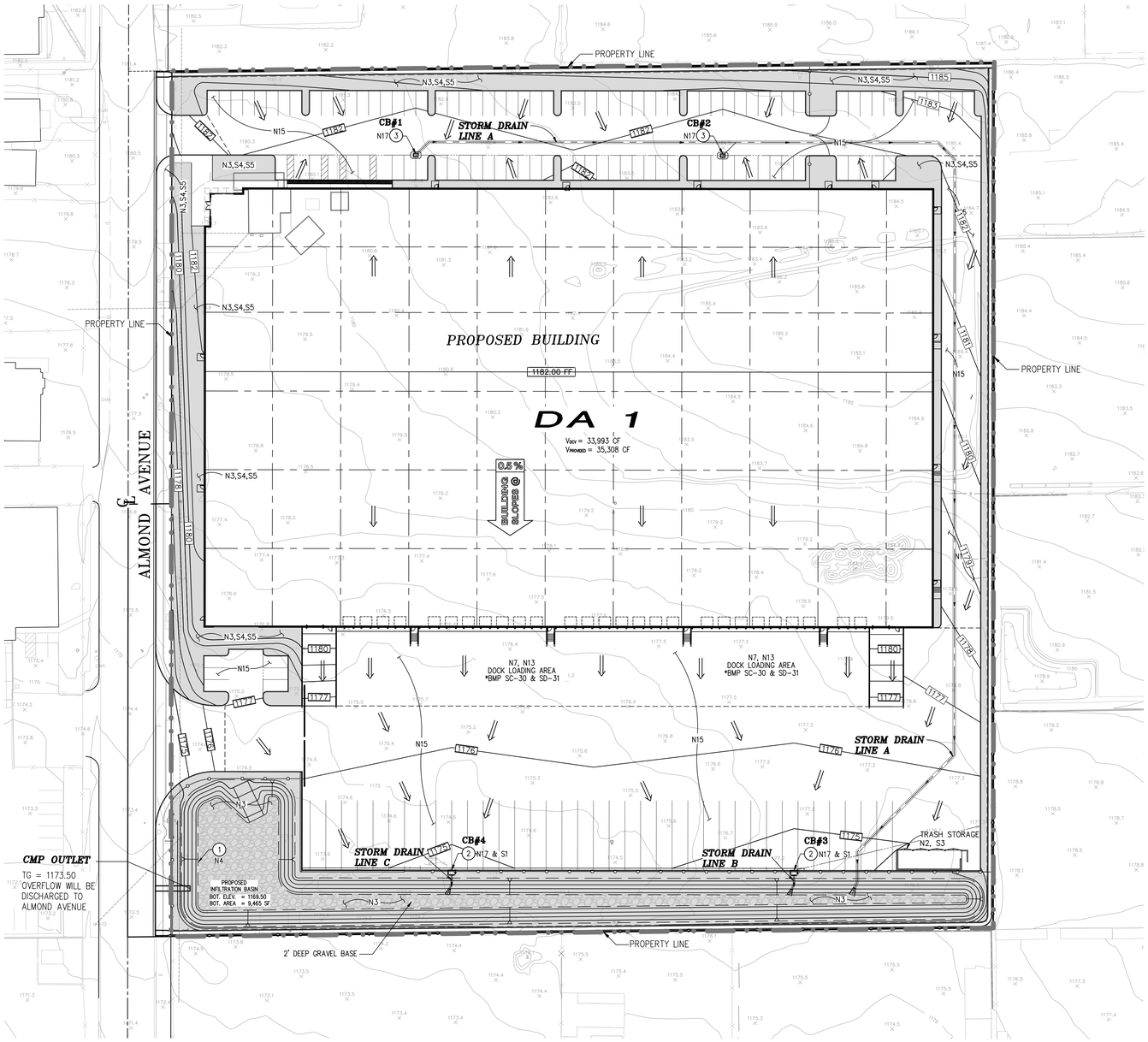
- BMP Educational Materials
- Activity Restriction – C, C&R's & Lease Agreements

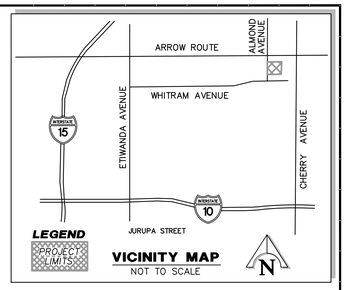
Attachment A
WQMP Site Plan

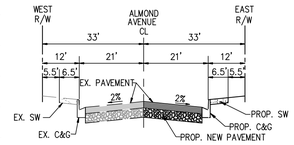


VICINITY MAP

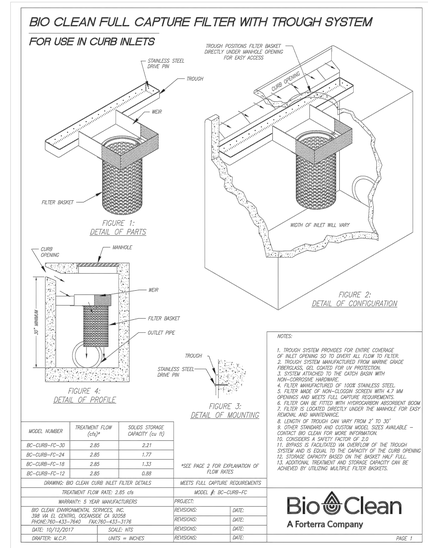
NOT TO SCALE







TYPICAL ULTIMATE STREET SECTION
ALMOND AVE
N.T.S
COLLECTOR STREET



2 **CURB INLET FILTER**
NOT TO SCALE

3 **GRATE INLET FILTER**
NOT TO SCALE

LEGEND

- SD — PROPOSED STORM DRAIN
- WQMP AND DRAINAGE BOUNDARY
- PROPOSED CURB OPENING INLET W/ FILTER INSERT
- PROPOSED LANDSCAPING AREA (N3, S4, AND S5)
- CB — CATCH BASIN
- FLOW DIRECTION
- N-- NON-STRUCTURAL SOURCE CONTROL BMPs IDENTIFIER PER WQMP REPORT FORM 4.1-1
- S-- STRUCTURAL SOURCE CONTROL BMPs IDENTIFIER PER WQMP REPORT FORM 4.1-2

WQMP BMP NOTES

1. INSTALL DETENTION BASIN
2. INSTALL BIOCLEAN CURB INLET FILTER, SEE DETAIL HEREON
3. INSTALL BIOCLEAN GRATE INLET FILTER, SEE DETAIL HEREON

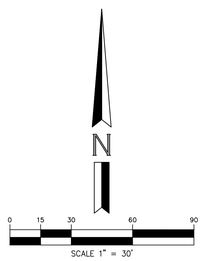
WQMP MANAGEMENT

NAME	AREA (SF)	i	C	V_{BMP} (CF)	BMP	$V_{PROVIDE}$ (CF)
DA 1	413,779	0.82	0.62	33,993	INFILTRATION BASIN/ DETENTION BASIN	35,308

SOURCE CONTROL BMPs INCLUDED ONSITE		
IDENTIFIER	DESCRIPTION OF BMP	RESPONSIBLE PARTY
N2	INSPECT/MAINTAIN TRASH CONTAINER	OWNER
N3	LANDSCAPE MAINTENANCE BMP'S	OWNER
N4	INSPECT/MAINTAIN DETENTION BASIN	OWNER
N7	PROVIDE SPILL PLAN	OWNER
N11	LITTER/DEBRIS CONTROL PROGRAM	OWNER
N13	HOUSEKEEPING OF LOADING DOCKS	OWNER
N14	CATCH BASIN INSPECTION PROGRAM	OWNER
N15	VACUUM SWEEPING OF PARKING LOTS	OWNER
N17	NPDES COMPLIANCE	OWNER
S1	STORM DRAIN STENCILING	OWNER
S3	REDUCED WASTE STORAGE POLLUTION	OWNER
S4	EFFICIENT IRRIGATION SYSTEM	OWNER
S5	LANDSCAPING MIN. 1-2" BELOW PAVEMENT	OWNER

*SEE WQMP REPORT ATTACHMENT C FOR BMP FACT SHEET

OWNER/DEVELOPER
HILLWOOD ENTERPRISES
36 DISCOVERY, SUITE 120
IRVINE, CA 92618
PHONE (909) 382-0033
CONTACT PERSON: JOSHUA COX



WATER QUALITY MANAGEMENT PLAN
FOR
HILLWOOD - ALMOND AT WHITTRAM INDUSTRIAL
ALMOND AVENUE BETWEEN WHITTRAM AVENUE & ARROW ROUTE
COUNTY OF SAN BERNARDINO

HUITT-ZOLLARS
HUITT-ZOLLARS, INC.
3990 CONCOURSE, SUITE 330 • ONTARIO, CALIFORNIA 91764 • (909) 941-7799

DESIGNED BY J.M.	SHEET 1 OF 1 SHEETS
DRAWN BY HZ STAFF	
CHECKED BY J.M.	
FIELD BOOK	JOB NO. R311694.01

10/31/2024 1:04 pm Jun 26,2024 \\huitz-fs\shared\Projects\R311694.01\Design\Civil\Exhibits\WQMP\R311694.01-WQMP-Exhibit.dwg

Attachment B

BMP Details, Support Calc's, and Fact Sheets

BIO CLEAN FULL CAPTURE FILTER WITH TROUGH SYSTEM

FOR USE IN CURB INLETS

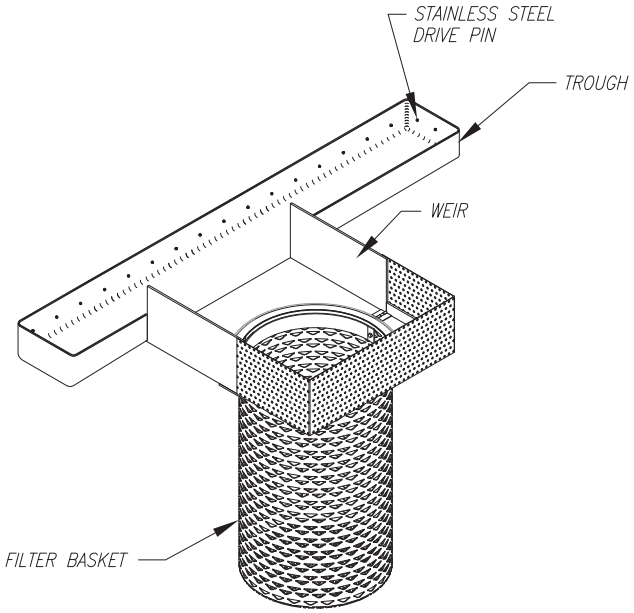


FIGURE 1:
DETAIL OF PARTS

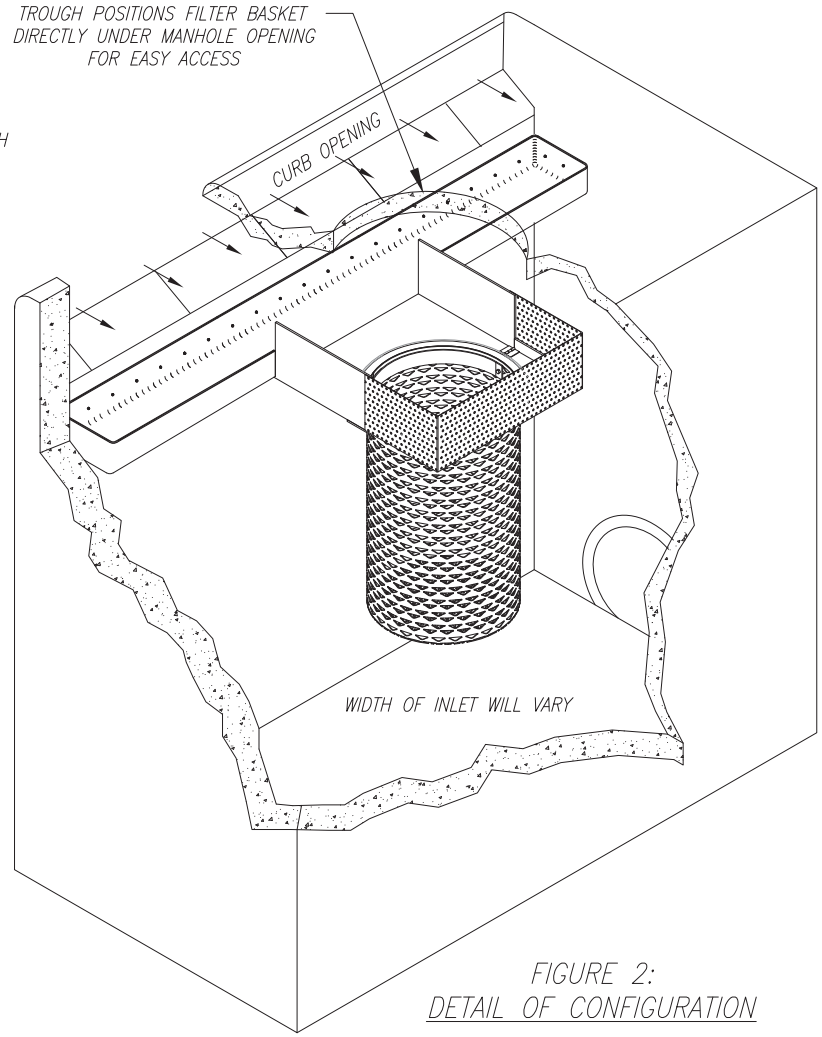


FIGURE 2:
DETAIL OF CONFIGURATION

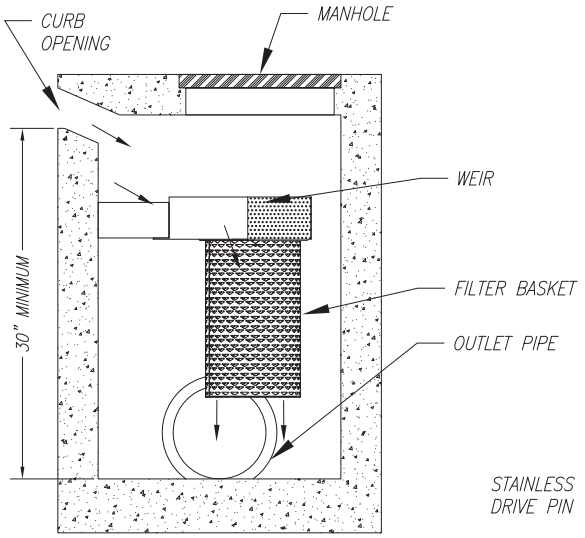


FIGURE 4:
DETAIL OF PROFILE

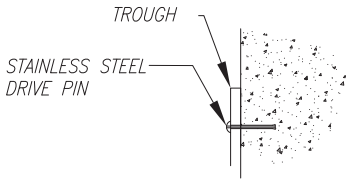


FIGURE 3:
DETAIL OF MOUNTING

NOTES:

1. TROUGH SYSTEM PROVIDES FOR ENTIRE COVERAGE OF INLET OPENING SO TO DIVERT ALL FLOW TO FILTER.
2. TROUGH SYSTEM MANUFACTURED FROM MARINE GRADE FIBERGLASS, GEL COATED FOR UV PROTECTION.
3. SYSTEM ATTACHED TO THE CATCH BASIN WITH NON-CORROSIVE HARDWARE.
4. FILTER MANUFACTURED OF 100% STAINLESS STEEL.
5. FILTER MADE OF NON-CLOGGIN SCREEN WITH 4.7 MM OPENINGS AND MEETS FULL CAPTURE REQUIREMENTS.
6. FILTER CAN BE FITTED WITH HYDROCARBON ABSORBENT BOOM
7. FILTER IS LOCATED DIRECTLY UNDER THE MANHOLE FOR EASY REMOVAL AND MAINTENANCE.
8. LENGTH OF TROUGH CAN VARY FROM 2' TO 30'
9. OTHER STANDARD AND CUSTOM MODEL SIZES AVAILABLE - CONTACT BIO CLEAN FOR MORE INFORMATION.
10. CONSIDERS A SAFETY FACTOR OF 2.0
11. BYPASS IS FACILITATED VIA OVERFLOW OF THE TROUGH SYSTEM AND IS EQUAL TO THE CAPACITY OF THE CURB OPENING
12. STORAGE CAPACITY BASED ON THE BASKET HALF FULL.
13. ADDITIONAL TREATMENT AND STORAGE CAPACITY CAN BE ACHIEVED BY UTILIZING MULTIPLE FILTER BASKETS.

MODEL NUMBER	TREATMENT FLOW (cfs)*	SOLIDS STORAGE CAPACITY (cu ft)
BC-CURB-FC-30	2.85	2.21
BC-CURB-FC-24	2.85	1.77
BC-CURB-FC-18	2.85	1.33
BC-CURB-FC-12	2.85	0.88

*SEE PAGE 2 FOR EXPLANATION OF FLOW RATES

DRAWING: BIO CLEAN CURB INLET FILTER DETAILS

MEETS FULL CAPTURE REQUIREMENTS

TREATMENT FLOW RATE: 2.85 cfs

MODEL #: BC-CURB-FC

WARRANTY: 5 YEAR MANUFACTURERS

PROJECT:

BIO CLEAN ENVIRONMENTAL SERVICES, INC.
398 VIA EL CENTRO, OCEANSIDE CA 92058
PHONE:760-433-7640 FAX:760-433-3176

REVISIONS: DATE:

REVISIONS: DATE:

REVISIONS: DATE:

REVISIONS: DATE:

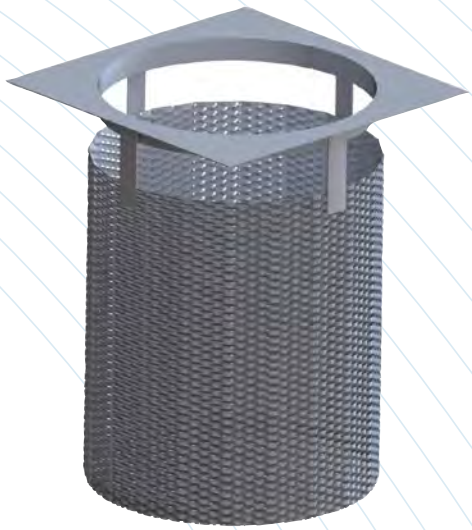
DATE: 10/12/2017 SCALE: NTS

DRAFTER: M.C.P. UNITS = INCHES

Bio Clean
A Forterra Company

Grate Inlet Filter

100% Full trash capture



The Bio Clean Grate Inlet Filter for catch basins keeps property owners in compliance. Preferred by public agencies and backed by an 8 year warranty, this easy to install filter is continuously chosen for its durability and simple maintenance.

Constructed of 100% high grade stainless steel, it is built to last longer than any other filter brand. The non-clogging screens provide higher levels of filtration and water flow. The filter is equipped with unimpeded high flow bypass for even the largest storm events.

The filter is also equipped with a floating hydrocarbon boom mounted to rails allowing it to flow up and down with the water level over a range of flow conditions.

The filter is designed for grated inlets of any size and depth. Each filter can be custom built to meet specific project needs. Screen size and media type can be modified to remove specific pollutants.

Advantages and Performance

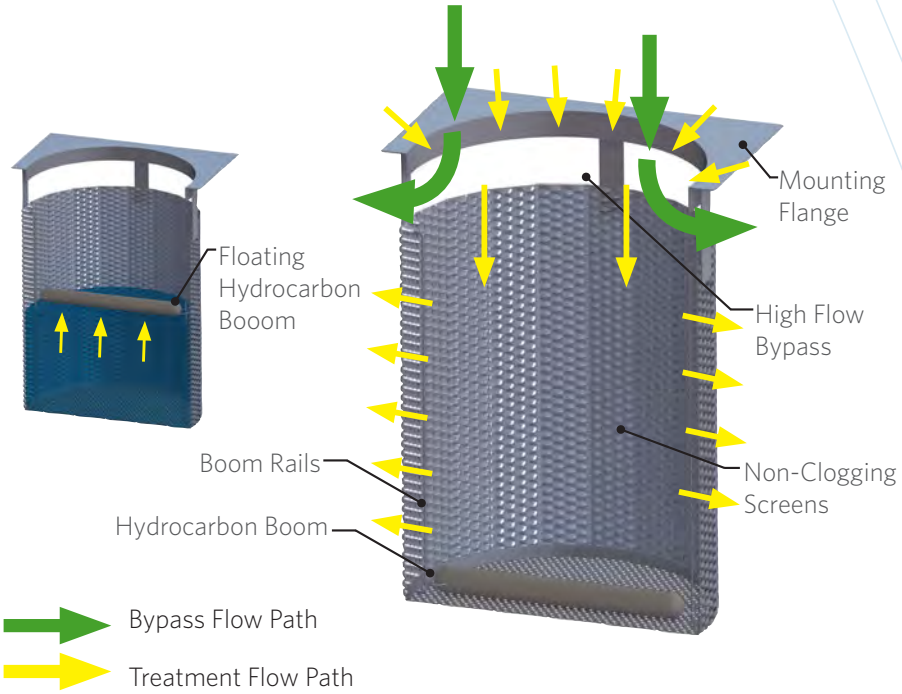
- 8 Year warranty
- Custom sizes available
- No nets or geofabrics
- 15+years user life
- No replacement costs as found with fabric filters
- Meets LEED requirements
- Fits in shallow catch basins
- 100% removal of trash and debris
- Meets full capture requirements

Specifications

Model #	Treatment Flow (CFS)	Bypass Flow (CFS)
BC-GRATE-12-12-12	1.55	1.55
BC-GRATE-18-18-18	4.32	3.68
BC-GRATE-24-24-24	7.67	4.83
BC-GRATE-30-30-24	12.97	6.21
BC-GRATE-25-38-24	13.53	6.59
BC-GRATE-36-36-24	19.64	7.60
BC-GRATE-48-48-18	25.59	10.13

NOTE: Treatment and bypass flow rates include a safety factor of 2.

Operation



DETENTION BASIN - HILLWOOD - ALMOND AT WHITTRAM IND

					open basin storage								
					Basin	media	Volume	Cumulative	ac-ft		infiltration	parkway drain *	total
Elevation	Depth	Outflow	Storage		Area	factor		volume	volume				outflow
	ft	cfs	ac-ft				CF	CF			cfs	cfs	cfs
1169.5	0	0	0.000		9,465								
1170.0	0.5	0.88	0.043		9,465	0.4	1,893	1,893	0.043		0.88	0.00	0.88
1170.5	1	0.88	0.087		9,465	0.4	1,893	3,786	0.087		0.88	0.00	0.88
1171.0	1.5	0.88	0.130		9,465	0.4	1,893	5,679	0.130		0.88	0.00	0.88
1171.5	2	0.88	0.174		9,465	0.4	1,893	7,572	0.174		0.88	0.00	0.88
1172.0	2.5	0.88	0.294		11,540	1.0	5,251	12,823	0.294		0.88	0.00	0.88
1172.5	3	0.88	0.443		14,279	1.0	6,455	19,278	0.443		0.88	0.00	0.88
1173.0	3.5	0.88	0.615		15,698	1.0	7,494	26,772	0.615		0.88	0.00	0.88
1173.5	4	0.88	0.811		18,445	1.0	8,536	35,308	0.811		0.88	0.00	0.88
1174.0	4.5	5.37	1.031		19,890	1.0	9,584	44,892	1.031		0.88	4.49	5.37
1174.5	5	7.23	1.275		22,685	1.0	10,644	55,536	1.275		0.88	6.36	7.23
1175.0	5.5	8.66	1.544		24,131	1.0	11,704	67,240	1.544		0.88	7.78	8.66
1175.5	6	9.86	1.837		26,948	1.0	12,770	80,009	1.837		0.88	8.99	9.86

*Using an orifice eqn for a 4' x 0.33' parkway drain

Orifice Control Equation = CA*(2gh)^1/2 C = 0.6

Water is NOT released through the 4' parkway drain until 1173.5

Basin Routing Summary Table	
100 YEAR STORM	24 Hour
Max. Q Out (CFS)	**8.2**
Max. Ponding	**5.35**
WSE	**1174.85**

Peak discharge of 8.2 CFS which is smaller than existing Q100 21.3 CFS.
Also less than the existing Q25 of 17.1 cfs

Attachment C
Educational Materials

Regulatory information

The Federal Water Pollution Control Act prohibits the discharge of any pollutant to navigable waters from a point source unless the discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 passage of the Water Quality Act established NPDES permit requirements for discharges of storm water. The NPDES permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States.

Industrial facilities and construction sites are regulated by the Regional Water Quality Control Board and State Water Resources Control Board, through general storm water permits. Most industrial, manufacturing or transportation businesses that store materials, products or equipment outdoors, or conduct vehicle washing or process operations outdoors are required to obtain coverage under the State Water Resources Control Board's General Industrial Activities Stormwater Permit. For more information about this permit, visit www.swrcb.ca.gov/stormwtr/industrial.html or contact your local storm water coordinator.

If your business conducts construction activities, including clearing, grading, stockpiling or excavation that results in soil disturbances of at least one acre, you are subject to the State Water Resources Control Board's General Construction Activities Stormwater Permit. To find out more about this storm water permit for construction, visit: www.swrcb.ca.gov/stormwtr/construction.html.

Cities and counties are regulated through permits issued by the Regional Boards. Since 1990, operators of large storm drain systems such as San Bernardino County's have been required to:

- Develop a storm water management program designed to prevent harmful pollutants from being dumped or washed by storm water runoff, into the storm water system, then discharged into local water bodies; and
- Obtain a National Pollutant Discharge Elimination System (NPDES) permit.

The NPDES permit programs in California are administered by the State Water Resources Control Board and by nine regional boards that issue NPDES permits and enforce regulations within their respective region.

San Bernardino County lies within the jurisdiction of the Santa Ana Region. This regional board issues a permit to the San Bernardino County Permittees, which includes the County of San Bernardino, San Bernardino County Flood Control District and incorporated cities of San Bernardino County. Since the program's inception, the County of San Bernardino has served as the principal permittee.

SAN BERNARDINO COUNTY
STORMWATER POLLUTION PREVENTION

Documents & reports:

The following documents describe the regulations and programs for water quality in San Bernardino County. You can review the latest Basin Plan, National Pollutant Discharge Elimination System (NPDES) Permit and Drainage Area Management Plan (DAMP).

- **Basin Plans:** The document for each region of the State Water Quality Board's jurisdiction, including Santa Ana, is the Water Quality Control Plan, commonly referred to as the Basin Plan. It is the foundation for the regulatory programs of each regional board. The Basin Plan documents the beneficial uses of the region's ground and surface waters, existing water quality conditions, problems, and goals, and actions by the regional board and others that are necessary to achieve and maintain water quality standards.

▶Water Control Plan for the Santa Ana River Basin

- **Municipal National Pollutant Discharge Elimination System (NPDES) Permits:** The permits of each region outline additional steps for a storm water management program and specify requirements to help protect the beneficial uses of the receiving waters. They require permittees to develop and implement Best Management Practices (BMPs) to control/reduce the discharge of pollutants to waters of the United States to the maximum extent practicable (MEP).

  ▶Santa Ana Regional Water Quality Control Board Municipal NPDES Permit Order No. R8-2002-0012

- **Report of Waste Discharge:** The Report of Waste Discharge (ROWD) describes the San Bernardino Stormwater Program, implemented by the County and cities to comply with their jointly held stormwater permit. It is the principle policy and guidance document for the NPDES Stormwater Program.

  ▶Report of Waste Discharge 2000

- **San Bernardino County Storm Water Program Annual Status Report:** The Annual Status Report is a requirement of the NPDES permit for submittal to the Regional Boards and United States Environmental Protection Agency. The report presents an analysis and assessment of permit compliance activities.

▶Annual report - will be posted soon

For more information about how you can prevent stormwater pollution:

www.sbcountystormwater.org

Pollution Prevention STORMWATER

Important Phone Numbers

San Bernardino County Flood Control
(909) 387-8112

County of San Bernardino
(909) 387-8109

City of Big Bear Lake
(909) 866-5831

City of Chino (909) 591-9850

City of Chino Hills (909) 364-2722

City of Colton (909) 370-6128

City of Fontana (909) 350-6772

City of Grand Terrace
(909) 824-6671 x 226

City of Highland (909) 864-8732 x 230

City of Loma Linda (909) 799-4405

City of Montclair (909) 625-9470

City of Ontario (909) 395-2025

City of Rancho Cucamonga
(909) 477-2740 x 4063

City of Redlands (909) 798-7655

City of Rialto (909) 421-4921

City of San Bernardino (909) 384-5154

City of Upland (909) 931-4370

City of Yucaipa (909) 797-2489 x 243

San Bernardino County
Stormwater Program
825 East Third Street • Room 201
San Bernardino, CA 94215-0835

STORMWATER Pollution Prevention

INDUSTRIAL AND COMMERCIAL FACILITIES

Pollution Prevention STORMWATER

To reduce the amount of pollutants reaching our storm drain system, which leads to the Santa Ana River and Pacific Ocean, the San Bernardino County Stormwater Program has developed Best Management Practices (BMPs) for Industrial and Commercial Facilities. City and County ordinances require that businesses comply with these BMPs, where applicable, to protect local water quality. Local cities and the County are required to verify implementation of these BMPs by performing regular facility inspections.

Prohibited Discharges

- Discontinue all non-stormwater discharges to the storm drain system. It is prohibited to discharge any chemicals, wastes or wastewater into the gutter, street or storm drain.

Outdoor Storage

- Install covers and secondary containment areas for all hazardous materials and wastes stored outdoors in accordance with County and/or City standards.
- Keep all temporary waste containers covered, except when in direct use.
- Sweep outdoor areas instead of using a hose or pressure washer.

Outdoor Processes

- Move all process operations including vehicle and equipment maintenance inside of the building or into a covered and contained area.
- Wash equipment and vehicles in a contained and covered wash bay which is closed-loop or connected to a clarifier sized to city standards, then discharged to a sanitary sewer or take them to a commercial car wash.

Spills and Clean Ups

- Clean up spills immediately when they occur, using dry clean up methods such as absorbent materials and followed by proper disposal of materials.
- Always have a spill kit available near chemical loading dock doors, vehicle maintenance and fueling areas.
- Follow your Business Emergency Plan, as filed with the County Fire Department at (909) 386-8401.

Industrial and Commercial Facilities

- Report all prohibited discharges and non-implementation of BMPs to your local Stormwater Coordinator either at (800) CLEANUP or as listed at www.sbcounty.gov/stormwater.
- Report hazardous materials spills to (800) 33 TOXIC and your local Fire Department Hazmat Team at 911.

Training

Train employees in spill response procedures and prohibited discharges to the storm drain system, as prescribed in your local Stormwater Ordinance and in applicable Best Management Practices available at www.cabmphandbooks.com and www. sbcounty.gov/stormwater.

Permitting

Stormwater discharges associated with specific categories of commercial and industrial facilities are regulated by the State Water Resources Control Board (SWRCB) through an Industrial Storm Water General Permit. A copy of the General Permit and application forms are available at:
www.waterboards.ca.gov/stormwtr/industrial.html

To report illegal dumping or for more information on stormwater pollution prevention, call:

1 (800) CLEANUP

or visit our websites at:

www.sbcounty.gov/stormwater
www.1800cleanup.org

San Bernardino County STORMWATER PROGRAM

Prevención de Contaminación
AL SISTEMA DE DRENAJE

Números de Teléfono Importantes

San Bernardino County Flood Control
(909) 387-8112

County of San Bernardino
(909) 387-8109

City of Big Bear Lake
(909) 866-5831

City of Chino (909) 591-9850

City of Chino Hills (909) 364-2722

City of Colton (909) 370-6128

City of Fontana (909) 350-6772

City of Grand Terrace
(909) 824-6671 x 226

City of Highland (909) 864-8732 x 230

City of Loma Linda (909) 799-4405

City of Montclair (909) 625-9470

City of Ontario (909) 395-2025

City of Rancho Cucamonga
(909) 477-2740 x 4063

City of Redlands (909) 798-7655

City of Rialto (909) 421-4921

City of San Bernardino (909) 384-5154

City of Upland (909) 931-4370

City of Yucaipa (909) 797-2489 x 243

San Bernardino County
Stormwater Program
825 East Third Street • Room 201
San Bernardino, CA 94215-0835

Prevención de Contaminación
AL SISTEMA DE DRENAJE

INSTALACIONES INDUSTRIALES Y COMERCIALES

Prevención de Contaminación
AL SISTEMA DE DRENAJE

Para reducir la cantidad de contaminantes que alcanzan nuestro sistema de aguas pluviales, las cuales desembocan en el Río Santa Ana y el Océano Pacífico, el Programa del Condado de San Bernandino ha desarrollado las pautas de Mejores Prácticas de Manejo (BMPs, por sus siglas en inglés) para instalaciones industriales y comerciales. Los decretos de la ciudad y del condado establecen que todas las empresas deben de cumplir con estas BMPs, cuando corresponda, para proteger la calidad del agua local. Las ciudades locales y el condado tienen la obligación de verificar la implementación de estas BMPs al llevar a cabo inspecciones regulares en sus instalaciones.

Desagües Prohibidos

- Descontinúe todo desagüe de aguas no pluviales al sistema de drenaje de aguas pluviales. Está prohibido descargar cualquier sustancia química, residuo o agua residual a los drenajes de la cuneta, de la calle o de aguas pluviales.

Almacenamiento al Aire Libre

- Instale cubiertas y áreas de retención secundarias para todos los materiales peligrosos y residuos almacenados al aire libre, estas instalaciones deberán de cumplir con los estándares establecidos por el condado y/o la ciudad.
- Mantenga todos los recipientes temporales de residuos cubiertos, con la excepción de cuando se estén utilizando directamente.
- Barra todas las áreas al aire libre en lugar de usar una manguera o un equipo de limpieza con agua a alta presión.

Procesos al Aire Libre

- Reubique todos los procesos u operaciones, incluyendo el mantenimiento de vehículos y equipo, dentro de un edificio en una área cubierta e independiente.
- Lave el equipo y los vehículos en una fosa de lavado independiente que tenga un anillo cerrado o bien, esté conectada a un clarificador del tamaño de los estándares municipales, luego elimine los residuos en un drenaje sanitario o llévelos a un lavador de carros comercial.

Derrames y Limpieza

- Limpie los derrames inmediatamente, utilice métodos de limpieza en seco como son el uso de materiales absorbentes y elimine estos materiales de la manera adecuada.
  - Siempre tenga a la mano un estuche para derrames cerca de las puertas de los muelles de carga de sustancias químicas, en las áreas de mantenimiento de vehículos y en las áreas de combustible.
  - Siga su Plan de Emergencia Comercial, como lo registró con el Departamento de Bomberos del Condado marcando al (909) 386-8401.
  - Reporte todos los desagües prohibidos y cualquier punto no implementado de las BMPs a su coordinador local de Aguas Pluviales llamando al (800) CLEANUP o como se indica en el enlace www.sbcounty.gov/stormwater.
  - Reporte cualquier derrame peligroso al (800) 33 TOXIC y al equipo Hazmat de su departamento local de bomberos marcando al 911.

Instalaciones Industriales y Comerciales

Capacitación

Capacite a los empleados sobre los procedimientos de respuesta ante un derrame y los desagües prohibidos al sistema de aguas pluviales, como lo indica el decreto local de aguas pluviales de Mejores Prácticas de Manejo (BMPs) disponibles en el sitio www.cabmphandbooks.com y www.sbcounty.gov/stormwater.

Autoridad Competente

Los desagües de aguas pluviales relacionados con categorías específicas de instalaciones comerciales e industriales están regulados por la Junta Estatal de Control de Recursos Acuáticos (State Water Resources Control Board, SWRCB) a través de un permiso industrial general de aguas pluviales. Para obtener una copia de este permiso general y una solicitud, visite el sitio: www.waterboards.ca.gov/stormwtr/industrial.html

Para reportar el desagüe de residuos ilegales o para obtener información adicional sobre la prevención de contaminación a las aguas pluviales, llame a:

1 (800) CLEANUP

o visite nuestro sitio:

www.sbcounty.gov/stormwater

www.1800cleanup.org

San Bernardino County STORMWATER PROGRAM

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SACRAMENTO, CA
PERMIT# 000

San Bernardino County Stormwater Program
825 East Third Street · Room 127
San Bernardino, CA 94215-0835

STORMWATER

Pollution Prevention

LANDSCAPE MAINTENANCE

Pollution Prevention STORMWATER

Stormwater Management Practices for Commercial Landscape Maintenance

Yard waste, sediments, and toxic lawn/garden chemicals used in commercial landscape maintenance often make their way into the San Bernardino County storm drain system and do not get treated before reaching the Santa Ana River. This pollutes our drinking water and contaminates local waterways, making them unsafe for people and wildlife. Following these best management practices will prevent pollution, comply with regulations and protect public health.

Recycle Yard Waste

Recycle leaves, grass clippings and other yard waste. Do not blow, sweep, rake or hose yard waste into the street. Try grasscycling - the natural recycling of grass by leaving clippings on the lawn when mowing. Grass clippings will quickly decompose, returning valuable nutrients to the soil. Further information can be obtained at www.ciwmb.ca.gov/Organics.

Use Fertilizers, Herbicides and Pesticides Safely

Fertilizers, herbicides and pesticides are often carried into the storm drain system by sprinkler runoff. Use of natural, non-toxic alternatives to the traditional fertilizers, herbicides and pesticides is highly recommended. If you must use chemical fertilizers, herbicides, or pesticides:

- Spot apply pesticides and herbicides, rather than blanketing entire areas.
- Avoid applying near curbs and driveways, and never apply before a rain.
- Apply fertilizers as needed, when plants can best use it, and when the potential for it being carried away by runoff is low.

Recycle Hazardous Waste

Pesticides, fertilizers, herbicides and motor oil contaminate landfills and should be disposed of through a Hazardous Waste Facility, which accepts these types of materials. For information on proper disposal call, (909) 386-8401.

Use Water Wisely

Conserve water and prevent runoff by controlling the amount of water and direction of sprinklers. Sprinklers should be on long enough to allow water to soak into the ground but not so long as to cause runoff. Periodically inspect, fix leaks and realign sprinkler heads. Plant native vegetation to reduce the need of water, fertilizers, herbicides, and pesticides.

Prevent Erosion

Erosion washes sediments, debris and toxic runoff into the storm drain system, polluting waterways.

- Prevent erosion and sediment runoff by using ground cover, berms and vegetation down-slope to capture runoff.
- Avoid excavation or grading during wet weather.

Store Materials Safely

Keep landscaping materials and debris away from the street, gutter and storm drains. On-site stockpiles of materials must be covered with plastic sheeting to protect from rain, wind and runoff.

To report illegal dumping call

(877) WASTE18

or visit our website:

sbcountystormwater.org

San Bernardino County STORMWATER PROGRAM

SAN BERNARDINO COUNTY
STORMWATER POLLUTION PREVENTION

Commercial landscape maintenance:

Yard waste, sediments and toxic lawn and garden chemicals used in commercial landscape maintenance often make their way into the San Bernardino County storm drain system and do not get treated before reaching the Santa Ana River. This pollutes our drinking water and contaminates local waterways, making them unsafe for people and wildlife. Follow these best management practices to prevent pollution, protect public health and avoid fines or legal action.

- **Recycle Yard Waste:** Recycle leaves, grass clippings and other yard waste. Do not blow, sweep, rake or hose yard waste into the street. Let your customers know about grass cycling --the natural recycling of grass by leaving clippings on the lawn when mowing instead of using a grass catcher. Grass clippings will quickly decompose, returning valuable nutrients to the soil. You can get more information at www.ciwmb.ca.gov/Organics.
- **Use Fertilizers, Herbicides & Pesticides Safely:** Fertilizers, herbicides and pesticides are often carried into the storm drain system by sprinkler runoff. Use natural, non-toxic alternatives to traditional garden chemicals. If you must use chemical fertilizers, herbicides, or pesticides spot apply rather than blanketing entire areas, avoid applying near curbs and driveways and never apply before a rain.
- **Recycle Hazardous Waste:** Pesticides, fertilizers, herbicides and motor oil contaminate landfills and should be disposed of through a Hazardous Waste Facility. For information on proper disposal, call (909) 386-8401.
- **Use Water Wisely:** Conserve water and prevent runoff by controlling the amount of water and direction of sprinklers. Sprinklers should be on long enough to allow water to soak into the ground but not so long as to cause runoff. Periodically inspect, fix leaks and realign sprinkler heads.
- **Planting:** Plant native vegetation to reduce the need of water, fertilizers, herbicides and pesticides.
- **Prevent Erosion:** Erosion washes sediments, debris and toxic runoff into the storm drain system, polluting waterways. Prevent erosion and sediment runoff by using ground cover, berms and vegetation down-slope to capture runoff. Avoid excavation or grading during wet weather.
- **Store Materials Safely:** Keep landscaping materials and debris away from the street, gutter and storm drains. On-site stockpiles of materials should be covered with plastic sheeting to protect from rain, wind and runoff.

For more information about how you can prevent stormwater pollution:

www.sbcountystormwater.org

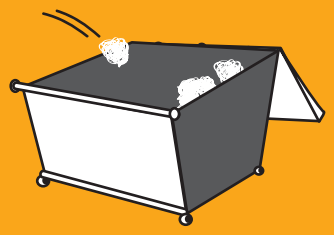
COMMERCIAL TRASH ENCLOSURES

FOLLOW THESE **REQUIREMENTS** TO **KEEP OUR WATERWAYS CLEAN**

Trash enclosures, such as those found in commercial and apartment complexes, typically contain materials that are intended to find their way to a landfill or a recycling facility. **These materials are NOT meant to go into our local lakes and rivers.**

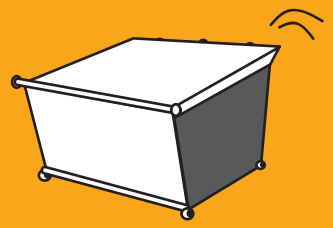
PROTECT WATER QUALITY BY FOLLOWING THESE SIMPLE STEPS

PUT TRASH INSIDE



Place trash inside the bin (preferably in sealed bags)

CLOSE THE LID



Prevent rain from entering the bin in order to avoid leakage of polluted water runoff

KEEP TOXICS OUT

- Paint
- Grease, fats and used oils
- Batteries, electronics and fluorescent lights

SOME ADDITIONAL GUIDELINES, INCLUDE

✓ SWEEP FREQUENTLY

Sweep trash enclosure areas frequently, instead of hosing them down, to prevent polluted water from flowing into the streets and storm drains.

✓ FIX LEAKS

Address trash bin leaks immediately by using dry clean up methods and report to your waste hauler to receive a replacement.

✓ CONSTRUCT ROOF

Construct a solid cover roof over the existing trash enclosure structure to prevent rainwater from coming into contact with trash and garbage. Check with your local City/County for Building Codes.

In San Bernardino County, stormwater pollution is caused by food waste, landscape waste, chemicals and other debris that are washed into storm drains and end up in our waterways - untreated! You can be part of the solution by maintaining a water-friendly trash enclosure.

THANK YOU FOR HELPING TO KEEP SAN BERNARDINO COUNTY CLEAN AND HEALTHY!

San Bernardino County STORMWATER PROGRAM

To report illegal dumping **(877-WASTE18)** or
to find a household hazardous waste facility (800-OILY CAT): **sbcountystormwater.org**
To dispose of hazardous waste call the San Bernardino County Fire Dept. - CUPA Program **(909) 386-8401**

Big Bear • Chino • Chino Hills • Colton • Fontana • Grand Terrace • Highland • Loma Linda • Montclair • Ontario • Rancho Cucamonga
Redlands • Rialto • San Bernardino • San Bernardino County • San Bernardino County Flood Control District • Upland • Yucaipa

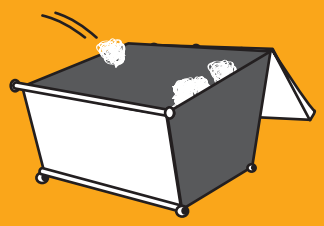
CONTENEDORES COMERCIALES PARA LA BASURA

SIGA ESTOS **PASOS** PARA MANTENER **LIMPIAS NUESTRAS VÍAS FLUVIALES**

Los contenedores de basura, tales como aquellos que se encuentran en las unidades comerciales y departamentos, generalmente contienen materiales que están destinados a los rellenos sanitarios o en algún establecimiento de reciclaje.
Estos materiales NO deben ser vertidos en nuestros lagos y ríos locales.

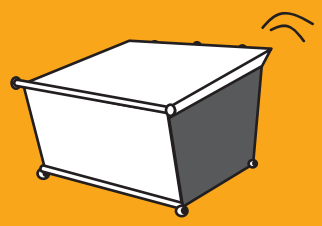
SIGA ESTOS PASOS PARA PROTEGER LA CALIDAD DEL AGUA

COLOQUE LA BASURA ADENTRO



Coloque la basura adentro del contenedor (preferentemente en bolsas selladas)

CIERRE LA TAPA



Evite que la lluvia ingrese al contenedor para evitar un escape de escorrentía contaminada

MANTENGA LOS PRODUCTOS TÓXICOS AFUERA

- Pintura
- Lubricante, grasas y aceites usados
- Baterías, componentes electrónicos y luces fluorescentes

ALGUNAS GUÍAS ADICIONALES, LAS CUALES INCLUYEN

✓ BARRER CON FRECUENCIA

Barra con frecuencia las áreas de los recintos para la basura, en lugar de lavarlas con una manguera, para evitar que el agua contaminada se vierta en las calles y los desagües de lluvia.

✓ REPARE LAS GOTERAS

Ocúpese inmediatamente de las goteras en los contenedores de basura. Use los métodos de limpieza en seco e infórmele a su recolector de basura para que reciba un reemplazo.

✓ CONSTRUYA UN TECHO

Construya un techo de cubierta sólida sobre la estructura actual del recinto para la basura a fin de evitar que el agua de lluvia entre en contacto con los desechos y la basura. Consulte con su Ciudad/Condado para conocer los Códigos de Construcción.

En el Condado de San Bernardino, los desechos de alimentos y jardines, los productos químicos y otros restos que se vierten en los desagües de aguas pluviales y que terminan en nuestras vías fluviales sin tratamiento alguno provocan la contaminación de estas aguas. Usted puede ser parte de la solución si mantiene un recinto para la basura que no contamine el agua.

¡MUCHAS GRACIAS POR AYUDAR A MANTENER EL CONDADO DE SB LIMPIO Y SIN CONTAMINACIÓN!

San Bernardino County STORMWATER PROGRAM

Para informar acerca del vertedero ilegal, llame a **(877-WASTE18)**, o para encontrar un establecimiento donde arrojar los residuos peligrosos del hogar, llame a **(800-OILY CAT)**: **sbcountystormwater.org**
Para deshacerse de los residuos peligrosos llame al Condado de San Bernardino Departamento de Bomberos - programa CUPA **(909) 386-8401**

Big Bear • Chino • Chino Hills • Colton • Fontana • Grand Terrace • Highland • Loma Linda • Montclair • Ontario • Rancho Cucamonga
Redlands • Rialto • San Bernardino • San Bernardino County • San Bernardino County Flood Control District • Upland • Yucaipa

SAN BERNARDINO COUNTY
STORMWATER POLLUTION PREVENTION

Construction & development:

Soil, cement wash, asphalt, oil and other hazardous debris from construction sites often make their way into the San Bernardino County storm drain system, and flow untreated into local waterways. Follow these best management practices to prevent pollution, protect public health and avoid fines or legal action.

- **Store Materials Safely:** Keep construction materials and debris away from the street, gutter and storm drains. Cover exposed stockpiles of soil, sand or gravel and excavated material with plastic sheeting, protected from rain, wind and runoff.
- **Preventing Erosion:** Avoid excavation or grading during wet weather. Plant temporary vegetation or add hydro mulch on slopes where construction is not immediately planned, and permanent vegetation once excavation and grading are complete. Construct diversion dikes to channel runoff to a detention basin and around the construction site. Use gravel approaches where truck traffic is frequent to reduce soil compaction and limit the tracking of sediment into the streets. For more information on erosion control, call (909) 799-7407.

- **Cleaning & Preventing Spills:** Use a drip pan and funnel when draining or pouring fluids. Sweep up dry spills, instead of hosing. Be ready for spills by preparing and using spill containment and cleanup kits that include safety equipment and dry cleanup materials such as kitty litter or sawdust. To report serious spills, call 911.
- **Maintaining Vehicles & Equipment:** Maintain and refuel vehicles and equipment at a single location on-site, away from the street, gutter and storm drains. Perform major equipment repairs and washings off-site. Inspect vehicles and equipment frequently for leaks, and prevent leaks from stored vehicles by draining gas, hydraulic oil, transmission, and brake and radiator fluids.
- **Ordering Materials & Recycling Waste:** Reduce waste by ordering only the amounts of materials needed for the job. Use recycled or recyclable materials whenever possible. You can recycle broken asphalt, concrete, wood, and cleared vegetation. Dispose of hazardous materials through a hazardous waste hauler or other means in accordance with the construction permit. Non-recyclable materials should be taken to a landfill or disposed of as hazardous waste. For recycling and disposal information, call (909) 386-8401.
- **Concrete and mortar application:** Never dispose of cement washout into driveways, streets, gutters or drainage ditches. Wash concrete mixers and equipment only in specified washout areas, where the water flows into lined containment ponds. Cement wash water can be recycled by pumping it back into cement mixers for reuse.

For more information about how you can prevent stormwater pollution:

www.sbcountystormwater.org

STORMWATER Pollution Prevention

CONSTRUCTION

Cement wash, sediment, vehicle fluids, dust and hazardous debris from construction sites often make their way into the San Bernardino County storm drain system and do not get treated before reaching the Santa Ana River. This pollutes our drinking water and contaminates waterways, making them unsafe for people and wildlife. Follow these best management practices to prevent pollution and protect public health.

Store Materials Safely

Keep construction materials and debris away from the street, gutter and storm drains. Cover exposed stockpiles of soil, sand or gravel and excavated material with plastic sheeting, protected from rain, wind and runoff.

Ordering Materials & Recycling Waste

Reduce waste by ordering only the amounts of materials needed for the job. Use recycled or recyclable materials whenever possible. You can recycle broken asphalt, concrete, wood, and cleared vegetation. Non-recyclable materials should be taken to a landfill or disposed of as hazardous waste. For recycling and disposal information, call (909) 386-8401.

Cleaning & Preventing Spills

Use a drip pan and funnel when draining or pouring fluids. Sweep up dry spills, instead of hosing. Be ready for spills by preparing and using spill containment and cleanup kits that include safety equipment and dry cleanup materials such as kitty litter or sawdust. To report serious spills, call 911.

Preventing Erosion

Avoid excavation or grading during wet weather. Plant temporary vegetation or add hydromulch on slopes where construction is not immediately planned, and permanent vegetation once excavation and grading are complete. Construct diversion dikes to channel runoff to a detention basin and around the construction site. Channels can be lined with grass or roughened pavement to reduce runoff velocity.

Maintaining Vehicles & Equipment

Maintain and refuel vehicles and equipment at a single location on-site, away from the street, gutter and storm drains. Perform major equipment repairs and washings off-site. Inspect vehicles and equipment frequently for leaks, and prevent leaks from stored vehicles by draining gas, hydraulic oil, transmission, brake and radiator fluids.

To report illegal dumping call

(877) WASTE18

sbcountystormwater.org

San Bernardino County STORMWATER PROGRAM

Prevención de Contaminación del Desagüe

CONSTRUCCIÓN

Cemento, sedimentos, liquidos de auto, polvos y residuos peligrosos acaban por llegar a los drenajes del Condado de San Bernardino y terminando en el Rio de Santa Ana. Esto contamina el agua que tomamos, haciendola peligorsa para la gente y la vida salvaje. Sigue estas practicas para prevenir la contaminación y protejer la salud publica.

Almacenando Materiales Cuidadosamente

Manten materiales de construcción y residuos lejos de las calles, coladeras y desagües. Manten tapados los bultos de arena, grava y herramientas para excavar cuviertos con algun plastico para protejerlos de la lluvia, el aire y el desagüe.

Ordenando Materiales & Reciclando Desechos

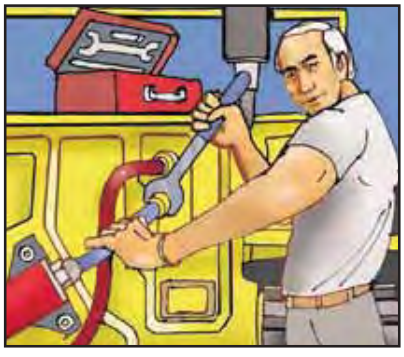
Reduce la cantidad al ordenar el material, solo ordena lo necesario. Usa materiales que se puedan reciclar cuando sea posible. Se puede reciclar el aspfalto, concreto, madera y la vegetacion. Materiales no reciclados se deven llevar a lugares de desechos peligrosos. Para mas información llama al (909) 386-8401.

Limpiando & Previniendo Derrames

Usa siempre un enbudo al vaciar liquidos. Barre los derrames en ves de lavarlos con la manguera. Mantente siempre preparado para cualquier derrame, usa siempre las herramientas de seguridad al igual que materiales como, tierra para desechos de gato o aserrin. Para reportar derrames llama al 911.

Previniendo Erosiones

Evita las excavaciones durante lluvia. Planta vegetacion temporal en colinas donde aun no hay planes de construccion y planta vegetacion permanente al terminar las excavaciones. Construye algunos canales para el desagüe. Estos pueden ser creados con pasto y cemento para reducir la velocidad del desagüe.



Mantenimiento de Vehiculos & Herramientas

Has el mantenimiento y carga de vehiculos en el mismo lugar, lejos de la calle, las alcantarillas y los drenajes. Inspecciona los vehiculos y el equipo de cualquier goteadura y preveen goteaduras de autos que no se usan vasiandoles la gasolina, aceite de transmision, frenos y liquidos del radiador.

Para reportar actividades ilegales llamar al:

(877) WASTE18

sbcountystormwater.org

San Bernardino County STORMWATER PROGRAM

Pollution Prevention STORMWATER

EXCAVATION AND GRADING

Sediment, cement wash, asphalt and vehicle fluids from soil excavation and grading often make their way into the San Bernardino County storm drain system and do not get treated before reaching the Santa Ana River. This pollutes our drinking water and contaminates waterways, making them unsafe for people and wildlife. Follow these best management practices to prevent pollution and protect public health.

Recycling Waste
Recycle broken asphalt, concrete, wood, and cleared vegetation whenever possible. Non-recyclable materials should be taken to a landfill or disposed of as hazardous waste. For recycling and disposal information, call (909) 386-8401.

Maintaining Vehicles & Equipment
Maintain and refuel vehicles and equipment at a single location on-site, away from the street, gutters and storm drains. Perform major equipment repairs and washings off-site. Inspect vehicles and equipment frequently for leaks. Use gravel approaches where truck traffic is heavy to reduce soil compaction and limit the tracking of sediment into the street.

Cleaning & Preventing Spills
Use a drip pan and funnel when draining or pouring fluids. Sweep up dry spills, instead of hosing. Be ready for spills by preparing and using spill containment and cleanup kits that include safety equipment and dry cleanup materials such as kitty litter or sawdust. Prevent leaks from stored vehicles by draining gas, hydraulic oil, transmission, brake and radiator fluids. To report serious spills, call 911.

Storing Materials
Keep construction materials and debris away from the street, gutter and storm drains. Cover exposed stockpiles of soil, sand or gravel and excavated material with plastic sheeting, protected from rain, wind and runoff.

Preventing Erosion
Avoid excavation or grading during wet weather. Plant temporary vegetation on slopes where construction is not immediately planned, and permanent vegetation once excavation and grading are complete. Construct diversion dikes to channel runoff. Channels can be lined with grass or roughened pavement to reduce runoff velocity.

To report illegal dumping call

(877) WASTE18

sbcountystormwater.org

San Bernardino County STORMWATER PROGRAM

Prevención de Contaminación del Desagüe

EXCAVACIONES

Sedimento, cemento, asfalto y liquidos de auto, tierra y residuos peligrosos de lugares de construcción acaban por llegar a los drenajes del Condado de San Bernardino y terminando en el Rio de Santa Ana. Esto contamina el agua que tomamos, haciendola peligorsa para la gente y la vida salvaje. Sigue estas practicas para prevenir la contaminación y protejer la salud publica.

Reciclando Desechos

Recicla el aspfalto, concreto, madera y la vegetacion cuando sea posible. Materiales no reciclados se deverian llevar a lugares de desechos peligrosos. Para màs informacion llama al (909) 386-8401.

Manteniendo Vehiculos & Herramientas

Has el mantenimiento y carga de vehiculos en el mismo lugar, lejos de la calle, las alcantarillas y los drenajes. Inspecciona los vehiculos y el equipo de cualquier goteadura. Usa grava donde mayormente se consentra el trafico de camiones para y reducir el sedimento en las calles.

Limpiando & Previniendo Derrames

Usa siempre un enbudo al vaciar liquidos. Barre los derrames en ves de lavarlos con la manguera. Mantente siempre preparado para cualquier derrame, usa siempre las herramientas de seguridad al igual que materiales como, tierra para desechos de gato o aserrin. Preveen goteaduras de autos que no se usan vasiandoles la gasolina, aceite de transmision, frenos y liquidos del radiador. Para reportar derrames llama al 911.

Almacenando Materiales

Manten materiales de construccion y residuos lejos de las calles, coladeras y desagües. Manten tapados los bultos de arena, grava y erramientas para excavar cuviertos con algun plastico para protejerlos de la lluvia, el aire y el desagüe.

Previniendo Erosiones

Evita las excavaciones durante lluvia. Planta vegetacion temporal en colinas donde aun no hay planes de construcción y planta vegetacion permanente al terminar las excavaciones. Construye algunos canales para el desagüe. Estos pueden ser creados con pasto y cemento para reducir la velocidad del desagüe.

Para reportar actividades ilegales llamar al:

(877) WASTE18

sbcountystormwater.org

San Bernardino County STORMWATER PROGRAM

Pollution Prevention STORMWATER

FRESH CONCRETE & MORTAR APPLICATION

Cement wash, sediment, vehicle fluids, dust and hazardous debris from construction sites often make their way into the San Bernardino County storm drain system and do not get treated before reaching the Santa Ana River. This pollutes our drinking water and contaminates waterways, making them unsafe for people and wildlife. Follow these best management practices to prevent pollution and protect public health.

Storing Materials

Keep construction materials and debris away from the street, gutter and storm drains. Secure open bags of cement and cover exposed stockpiles of soil, sand or gravel and excavated material with plastic sheeting, protected from rain, wind and runoff.

Ordering Materials & Recycling Waste

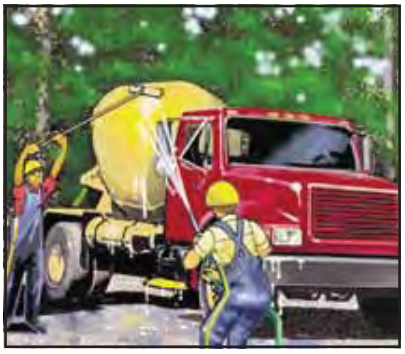
Reduce waste by ordering only the amounts of materials needed for the job. Use recycled or recyclable materials whenever possible. When breaking up paving, recycle the pieces at a crushing company. You can also recycle broken asphalt, concrete, wood, and cleared vegetation. Non-recyclable materials should be taken to a landfill or disposed of as hazardous waste. Call (909) 386-8401 for recycling and disposal information.

During Construction

Schedule excavation and grading during dry weather. Prevent mortar and cement from entering the street and storm drains by placing erosion controls. Setup small mixers on tarps or drop cloths, for easy cleanup of debris. Never bury waste material. Recycle or dispose of it as hazardous waste.

Cleaning Up

Wash concrete dust onto designated dirt areas, not down driveways or into the street or storm drains. Wash out concrete mixers and equipment in specified washout areas, where water can flow into a containment pond. Cement washwater can be recycled by pumping it back into cement mixers for reuse. Never dispose of cement washout into driveways, streets, gutters, storm drains or drainage ditches.



To report illegal dumping call

(877) WASTE18

sbcountystormwater.org

San Bernardino County STORMWATER PROGRAM

Prevención de Contaminación del Desagüe

APLICANDO CONCRETO FRESCO

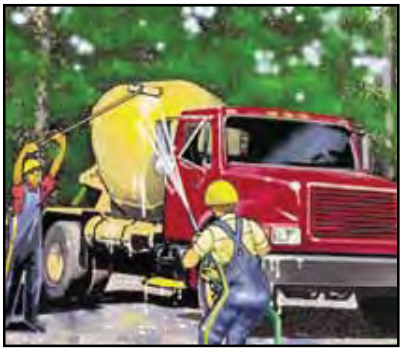
Cemento, grava, asfalto y liquidos de auto, tierra y residuos peligrosos de lugares de concreto fresco por llegar a los drenajes del Condado de San Bernardino y terminando en el Rio de Santa Ana. Esto contamina el agua que tomamos, haciendola peligorsa para la gente y la vida salvaje. Sigue estas practicas para prevenir la contaminación y protejer la salud publica.

Almacenando Materiales
Manten materiales de construcción y residuos lejos de las calles, coladeras y desagües. Manten tapados los bultos de arena, grava y herramientas para excavar cuviertos con algun plastico para protejerlos de la lluvia, el aire y el desagüe.

Ordenando Materiales & Reciclando
Reduce la cantidad al ordenar el material, solo ordena lo necesario. Usa materiales recicables cuando sea posible. Cuando estes rompiendo el pavimento, recicla los pedasos en la compañia demolidora. Se puede reciclar el aspfalto, concreto, madera y la vegetacion. Materiales no reciclados se deverian llevar a lugares de desechos peligrosos. llama al (909) 386-8401 para más información.

Durante Construcción
Planea las excavaciones durante clima seco. No dejes que el cemento o la cal lleguen hasta las calles o drenajes, evita esto con plantas temporales para detener el desagüe. Cubre las maquinas de mesclar con alguna garra para que se facilite la limpieza de residuos. Nunca entierres los desechos. Recicla todos los desechos peligrosos.

Limpiando
Lava la cal en un area designada, no la eches hacia la cochera o en la calle. Lava las mescladoras y las herramientas en un lugar especifico, donde el agua llegue a un contenedor. El agua de cemento se puede reciclar volviendola a usar en las mescladoras. Nunca dejes el agua de cemento que corra hacia las calles, alcantarillas o drenajes.



Para reportar actividades ilegales llamar al:

(877) WASTE18
sbcountystormwater.org

San Bernardino County STORMWATER PROGRAM

Pollution Prevention STORMWATER

ROADWORK AND PAVING

Asphalt, saw-cut slurry and excavated materials from road paving, surfacing and pavement removal often make their way into the San Bernardino County storm drain system and do not get treated before reaching the Santa Ana River. This pollutes our drinking water and contaminates waterways, making them unsafe for people and wildlife. Follow these best management practices to prevent pollution and protect public health.

Preventing Erosion

Schedule excavation and grading work during dry weather. Develop and implement erosion and sediment control plans for excavated embankments. Cover exposed stockpiles of soil, sand or gravel and excavated material with plastic sheeting, protected from rain, wind and runoff.

During Construction

Cover catch basins and maintenance holes when applying seal coat, slurry seal or fog seal. Use check dams, ditches or berms around excavations, and avoid over applying water for dust control. Never wash excess materials from exposed aggregate or concrete into the street, gutter or a storm drain.

Maintaining Vehicles & Equipment

Maintain and refuel vehicles and equipment at a single location on-site, away from the street, gutter and storm drains. Perform major equipment repairs and washings off-site. Inspect vehicles and equipment frequently for leaks, and prevent leaks from stored vehicles by draining gas, hydraulic oil, transmission, brake and radiator fluids.

Asphalt & Concrete Removal

Barricade storm drain openings during saw-cutting, and recycle broken up pavement at a crushing company. For recycling information, call (909) 386-8401.

Cleaning & Preventing Spills

Be ready for spills by preparing and using spill containment and cleanup kits that include safety equipment and dry cleanup materials such as kitty litter or sawdust. Sweep up dry spills, instead of hosing. Prevent spills from paver machines by using drip pans, or by placing absorbent materials like cloths or rags under the machines when not in use. To report serious spills, call 911.

To report illegal dumping call

(877) WASTE18

sbcountystormwater.org

San Bernardino County STORMWATER PROGRAM

Prevención de Contaminación del Desagüe

TRABAJO DE CARRETERAS & PAVIMENTO

Asfalto, mezcla y materiales de excavaciones del pavimento acaban por llegar a los drenajes del Condado de San Bernardino y terminando en el Rio de Santa Ana. Esto contamina el agua que tomamos, haciendola peligorsa para la gente y la vida salvaje. Sigue estas practicas para prevenir la contaminación y protejer la salud publica.

Previniendo Erosiones

Planea las excavaciones trabajo de jardineria durante el clima seco. Desarrolla e implementa planes de embancamientos de control de sedimento y excavaciones. Cubre montones de tierra, grava y otros materiales con un plastico para protejerlos de la llvia, aire y desagüe.

Durante Construcción

Cubre los lavados y da mantenimiento a los hoyos al aplicar selladura o mezcla. Revisa las areas de excavaciones, y evita pasarte de agua para preveenir polvadura. Nunca laves los materiales llenos de concreto en la calle, drenajes o en el desagüe.

Mantenimiento de Vehiculos & Herramientas

Has el mantenimiento y carga de vehiculos en el mismo lugar, lejos de la calle, las alcantarillas y los drenajes. Inspecciona los vehiculos y el equipo de cualquier goteadura y evita goteaduras de autos que no se usan vasiandoles la gasolina, aceite de transmision, frenos y liquidos del radiador.

Removiendo Asfalto & Concreto

Bloquea alrededor de los drenajes cuando estes usando las maquinas de sierra, tambien recicla todo el pavimento roto en la compañia demolidora. Para más información llama al (909) 386-8401.

Limpiando & Previniendo Derrames

Mantente siempre preparado para cualquier derrame, usa siempre las herramientas de seguridad al igual que materiales como, tierra para desechos de gato o aserrin Barre los derrames en ves de lavarlos con la manguera. Previene los derrames de las maquinas usando enbudos o colocanto garras para absorver cualquier liquido. Para reportar derrames llama al 911.

Para reportar actividades ilegales llamar al:

(877) WASTE18

sbcountystormwater.org

San Bernardino County STORMWATER PROGRAM

What is stormwater runoff?

Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

Why is stormwater runoff a problem?

Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

The effects of pollution

Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.
- Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.
- Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.

- Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.

Stormwater Pollution Solutions

Residential

Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.

Lawn care

Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

- Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

Auto care

Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.

- Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

Septic systems

Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.

- Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).
- Don't dispose of household hazardous waste in sinks or toilets.

Pet waste

Pet waste can be a major source of bacteria and excess nutrients in local waters.

- When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.

Education is essential to changing people's behavior. Signs and markers near storm drains warn residents that pollutants entering the drains will be carried untreated into a local waterbody.

Residential landscaping

Permeable Pavement—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.

Rain Barrels—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.

Rain Gardens and Grassy Swales—Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.

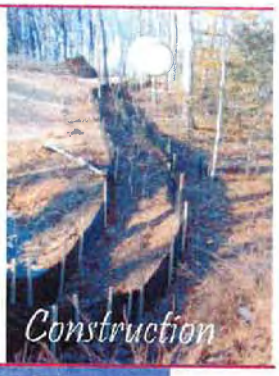
Vegetated Filter Strips—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.

Commercial

Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and eventually enter local waterbodies.

- Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- Cover grease storage and dumpsters and keep them clean to avoid leaks.
- Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.

Construction



Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be washed into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local waterbodies.

- Divert stormwater away from disturbed or exposed areas of the construction site.
- Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms.
- Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible.

Agriculture

Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.

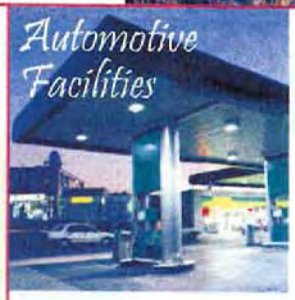
- Keep livestock away from streambanks and provide them a water source away from waterbodies.
- Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- Vegetate riparian areas along waterways.
- Rotate animal grazing to prevent soil erosion in fields.
- Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.

Forestry

Improperly managed logging operations can result in erosion and sedimentation.

- Conduct preharvest planning to prevent erosion and lower costs.
- Use logging methods and equipment that minimize soil disturbance.
- Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- Construct stream crossings so that they minimize erosion and physical changes to streams.
- Expedite revegetation of cleared areas.

Automotive Facilities



Uncovered fueling stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids that can be picked up by stormwater.

- Clean up spills immediately and properly dispose of cleanup materials.
- Provide cover over fueling stations and design or retrofit facilities for spill containment.
- Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.
- Install and maintain oil/water separators.

Help Protect Our Waterways!

Use these guidelines for Outdoor Cleaning Activities and Wash Water Disposal

Did you know that disposing of pollutants into the street, gutter, storm drain or body of water is *PROHIBITED* by law and can result in stiff penalties?

Best Management Practices

Waste wash water from Mechanics, Plumbers, Window/Power Washers, Carpet Cleaners, Car Washing and Mobile Detailing activities may contain significant quantities of motor oil, grease, chemicals, dirt, detergents, brake pad dust, litter and other materials.

Best Management Practices, or BMPs as they are known, are guides to prevent pollutants from entering the storm drains. ***Each of us*** can do our part to keep stormwater clean by using the suggested BMPs below:

Simple solutions for both light and heavy duty jobs:

Do...consider dry cleaning methods first such as a mop, broom, rag or wire brush. Always keep a spill response kit on site.

Do...prepare the work area before power cleaning by using sand bags, rubber mats, vacuum booms, containment pads or temporary berms to keep wash water away from the gutters and storm drains.

Do...use vacuums or other machines to remove and collect loose debris or litter before applying water.

Do...obtain the property owner's permission to dispose of ***small amounts*** of power washing waste water on to landscaped, gravel or unpaved surfaces.

Do...check your local sanitary sewer agency's policies on wash water disposal regulations before disposing of wash water into the sewer. (See list on reverse side)

Do...be aware that if discharging to landscape areas, soapy wash water may damage landscaping. Residual wash water may remain on paved surfaces to evaporate. Sweep up solid residuals and dispose of properly. Vacuum booms are another option for capturing and collecting wash water.

Do...check to see if local ordinances prevent certain activities.

Do not let...wash or waste water from sidewalk, plaza or building cleaning go into a street or storm drain.

Report illegal storm drain disposal
Call Toll Free
1-800-506-2555

Using Cleaning Agents

Try using biodegradable/phosphate-free products. They are easier on the environment, but don't confuse them with being toxic free. Soapy water entering the storm drain system can impact the delicate aquatic environment.

When cleaning surfaces with a ***high-pressure washer*** or ***steam cleaner***, additional precautions should be taken to prevent the discharge of pollutants into the storm drain system. These two methods of surface cleaning can loosen additional material that can contaminate local waterways.

Think Water Conservation

Minimize water use by using high pressure, low volume nozzles. Be sure to check all hoses for leaks. Water is a precious resource, don't let it flow freely and be sure to shut it off in between uses.

Screening Wash Water

Conduct thorough dry cleanup before washing exterior surfaces, such as buildings and decks ***with loose paint***, sidewalks or plaza areas. Keep debris from entering the storm drain after cleaning by first passing the wash water through a "20 mesh" or finer screen to catch the solid materials, then dispose of the mesh in a refuse container. Do not let the remaining wash water enter a street, gutter or storm drain.

Drain Inlet Protection & Collection of Wash Water

- Prior to any washing, block all storm drains with an impervious barrier such as sandbags or berms, or seal the storm drain with plugs or other appropriate materials.
- Create a containment area with berms and traps or take advantage of a low spot to keep wash water contained.
- Wash vehicles and equipment on grassy or gravel areas so that the wash water can seep into the ground.
- Pump or vacuum up all wash water in the contained area.

Concrete/Coring/Saw Cutting and Drilling Projects

Protect any down-gradient inlets by using dry activity techniques whenever possible. If water is used, minimize the amount of water used during the coring/drilling or saw cutting process. Place a barrier of sandbags and/or absorbent berms to protect the storm drain inlet or watercourse. Use a shovel or wet vacuum to remove the residue from the pavement. Do not wash residue or particulate matter into a storm drain inlet or watercourse.

Helpful telephone numbers and links:

Riverside County Stormwater Protection Partners

Flood Control District	(951) 955-1200
County of Riverside	(951) 955-1000
City of Banning	(951) 922-3105
City of Beaumont	(951) 769-8520
City of Calimesa	(909) 795-9801
City of Canyon Lake	(951) 244-2955
Cathedral City	(760) 770-0327
City of Coachella	(760) 398-4978
City of Corona	(951) 736-2447
City of Desert Hot Springs	(760) 329-6411
City of Eastvale	(951) 361-0900
City of Hemet	(951) 765-2300
City of Indian Wells	(760) 346-2489
City of Indio	(760) 391-4000
City of Lake Elsinore	(951) 674-3124
City of La Quinta	(760) 777-7000
City of Menifee	(951) 672-6777
City of Moreno Valley	(951) 413-3000
City of Murrieta	(951) 304-2489
City of Norco	(951) 270-5607
City of Palm Desert	(760) 346-0611
City of Palm Springs	(760) 323-8299
City of Perris	(951) 943-6100
City of Rancho Mirage	(760) 324-4511
City of Riverside	(951) 361-0900
City of San Jacinto	(951) 654-7337
City of Temecula	(951) 694-6444
City of Wildomar	(951) 677-7751

REPORT ILLEGAL STORM DRAIN DISPOSAL
1-800-506-2555 or e-mail us at
fcnpdes@rcflood.org

- Riverside County Flood Control and Water Conservation District
  www.rcflood.org

Online resources include:

- California Storm Water Quality Association
  www.casqa.org
- State Water Resources Control Board
  www.waterboards.ca.gov
- Power Washers of North America
  www.thepwna.org

Stormwater Pollution

What you should know for...

Outdoor Cleaning Activities and Professional Mobile Service Providers

Storm drain pollution prevention information for:

- Car Washing / Mobile Detailers
- Window and Carpet Cleaners
- Power Washers
- Waterproofers / Street Sweepers
- Equipment cleaners or degreasers and all mobile service providers

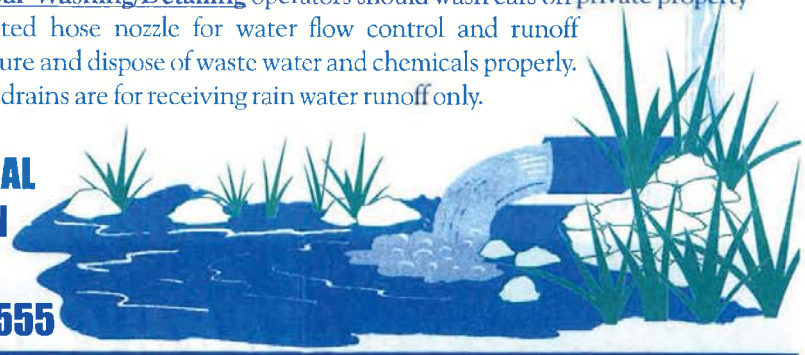
Do you know where street flows actually go?

Storm drains are NOT connected to sanitary sewer systems and treatment plants!

The primary purpose of storm drains is to carry *rain* water away from developed areas to prevent flooding. Pollutants discharged to storm drains are transported directly into rivers, lakes and streams. Soaps, degreasers, automotive fluids, litter and a host of materials are washed off buildings, sidewalks, plazas and parking areas. Vehicles and equipment must be properly managed to prevent the pollution of local waterways.

Unintentional spills by mobile service operators can flow into storm drains and pollute our waterways. **Avoid mishaps.** *Always* have a **Spill Response Kit** on hand to clean up unintentional spills. Only emergency **Mechanical** repairs should be done in City streets, using drip pans for spills. **Plumbing** should be done on private property. Always store chemicals in a leak-proof container and keep covered when not in use. **Window/Power Washing** waste water shouldn't be released into the streets, but should be disposed of in a sanitary sewer, landscaped area or in the soil. Soiled **Carpet Cleaning** wash water should be filtered before being discharged into the sanitary sewer. Dispose of all filter debris properly. **Car Washing/Detailing** operators should wash cars on private property and use a regulated hose nozzle for water flow control and runoff prevention. Capture and dispose of waste water and chemicals properly. Remember, storm drains are for receiving rain water runoff only.

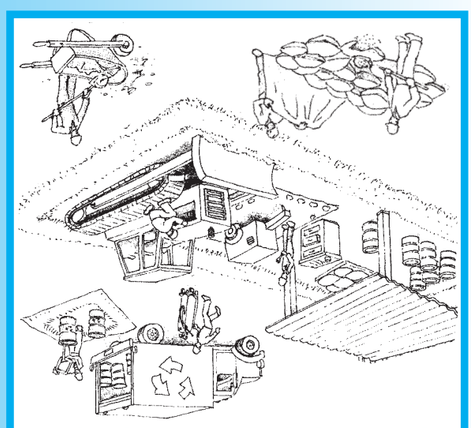
REPORT ILLEGAL STORM DRAIN DISPOSAL 1-800-506-2555



StormWater Pollution

What you should know for...

GENERAL CONSTRUCTION & SITE SUPERVISION



Best Management Practices (BMPs) for:

- Developers
- General Contractors
- Home Builders
- Construction Inspectors
- Anyone in the construction business

To report a hazardous materials spill, call:

Riverside County Hazardous Materials
Emergency Response Team
(909) 358-5055 8:00 a.m. – 5:00 p.m.
(909) 358-5245 after 5:00 p.m.

In an emergency call: **911**

For recycling and hazardous waste disposal, call:

(909) 358-5055

To report an illegal dumping or a clogged storm drain, call:

1-800-506-2555

To order additional brochures or to obtain information on other pollution prevention activities, please call (909) 955-1200 or visit the StormWater/CleanWater Protection Program website at:
www.co.riverside.ca.us/depts/flood/waterquality/npdes.asp

StormWater CleanWater PROTECTION PROGRAM

The StormWater/CleanWater Protection Program gratefully acknowledges the Santa Clara Valley Nonpoint Pollution Control Program, Alameda Countywide CleanWater Program and the City of Los Angeles Stormwater Management Division for information provided in this brochure.

Resources

State Water Resources Control Board
Division of Water Quality
1001 I Street
Sacramento CA 95814
(916) 341-5455
www.swrcb.ca.gov/stormwtr/

Colorado River Basin Regional Water Quality Control Board - Region 7
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260
(760) 346-7491
www.swrcb.ca.gov/~rwqcb7/

Santa Ana Regional Water Quality Control Board - Region 8
3737 Main Street, Suite 500
Riverside, CA 92501-3348
(909) 782-4130
www.swrcb.ca.gov/~rwqcb8/

San Diego Regional Water Quality Control Board - Region 9
9771 Clairemont Mesa Blvd., Suite A
San Diego, CA 92124
(858) 467-2952
www.swrcb.ca.gov/~rwqcb9/

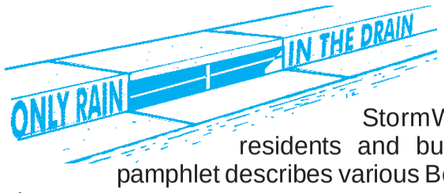
StormWater Pollution . . . What You Should Know

Riverside County has two drainage systems - sewers and storm drains. The storm drain system was designed to reduce flooding by carrying excess rainwater away from streets and developed areas. Since the storm drain system does not provide for water treatment, it also serves the *unintended* function of transporting pollutants directly to our local waterways.

Unlike sanitary sewers, storm drains are not connected to a wastewater treatment plant – they flow directly to our local streams, rivers and lakes.

Stormwater runoff is a part of the natural hydrologic process. However, land development and construction activities can significantly alter natural drainage processes and introduce pollutants into stormwater runoff. Polluted stormwater runoff from construction sites has been identified as a major source of water pollution in California. It jeopardizes the quality of our local waterways and can pose a serious threat to the health of our aquatic ecosystems.

The Cities and County of Riverside StormWater/CleanWater Protection Program



Because preventing pollution is much easier and less costly than cleaning up "after the fact," the Cities and County of Riverside StormWater/CleanWater Protection Program informs residents and businesses on pollution prevention activities. This pamphlet describes various Best Management Practices (BMPs) that construction site operators can use to prevent stormwater pollution.

In accordance with applicable federal and state law, the Cities and County of Riverside have adopted ordinances for stormwater management and discharge control that **prohibit** the discharge of pollutants into the storm drain system or local surface water. This includes discharges from construction sites containing sediment, concrete, mortar, paint, solvents, lubricants, vehicle fluids, fuel, pesticides, and construction debris.

PLEASE NOTE: The Federal, State and local regulations strictly prohibit the discharge of sediment and pollutants into the streets, the storm drain system or waterways. As an owner, operator or supervisor of a construction site, you may be held financially responsible for any environmental damage caused by your subcontractors or employees.

STORMWATER POLLUTION FROM CONSTRUCTION ACTIVITIES

The two most common sources of stormwater pollution problems associated with construction activities are ***erosion*** and ***sedimentation***. Failure to maintain adequate erosion and sediment controls at construction sites often results in sediment discharges into the storm drain system, creating multiple problems once it enters local waterways.

Construction vehicles and heavy equipment can also track significant amounts of mud and sediment onto adjacent streets. Additionally, wind may transport construction materials and wastes into streets storm drains, or directly into our local waterways.

What Should You Do?

Advance Planning to Prevent Pollution

- ❑ Remove existing vegetation only as needed.
- ❑ Schedule excavation, grading, and paving operations for dry weather periods, if possible.
- ❑ Designate a specific area of the construction site, well away from storm drain inlets or watercourses, for material storage and equipment maintenance.
- ❑ Develop and implement an effective combination of erosion and sediment controls for the construction site.
- ❑ Practice source reduction by ordering only the amount of materials that are needed to finish the project.
- ❑ Educate your employees and subcontractors about stormwater management requirements and their pollution prevention responsibilities.
- ❑ Control the amount of surface runoff at the construction site by impeding internally generated flows and using berms or drainage ditches to direct incoming offsite flows to go around the site. ***Note:*** *Consult local drainage policies for more information.*

Best Management Practices

The following Best Management Practices (BMPs) can significantly reduce pollutant discharges from your construction site. Compliance with stormwater regulations can be as simple as minimizing stormwater contact with potential pollutants by providing covers and secondary containment for construction materials, designating areas away from storm drain systems for storing equipment and materials and implementing good housekeeping practices at the construction site.

- ❑ Protect all storm drain inlets and streams located near the construction site to prevent sediment-laden water from entering the storm drain system.
- ❑ Limit access to and from the site. Stabilize construction entrances/exits to minimize the track out of dirt and mud onto adjacent streets. Conduct frequent street sweeping.
- ❑ Protect stockpiles and construction materials from winds and rain by storing them under a roof, secured impermeable tarp or plastic sheeting.
- ❑ Avoid storing or stockpiling materials near storm drain inlets, gullies or streams.
- ❑ Phase grading operations to limit disturbed areas and duration of exposure.
- ❑ Perform major maintenance and repairs of vehicles and equipment offsite.
- ❑ Wash out concrete mixers only in designated washout areas at the construction site.
- ❑ Set-up and operate small concrete mixers on tarps or heavy plastic drop cloths.
- ❑ Keep construction sites clean by removing trash, debris, wastes, etc. on a regular basis.
- ❑ Clean-up spills immediately using dry clean-up methods (e.g., absorbent materials such as cat litter, sand or rags for liquid spills; sweeping for dry spills such as cement, mortar or fertilizer) and by removing the contaminated soil from spills on dirt areas. .
- ❑ Prevent erosion by implementing any or a combination of soil stabilization practices such as mulching, surface roughening, permanent or temporary seeding.
- ❑ Maintain all vehicles and equipment in good working condition. Inspect frequently for leaks, and repair promptly.
- ❑ Practice proper waste disposal. Many construction materials and wastes, including solvents, water-based paint, vehicle fluids, broken asphalt and concrete, wood, and cleared vegetation can be recycled. Materials that cannot be recycled must be taken to an appropriate landfill or disposed of as hazardous waste.
- ❑ Cover open dumpsters with secured tarps or plastic sheeting. Never clean out a dumpster by washing it down on the construction site.
- ❑ Arrange for an adequate debris disposal schedule to insure that dumpsters do not overflow.

General Construction Activities Stormwater Permit

(Construction Activities General Permit)

The State Water Resources Control Board (SWRCB) adopted a new Construction Activities General Permit (WQ Order No. 99-08DWQ) on August 19, 1999, superseding the now expired SWRCB statewide General Permit (WQ Order No. 92-08DWQ). This permit is administered and enforced by the SWRCB and the local Regional Water Quality Control Boards (RWQCB). The updated Construction Activities General Permit establishes a number of new stormwater management requirements for construction site operator.

NOTE: *Some construction activies stormwater permits are issued on a regional basis. Consult your local RWQCB to find out if your project requires coverage under any of these permits.*

Frequently Asked Questions:

Does my construction site require coverage under the Construction Activities General Permit?

Yes, if construction activity results in the disturbance of five or more acres of total land area or is part of a common plan of development that results in the disturbance of five or more acres.

How do I obtain coverage under the Construction Activities General Permit?

Obtain the permit package and submit the completed Notice of Intent (NOI) form to the SWRCB prior to grading or disturbing soil at the construction site. For ongoing construction activity involving a change of ownership, the new owner must submit a new NOI within 30 days of the date of change of ownership. The completed NOI along with the required fee should be mailed to the SWRCB.

What must I do to comply with the requirements of the Construction Activities General Permit?

- Implement BMPs for non-stormwater discharges year-round.
- Prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) prior to commencing construction activities.
- Keep a copy of the SWPPP at the construction site for the entire duration of the project.
- Calculate the anticipated stormwater run-off.
- Implement an effective combination of erosion and sediment control on all soil disturbed areas.
- Conduct site inspections prior to anticipated storm events, every 24-hours during extended storm events, and after actual storm event.
- Perform repair and maintenance of BMPs as soon as possible after storm events depending upon worker safety.
- Update the SWPPP as needed, to manage pollutants or reflect changes in site conditions.
- Include description of post construction BMPs at the construction site, including parties responsible for long-term maintenance.

NOTE: *Please refer to the Construction Activities General Permit for detailed information. You may contact the SWRCB, your local RWQCB, or visit the SWRCB website at www.swrcb.ca.gov/stormwtr/ to obtain a State Construction Activities Stormwater General Permit packet.*

How long is this Construction Activities General Permit in effect?

The Permit coverage stays in effect untilyou submit a Notice of Termination (NOT) to the SWRCB. For the purpose of submitting a NOT, all soil disturbing activities have to be completed and one of the three following criteria has to be met:

1. Change of ownership;
2. A uniform vegetative cover with 70 percent coverage has been established; or,
3. Equivalent stabilization measures such as the use of reinforced channel liners, soil cement, fiber matrices, geotextiles, etc., have been employed.

Attachment D
Infiltration Report

February 13, 2020

Hillwood
901 Via Piemonte, Suite 175
Ontario, California 91764

Attention: Mr. Josh Cox
Vice President, Development

Project No.: **20G101-2**

Subject: **Results of Infiltration Testing**
Proposed Warehouse
East Side of Almond Avenue, South of Arrow Route
San Bernardino County (Fontana area), California

Reference: Geotechnical Investigation, Proposed Warehouse, East Side of Almond, South of Arrow Route, San Bernardino County (Fontana Area), California, prepared by Southern California Geotechnical, Inc. (SCG) for Hillwood, SCG Project No. 20G201-1.

Dear Mr. Cox:

In accordance with your request, we have conducted infiltration testing at the subject site. We are pleased to present this report summarizing the results of the infiltration testing and our design recommendations.

Scope of Services

The scope of services performed for this project was in general accordance with our Proposal No. 19P386, dated October 14, 2019. The scope of services included site reconnaissance, subsurface exploration, field and laboratory testing, and engineering analysis to determine the infiltration rates of the onsite soils. The infiltration testing was performed in general accordance with ASTM Test Method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer.

Site and Project Description

The subject site is located on the east side of Almond Avenue, 300± feet south of Arrow Route in an unincorporated portion of San Bernardino County near Fontana, California. The site is bounded to the north by a single-family residence and a vacant lot, to the west by Almond Avenue, to the south by a vacant lot and truck/trailer parking lot, and to the east by commercial/industrial buildings. The general location of the site is illustrated on the Site Location Map, included as Plate 1 of this report.

The site consists of two rectangular-shaped parcels which total 9.49± acres in size. The northern parcel is developed with a single-family residence in the northwestern corner of the lot. The single-family residence is assumed to be a single-story structure of wood frame and stucco construction supported on conventional shallow foundations with a concrete slab-on-grade floor.

Several large trees are located west of the residence. A berm is present in the southeast portion of this parcel and sloping toward the west at a gradient of 1± percent. The berm appears to be up to 3½± feet higher compared to the surrounding topography. Ground surface cover on the berm consists of poorly graded gravel. The remainder of the northern parcel consists of exposed soils and sparse to moderate native grass and weed growth. The southern parcel is vacant and undeveloped. Several stockpiles of gravel are present in the northeastern portion of the southern parcel. Ground surface cover consists of exposed soils, sparse to moderate native grass and weed growth, and limited areas of debris (trash, furniture, and wood pallets) along the southern and eastern property lines.

Detailed topographic information was not available at the time of this report. Based on visual observations made at the time of the subsurface investigation and from elevation data obtained from Google Earth, the overall site topography generally slopes downward to the southwest at a gradient of 1.5± percent, excluding the west sloping berm in the northern parcel.

Proposed Development

A conceptual site plan for the proposed development was provided to our office by the client. Based on this site plan (Scheme 8), prepared by HPA Architecture, the site will be developed with one new warehouse located in the north-central area of the site. The new building will be 186,167± ft² in size and will be constructed with dock-high doors along a portion of the south building wall. The building will be surrounded by asphaltic concrete pavements in the parking and drive lanes, Portland cement concrete pavements in the loading dock area, concrete flatwork and landscape planters throughout.

In addition, the proposed development will use on-site storm water infiltration. The infiltration system will likely consist of below-grade chambers located in the southeastern area of the site. Based on information provided by the civil engineer, Huitt-Zollars, Inc., the bottom of the infiltration system will be approximately 10 to 12 feet below existing site grades. We have been requested to perform infiltration testing within the proposed infiltration system.

We also understand this site will include on-site sewage disposal. The new septic system will likely include a new septic tank that connects to seepage pits. Percolation testing for the proposed seepage pits is discussed in a separate report.

Concurrent Studies

A geotechnical investigation, performed in conjunction with this infiltration study consisted of six (6) borings, Boring Nos. 1 through Boring No. 6, advanced to depths of 20 to 25± feet below the existing site grades. Additionally, two (2) trenches, T-1 and T-2, were excavated to depths of 5 to 12± feet below the existing site grades. Percolation testing was also conducted in conjunction with the geotechnical investigation which consisted of three (3) borings, drilled to depths of 35 to 75± feet below the existing site grades within the proposed seepage pit area. The results of the geotechnical investigation and the percolation testing are presented in separate reports.

Subsurface Exploration

Scope of Exploration

The subsurface exploration for the infiltration testing performed consisted of four (4) backhoe-excavated trenches, extending to depths of 10 to 12 feet below existing site grades. The trenches were logged during excavation by a member of our staff. The approximate locations of the infiltration trenches (identified as I-1, I-2, I-3, and I-4) are indicated on the Infiltration Test Location Plan, enclosed as Plate 2 of this report.

Geotechnical Conditions

Fill soils were encountered at the ground surface at all of the trench locations extending to depths of 3 to 4± feet below the existing site grades. At the trench locations, the fill soils generally consist of medium dense to dense silty fine to coarse sands with fine to coarse gravel, cobbles, and trace clay. At trench I-4, a clayey lens was observed within the artificial fill soils at depths of 2 to 4± feet. In general, the fill soils possess a disturbed appearance and some samples contain artificial debris, such as plastic and metal, resulting in their classification as artificial fill.

Native alluvium was encountered below the fill soils at all of the infiltration trench locations. The native alluvial soils generally consist of medium dense to dense fine to coarse sands with variable amounts of fine to coarse gravel, cobbles, and silt, extending to at least the maximum depth explored of 12± feet below the existing site grades. The Trench Logs, which illustrate the conditions encountered at the infiltration test locations, are included with this report.

Infiltration Testing

We understand that the results of the testing will be used to prepare a preliminary design for the storm water infiltration system that will be used at the subject site. As previously mentioned, the infiltration testing was performed in general accordance with ASTM Test Method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer.

Two stainless steel infiltration rings were used for the infiltration testing. The outer infiltration ring is 2 feet in diameter and 20 inches in height. The inner infiltration ring is 1 foot in diameter and 20 inches in height. At the test locations, the outer ring was driven 3± inches into the soil at the base of each trench. The inner ring was centered inside the outer ring and subsequently driven 3± inches into the soil at the base of the trench. These drive depths were adequate for the existing soil conditions and no water seepage was observed during testing. The rings were driven into the soil using a ten-pound sledge hammer.

Infiltration Testing Procedure

Infiltration testing was performed at four (4) trench locations, I-1, I-2, I-3, and I-4. The infiltration testing consisted of filling the inner ring and the annular space (the space between the inner and outer rings) with water, approximately 3 to 4 inches above the soil. To prevent the flow of water from one ring to the other, the water level in both the inner ring and the annular space between the rings was maintained at a constant head using float valves. The volume of water that was added to maintain a constant head in the inner ring and the annular space during each time

interval was determined and recorded. A cap was placed over the rings to minimize the evaporation of water during the tests.

The schedule for readings was determined based on the observed soil type at the base of each backhoe-excavated trench. Based on the observed infiltration rate at each test location, the volumetric measurements were made at increments of 1 to 5 minutes. The water volume measurements are presented on the spreadsheets enclosed with this report. The infiltration rates for each of the timed intervals are also tabulated on these spreadsheets.

The infiltration rates for the infiltration tests are calculated in centimeters per hour and then converted to inches per hour. The rates are summarized below:

Infiltration Test No.	Depth (feet)	Soil Description	Infiltration Rate (inches/hour)
I-1	10	Gravely fine to coarse Sand, some Cobbles	6.2
I-2	12	Fine to coarse Sand, some fine to coarse Gravel	12.1
I-3	12	Fine to coarse Sand, some fine to coarse Gravel, trace Silt	9.1
I-4	10	Fine to coarse Sand, some fine to coarse Gravel	7.0

Laboratory Testing

Moisture Content

The moisture contents for selected soil samples within the trenches were determined in accordance with ASTM D-2216 and are expressed as a percentage of the dry weight. These test results are presented on the Trench Logs.

Grain Size Analysis

The grain size distribution of selected soils collected from the base of each infiltration test trench has been determined using a range of wire mesh screens. These tests were performed in general accordance with ASTM D-422 and/or ASTM D-1140. The weight of the portion of the sample retained on each screen is recorded and the percentage finer or coarser of the total weight is calculated. The results of the grainsize analysis are presented on Plates C-1 through C-4 of this report.

Design Recommendations

Four (4) infiltration tests were performed at the subject site. As noted above, the calculated infiltration rates at the infiltration test locations range between 6.2 and 12.1 inches per hour. **Based on the results of Infiltration Test Nos. I-1, I-2, I-3, and I-4, we recommend an**

infiltration rate of 6.0 inches per hour be used for the design of the proposed infiltration system.

We recommend that a representative from the geotechnical engineer be on-site during the construction of the proposed infiltration system to identify the soil classification at the base of the infiltration basin. It should be confirmed that the soils at the base of the proposed infiltration system corresponds with those presented in this report to ensure that the performance of the system will be consistent with the rates reported herein.

The design of the proposed storm water infiltration system should be performed by the project civil engineer, in accordance with the County of San Bernardino guidelines. However, it is recommended that the systems be constructed so as to facilitate removal of silt and clay, or other deleterious materials from any water that may enter the system. The presence of such materials would decrease the effective infiltration rates. **It is recommended that the project civil engineer apply an appropriate factor of safety. The infiltration rate recommended above is based on the assumption that only clean water will be introduced to the subsurface profile. Any fines, debris, or organic materials could significantly impact the infiltration rate.** It should be noted that the recommended infiltration rate is based on infiltration testing at four (4) discrete locations, and the overall infiltration rate of the storm water infiltration system could vary considerably.

Construction Considerations

The infiltration rates presented in this report are specific to the tested locations and tested depths. Infiltration rates can be significantly reduced if the soils are exposed to excessive disturbance or compaction during construction. Therefore, the subgrade soils within proposed infiltration system areas should not be over-excavated, undercut or compacted in any significant manner. **It is recommended that a note to this effect be added to the project plans and/or specifications.**

Infiltration versus Permeability

Infiltration rates are based on unsaturated flow. As water is introduced into soils by infiltration, the soils become saturated and the wetting front advances from the unsaturated zone to the saturated zone. Once the soils become saturated, infiltration rates become zero, and water can only move through soils by hydraulic conductivity at a rate determined by pressure head and soil permeability. The infiltration rates presented herein were determined in accordance with the ASTM Test Method D-3385-03 standard and are considered valid for the time and place of the actual test. Changes in soil moisture content will affect these infiltration rates. Infiltration rates should be expected to decrease until the soils become saturated. Soil permeability values will then govern groundwater movement. Permeability values may be on the order of 10 to 20 times less than infiltration rates. The system designer should incorporate adequate factors of safety and allow for overflow design into appropriate traditional storm drain systems, which would transport storm water off-site.

Location of Infiltration Systems

The use of on-site storm water infiltration systems carries a risk of creating adverse geotechnical conditions. Increasing the moisture content of the soil can cause the soil to lose internal shear strength and increase its compressibility, resulting in a change in the designed engineering properties. Overlying structures and pavements in the infiltration areas could potentially be damaged due to saturation of subgrade soils. **The proposed infiltration system for this site should be located at least 25 feet away from any structures, including retaining walls.** Even with this provision of locating the infiltration system at least 25 feet from the buildings, it is possible that infiltrating water into the subsurface soils could have an adverse effect on the proposed or existing structures. It should also be noted that utility trenches which happen to collect storm water can also serve as conduits to transmit storm water toward the structure, depending on the slope of the utility trench. Therefore, consideration should also be given to the proposed locations of underground utilities which may pass near the proposed infiltration system.

General Comments

This report has been prepared as an instrument of service for use by the client in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. This report may be provided to the contractor(s) and other design consultants to disclose information relative to the project. However, this report is not intended to be utilized as a specification in and of itself, without appropriate interpretation by the project architect, structural engineer, and/or civil engineer. The design of the infiltration system is the responsibility of the civil engineer. The role of the geotechnical engineer is limited to determination of infiltration rate only. By using the design infiltration rates contained herein, the civil engineer agrees to indemnify, defend, and hold harmless the geotechnical engineer for all aspects of the design and performance of the infiltration system. The reproduction and distribution of this report must be authorized by the client and Southern California Geotechnical, Inc. Furthermore, any reliance on this report by an unauthorized third party is at such party's sole risk, and we accept no responsibility for damage or loss which may occur. The analysis of this site was based on a subsurface profile interpolated from limited discrete soil samples. While the materials encountered in the project area are considered to be representative of the total area, some variations should be expected between trench locations and testing depths. If the conditions encountered during construction vary significantly from those detailed herein, we should be contacted immediately to determine if the conditions alter the recommendations contained herein.

This report has been based on assumed or provided characteristics of the proposed development. It is recommended that the owner, client, architect, structural engineer, and civil engineer carefully review these assumptions to ensure that they are consistent with the characteristics of the proposed development. If discrepancies exist, they should be brought to our attention to verify that they do not affect the conclusions and recommendations contained herein. We also recommend that the project plans and specifications be submitted to our office for review to verify that our recommendations have been correctly interpreted. The analysis, conclusions, and recommendations contained within this report have been promulgated in accordance with generally accepted professional geotechnical engineering practice. No other warranty is implied or expressed.

Closure

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

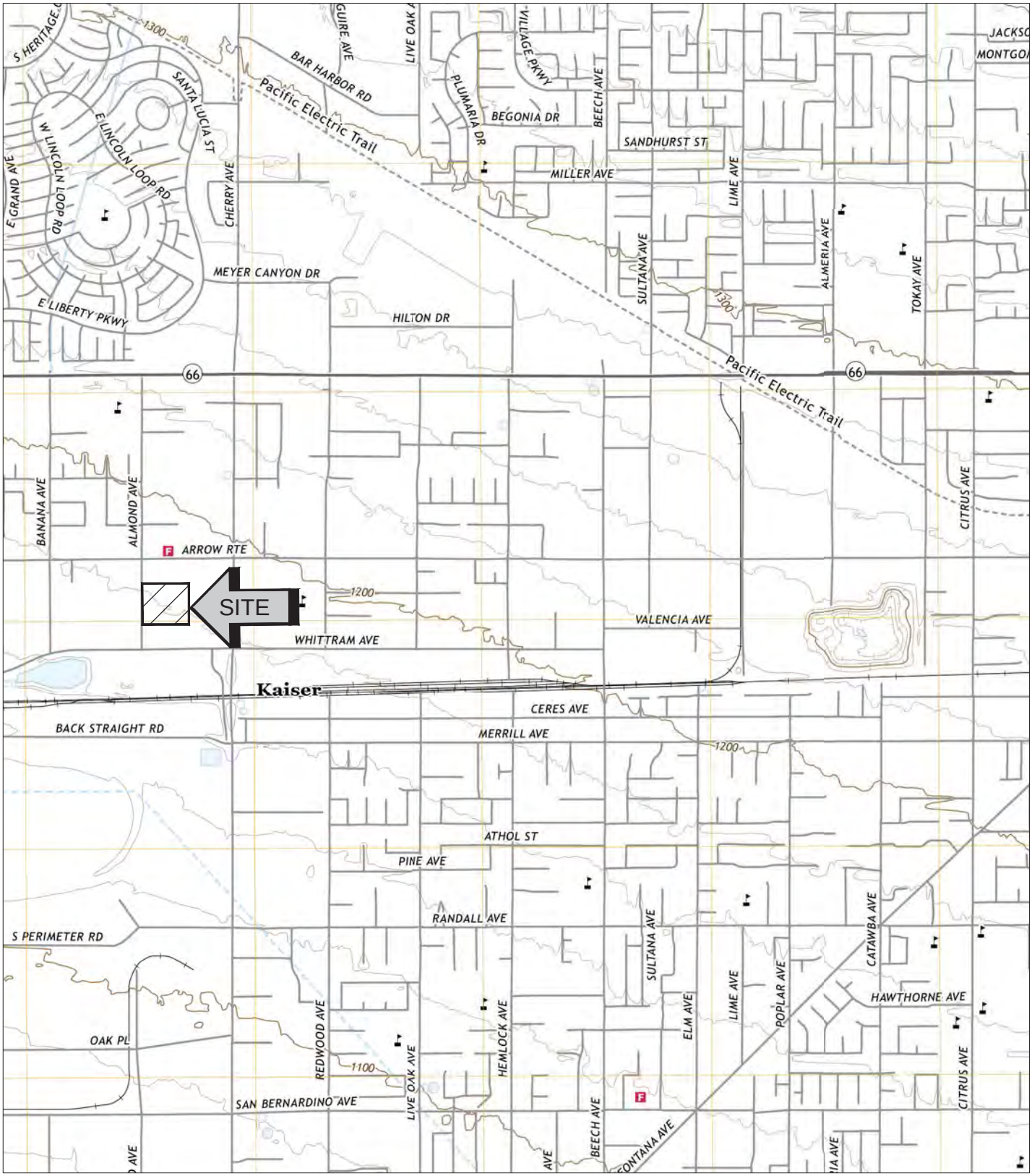
SOUTHERN CALIFORNIA GEOTECHNICAL, INC.

Jose A. Zuniga
Staff Engineer

Daniel Nielsen, RCE 77915
Senior Engineer

Distribution: (1) Addressee

Enclosures: Plate 1 - Site Location Map
Plate 2 - Infiltration Test Location Plan
Trench Logs (4 pages)
Infiltration Test Results Spreadsheets (4 pages)
Grain Size Distribution Graphs (4 pages)



SOURCE: USGS TOPOGRAPHIC MAP OF THE FONTANA QUADRANGLE, SAN BERNARDINO COUNTY, CALIFORNIA, 2018.

SITE LOCATION MAP

PROPOSED WAREHOUSE

SAN BERNARDINO COUNTY, CALIFORNIA

SCALE: 1" = 2000'

DRAWN: JAH
CHKD: RGT

SCG PROJECT
20G101-2

PLATE 1

SoCalGeo

SOUTHERN CALIFORNIA GEOTECHNICAL

GEOTECHNICAL LEGEND

- APPROXIMATE INFILTRATION TEST LOCATION
- APPROXIMATE BORING LOCATION FROM CONCURRENT STUDY (SCG PROJECT NO. 20G101-1)
- APPROXIMATE TRENCH LOCATION FROM CONCURRENT STUDY (SCG PROJECT NO. 20G101-1)

NOTE: CONCEPTUAL SITE PLAN PREPARED BY HPA.

INFILTRATION TEST LOCATION PLAN	
PROPOSED WAREHOUSE	
SAN BERNARDINO COUNTY, CALIFORNIA	
SCALE: 1" = 80'	SOUTHERN CALIFORNIA GEOTECHNICAL
DRAWN: OS CHKD: RGT	
SCG PROJECT 20G101-2	
PLATE 2	

SOUTHERN CALIFORNIA GEOTECHNICAL

TRENCH NO. I-1

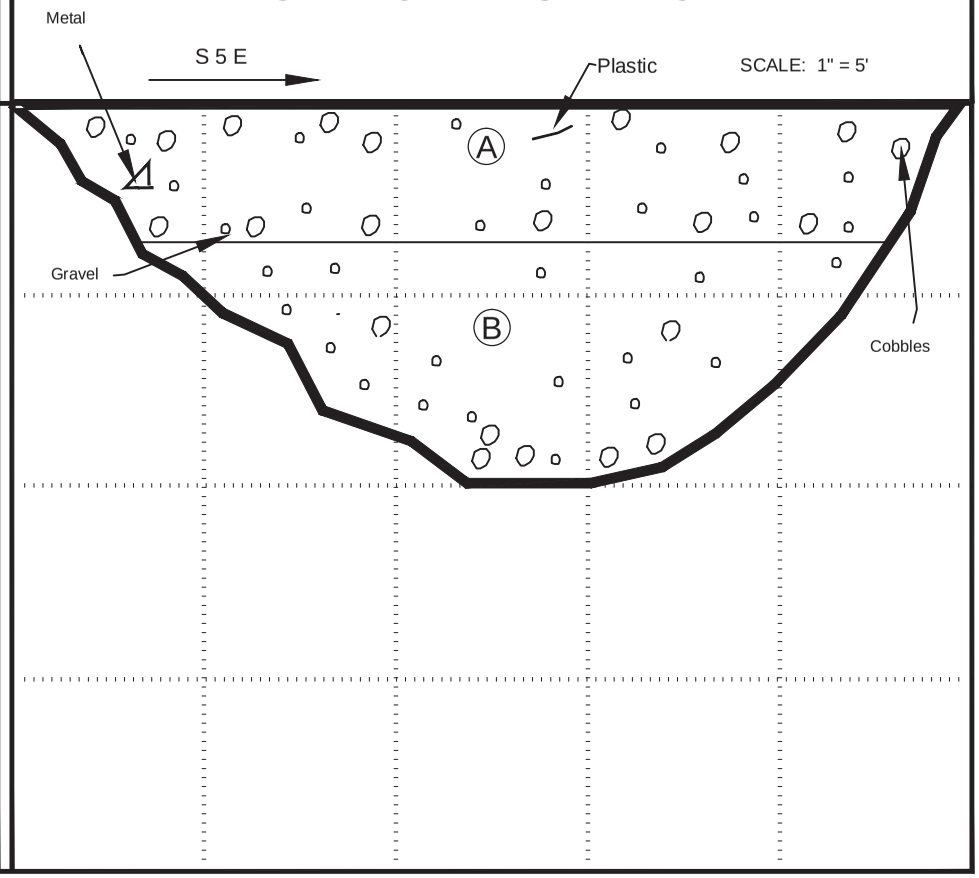
JOB NO.: 20G101-2
PROJECT: Proposed Warehouse
LOCATION: San Bernardino County, CA
DATE: 1-21-20

EQUIPMENT USED: Backhoe
LOGGED BY: Ryan Bremer
ORIENTATION: S 5 E

WATER DEPTH: Dry
SEEPAGE DEPTH: Dry
READINGS TAKEN: At Completion

DEPTH	SAMPLE	DRY DENSITY (PCF)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION
				A: FILL: Dark Brown Silty fine Sand, trace Clay, trace medium Sand, some Cobbles, occasional fine to coarse Gravel, trace metal fragments and plastic, mottled, medium dense to dense-damp
5				B: ALLUVIUM: Gray Brown fine to coarse Sand, trace Silt, trace Clay, medium dense-damp
				@10 feet abundant fine to coarse Gravel, some Cobbles, dense-damp
10	b		2.0	Trench Terminated @ 10 feet
15				

GRAPHIC REPRESENTATION



KEY TO SAMPLE TYPES:
B - BULK SAMPLE (DISTURBED)
R - RING SAMPLE 2-1/2" DIAMETER (RELATIVELY UNDISTURBED)

TRENCH LOG

PLATE B-1

SOUTHERN CALIFORNIA GEOTECHNICAL

TRENCH NO. I-2

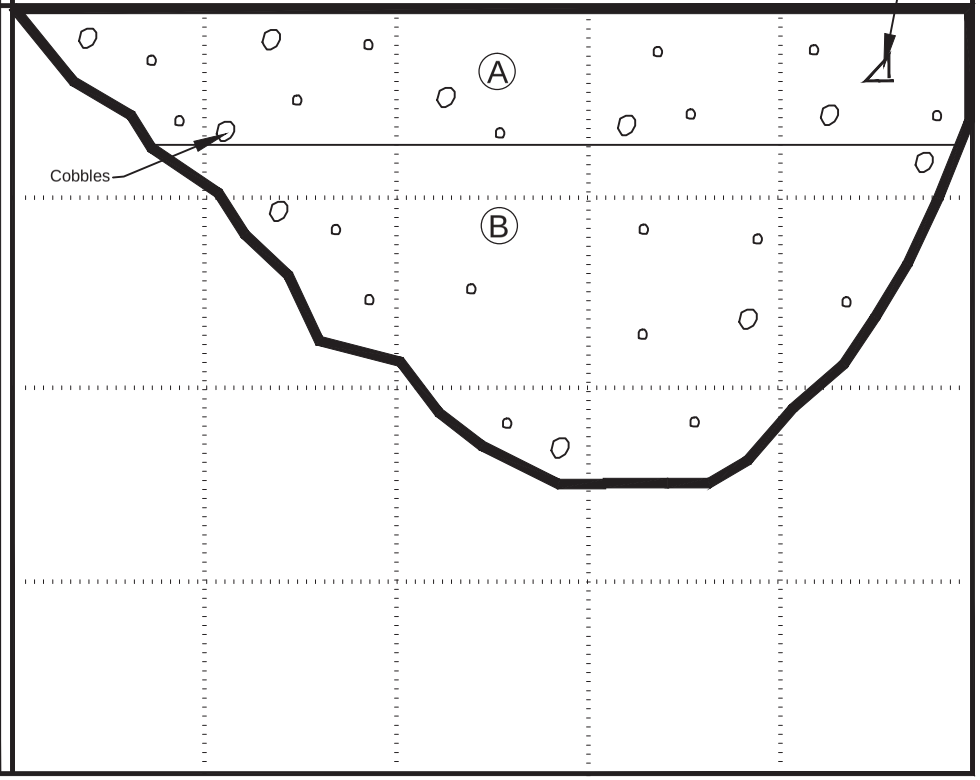
JOB NO.: 20G101-2
PROJECT: Proposed Warehouse
LOCATION: San Bernardino County, CA
DATE: 1/21/20

EQUIPMENT USED: Backhoe
LOGGED BY: Ryan Bremer
ORIENTATION: S 35 E

WATER DEPTH: Dry
SEEPAGE DEPTH: Dry
READINGS TAKEN: At Completion

DEPTH	SAMPLE	DRY DENSITY (PCF)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION
				A: FILL: Dark Brown Silty fine to coarse Sand, trace Clay, some fine to coarse Gravel, some Cobbles, trace fine root fibers, trace metal fragments, mottled, medium dense to dense-damp
5				B: ALLUVIUM: Gray Brown fine to coarse Sand, some fine to coarse Gravel, trace Silt, occasional Cobbles, medium dense to dense-damp
10				@ 10 feet Light Gray
	b		4.0	
				Trench Terminated @ 12 feet
15				

GRAPHIC REPRESENTATION



KEY TO SAMPLE TYPES:
B - BULK SAMPLE (DISTURBED)
R - RING SAMPLE 2-1/2" DIAMETER (RELATIVELY UNDISTURBED)

TRENCH LOG

PLATE B-2

SOUTHERN CALIFORNIA GEOTECHNICAL

TRENCH NO. I-3

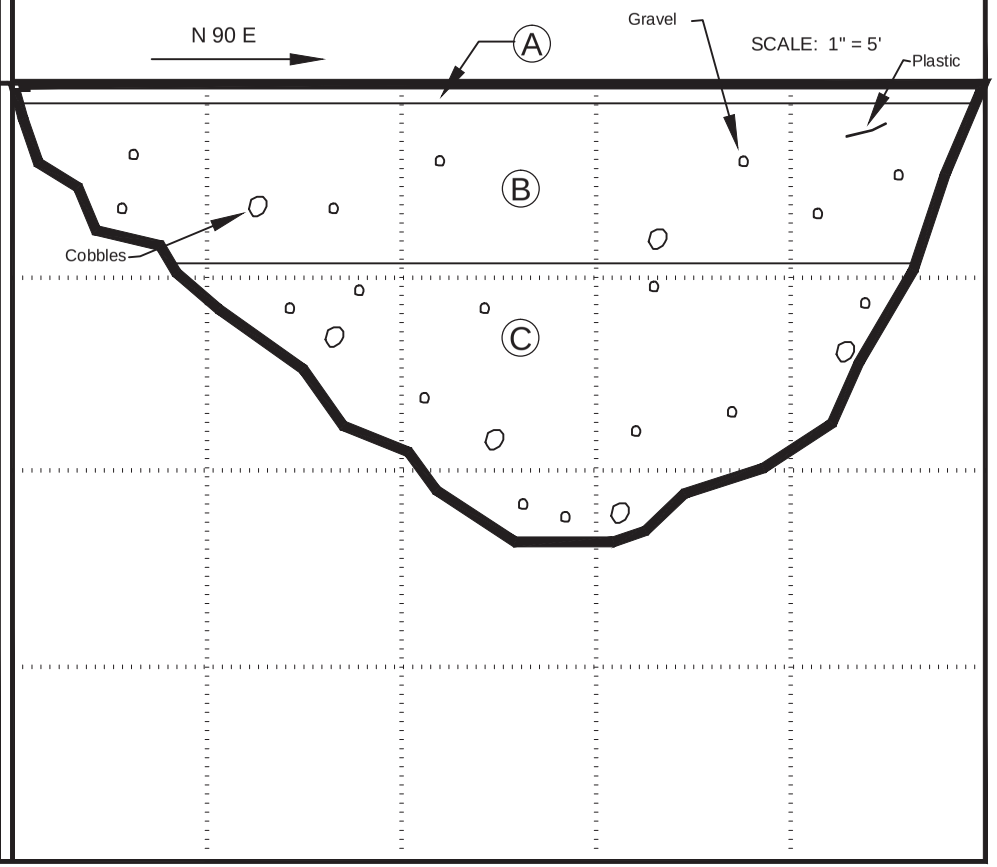
JOB NO.: 20G101-2
PROJECT: Proposed Warehouse
LOCATION: San Bernardino County, CA
DATE: 1-22-20

EQUIPMENT USED: Backhoe
LOGGED BY: Ryan Bremer
ORIENTATION: N 90 E

WATER DEPTH: Dry
SEEPAGE DEPTH: Dry
READINGS TAKEN: At Completion

DEPTH	SAMPLE	DRY DENSITY (PCF)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION
				A: SLAB: 6-inchs PCC B: FILL: Dark Gray Silty fine to coarse Sand, some fine to coarse Gravel, occasional Cobbles, trace plastic, medium dense to dense-damp
5				C: ALLUVIUM: Light Gray fine to coarse Sand, some fine to coarse Gravel, occasional Cobbles, trace Silt, loose-damp
10	b		2.0	
				Trench Terminated @ 12 feet
15				

GRAPHIC REPRESENTATION



KEY TO SAMPLE TYPES:
B - BULK SAMPLE (DISTURBED)
R - RING SAMPLE 2-1/2" DIAMETER (RELATIVELY UNDISTURBED)

TRENCH LOG

PLATE B-3

SOUTHERN CALIFORNIA GEOTECHNICAL

TRENCH NO. I-4

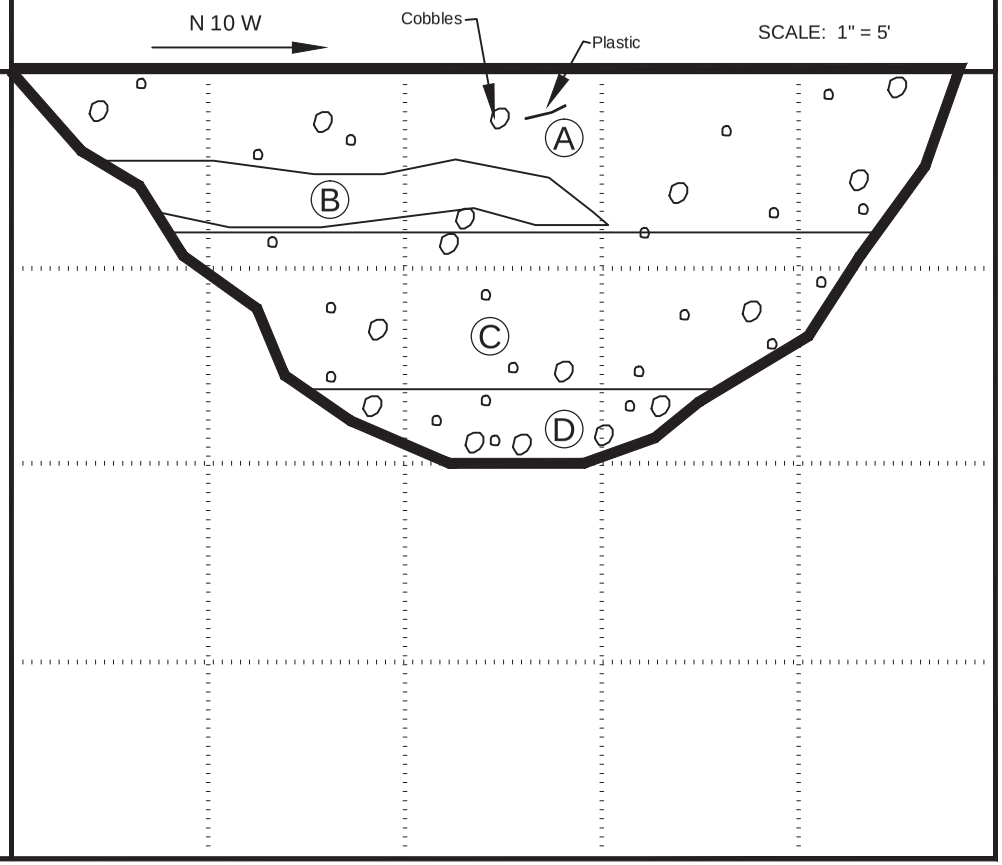
JOB NO.: 20G101-2
PROJECT: Proposed Warehouse
LOCATION: San Bernardino County, CA
DATE: 1-22-20

EQUIPMENT USED: Backhoe
LOGGED BY: Ryan Bremer
ORIENTATION: N 10 W

WATER DEPTH: Dry
SEEPAGE DEPTH: Dry
READINGS TAKEN: At Completion

DEPTH	SAMPLE	DRY DENSITY (PCF)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION
				A: FILL: Light Gray Silty fine to coarse Sand, some fine to coarse Gravel, occasional Cobbles, trace Clay, trace plastic, loose-damp
				B: FILL: Dark Brown Silty fine Sand, trace Clay, loose-damp
5				C: ALLUVIUM: Light Gray fine to coarse Sand, some fine to coarse Gravel, little Cobble, trace Silt, loose-damp
				D: Light Gray fine to coarse Sand, some fine to coarse Gravel, some Cobbles, trace Silt, loose-moist
10	b		10.0	Trench Terminated @ 10 feet
15				

GRAPHIC REPRESENTATION

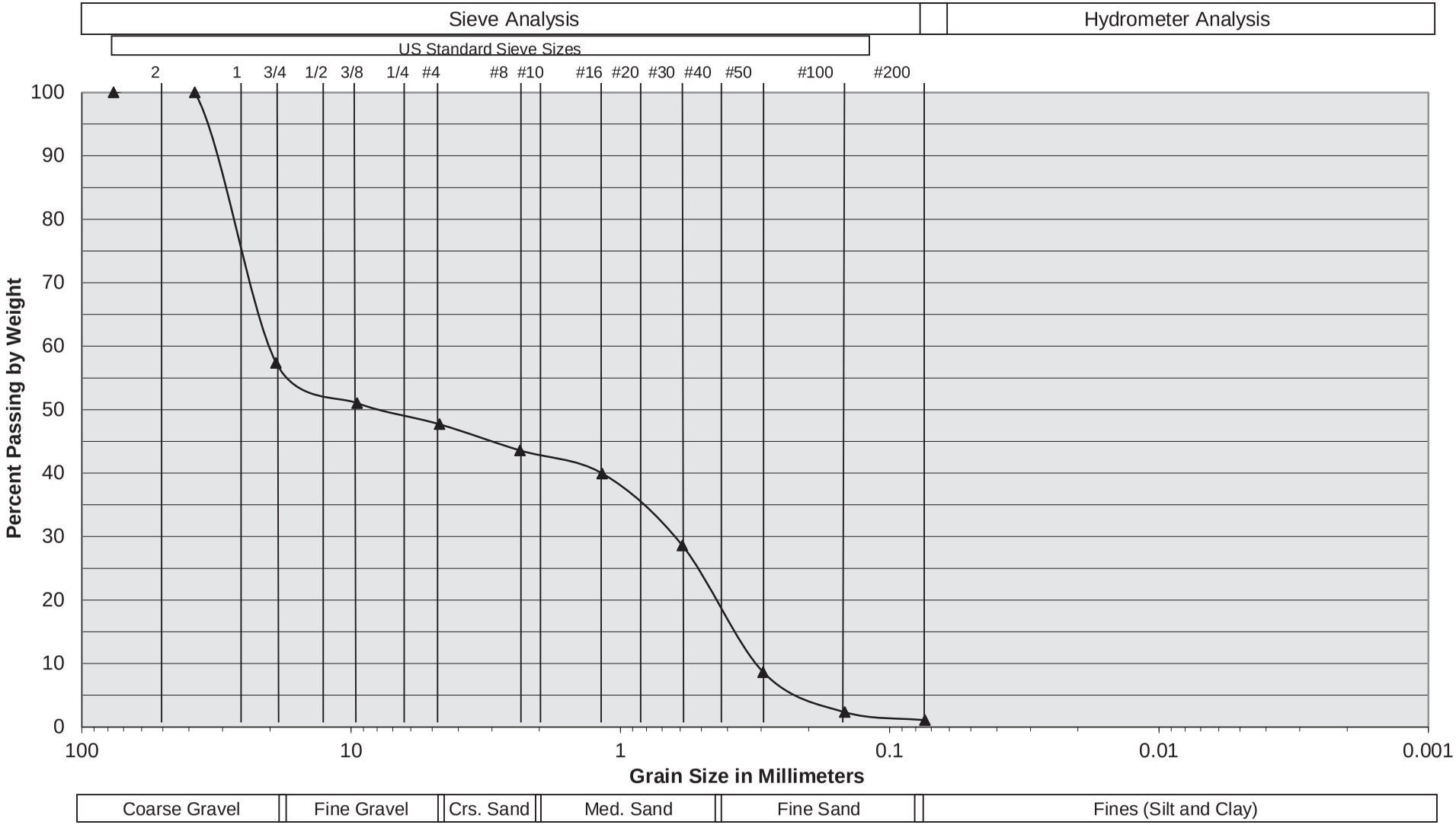


KEY TO SAMPLE TYPES:
B - BULK SAMPLE (DISTURBED)
R - RING SAMPLE 2-1/2" DIAMETER (RELATIVELY UNDISTURBED)

TRENCH LOG

PLATE B-4

Grain Size Distribution

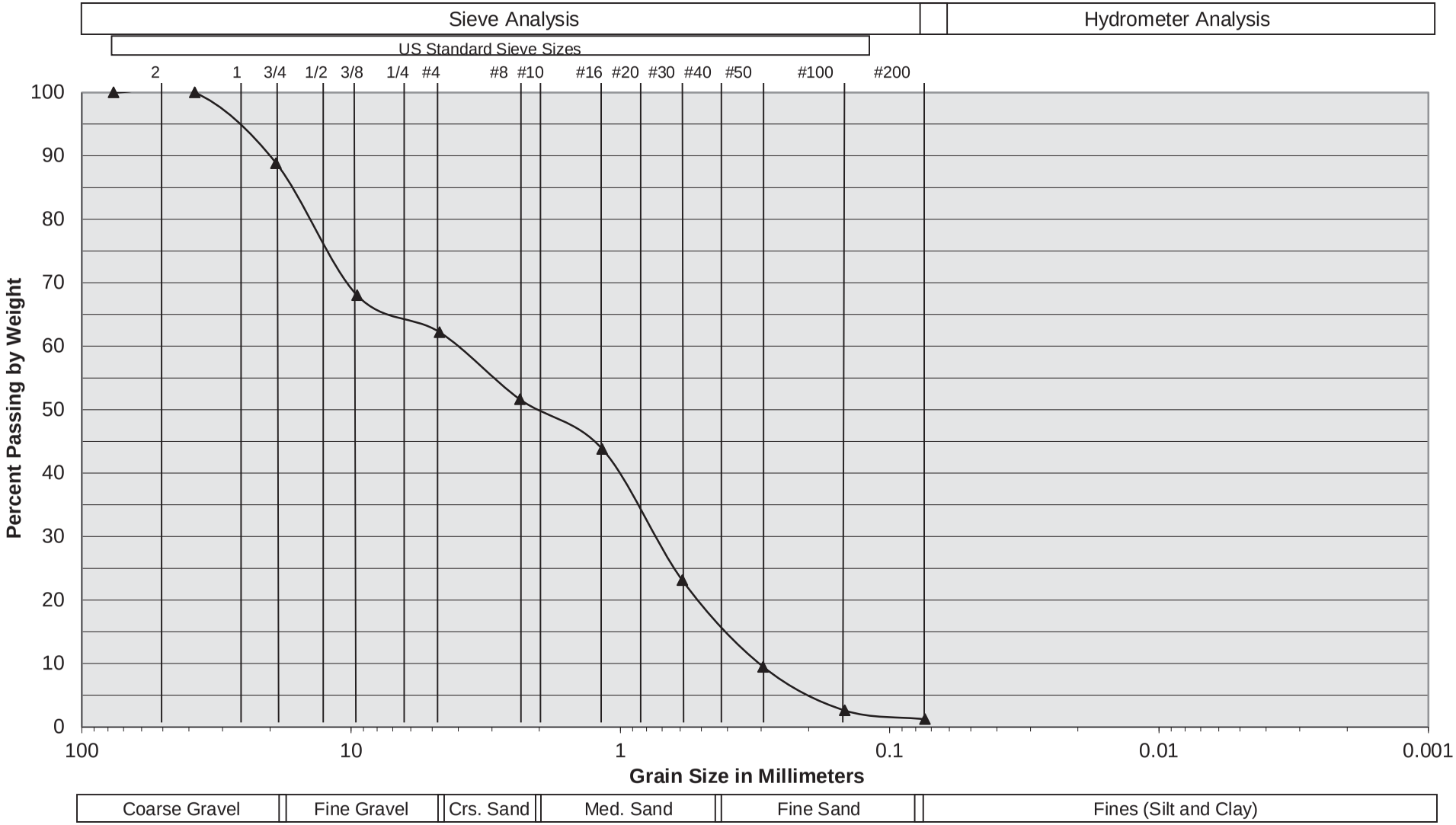


Sample Description	I-1 @10'
Soil Classification	ALLUVIUM: Gray Brown Gravelly fine to coarse Sand

Proposed Warehouse
San Bernardino County, CA
Project No. 20G101-2
PLATE C- 1

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Grain Size Distribution

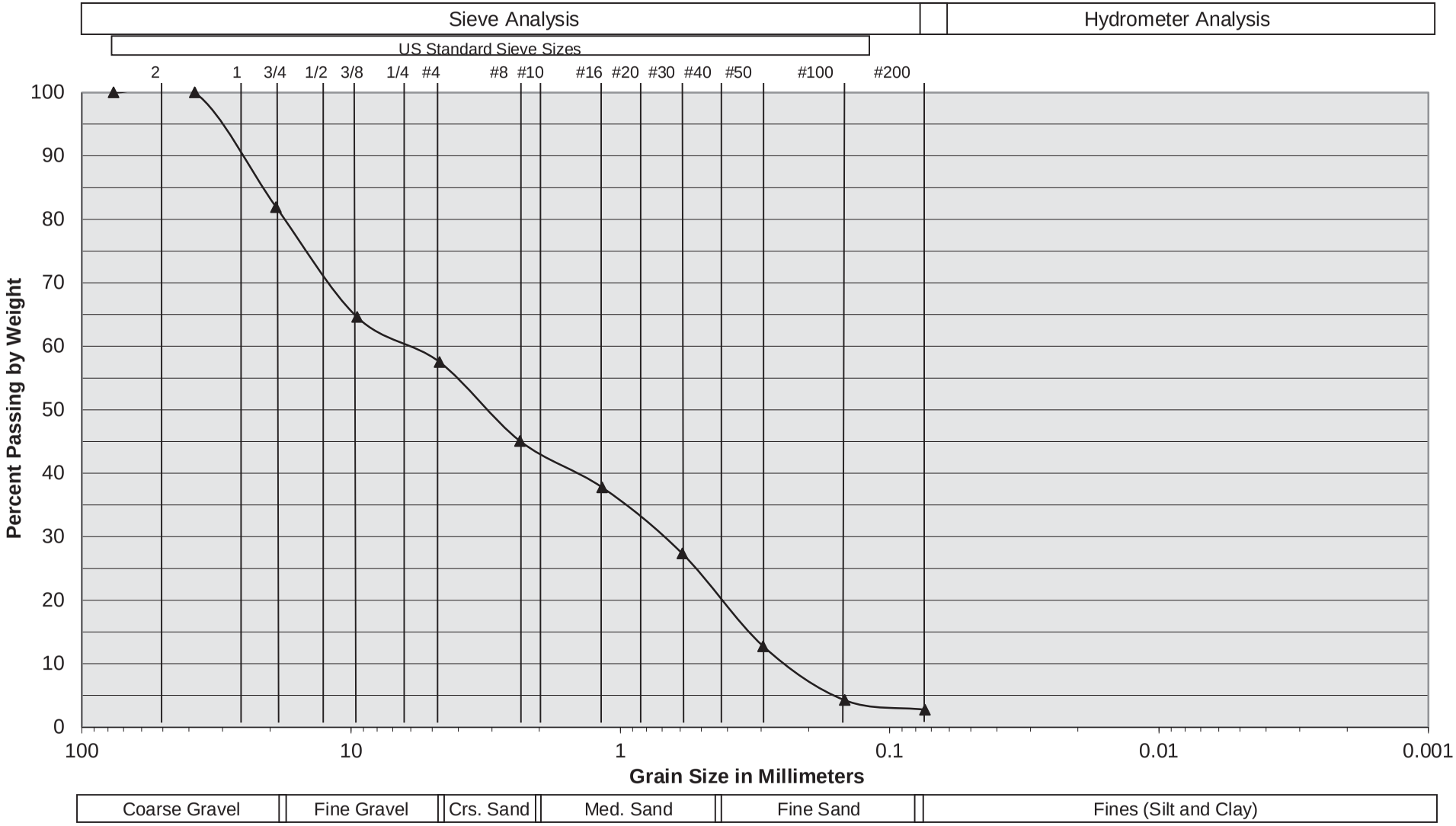


Sample Description	I-1 @12'
Soil Classification	ALLUVIUM: Light Gray fine to coarse Sand, some fine to coarse Gravel

Proposed Warehouse
San Bernardino County, CA
Project No. 20G101-2
PLATE C- 2

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Grain Size Distribution

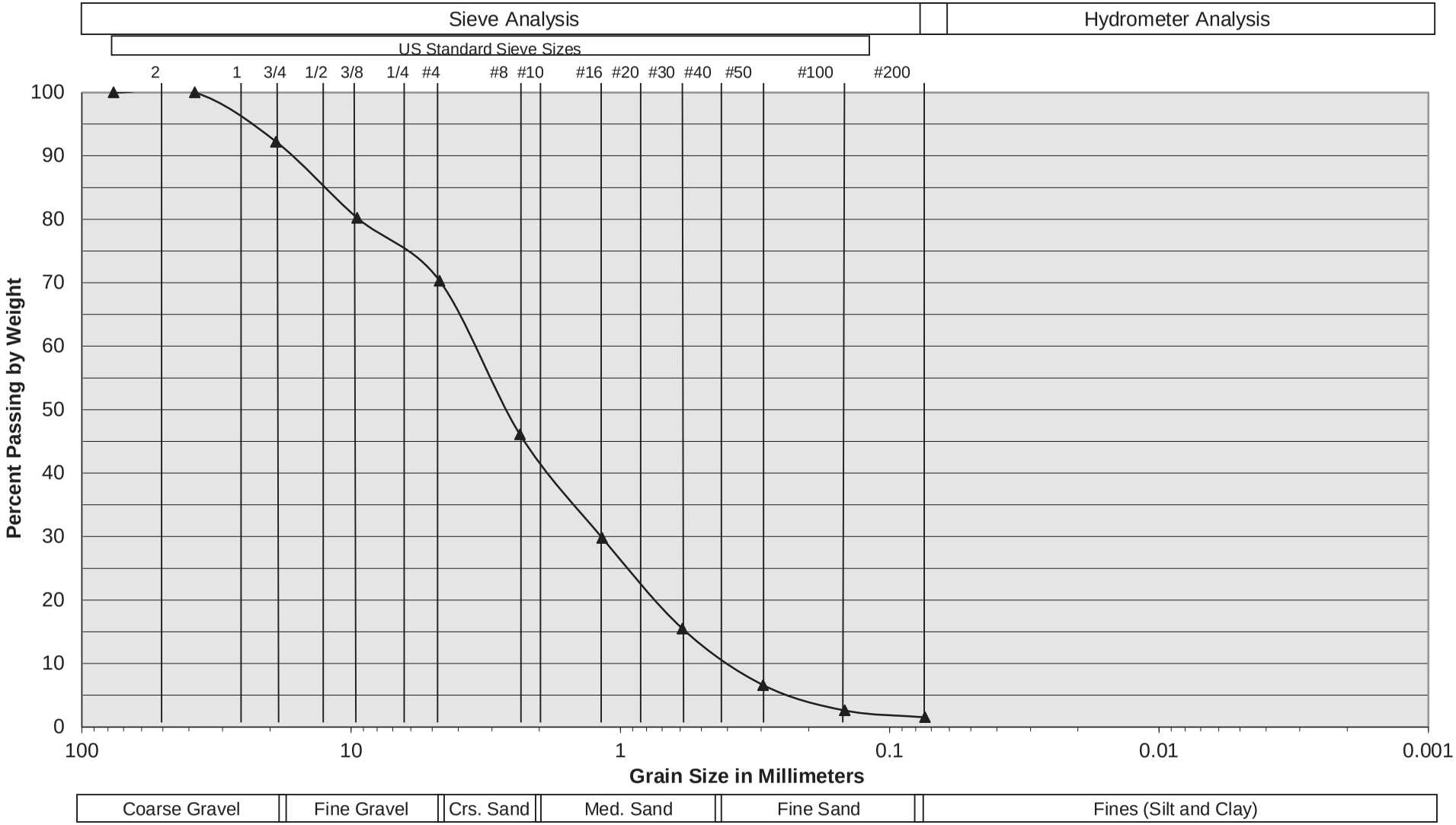


Sample Description	I-3 @12'
Soil Classification	ALLUVIUM: Light Gray fine to coarse Sand, some fine to coarse Gravel, trace Silt

Proposed Warehouse
San Bernardino County, CA
Project No. 20G101-2
PLATE C- 3

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Grain Size Distribution



Sample Description	I-4 @10'
Soil Classification	ALLUVIUM: Light Gray fine to coarse Sand, some fine to coarse Gravel

Proposed Warehouse
San Bernardino County, CA
Project No. 20G101-2
PLATE C- 4

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

INFILTRATION CALCULATIONS

Project Name	Proposed Warehouse
Project Location	San Bernardino County, CA
Project Number	20G101-2
Engineer	Ryan Bremer

Infiltration Test No: I-1

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Ring Flow (cm^3)	Annular Ring (ml)	Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	9:37 AM	3	0	700	0	11500	19.19	105.08	7.55	41.37
	Final	9:40 AM	**3**	700		11500					
2	Initial	9:41 AM	3	0	750	0	10900	20.56	99.59	8.09	39.21
	Final	9:44 AM	**7**	750		10900					
3	Initial	9:46 AM	3	0	600	0	10000	16.45	91.37	6.48	35.97
	Final	9:49 AM	**12**	600		10000					
4	Initial	9:50 AM	3	0	600	0	10500	16.45	95.94	6.48	37.77
	Final	9:53 AM	**16**	600		10500					
5	Initial	9:54 AM	3	0	575	0	10600	15.76	96.85	6.21	38.13
	Final	9:57 AM	**20**	575		10600					
6	Initial	9:58 AM	3	0	575	0	10900	15.76	99.59	6.21	39.21
	Final	10:01 AM	**24**	575		10900					
7	Initial	10:02 AM	3	0	550	0	10800	15.08	98.68	5.94	38.85
	Final	10:05 AM	**28**	550		10800					
8	Initial	10:06 AM	3	0	575	0	10900	15.76	99.59	6.21	39.21
	Final	10:09 AM	**32**	575		10900					
9	Initial	10:10 AM	3	0	550	0	10900	15.08	99.59	5.94	39.21
	Final	10:13 AM	**36**	550		10900					
10	Initial	10:14 AM	3	0	575	0	10800	15.76	98.68	6.21	38.85
	Final	10:17 AM	**40**	575		10800					

INFILTRATION CALCULATIONS

Project Name	Proposed Warehouse
Project Location	San Bernardino County, CA
Project Number	20G101-2
Engineer	Ryan Bremer

Infiltration Test No: I-2

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Ring Flow (cm^3)	Annular Ring (ml)	Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	12:49 PM	2	0	750	0	8500	30.84	116.50	12.14	45.86
	Final	12:51 PM	**2**	750		8500					
2	Initial	12:53 PM	2	0	800	0	6500	32.89	89.09	12.95	35.07
	Final	12:55 PM	**6**	800		6500					
3	Initial	12:56 PM	2	0	800	0	6700	32.89	91.83	12.95	36.15
	Final	12:58 PM	**9**	800		6700					
4	Initial	12:59 PM	2	0	750	0	6400	30.84	87.72	12.14	34.53
	Final	1:01 PM	**12**	750		6400					
5	Initial	1:03 PM	2	0	750	0	7000	30.84	95.94	12.14	37.77
	Final	1:05 PM	**16**	750		7000					
6	Initial	1:06 PM	2	0	750	0	6700	30.84	91.83	12.14	36.15
	Final	1:08 PM	**19**	750		6700					
7	Initial	1:09 PM	2	0	750	0	5800	30.84	79.49	12.14	31.30
	Final	1:11 PM	**22**	750		5800					
8	Initial	1:13 PM	2	0	750	0	6400	30.84	87.72	12.14	34.53
	Final	1:15 PM	**26**	750		6400					
9	Initial	1:16 PM	2	0	800	0	6500	32.89	89.09	12.95	35.07
	Final	1:18 PM	**29**	800		6500					
10	Initial	1:19 PM	2	0	750	0	6500	30.84	89.09	12.14	35.07
	Final	1:21 PM	**32**	750		6500					

INFILTRATION CALCULATIONS

Project Name	Proposed Warehouse
Project Location	San Bernardino County, CA
Project Number	20G101-2
Engineer	Ryan Bremer

Infiltration Test No: I-3

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.785	730
Anlr. Space	2	2.356	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Ring Flow (cm^3)	Annular Ring (ml)	Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	10:17 AM	5	0	1600	0	5400	26.31	29.60	10.36	11.66
	Final	10:22 AM	**5**	1600		5400					
2	Initial	10:23 AM	5	0	1200	0	6500	19.74	35.63	7.77	14.03
	Final	10:28 AM	**11**	1200		6500					
3	Initial	10:29 AM	5	0	1400	0	6400	23.03	35.09	9.07	13.81
	Final	10:34 AM	**17**	1400		6400					
4	Initial	10:35 AM	5	0	1400	0	5500	23.03	30.15	9.07	11.87
	Final	10:40 AM	**23**	1400		5500					
5	Initial	10:41 AM	5	0	1400	0	5600	23.03	30.70	9.07	12.09
	Final	10:46 AM	**29**	1400		5600					
6	Initial	10:47 AM	5	0	1400	0	6000	23.03	32.89	9.07	12.95
	Final	10:52 AM	**35**	1400		6000					
7	Initial	10:54 AM	5	0	1450	0	5900	23.85	32.34	9.39	12.73
	Final	10:59 AM	**42**	1450		5900					
8	Initial	11:00 AM	5	0	1400	0	5900	23.03	32.34	9.07	12.73
	Final	11:05 AM	**48**	1400		5900					

INFILTRATION CALCULATIONS

Project Name	Proposed Warehouse
Project Location	San Bernardino County, CA
Project Number	20G101-2
Engineer	Ryan Bremer

Infiltration Test No: I-4

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Space	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Ring Flow (cm^3)	Annular Ring (ml)	Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	12:04 PM	3	0	700	0	5800	19.19	52.99	7.55	20.86
	Final	12:07 PM	**3**	700		5800					
2	Initial	12:08 PM	3	0	750	0	5400	20.56	49.34	8.09	19.43
	Final	12:11 PM	**7**	750		5400					
3	Initial	12:12 PM	3	0	750	0	4400	20.56	40.20	8.09	15.83
	Final	12:15 PM	**11**	750		4400					
4	Initial	12:16 PM	3	0	750	0	4400	20.56	40.20	8.09	15.83
	Final	12:19 PM	**15**	750		4400					
5	Initial	12:20 PM	3	0	750	0	4400	20.56	40.20	8.09	15.83
	Final	12:23 PM	**19**	750		4400					
6	Initial	12:24 PM	3	0	700	0	4400	19.19	40.20	7.55	15.83
	Final	12:27 PM	**23**	700		4400					
7	Initial	12:28 PM	3	0	650	0	4100	17.82	37.46	7.01	14.75
	Final	12:31 PM	**27**	650		4100					
8	Initial	12:32 PM	3	0	650	0	4100	17.82	37.46	7.01	14.75
	Final	12:35 PM	**31**	650		4100					
9	Initial	12:36 PM	3	0	650	0	4100	17.82	37.46	7.01	14.75
	Final	12:39 PM	**35**	650		4100					
10	Initial	12:40 PM	3	0	650	0	4100	17.82	37.46	7.01	14.75
	Final	12:43 PM	**39**	650		4100					

Attachment E

Rainfall Data (NOAA Atlas 14) & Worksheet H

NOAA Atlas 14, Volume 6, Version 2
Location name: Fontana, California, USA*
Latitude: 34.0973°, Longitude: -117.4925°
Elevation: 1177.78 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.111 (0.093-0.135)	0.146 (0.122-0.178)	0.194 (0.161-0.236)	0.234 (0.192-0.287)	0.290 (0.230-0.368)	0.335 (0.260-0.435)	0.381 (0.289-0.508)	0.431 (0.318-0.592)	0.502 (0.354-0.718)	0.559 (0.381-0.829)
10-min	0.159 (0.133-0.193)	0.210 (0.175-0.255)	0.278 (0.231-0.338)	0.335 (0.276-0.411)	0.416 (0.330-0.528)	0.480 (0.373-0.623)	0.547 (0.415-0.728)	0.618 (0.456-0.848)	0.719 (0.508-1.03)	0.801 (0.546-1.19)
15-min	0.193 (0.161-0.234)	0.254 (0.211-0.308)	0.336 (0.279-0.409)	0.405 (0.333-0.498)	0.502 (0.399-0.639)	0.580 (0.451-0.753)	0.661 (0.501-0.881)	0.748 (0.551-1.03)	0.870 (0.614-1.25)	0.969 (0.660-1.44)
30-min	0.284 (0.237-0.345)	0.374 (0.311-0.454)	0.496 (0.411-0.603)	0.598 (0.492-0.734)	0.741 (0.589-0.942)	0.855 (0.665-1.11)	0.975 (0.739-1.30)	1.10 (0.812-1.51)	1.28 (0.905-1.84)	1.43 (0.973-2.12)
60-min	0.417 (0.347-0.505)	0.549 (0.457-0.666)	0.727 (0.603-0.885)	0.877 (0.721-1.08)	1.09 (0.864-1.38)	1.25 (0.976-1.63)	1.43 (1.09-1.91)	1.62 (1.19-2.22)	1.88 (1.33-2.69)	2.10 (1.43-3.11)
2-hr	0.637 (0.531-0.773)	0.825 (0.686-1.00)	1.07 (0.891-1.31)	1.28 (1.05-1.57)	1.57 (1.25-1.99)	1.79 (1.39-2.33)	2.03 (1.54-2.70)	2.27 (1.67-3.12)	2.61 (1.84-3.74)	2.89 (1.97-4.28)
3-hr	0.820 (0.683-0.994)	1.06 (0.878-1.28)	1.36 (1.13-1.66)	1.62 (1.33-1.99)	1.97 (1.56-2.50)	2.24 (1.74-2.91)	2.52 (1.91-3.36)	2.81 (2.07-3.86)	3.22 (2.27-4.60)	3.54 (2.41-5.25)
6-hr	1.19 (0.989-1.44)	1.53 (1.27-1.85)	1.96 (1.63-2.39)	2.32 (1.91-2.84)	2.79 (2.22-3.55)	3.16 (2.46-4.10)	3.53 (2.67-4.70)	3.91 (2.88-5.36)	4.42 (3.12-6.33)	4.82 (3.28-7.15)
12-hr	1.59 (1.32-1.93)	2.06 (1.71-2.50)	2.66 (2.21-3.24)	3.13 (2.58-3.85)	3.75 (2.98-4.77)	4.22 (3.28-5.48)	4.68 (3.55-6.23)	5.14 (3.78-7.04)	5.74 (4.05-8.22)	6.20 (4.22-9.20)
24-hr	2.15 (1.90-2.47)	2.84 (2.51-3.27)	3.70 (3.26-4.28)	4.37 (3.82-5.10)	5.24 (4.44-6.32)	5.88 (4.88-7.23)	6.50 (5.27-8.19)	7.12 (5.61-9.22)	7.92 (5.99-10.7)	8.52 (6.23-11.9)
2-day	2.62 (2.32-3.02)	3.54 (3.13-4.09)	4.72 (4.16-5.46)	5.65 (4.95-6.60)	6.89 (5.83-8.30)	7.81 (6.48-9.61)	8.72 (7.07-11.0)	9.64 (7.60-12.5)	10.9 (8.22-14.6)	11.8 (8.62-16.4)
3-day	2.84 (2.52-3.28)	3.91 (3.46-4.51)	5.29 (4.66-6.12)	6.40 (5.60-7.47)	7.91 (6.70-9.53)	9.05 (7.51-11.1)	10.2 (8.27-12.9)	11.4 (8.98-14.8)	13.0 (9.83-17.5)	14.2 (10.4-19.9)
4-day	3.08 (2.73-3.55)	4.28 (3.78-4.93)	5.84 (5.15-6.76)	7.12 (6.23-8.30)	8.86 (7.50-10.7)	10.2 (8.46-12.5)	11.6 (9.36-14.6)	13.0 (10.2-16.8)	14.9 (11.3-20.1)	16.4 (12.0-22.9)
7-day	3.55 (3.14-4.09)	4.98 (4.41-5.75)	6.88 (6.07-7.96)	8.44 (7.38-9.84)	10.6 (8.96-12.7)	12.2 (10.2-15.1)	14.0 (11.3-17.6)	15.7 (12.4-20.4)	18.2 (13.8-24.5)	20.1 (14.7-28.1)
10-day	3.86 (3.41-4.44)	5.45 (4.82-6.29)	7.57 (6.67-8.75)	9.32 (8.15-10.9)	11.7 (9.94-14.1)	13.6 (11.3-16.8)	15.6 (12.6-19.6)	17.6 (13.9-22.9)	20.5 (15.5-27.6)	22.7 (16.6-31.7)
20-day	4.52 (4.00-5.21)	6.47 (5.73-7.47)	9.12 (8.04-10.6)	11.3 (9.92-13.2)	14.5 (12.2-17.4)	16.9 (14.0-20.8)	19.5 (15.8-24.6)	22.3 (17.5-28.8)	26.1 (19.8-35.2)	29.2 (21.4-40.8)
30-day	5.32 (4.71-6.13)	7.65 (6.76-8.83)	10.8 (9.55-12.5)	13.5 (11.8-15.8)	17.3 (14.7-20.9)	20.4 (16.9-25.1)	23.7 (19.2-29.8)	27.1 (21.4-35.1)	32.0 (24.2-43.2)	36.0 (26.3-50.3)
45-day	6.29 (5.57-7.25)	9.00 (7.96-10.4)	12.7 (11.2-14.7)	15.9 (14.0-18.6)	20.5 (17.4-24.7)	24.3 (20.1-29.8)	28.2 (22.9-35.6)	32.5 (25.6-42.1)	38.7 (29.2-52.1)	43.7 (32.0-61.0)
60-day	7.36 (6.52-8.48)	10.4 (9.21-12.0)	14.7 (12.9-17.0)	18.3 (16.1-21.4)	23.7 (20.0-28.5)	28.0 (23.2-34.4)	32.7 (26.4-41.1)	37.7 (29.7-48.9)	45.1 (34.1-60.8)	51.1 (37.4-71.4)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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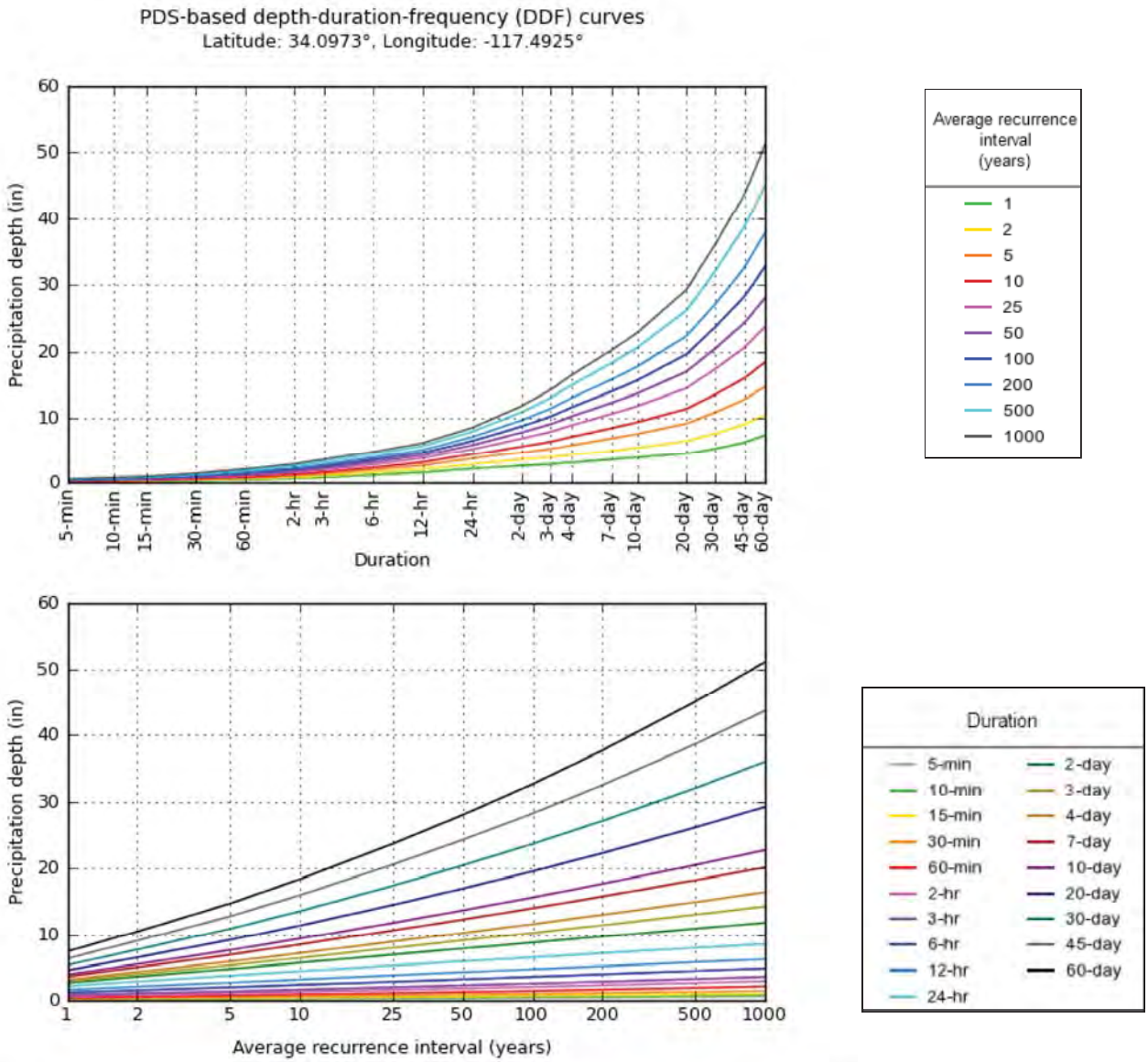
PF graphical



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Created (GMT): Wed Jan 15 19:42:14 2020

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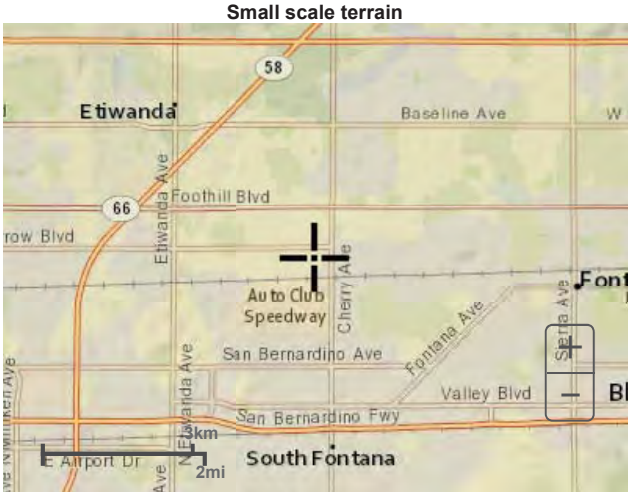
Maps & aerials

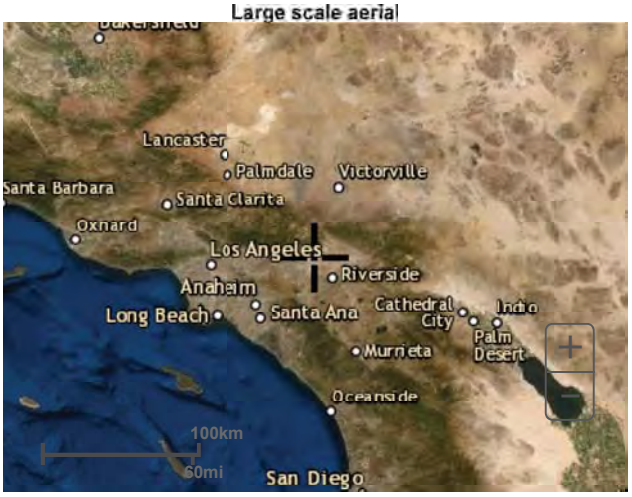
Small scale terrain



Large scale terrain

Large scale map

Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
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Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Attachment F
Fact Sheets

Outdoor Loading/Unloading SC-30

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Description

The loading/unloading of materials usually takes place outside on docks or terminals; therefore, materials spilled, leaked, or lost during loading/unloading may collect in the soil or on other surfaces and have the potential to be carried away by stormwater runoff or when the area is cleaned. Additionally, rainfall may wash pollutants from machinery used to unload or move materials. Implementation of the following protocols will prevent or reduce the discharge of pollutants to stormwater from outdoor loading/unloading of materials.

Targeted Constituents

Sediment	✓
Nutrients	✓
Trash	
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓

Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

Pollution Prevention

- Keep accurate maintenance logs to evaluate materials removed and improvements made.
- Park tank trucks or delivery vehicles in designated areas so that spills or leaks can be contained.
- Limit exposure of material to rainfall whenever possible.
- Prevent stormwater run-on.
- Check equipment regularly for leaks.

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Suggested Protocols

Loading and Unloading – General Guidelines

- Develop an operations plan that describes procedures for loading and/or unloading.
- Conduct loading and unloading in dry weather if possible.
- Cover designated loading/unloading areas to reduce exposure of materials to rain.
- Consider placing a seal or door skirt between delivery vehicles and building to prevent exposure to rain.
- Design loading/unloading area to prevent stormwater run-on, which would include grading or berming the area, and position roof downspouts so they direct stormwater away from the loading/unloading areas.
- Have employees load and unload all materials and equipment in covered areas such as building overhangs at loading docks if feasible.
- Load/unload only at designated loading areas.
- Use drip pans underneath hose and pipe connections and other leak-prone spots during liquid transfer operations, and when making and breaking connections. Several drip pans should be stored in a covered location near the liquid transfer area so that they are always available, yet protected from precipitation when not in use. Drip pans can be made specifically for railroad tracks. Drip pans must be cleaned periodically, and drip collected materials must be disposed of properly.
- Pave loading areas with concrete instead of asphalt.
- Avoid placing storm drains in the area.
- Grade and/or berm the loading/unloading area to a drain that is connected to a deadend.

Inspection

- Check loading and unloading equipment regularly for leaks, including valves, pumps, flanges and connections.
- Look for dust or fumes during loading or unloading operations.

Training

- Train employees (e.g., fork lift operators) and contractors on proper spill containment and cleanup.
- Have employees trained in spill containment and cleanup present during loading/unloading.
- Train employees in proper handling techniques during liquid transfers to avoid spills.
- Make sure forklift operators are properly trained on loading and unloading procedures.

Spill Response and Prevention

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Contain leaks during transfer.
- Store and maintain appropriate spill cleanup materials in a location that is readily accessible and known to all and ensure that employees are familiar with the site's spill control plan and proper spill cleanup procedures.
- Have an emergency spill cleanup plan readily available.
- Use drip pans or comparable devices when transferring oils, solvents, and paints.

Other Considerations (Limitations and Regulations)

- Space and time limitations may preclude all transfers from being performed indoors or under cover.
- It may not be possible to conduct transfers only during dry weather.

Requirements

Costs

Costs should be low except when covering a large loading/unloading area.

Maintenance

- Conduct regular inspections and make repairs as necessary. The frequency of repairs will depend on the age of the facility.
- Check loading and unloading equipment regularly for leaks.
- Conduct regular broom dry-sweeping of area.

Supplemental Information

Further Detail of the BMP

Special Circumstances for Indoor Loading/Unloading of Materials

Loading or unloading of liquids should occur in the manufacturing building so that any spills that are not completely retained can be discharged to the sanitary sewer, treatment plant, or treated in a manner consistent with local sewer authorities and permit requirements.

- For loading and unloading tank trucks to above and below ground storage tanks, the following procedures should be used:
  - The area where the transfer takes place should be paved. If the liquid is reactive with the asphalt, Portland cement should be used to pave the area.
  - The transfer area should be designed to prevent run-on of stormwater from adjacent areas. Sloping the pad and using a curb, like a speed bump, around the uphill side of the transfer area should reduce run-on.

- The transfer area should be designed to prevent runoff of spilled liquids from the area. Sloping the area to a drain should prevent runoff. The drain should be connected to a dead-end sump or to the sanitary sewer. A positive control valve should be installed on the drain.

- For transfer from rail cars to storage tanks that must occur outside, use the following procedures:
  - Drip pans should be placed at locations where spillage may occur, such as hose connections, hose reels, and filler nozzles. Use drip pans when making and breaking connections.
  - Drip pan systems should be installed between the rails to collect spillage from tank cars.

References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net/

Building & Grounds Maintenance SC-41

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

Sediment	✓
Nutrients	✓
Trash	
Metals	✓
Bacteria	✓
Oil and Grease	
Organics	

Description

Stormwater runoff from building and grounds maintenance activities can be contaminated with toxic hydrocarbons in solvents, fertilizers and pesticides, suspended solids, heavy metals, abnormal pH, and oils and greases. Utilizing the protocols in this fact sheet will prevent or reduce the discharge of pollutants to stormwater from building and grounds maintenance activities by washing and cleaning up with as little water as possible, following good landscape management practices, preventing and cleaning up spills immediately, keeping debris from entering the storm drains, and maintaining the stormwater collection system.

Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

Pollution Prevention

- Switch to non-toxic chemicals for maintenance when possible.
- Choose cleaning agents that can be recycled.
- Encourage proper lawn management and landscaping, including use of native vegetation.

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California Stormwater Quality Association

- Encourage use of Integrated Pest Management techniques for pest control.
- Encourage proper onsite recycling of yard trimmings.
- Recycle residual paints, solvents, lumber, and other material as much as possible.

Suggested Protocols

Pressure Washing of Buildings, Rooftops, and Other Large Objects

- In situations where soaps or detergents are used and the surrounding area is paved, pressure washers must use a water collection device that enables collection of wash water and associated solids. A sump pump, wet vacuum or similarly effective device must be used to collect the runoff and loose materials. The collected runoff and solids must be disposed of properly.
- If soaps or detergents are not used, and the surrounding area is paved, wash runoff does not have to be collected but must be screened. Pressure washers must use filter fabric or some other type of screen on the ground and/or in the catch basin to trap the particles in wash water runoff.
- If you are pressure washing on a grassed area (with or without soap), runoff must be dispersed as sheet flow as much as possible, rather than as a concentrated stream. The wash runoff must remain on the grass and not drain to pavement.

Landscaping Activities

- Dispose of grass clippings, leaves, sticks, or other collected vegetation as garbage, or by composting. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures on exposed soils.

Building Repair, Remodeling, and Construction

- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.
- Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
- Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- Clean paintbrushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.
- Use a storm drain cover, filter fabric, or similarly effective runoff control mechanism if dust, grit, wash water, or other pollutants may escape the work area and enter a catch basin. This is particularly necessary on rainy days. The containment device(s) must be in place at the beginning of the work day, and accumulated dirty runoff and solids must be collected and disposed of before removing the containment device(s) at the end of the work day.

- If you need to de-water an excavation site, you may need to filter the water before discharging to a catch basin or off-site. If directed off-site, you should direct the water through hay bales and filter fabric or use other sediment filters or traps.
- Store toxic material under cover during precipitation events and when not in use. A cover would include tarps or other temporary cover material.

Mowing, Trimming, and Planting

- Dispose of leaves, sticks, or other collected vegetation as garbage, by composting or at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures when soils are exposed.
- Place temporarily stockpiled material away from watercourses and drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- Consider an alternative approach when bailing out muddy water: do not put it in the storm drain; pour over landscaped areas.
- Use hand weeding where practical.

Fertilizer and Pesticide Management

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- Use less toxic pesticides that will do the job when applicable. Avoid use of copper-based pesticides if possible.
- Do not use pesticides if rain is expected.
- Do not mix or prepare pesticides for application near storm drains.
- Use the minimum amount needed for the job.
- Calibrate fertilizer distributors to avoid excessive application.
- Employ techniques to minimize off-target application (e.g., spray drift) of pesticides, including consideration of alternative application techniques.
- Apply pesticides only when wind speeds are low.
- Fertilizers should be worked into the soil rather than dumped or broadcast onto the surface.
- Irrigate slowly to prevent runoff and then only as much as is needed.
- Clean pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Dispose of empty pesticide containers according to the instructions on the container label.

- Use up the pesticides. Rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- Implement storage requirements for pesticide products with guidance from the local fire department and County Agricultural Commissioner. Provide secondary containment for pesticides.

Inspection

- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering and repair leaks in the irrigation system as soon as they are observed.

Training

- Educate and train employees on pesticide use and in pesticide application techniques to prevent pollution.
- Train employees and contractors in proper techniques for spill containment and cleanup.
- Be sure the frequency of training takes into account the complexity of the operations and the nature of the staff.

Spill Response and Prevention

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Place a stockpile of spill cleanup materials, such as brooms, dustpans, and vacuum sweepers (if desired) near the storage area where it will be readily accessible.
- Have employees trained in spill containment and cleanup present during the loading/unloading of dangerous wastes, liquid chemicals, or other materials.
- Familiarize employees with the Spill Prevention Control and Countermeasure Plan.
- Clean up spills immediately.

Other Considerations

Alternative pest/weed controls may not be available, suitable, or effective in many cases.

Requirements

Costs

- Cost will vary depending on the type and size of facility.
- Overall costs should be low in comparison to other BMPs.

Maintenance

Sweep paved areas regularly to collect loose particles. Wipe up spills with rags and other absorbent material immediately, do not hose down the area to a storm drain.

Supplemental Information

Further Detail of the BMP

Fire Sprinkler Line Flushing

Building fire sprinkler line flushing may be a source of non-stormwater runoff pollution. The water entering the system is usually potable water, though in some areas it may be non-potable reclaimed wastewater. There are subsequent factors that may drastically reduce the quality of the water in such systems. Black iron pipe is usually used since it is cheaper than potable piping, but it is subject to rusting and results in lower quality water. Initially, the black iron pipe has an oil coating to protect it from rusting between manufacture and installation; this will contaminate the water from the first flush but not from subsequent flushes. Nitrates, poly-phosphates and other corrosion inhibitors, as well as fire suppressants and antifreeze may be added to the sprinkler water system. Water generally remains in the sprinkler system a long time (typically a year) and between flushes may accumulate iron, manganese, lead, copper, nickel, and zinc. The water generally becomes anoxic and contains living and dead bacteria and breakdown products from chlorination. This may result in a significant BOD problem and the water often smells. Consequently dispose fire sprinkler line flush water into the sanitary sewer. Do not allow discharge to storm drain or infiltration due to potential high levels of pollutants in fire sprinkler line water.

References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Mobile Cleaners Pilot Program: Final Report. 1997. Bay Area Stormwater Management Agencies Association (BASMAA). http://www.basmaa.org/

Pollution from Surface Cleaning Folder. 1996. Bay Area Stormwater Management Agencies Association (BASMAA). http://www.basmaa.org/

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net/

Site Design & Landscape Planning SD-10

Design Objectives

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- ☑ Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Each project site possesses unique topographic, hydrologic, and vegetative features, some of which are more suitable for development than others. Integrating and incorporating appropriate landscape planning methodologies into the project design is the most effective action that can be done to minimize surface and groundwater contamination from stormwater.

Approach

Landscape planning should couple consideration of land suitability for urban uses with consideration of community goals and projected growth. Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment.

Design Considerations

Design requirements for site design and landscapes planning should conform to applicable standards and specifications of agencies with jurisdiction and be consistent with applicable General Plan and Local Area Plan policies.

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Designing New Installations

Begin the development of a plan for the landscape unit with attention to the following general principles:

- Formulate the plan on the basis of clearly articulated community goals. Carefully identify conflicts and choices between retaining and protecting desired resources and community growth.
- Map and assess land suitability for urban uses. Include the following landscape features in the assessment: wooded land, open unwooded land, steep slopes, erosion-prone soils, foundation suitability, soil suitability for waste disposal, aquifers, aquifer recharge areas, wetlands, floodplains, surface waters, agricultural lands, and various categories of urban land use. When appropriate, the assessment can highlight outstanding local or regional resources that the community determines should be protected (e.g., a scenic area, recreational area, threatened species habitat, farmland, fish run). Mapping and assessment should recognize not only these resources but also additional areas needed for their sustenance.

Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

Conserve Natural Areas during Landscape Planning

If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- Cluster development on least-sensitive portions of a site while leaving the remaining land in a natural undisturbed condition.
- Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.
- Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants.
- Promote natural vegetation by using parking lot islands and other landscaped areas.
- Preserve riparian areas and wetlands.

Maximize Natural Water Storage and Infiltration Opportunities Within the Landscape Unit

- Promote the conservation of forest cover. Building on land that is already deforested affects basin hydrology to a lesser extent than converting forested land. Loss of forest cover reduces interception storage, detention in the organic forest floor layer, and water losses by evapotranspiration, resulting in large peak runoff increases and either their negative effects or the expense of countering them with structural solutions.
- Maintain natural storage reservoirs and drainage corridors, including depressions, areas of permeable soils, swales, and intermittent streams. Develop and implement policies and

regulations to discourage the clearing, filling, and channelization of these features. Utilize them in drainage networks in preference to pipes, culverts, and engineered ditches.

- Evaluating infiltration opportunities by referring to the stormwater management manual for the jurisdiction and pay particular attention to the selection criteria for avoiding groundwater contamination, poor soils, and hydrogeological conditions that cause these facilities to fail. If necessary, locate developments with large amounts of impervious surfaces or a potential to produce relatively contaminated runoff away from groundwater recharge areas.

Protection of Slopes and Channels during Landscape Design

- Convey runoff safely from the tops of slopes.
- Avoid disturbing steep or unstable slopes.
- Avoid disturbing natural channels.
- Stabilize disturbed slopes as quickly as possible.
- Vegetate slopes with native or drought tolerant vegetation.
- Control and treat flows in landscaping and/or other controls prior to reaching existing natural drainage systems.
- Stabilize temporary and permanent channel crossings as quickly as possible, and ensure that increases in run-off velocity and frequency caused by the project do not erode the channel.
- Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters.
- Line on-site conveyance channels where appropriate, to reduce erosion caused by increased flow velocity due to increases in tributary impervious area. The first choice for linings should be grass or some other vegetative surface, since these materials not only reduce runoff velocities, but also provide water quality benefits from filtration and infiltration. If velocities in the channel are high enough to erode grass or other vegetative linings, riprap, concrete, soil cement, or geo-grid stabilization are other alternatives.
- Consider other design principles that are comparable and equally effective.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Redevelopment may present significant opportunity to add features which had not previously been implemented. Examples include incorporation of depressions, areas of permeable soils, and swales in newly redeveloped areas. While some site constraints may exist due to the status of already existing infrastructure, opportunities should not be missed to maximize infiltration, slow runoff, reduce impervious areas, disconnect directly connected impervious areas.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Stormwater Management Manual for Western Washington, Washington State Department of Ecology, August 2001.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Roof Runoff Controls SD-11

Rain Garden

Design Objectives

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- Collect and Convey

Description

Various roof runoff controls are available to address stormwater that drains off rooftops. The objective is to reduce the total volume and rate of runoff from individual lots, and retain the pollutants on site that may be picked up from roofing materials and atmospheric deposition. Roof runoff controls consist of directing the roof runoff away from paved areas and mitigating flow to the storm drain system through one of several general approaches: cisterns or rain barrels; dry wells or infiltration trenches; pop-up emitters, and foundation planting. The first three approaches require the roof runoff to be contained in a gutter and downspout system. Foundation planting provides a vegetated strip under the drip line of the roof.

Approach

Design of individual lots for single-family homes as well as lots for higher density residential and commercial structures should consider site design provisions for containing and infiltrating roof runoff or directing roof runoff to vegetative swales or buffer areas. Retained water can be reused for watering gardens, lawns, and trees. Benefits to the environment include reduced demand for potable water used for irrigation, improved stormwater quality, increased groundwater recharge, decreased runoff volume and peak flows, and decreased flooding potential.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment.

Design Considerations

Designing New Installations

Cisterns or Rain Barrels

One method of addressing roof runoff is to direct roof downspouts to cisterns or rain barrels. A cistern is an above ground storage vessel with either a manually operated valve or a permanently open outlet. Roof runoff is temporarily stored and then released for irrigation or infiltration between storms. The number of rain

barrels needed is a function of the rooftop area. Some low impact developers recommend that every house have at least 2 rain barrels, with a minimum storage capacity of 1000 liters. Roof barrels serve several purposes including mitigating the first flush from the roof which has a high volume, amount of contaminants, and thermal load. Several types of rain barrels are commercially available. Consideration must be given to selecting rain barrels that are vector proof and childproof. In addition, some barrels are designed with a bypass valve that filters out grit and other contaminants and routes overflow to a soak-away pit or rain garden.

If the cistern has an operable valve, the valve can be closed to store stormwater for irrigation or infiltration between storms. This system requires continual monitoring by the resident or grounds crews, but provides greater flexibility in water storage and metering. If a cistern is provided with an operable valve and water is stored inside for long periods, the cistern must be covered to prevent mosquitoes from breeding.

A cistern system with a permanently open outlet can also provide for metering stormwater runoff. If the cistern outlet is significantly smaller than the size of the downspout inlet (say ¼ to ½ inch diameter), runoff will build up inside the cistern during storms, and will empty out slowly after peak intensities subside. This is a feasible way to mitigate the peak flow increases caused by rooftop impervious land coverage, especially for the frequent, small storms.

Dry wells and Infiltration Trenches

Roof downspouts can be directed to dry wells or infiltration trenches. A dry well is constructed by excavating a hole in the ground and filling it with an open graded aggregate, and allowing the water to fill the dry well and infiltrate after the storm event. An underground connection from the downspout conveys water into the dry well, allowing it to be stored in the voids. To minimize sedimentation from lateral soil movement, the sides and top of the stone storage matrix can be wrapped in a permeable filter fabric, though the bottom may remain open. A perforated observation pipe can be inserted vertically into the dry well to allow for inspection and maintenance.

In practice, dry wells receiving runoff from single roof downspouts have been successful over long periods because they contain very little sediment. They must be sized according to the amount of rooftop runoff received, but are typically 4 to 5 feet square, and 2 to 3 feet deep, with a minimum of 1-foot soil cover over the top (maximum depth of 10 feet).

To protect the foundation, dry wells must be set away from the building at least 10 feet. They must be installed in solids that accommodate infiltration. In poorly drained soils, dry wells have very limited feasibility.

Infiltration trenches function in a similar manner and would be particularly effective for larger roof areas. An infiltration trench is a long, narrow, rock-filled trench with no outlet that receives stormwater runoff. These are described under Treatment Controls.

Pop-up Drainage Emitter

Roof downspouts can be directed to an underground pipe that daylights some distance from the building foundation, releasing the roof runoff through a pop-up emitter. Similar to a pop-up irrigation head, the emitter only opens when there is flow from the roof. The emitter remains flush to the ground during dry periods, for ease of lawn or landscape maintenance.

Foundation Planting

Landscape planting can be provided around the base to allow increased opportunities for stormwater infiltration and protect the soil from erosion caused by concentrated sheet flow coming off the roof. Foundation plantings can reduce the physical impact of water on the soil and provide a subsurface matrix of roots that encourage infiltration. These plantings must be sturdy enough to tolerate the heavy runoff sheet flows, and periodic soil saturation.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Supplemental Information

Examples

- City of Ottawa's Water Links Surface –Water Quality Protection Program
- City of Toronto Downspout Disconnection Program
- City of Boston, MA, Rain Barrel Demonstration Program

Other Resources

Hager, Marty Catherine, Stormwater, "Low-Impact Development", January/February 2003. www.stormh2o.com

Low Impact Urban Design Tools, Low Impact Development Design Center, Beltsville, MD. www.lid-stormwater.net

Start at the Source, Bay Area Stormwater Management Agencies Association, 1999 Edition

Efficient Irrigation SD-12

Design Objectives

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Irrigation water provided to landscaped areas may result in excess irrigation water being conveyed into stormwater drainage systems.

Approach

Project plan designs for development and redevelopment should include application methods of irrigation water that minimize runoff of excess irrigation water into the stormwater conveyance system.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

Design Considerations

Designing New Installations

The following methods to reduce excessive irrigation runoff should be considered, and incorporated and implemented where determined applicable and feasible by the Permittee:

- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Design irrigation systems to each landscape area's specific water requirements.
- Include design featuring flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.
- Implement landscape plans consistent with County or City water conservation resolutions, which may include provision of water sensors, programmable irrigation times (for short cycles), etc.

- Design timing and application methods of irrigation water to minimize the runoff of excess irrigation water into the storm water drainage system.
- Group plants with similar water requirements in order to reduce excess irrigation runoff and promote surface filtration. Choose plants with low irrigation requirements (for example, native or drought tolerant species). Consider design features such as:
  - Using mulches (such as wood chips or bar) in planter areas without ground cover to minimize sediment in runoff
  - Installing appropriate plant materials for the location, in accordance with amount of sunlight and climate, and use native plant materials where possible and/or as recommended by the landscape architect
  - Leaving a vegetative barrier along the property boundary and interior watercourses, to act as a pollutant filter, where appropriate and feasible
  - Choosing plants that minimize or eliminate the use of fertilizer or pesticides to sustain growth
- Employ other comparable, equally effective methods to reduce irrigation water runoff.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Storm Drain Signage SD-13

Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- ☑ Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Waste materials dumped into storm drain inlets can have severe impacts on receiving and ground waters. Posting notices regarding discharge prohibitions at storm drain inlets can prevent waste dumping. Storm drain signs and stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets.

Approach

The stencil or affixed sign contains a brief statement that prohibits dumping of improper materials into the urban runoff conveyance system. Storm drain messages have become a popular method of alerting the public about the effects of and the prohibitions against waste disposal.

Suitable Applications

Stencils and signs alert the public to the destination of pollutants discharged to the storm drain. Signs are appropriate in residential, commercial, and industrial areas, as well as any other area where contributions or dumping to storm drains is likely.

Design Considerations

Storm drain message markers or placards are recommended at all storm drain inlets within the boundary of a development project. The marker should be placed in clear sight facing toward anyone approaching the inlet from either side. All storm drain inlet locations should be identified on the development site map.

Designing New Installations

The following methods should be considered for inclusion in the project design and show on project plans:

- Provide stenciling or labeling of all storm drain inlets and catch basins, constructed or modified, within the project area with prohibitive language. Examples include "NO DUMPING

– DRAINS TO OCEAN" and/or other graphical icons to discourage illegal dumping.

- Post signs with prohibitive language and/or graphical icons, which prohibit illegal dumping at public access points along channels and creeks within the project area.

Note - Some local agencies have approved specific signage and/or storm drain message placards for use. Consult local agency stormwater staff to determine specific requirements for placard types and methods of application.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. If the project meets the definition of "redevelopment", then the requirements stated under " designing new installations" above should be included in all project design plans.

Additional Information

Maintenance Considerations

- Legibility of markers and signs should be maintained. If required by the agency with jurisdiction over the project, the owner/operator or homeowner's association should enter into a maintenance agreement with the agency or record a deed restriction upon the property title to maintain the legibility of placards or signs.

Placement

- Signage on top of curbs tends to weather and fade.

- Signage on face of curbs tends to be worn by contact with vehicle tires and sweeper brooms.

Supplemental Information

Examples

- Most MS4 programs have storm drain signage programs. Some MS4 programs will provide stencils, or arrange for volunteers to stencil storm drains as part of their outreach program.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Maintenance Bays & Docks SD-31

Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- ☑ Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- Collect and Convey

Description

Several measures can be taken to prevent operations at maintenance bays and loading docks from contributing a variety of toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to the stormwater conveyance system.

Approach

In designs for maintenance bays and loading docks, containment is encouraged. Preventative measures include overflow containment structures and dead-end sumps. However, in the case of loading docks from grocery stores and warehouse/distribution centers, engineered infiltration systems may be considered.

Suitable Applications

Appropriate applications include commercial and industrial areas planned for development or redevelopment.

Design Considerations

Design requirements for vehicle maintenance and repair are governed by Building and Fire Codes, and by current local agency ordinances, and zoning requirements. The design criteria described in this fact sheet are meant to enhance and be consistent with these code requirements.

Designing New Installations

Designs of maintenance bays should consider the following:

- Repair/maintenance bays and vehicle parts with fluids should be indoors; or designed to preclude urban run-on and runoff.
- Repair/maintenance floor areas should be paved with Portland cement concrete (or equivalent smooth impervious surface).

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- Repair/maintenance bays should be designed to capture all wash water leaks and spills. Provide impermeable berms, drop inlets, trench catch basins, or overflow containment structures around repair bays to prevent spilled materials and wash-down waters form entering the storm drain system. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

- Other features may be comparable and equally effective.

The following designs of loading/unloading dock areas should be considered:

- Loading dock areas should be covered, or drainage should be designed to preclude urban run-on and runoff.

- Direct connections into storm drains from depressed loading docks (truck wells) are prohibited.

- Below-grade loading docks from grocery stores and warehouse/distribution centers of fresh food items should drain through water quality inlets, or to an engineered infiltration system, or an equally effective alternative. Pre-treatment may also be required.

- Other features may be comparable and equally effective.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Additional Information

Stormwater and non-stormwater will accumulate in containment areas and sumps with impervious surfaces. Contaminated accumulated water must be disposed of in accordance with applicable laws and cannot be discharged directly to the storm drain or sanitary sewer system without the appropriate permit.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Trash Storage Areas SD-32

Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- Collect and Convey

Description

Trash storage areas are areas where a trash receptacle (s) are located for use as a repository for solid wastes. Stormwater runoff from areas where trash is stored or disposed of can be polluted. In addition, loose trash and debris can be easily transported by water or wind into nearby storm drain inlets, channels, and/or creeks. Waste handling operations that may be sources of stormwater pollution include dumpsters, litter control, and waste piles.

Approach

This fact sheet contains details on the specific measures required to prevent or reduce pollutants in stormwater runoff associated with trash storage and handling. Preventative measures including enclosures, containment structures, and impervious pavements to mitigate spills, should be used to reduce the likelihood of contamination.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

Design Considerations

Design requirements for waste handling areas are governed by Building and Fire Codes, and by current local agency ordinances and zoning requirements. The design criteria described in this fact sheet are meant to enhance and be consistent with these code and ordinance requirements. Hazardous waste should be handled in accordance with legal requirements established in Title 22, California Code of Regulation.

Wastes from commercial and industrial sites are typically hauled by either public or commercial carriers that may have design or access requirements for waste storage areas. The design criteria in this fact sheet are recommendations and are not intended to be in conflict with requirements established by the waste hauler. The waste hauler should be contacted prior to the design of your site trash collection areas. Conflicts or issues should be discussed with the local agency.

Designing New Installations

Trash storage areas should be designed to consider the following structural or treatment control BMPs:

- Design trash container areas so that drainage from adjoining roofs and pavement is diverted around the area(s) to avoid run-on. This might include berming or grading the waste handling area to prevent run-on of stormwater.
- Make sure trash container areas are screened or walled to prevent off-site transport of trash.

- Use lined bins or dumpsters to reduce leaking of liquid waste.
- Provide roofs, awnings, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers.
- Pave trash storage areas with an impervious surface to mitigate spills.
- Do not locate storm drains in immediate vicinity of the trash storage area.
- Post signs on all dumpsters informing users that hazardous materials are not to be disposed of therein.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Additional Information

Maintenance Considerations

The integrity of structural elements that are subject to damage (i.e., screens, covers, and signs) must be maintained by the owner/operator. Maintenance agreements between the local agency and the owner/operator may be required. Some agencies will require maintenance deed restrictions to be recorded of the property title. If required by the local agency, maintenance agreements or deed restrictions must be executed by the owner/operator before improvement plans are approved.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Street Sweeping and Vacuuming SE-7

Categories		
EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	☑
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	☑
Metals	
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

Description and Purpose

Street sweeping and vacuuming includes use of self-propelled and walk-behind equipment to remove sediment from streets and roadways, and to clean paved surfaces in preparation for final paving. Sweeping and vacuuming prevents sediment from the project site from entering storm drains or receiving waters.

Suitable Applications

Sweeping and vacuuming are suitable anywhere sediment is tracked from the project site onto public or private paved streets and roads, typically at points of egress. Sweeping and vacuuming are also applicable during preparation of paved surfaces for final paving.

Limitations

Sweeping and vacuuming may not be effective when sediment is wet or when tracked soil is caked (caked soil may need to be scraped loose).

Implementation

- Controlling the number of points where vehicles can leave the site will allow sweeping and vacuuming efforts to be focused, and perhaps save money.
- Inspect potential sediment tracking locations daily.
- Visible sediment tracking should be swept or vacuumed on a daily basis.
- Do not use kick brooms or sweeper attachments. These tend to spread the dirt rather than remove it.

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- If not mixed with debris or trash, consider incorporating the removed sediment back into the project

Costs

Rental rates for self-propelled sweepers vary depending on hopper size and duration of rental. Expect rental rates from $58/hour (3 yd^3 hopper) to $88/hour (9 yd^3 hopper), plus operator costs. Hourly production rates vary with the amount of area to be swept and amount of sediment. Match the hopper size to the area and expect sediment load to minimize time spent dumping.

Inspection and Maintenance

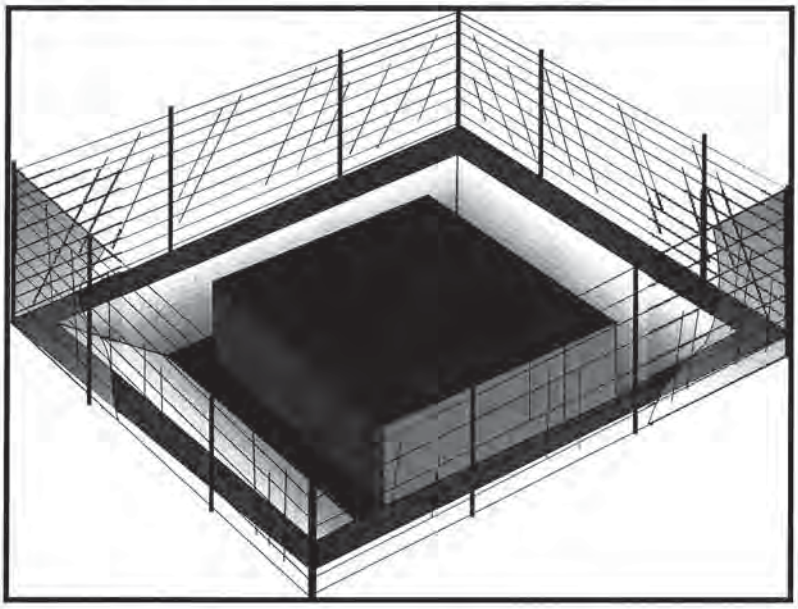
- Inspect BMPs in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- When actively in use, points of ingress and egress must be inspected daily.
- When tracked or spilled sediment is observed outside the construction limits, it must be removed at least daily. More frequent removal, even continuous removal, may be required in some jurisdictions.
- Be careful not to sweep up any unknown substance or any object that may be potentially hazardous.
- Adjust brooms frequently; maximize efficiency of sweeping operations.
- After sweeping is finished, properly dispose of sweeper wastes at an approved dumpsite.

References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Labor Surcharge and Equipment Rental Rates, State of California Department of Transportation (Caltrans), April 1, 2002 – March 31, 2003.

Storm Drain Inlet Protection SE-10



Categories

EC	Erosion Control	
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	☒
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

SE-1 Silt Fence

SE-5 Fiber Rolls

SE-6 Gravel Bag Berm

SE-8 Sandbag Barrier

SE-14 Biofilter Bags

Description and Purpose

Storm drain inlet protection consists of a sediment filter or an impounding area in, around or upstream of a storm drain, drop inlet, or curb inlet. Storm drain inlet protection measures temporarily pond runoff before it enters the storm drain, allowing sediment to settle. Some filter configurations also remove sediment by filtering, but usually the ponding action results in the greatest sediment reduction. Temporary geotextile storm drain inserts attach underneath storm drain grates to capture and filter storm water.

Suitable Applications

Every storm drain inlet receiving runoff from unstabilized or otherwise active work areas should be protected. Inlet protection should be used in conjunction with other erosion and sediment controls to prevent sediment-laden stormwater and non-stormwater discharges from entering the storm drain system.

Limitations

- Drainage area should not exceed 1 acre.
- In general straw bales should not be used as inlet protection.
- Requires an adequate area for water to pond without encroaching into portions of the roadway subject to traffic.

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- Sediment removal may be inadequate to prevent sediment discharges in high flow conditions or if runoff is heavily sediment laden. If high flow conditions are expected, use other onsite sediment trapping techniques in conjunction with inlet protection.
- Frequent maintenance is required.
- Limit drainage area to 1 acre maximum. For drainage areas larger than 1 acre, runoff should be routed to a sediment-trapping device designed for larger flows. See BMPs SE-2, Sediment Basin, and SE-3, Sediment Traps.
- Excavated drop inlet sediment traps are appropriate where relatively heavy flows are expected, and overflow capability is needed.

Implementation

General

Inlet control measures presented in this handbook should not be used for inlets draining more than one acre. Runoff from larger disturbed areas should be first routed through SE-2, Sediment Basin or SE-3, Sediment Trap and/or used in conjunction with other drainage control, erosion control, and sediment control BMPs to protect the site. Different types of inlet protection are appropriate for different applications depending on site conditions and the type of inlet. Alternative methods are available in addition to the methods described/shown herein such as prefabricated inlet insert devices, or gutter protection devices.

Design and Layout

Identify existing and planned storm drain inlets that have the potential to receive sediment-laden surface runoff. Determine if storm drain inlet protection is needed and which method to use.

- The key to successful and safe use of storm drain inlet protection devices is to know where runoff that is directed toward the inlet to be protected will pond or be diverted as a result of installing the protection device.
  - Determine the acceptable location and extent of ponding in the vicinity of the drain inlet. The acceptable location and extent of ponding will influence the type and design of the storm drain inlet protection device.
  - Determine the extent of potential runoff diversion caused by the storm drain inlet protection device. Runoff ponded by inlet protection devices may flow around the device and towards the next downstream inlet. In some cases, this is acceptable; in other cases, serious erosion or downstream property damage can be caused by these diversions. The possibility of runoff diversions will influence whether or not storm drain inlet protection is suitable; and, if suitable, the type and design of the device.
- The location and extent of ponding, and the extent of diversion, can usually be controlled through appropriate placement of the inlet protection device. In some cases, moving the inlet protection device a short distance upstream of the actual inlet can provide more efficient sediment control, limit ponding to desired areas, and prevent or control diversions.

- Six types of inlet protection are presented below. However, it is recognized that other effective methods and proprietary devices exist and may be selected.
  - Silt Fence: Appropriate for drainage basins with less than a 5% slope, sheet flows, and flows under 0.5 cfs.
  - Excavated Drop Inlet Sediment Trap: An excavated area around the inlet to trap sediment (SE-3).
  - Gravel bag barrier: Used to create a small sediment trap upstream of inlets on sloped, paved streets. Appropriate for sheet flow or when concentrated flow may exceed 0.5 cfs, and where overtopping is required to prevent flooding.
  - Block and Gravel Filter: Appropriate for flows greater than 0.5 cfs.
  - Temporary Geotextile Storm drain Inserts: Different products provide different features. Refer to manufacturer details for targeted pollutants and additional features.
  - Biofilter Bag Barrier: Used to create a small retention area upstream of inlets and can be located on pavement or soil. Biofilter bags slowly filter runoff allowing sediment to settle out. Appropriate for flows under 0.5 cfs.
- Select the appropriate type of inlet protection and design as referred to or as described in this fact sheet.
- Provide area around the inlet for water to pond without flooding structures and property.
- Grates and spaces around all inlets should be sealed to prevent seepage of sediment-laden water.
- Excavate sediment sumps (where needed) 1 to 2 ft with 2:1 side slopes around the inlet.

Installation

- ***DI Protection Type 1 - Silt Fence*** - Similar to constructing a silt fence; see BMP SE-1, Silt Fence. Do not place fabric underneath the inlet grate since the collected sediment may fall into the drain inlet when the fabric is removed or replaced and water flow through the grate will be blocked resulting in flooding. See typical Type 1 installation details at the end of this fact sheet.

  1. Excavate a trench approximately 6 in. wide and 6 in. deep along the line of the silt fence inlet protection device.
  2. Place 2 in. by 2 in. wooden stakes around the perimeter of the inlet a maximum of 3 ft apart and drive them at least 18 in. into the ground or 12 in. below the bottom of the trench. The stakes should be at least 48 in.
  3. Lay fabric along bottom of trench, up side of trench, and then up stakes. See SE-1, Silt Fence, for details. The maximum silt fence height around the inlet is 24 in.
  4. Staple the filter fabric (for materials and specifications, see SE-1, Silt Fence) to wooden stakes. Use heavy-duty wire staples at least 1 in. in length.

5. Backfill the trench with gravel or compacted earth all the way around.

- ***DI Protection Type 2 - Excavated Drop Inlet Sediment Trap*** - Install filter fabric fence in accordance with DI Protection Type 1. Size excavated trap to provide a minimum storage capacity calculated at the rate 67 yd^3/acre of drainage area. See typical Type 2 installation details at the end of this fact sheet.

- ***DI Protection Type 3 - Gravel bag*** - Flow from a severe storm should not overtop the curb. In areas of high clay and silts, use filter fabric and gravel as additional filter media. Construct gravel bags in accordance with SE-6, Gravel Bag Berm. Gravel bags should be used due to their high permeability. See typical Type 3 installation details at the end of this fact sheet.

  1. Construct on gently sloping street.
  2. Leave room upstream of barrier for water to pond and sediment to settle.
  3. Place several layers of gravel bags – overlapping the bags and packing them tightly together.
  4. Leave gap of one bag on the top row to serve as a spillway. Flow from a severe storm (e.g., 10 year storm) should not overtop the curb.

- ***DI Protection Type 4 – Block and Gravel Filter*** - Block and gravel filters are suitable for curb inlets commonly used in residential, commercial, and industrial construction. See typical Type 4 installation details at the end of this fact sheet.

  1. Place hardware cloth or comparable wire mesh with 0.5 in. openings over the drop inlet so that the wire extends a minimum of 1 ft beyond each side of the inlet structure. If more than one strip is necessary, overlap the strips. Place woven geotextile over the wire mesh.
  2. Place concrete blocks lengthwise on their sides in a single row around the perimeter of the inlet, so that the open ends face outward, not upward. The ends of adjacent blocks should abut. The height of the barrier can be varied, depending on design needs, by stacking combinations of blocks that are 4 in., 8 in., and 12 in. wide. The row of blocks should be at least 12 in. but no greater than 24 in. high.
  3. Place wire mesh over the outside vertical face (open end) of the concrete blocks to prevent stone from being washed through the blocks. Use hardware cloth or comparable wire mesh with 0.5 in. opening.
  4. Pile washed stone against the wire mesh to the top of the blocks. Use 0.75 to 3 in.

- ***DI Protection Type 5 – Temporary Geotextile Insert (proprietary)*** – Many types of temporary inserts are available. Most inserts fit underneath the grate of a drop inlet or inside of a curb inlet and are fastened to the outside of the grate or curb. These inserts are removable and many can be cleaned and reused. Installation of these inserts differs between manufacturers. Please refer to manufacturer instruction for installation of proprietary devices.

- ***DI Protection Type 6 - Biofilter bags*** – Biofilter bags may be used as a substitute for gravel bags in low-flow situations. Biofilter bags should conform to specifications detailed in SE-14, Biofilter bags.

  1. Construct in a gently sloping area.
  2. Biofilter bags should be placed around inlets to intercept runoff flows.
  3. All bag joints should overlap by 6 in.
  4. Leave room upstream for water to pond and for sediment to settle out.
  5. Stake bags to the ground as described in the following detail. Stakes may be omitted if bags are placed on a paved surface.

Costs

- Average annual cost for installation and maintenance of DI Type 1-4 and 6 (one year useful life) is $200 per inlet.
- Temporary geotextile inserts are proprietary and cost varies by region. These inserts can often be reused and may have greater than 1 year of use if maintained and kept undamaged. Average cost per insert ranges from $50-75 plus installation, but costs can exceed $100. This cost does not include maintenance.

Inspection and Maintenance

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Silt Fences. If the fabric becomes clogged, torn, or degrades, it should be replaced. Make sure the stakes are securely driven in the ground and are in good shape (i.e., not bent, cracked, or splintered, and are reasonably perpendicular to the ground). Replace damaged stakes. At a minimum, remove the sediment behind the fabric fence when accumulation reaches one-third the height of the fence or barrier height.
- Gravel Filters. If the gravel becomes clogged with sediment, it should be carefully removed from the inlet and either cleaned or replaced. Since cleaning gravel at a construction site may be difficult, consider using the sediment-laden stone as fill material and put fresh stone around the inlet. Inspect bags for holes, gashes, and snags, and replace bags as needed. Check gravel bags for proper arrangement and displacement.
- Sediment that accumulates in the BMP should be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when the sediment accumulation reaches one-third of the barrier height.
- Inspect and maintain temporary geotextile insert devices according to manufacturer's specifications.
- Remove storm drain inlet protection once the drainage area is stabilized.

- Clean and regrade area around the inlet and clean the inside of the storm drain inlet, as it should be free of sediment and debris at the time of final inspection.

References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

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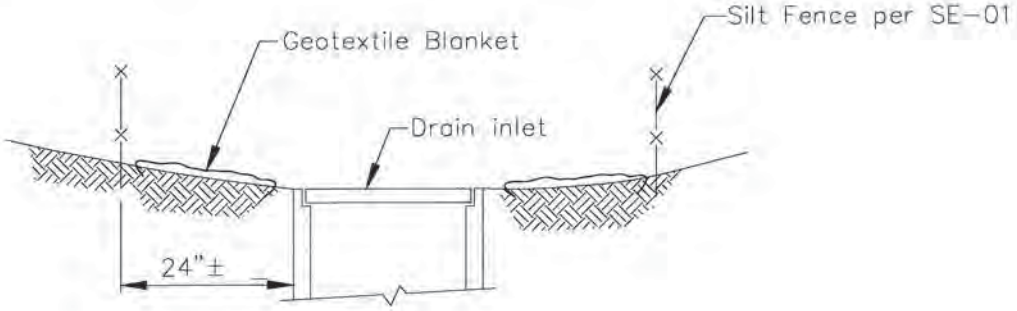
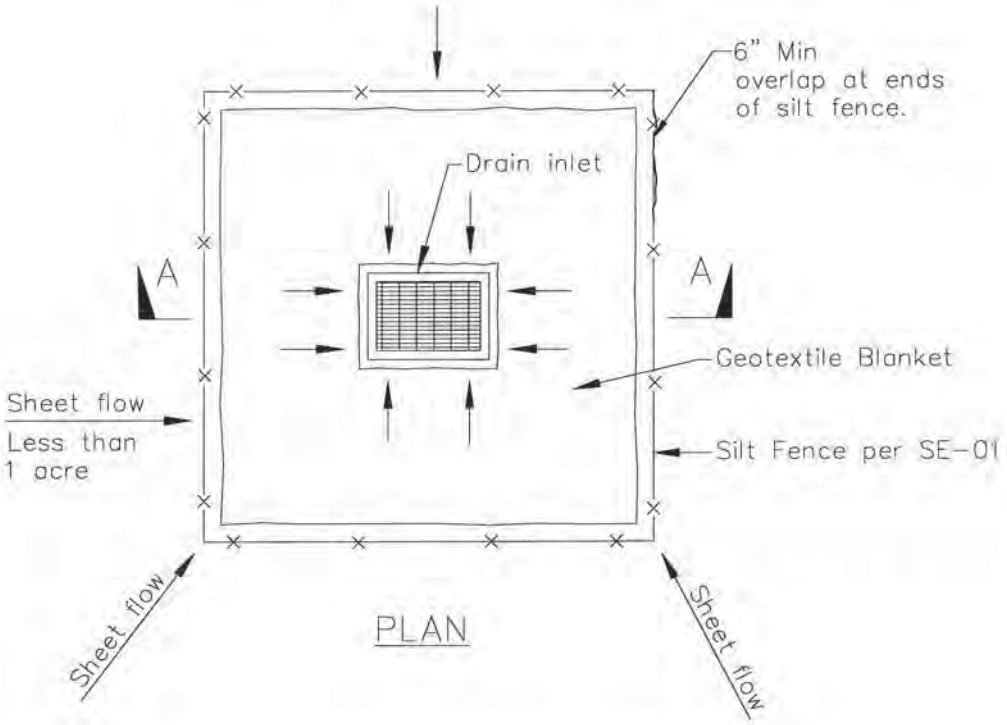


SECTION A–A

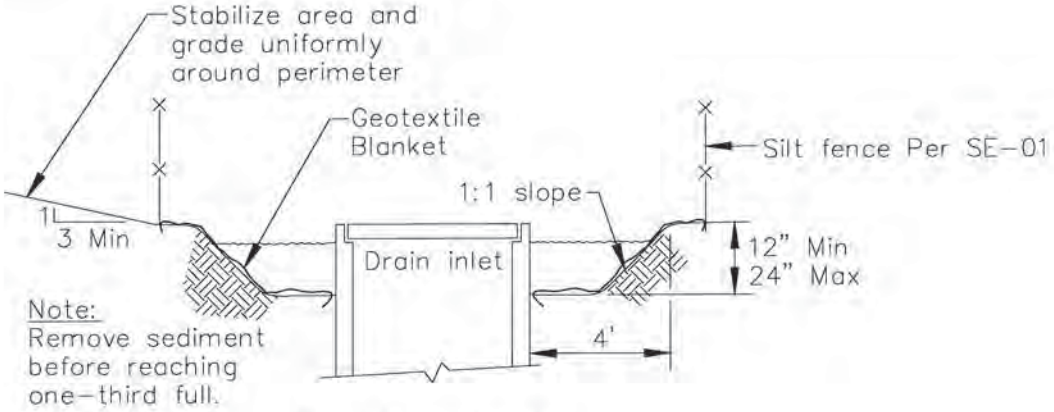


PLAN

DI PROTECTION TYPE 1
NOT TO SCALE

NOTES:

1. For use in areas where grading has been completed and final soil stabilization and seeding are pending.
2. Not applicable in paved areas.
3. Not applicable with concentrated flows.



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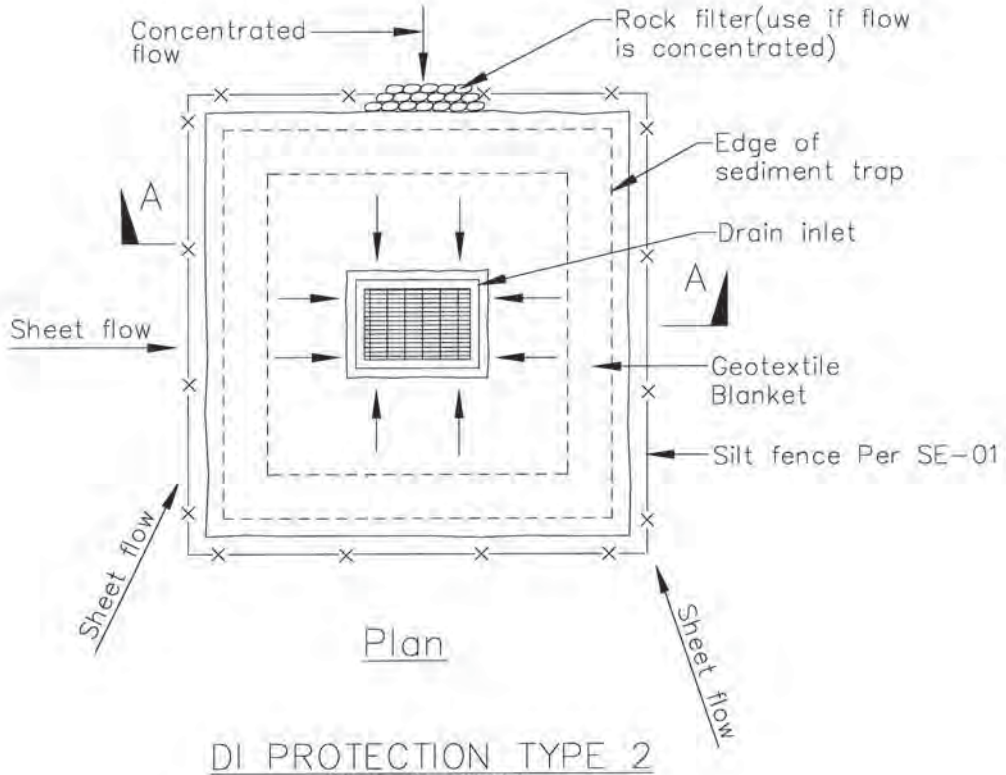
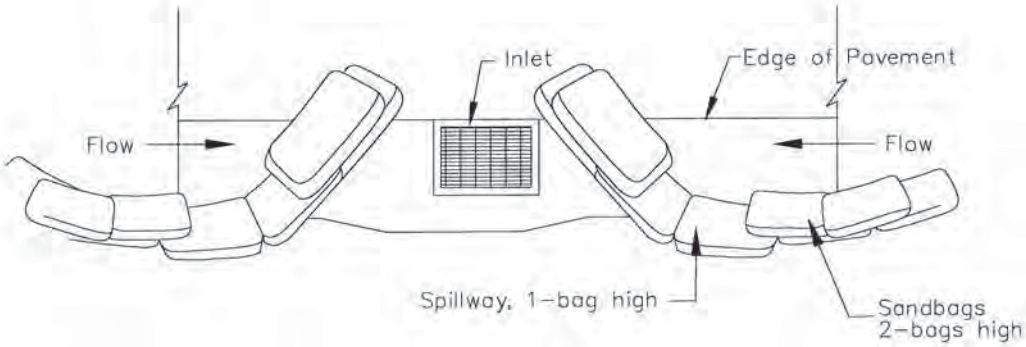


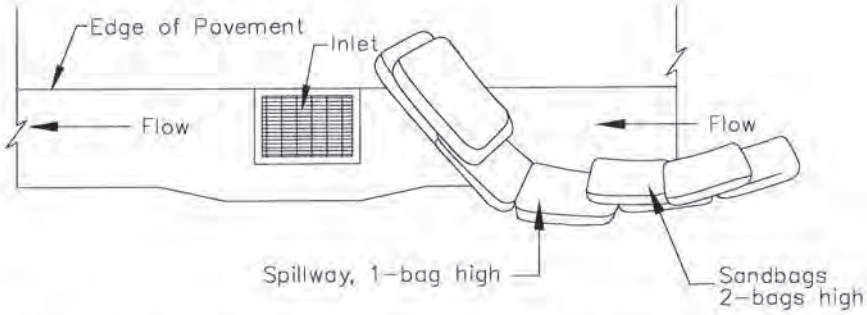
Plan

DI PROTECTION TYPE 2
NOT TO SCALE

Notes
1. For use in cleared and grubbed and in graded areas.
2. Shape basin so that longest inflow area faces longest length of trap.
3. For concentrated flows, shape basin in 2:1 ratio with length oriented towards direction of flow.



TYPICAL PROTECTION FOR INLET ON SUMP

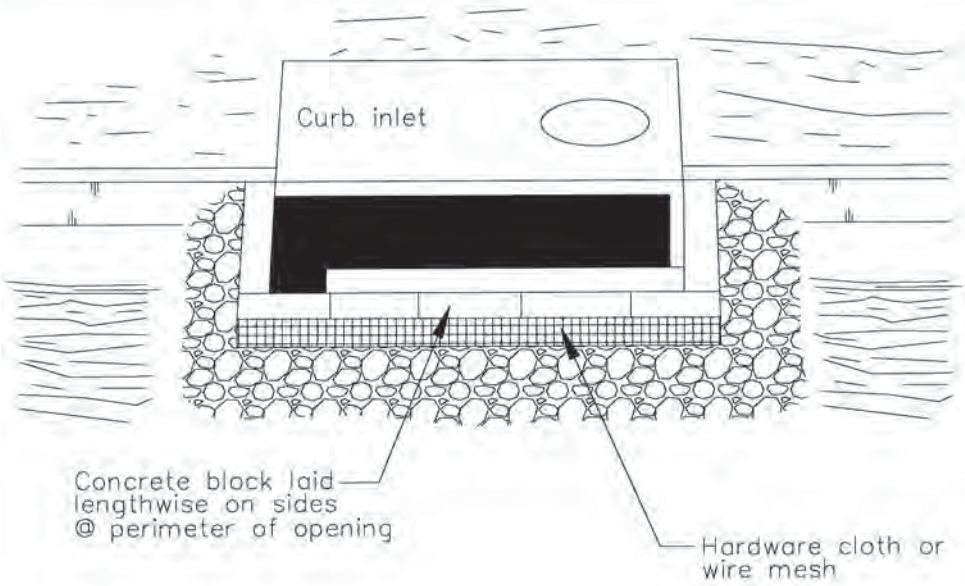


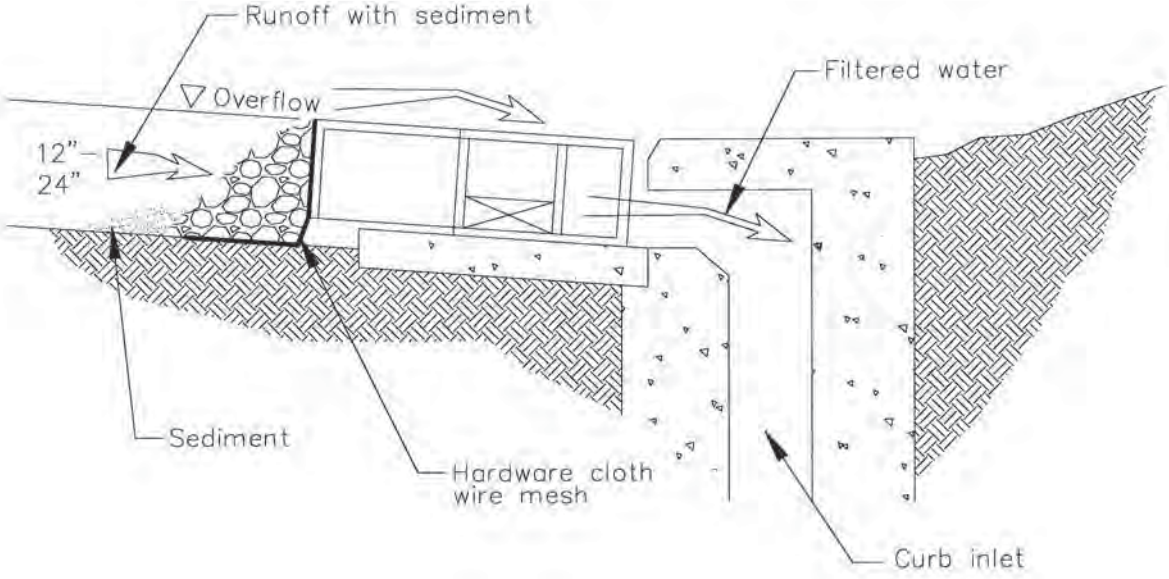
TYPICAL PROTECTION FOR INLET ON GRADE

NOTES:

1. Intended for short-term use.
2. Use to inhibit non-storm water flow.
3. Allow for proper maintenance and cleanup.
4. Bags must be removed after adjacent operation is completed
5. Not applicable in areas with high silts and clays without filter fabric.

DI PROTECTION TYPE 3
NOT TO SCALE





DI PROTECTION – TYPE 4

NOT TO SCALE

Drain Inserts MP-52

Description

Drain inserts are manufactured filters or fabric placed in a drop inlet to remove sediment and debris. There are a multitude of inserts of various shapes and configurations, typically falling into one of three different groups: socks, boxes, and trays. The sock consists of a fabric, usually constructed of polypropylene. The fabric may be attached to a frame or the grate of the inlet holds the sock. Socks are meant for vertical (drop) inlets. Boxes are constructed of plastic or wire mesh. Typically a polypropylene "bag" is placed in the wire mesh box. The bag takes the form of the box. Most box products are one box; that is, the setting area and filtration through media occur in the same box. Some products consist of one or more trays or mesh grates. The trays may hold different types of media. Filtration media vary by manufacturer. Types include polypropylene, porous polymer, treated cellulose, and activated carbon.

California Experience

The number of installations is unknown but likely exceeds a thousand. Some users have reported that these systems require considerable maintenance to prevent plugging and bypass.

Advantages

- Does not require additional space as inserts as the drain inlets are already a component of the standard drainage systems.
- Easy access for inspection and maintenance.
- As there is no standing water, there is little concern for mosquito breeding.
- A relatively inexpensive retrofit option.

Limitations

Performance is likely significantly less than treatment systems that are located at the end of the drainage system such as ponds and vaults. Usually not suitable for large areas or areas with trash or leaves than can plug the insert.

Design and Sizing Guidelines

Refer to manufacturer's guidelines. Drain inserts come any many configurations but can be placed into three general groups: socks, boxes, and trays. The sock consists of a fabric, usually constructed of polypropylene. The fabric may be attached to a frame or the grate of the inlet holds the sock. Socks are meant for vertical (drop) inlets. Boxes are constructed of plastic or wire mesh. Typically a polypropylene "bag" is placed in the wire mesh box. The bag takes the form of the box. Most box products are

Design Considerations

- Use with other BMPs
- Fit and Seal Capacity within Inlet

Targeted Constituents

- ✓ Sediment
- ✓ Nutrients
- ✓ Trash
- ✓ Metals
- Bacteria
- ✓ Oil and Grease
- ✓ Organics

Removal Effectiveness

See New Development and Redevelopment Handbook-Section 5.

CASQA California Stormwater Quality Association

one box; that is, the setting area and filtration through media occurs in the same box. One manufacturer has a double-box. Stormwater enters the first box where setting occurs. The stormwater flows into the second box where the filter media is located. Some products consist of one or more trays or mesh grates. The trays can hold different types of media. Filtration media vary with the manufacturer: types include polypropylene, porous polymer, treated cellulose, and activated carbon.

Construction/Inspection Considerations

Be certain that installation is done in a manner that makes certain that the stormwater enters the unit and does not leak around the perimeter. Leakage between the frame of the insert and the frame of the drain inlet can easily occur with vertical (drop) inlets.

Performance

Few products have performance data collected under field conditions.

Siting Criteria

It is recommended that inserts be used only for retrofit situations or as pretreatment where other treatment BMPs presented in this section area used.

Additional Design Guidelines

Follow guidelines provided by individual manufacturers.

Maintenance

Likely require frequent maintenance, on the order of several times per year.

Cost

- The initial cost of individual inserts ranges from less than $100 to about $2,000. The cost of using multiple units in curb inlet drains varies with the size of the inlet.
- The low cost of inserts may tend to favor the use of these systems over other, more effective treatment BMPs. However, the low cost of each unit may be offset by the number of units that are required, more frequent maintenance, and the shorter structural life (and therefore replacement).

References and Sources of Additional Information

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Interagency Catch Basin Insert Committee, Evaluation of Commercially-Available Catch Basin Inserts for the Treatment of Stormwater Runoff from Developed Sites, 1995

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Woodward Clyde, June 11, 1996, Parking Lot Monitoring Report, Santa Clara Valley Nonpoint Source Pollution Control Program.

Infiltration Basin TC-11

Design Considerations

- Soil for Infiltration
- Slope
- Aesthetics

Targeted Constituents

☑	Sediment	■
☑	Nutrients	■
☑	Trash	■
☑	Metals	■
☑	Bacteria	■
☑	Oil and Grease	■
☑	Organics	■

Legend ***(Removal Effectiveness)***

● Low ■ High

▲ Medium

Description

An infiltration basin is a shallow impoundment that is designed to infiltrate stormwater. Infiltration basins use the natural filtering ability of the soil to remove pollutants in stormwater runoff. Infiltration facilities store runoff until it gradually exfiltrates through the soil and eventually into the water table. This practice has high pollutant removal efficiency and can also help recharge groundwater, thus helping to maintain low flows in stream systems. Infiltration basins can be challenging to apply on many sites, however, because of soils requirements. In addition, some studies have shown relatively high failure rates compared with other management practices.

California Experience

Infiltration basins have a long history of use in California, especially in the Central Valley. Basins located in Fresno were among those initially evaluated in the National Urban Runoff Program and were found to be effective at reducing the volume of runoff, while posing little long-term threat to groundwater quality (EPA, 1983; Schroeder, 1995). Proper siting of these devices is crucial as underscored by the experience of Caltrans in siting two basins in Southern California. The basin with marginal separation from groundwater and soil permeability failed immediately and could never be rehabilitated.

Advantages

- Provides 100% reduction in the load discharged to surface waters.
- The principal benefit of infiltration basins is the approximation of pre-development hydrology during which a

significant portion of the average annual rainfall runoff is infiltrated and evaporated rather than flushed directly to creeks.

- If the water quality volume is adequately sized, infiltration basins can be useful for providing control of channel forming (erosion) and high frequency (generally less than the 2-year) flood events.

Limitations

- May not be appropriate for industrial sites or locations where spills may occur.
- Infiltration basins require a minimum soil infiltration rate of 0.5 inches/hour, not appropriate at sites with Hydrologic Soil Types C and D.
- If infiltration rates exceed 2.4 inches/hour, then the runoff should be fully treated prior to infiltration to protect groundwater quality.
- Not suitable on fill sites or steep slopes.
- Risk of groundwater contamination in very coarse soils.
- Upstream drainage area must be completely stabilized before construction.
- Difficult to restore functioning of infiltration basins once clogged.

Design and Sizing Guidelines

- Water quality volume determined by local requirements or sized so that 85% of the annual runoff volume is captured.
- Basin sized so that the entire water quality volume is infiltrated within 48 hours.
- Vegetation establishment on the basin floor may help reduce the clogging rate.

Construction/Inspection Considerations

- Before construction begins, stabilize the entire area draining to the facility. If impossible, place a diversion berm around the perimeter of the infiltration site to prevent sediment entrance during construction or remove the top 2 inches of soil after the site is stabililized. Stabilize the entire contributing drainage area, including the side slopes, before allowing any runoff to enter once construction is complete.
- Place excavated material such that it can not be washed back into the basin if a storm occurs during construction of the facility.
- Build the basin without driving heavy equipment over the infiltration surface. Any equipment driven on the surface should have extra-wide ("low pressure") tires. Prior to any construction, rope off the infiltration area to stop entrance by unwanted equipment.
- After final grading, till the infiltration surface deeply.
- Use appropriate erosion control seed mix for the specific project and location.

Performance

As water migrates through porous soil and rock, pollutant attenuation mechanisms include precipitation, sorption, physical filtration, and bacterial degradation. If functioning properly, this approach is presumed to have high removal efficiencies for particulate pollutants and moderate removal of soluble pollutants. Actual pollutant removal in the subsurface would be expected to vary depending upon site-specific soil types. This technology eliminates discharge to surface waters except for the very largest storms; consequently, complete removal of all stormwater constituents can be assumed.

There remain some concerns about the potential for groundwater contamination despite the findings of the NURP and Nightingale (1975; 1987a,b,c; 1989). For instance, a report by Pitt et al. (1994) highlighted the potential for groundwater contamination from intentional and unintentional stormwater infiltration. That report recommends that infiltration facilities not be sited in areas where high concentrations are present or where there is a potential for spills of toxic material. Conversely, Schroeder (1995) reported that there was no evidence of groundwater impacts from an infiltration basin serving a large industrial catchment in Fresno, CA.

Siting Criteria

The key element in siting infiltration basins is identifying sites with appropriate soil and hydrogeologic properties, which is critical for long term performance. In one study conducted in Prince George's County, Maryland (Galli, 1992), all of the infiltration basins investigated clogged within 2 years. It is believed that these failures were for the most part due to allowing infiltration at sites with rates of less than 0.5 in/hr, basing siting on soil type rather than field infiltration tests, and poor construction practices that resulted in soil compaction of the basin invert.

A study of 23 infiltration basins in the Pacific Northwest showed better long-term performance in an area with highly permeable soils (Hilding, 1996). In this study, few of the infiltration basins had failed after 10 years. Consequently, the following guidelines for identifying appropriate soil and subsurface conditions should be rigorously adhered to.

- Determine soil type (consider RCS soil type 'A, B or C' only) from mapping and consult USDA soil survey tables to review other parameters such as the amount of silt and clay, presence of a restrictive layer or seasonal high water table, and estimated permeability. The soil should not have more than 30% clay or more than 40% of clay and silt combined. Eliminate sites that are clearly unsuitable for infiltration.

- Groundwater separation should be at least 3 m from the basin invert to the measured ground water elevation. There is concern at the state and regional levels of the impact on groundwater quality from infiltrated runoff, especially when the separation between groundwater and the surface is small.

- Location away from buildings, slopes and highway pavement (greater than 6 m) and wells and bridge structures (greater than 30 m). Sites constructed of fill, having a base flow or with a slope greater than 15% should not be considered.

- Ensure that adequate head is available to operate flow splitter structures (to allow the basin to be offline) without ponding in the splitter structure or creating backwater upstream of the splitter.

- Base flow should not be present in the tributary watershed.

Secondary Screening Based on Site Geotechnical Investigation

- At least three in-hole conductivity tests shall be performed using USBR 7300-89 or Bouwer-Rice procedures (the latter if groundwater is encountered within the boring), two tests at different locations within the proposed basin and the third down gradient by no more than approximately 10 m. The tests shall measure permeability in the side slopes and the bed within a depth of 3 m of the invert.

- The minimum acceptable hydraulic conductivity as measured in any of the three required test holes is 13 mm/hr. If any test hole shows less than the minimum value, the site should be disqualified from further consideration.

- Exclude from consideration sites constructed in fill or partially in fill unless no silts or clays are present in the soil boring. Fill tends to be compacted, with clays in a dispersed rather than flocculated state, greatly reducing permeability.

- The geotechnical investigation should be such that a good understanding is gained as to how the stormwater runoff will move in the soil (horizontally or vertically) and if there are any geological conditions that could inhibit the movement of water.

Additional Design Guidelines

(1) Basin Sizing - The required water quality volume is determined by local regulations or sufficient to capture 85% of the annual runoff.

(2) Provide pretreatment if sediment loading is a maintenance concern for the basin.

(3) Include energy dissipation in the inlet design for the basins. Avoid designs that include a permanent pool to reduce opportunity for standing water and associated vector problems.

(4) Basin invert area should be determined by the equation:

$$A = \frac{WQV}{kt}$$

where A = Basin invert area (m^2)

WQV = water quality volume (m^3)

k = 0.5 times the lowest field-measured hydraulic conductivity (m/hr)

t = drawdown time (48 hr)

(5) The use of vertical piping, either for distribution or infiltration enhancement shall not be allowed to avoid device classification as a Class V injection well per 40 CFR146.5(e)(4).

Maintenance

Regular maintenance is critical to the successful operation of infiltration basins. Recommended operation and maintenance guidelines include:

- Inspections and maintenance to ensure that water infiltrates into the subsurface completely (recommended infiltration rate of 72 hours or less) and that vegetation is carefully managed to prevent creating mosquito and other vector habitats.
- Observe drain time for the design storm after completion or modification of the facility to confirm that the desired drain time has been obtained.
- Schedule semiannual inspections for beginning and end of the wet season to identify potential problems such as erosion of the basin side slopes and invert, standing water, trash and debris, and sediment accumulation.
- Remove accumulated trash and debris in the basin at the start and end of the wet season.
- Inspect for standing water at the end of the wet season.
- Trim vegetation at the beginning and end of the wet season to prevent establishment of woody vegetation and for aesthetic and vector reasons.
- Remove accumulated sediment and regrade when the accumulated sediment volume exceeds 10% of the basin.
- If erosion is occurring within the basin, revegetate immediately and stabilize with an erosion control mulch or mat until vegetation cover is established.
- To avoid reversing soil development, scarification or other disturbance should only be performed when there are actual signs of clogging, rather than on a routine basis. Always remove deposited sediments before scarification, and use a hand-guided rotary tiller, if possible, or a disc harrow pulled by a very light tractor.

Cost

Infiltration basins are relatively cost-effective practices because little infrastructure is needed when constructing them. One study estimated the total construction cost at about $2 per ft (adjusted for inflation) of storage for a 0.25-acre basin (SWRPC, 1991). As with other BMPs, these published cost estimates may deviate greatly from what might be incurred at a specific site. For instance, Caltrans spent about $18/ft^3 for the two infiltration basins constructed in southern California, each of which had a water quality volume of about 0.34 ac.-ft. Much of the higher cost can be attributed to changes in the storm drain system necessary to route the runoff to the basin locations.

Infiltration basins typically consume about 2 to 3% of the site draining to them, which is relatively small. Additional space may be required for buffer, landscaping, access road, and fencing. Maintenance costs are estimated at 5 to 10% of construction costs.

One cost concern associated with infiltration practices is the maintenance burden and longevity. If improperly maintained, infiltration basins have a high failure rate. Thus, it may be necessary to replace the basin with a different technology after a relatively short period of time.

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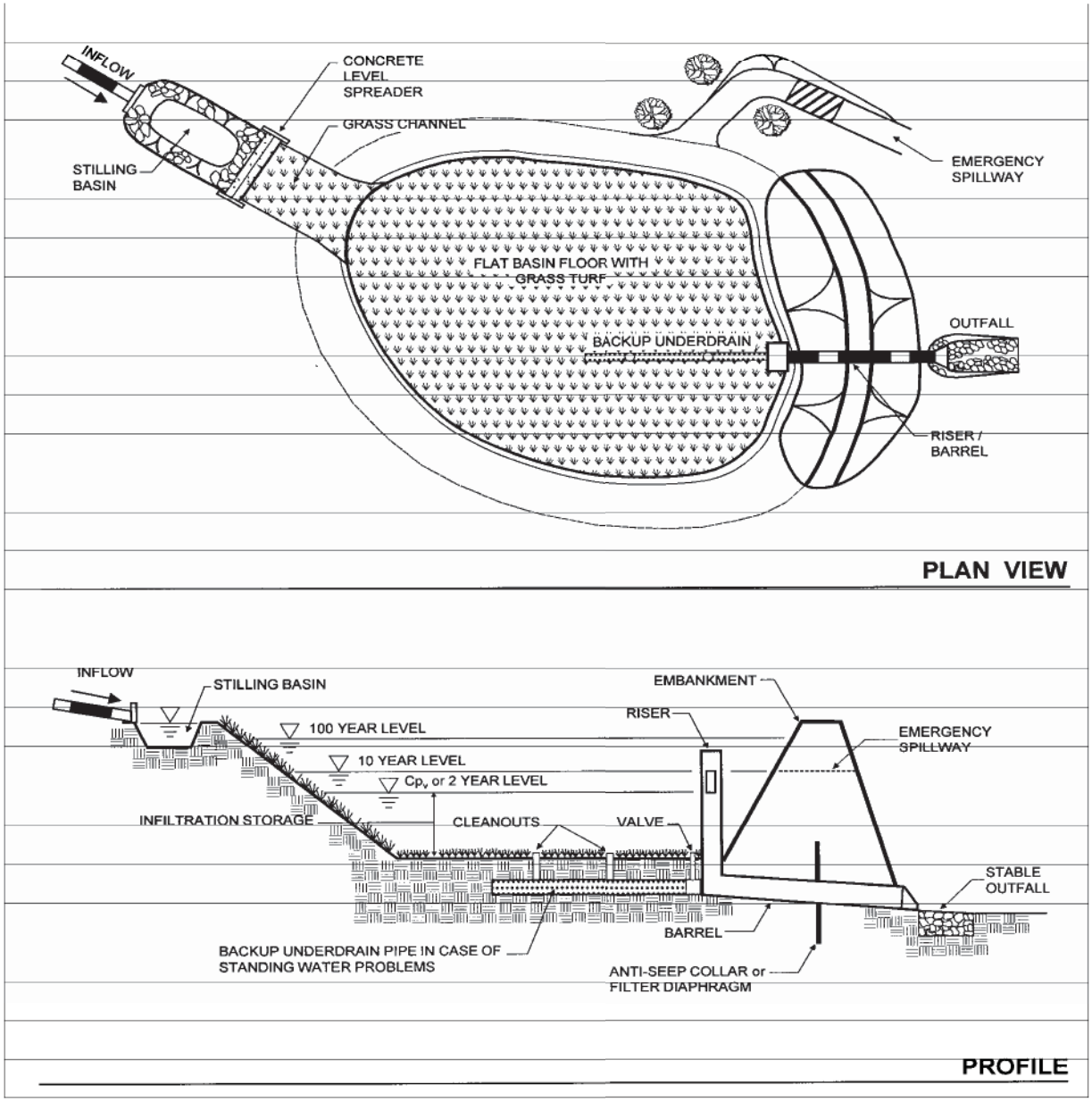
INFLOW
CONCRETE LEVEL SPREADER
GRASS CHANNEL
STILLING BASIN
EMERGENCY SPILLWAY
FLAT BASIN FLOOR WITH GRASS TURF
OUTFALL
BACKUP UNDERDRAIN
RISER / BARREL
PLAN VIEW
INFLOW
STILLING BASIN
EMBANKMENT
RISER
100 YEAR LEVEL
EMERGENCY SPILLWAY
10 YEAR LEVEL
Cpv or 2 YEAR LEVEL
INFILTRATION STORAGE
CLEANOUTS
VALVE
STABLE OUTFALL
BARREL
BACKUP UNDERDRAIN PIPE IN CASE OF STANDING WATER PROBLEMS
ANTI-SEEP COLLAR or FILTER DIAPHRAGM
PROFILE

Bioretention TC-32

Maintenance Concerns, Objectives, and Goals

- Clogged Soil or Outlet Structures
- Invasive Species
- Vegetation/Landscape Maintenance
- Erosion
- Channelization of Flow
- Aesthetics

General Description

The bioretention best management practice (BMP) functions as a soil and plant-based filtration device that removes pollutants through a variety of physical, biological, and chemical treatment processes. These facilities normally consist of a grass buffer strip, sand bed, ponding area, organic layer or mulch layer, planting soil, and plants. The runoff's velocity is reduced by passing over or through a sand bed and is subsequently distributed evenly along a ponding area. Exfiltration of the stored water in the bioretention area planting soil into the underlying soils occurs over a period of days.

Inspection/Maintenance Considerations

Bioretention requires frequent landscaping maintenance, including measures to ensure that the area is functioning properly, as well as maintenance of the landscaping on the practice. In many cases, bioretention areas initially require intense maintenance, but less maintenance is needed over time. In many cases, maintenance tasks can be completed by a landscaping contractor, who may already be hired at the site. In cold climates the soil may freeze, preventing runoff from infiltrating into the planting soil.

Targeted Constituents

✓	Sediment	■
✓	Nutrients	▲
✓	Trash	■
✓	Metals	■
✓	Bacteria	■
✓	Oil and Grease	■
✓	Organics	■
✓	Oxygen Demanding	■

Legend ***(Removal Effectiveness)***

● Low ■ High

▲ Medium

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Inspection Activities	Suggested Frequency
■ Inspect soil and repair eroded areas.	Monthly
■ Inspect for erosion or damage to vegetation, preferably at the end of the wet season to schedule summer maintenance and before major fall runoff to be sure the strips are ready for winter. However, additional inspection after periods of heavy runoff is desirable.	Semi-annual inspection
■ Inspect to ensure grass is well established. If not, either prepare soil and reseed or replace with alternative species. Install erosion control blanket. ■ Check for debris and litter, and areas of sediment accumulation. ■ Inspect health of trees and shrubs.	
Maintenance Activities	**Suggested Frequency**
■ Water plants daily for 2 weeks.	At project completion
■ Remove litter and debris.	Monthly
■ Remove sediment. ■ Remulch void areas. ■ Treat diseased trees and shrubs. ■ Mow turf areas. ■ Repair erosion at inflow points. ■ Repair outflow structures. ■ Unclog underdrain. ■ Regulate soil pH regulation.	As needed
■ Remove and replace dead and diseased vegetation.	Semi-annual
■ Add mulch. ■ Replace tree stakes and wires.	Annual
■ Mulch should be replaced every 2 to 3 years or when bare spots appear. Remulch prior to the wet season.	Every 2-3 years, or as needed

Additional Information

Landscaping is critical to the function and aesthetic value of bioretention areas. It is preferable to plant the area with native vegetation, or plants that provide habitat value, where possible. Another important design feature is to select species that can withstand the hydrologic regime they will experience. At the bottom of the bioretention facility, plants that tolerate both wet and dry conditions are preferable. At the edges, which will remain primarily dry, upland species will be the most resilient. It is best to select a combination of trees, shrubs, and herbaceous materials.

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XIV.1. Hydrologic Source Control Fact Sheets (HSC)

HSC-1: Localized On-Lot Infiltration

'Localized on-lot infiltration' refers to the practice of collecting on-site runoff from small distributed areas within a catchment and diverting it to a dedicated on-site infiltration area. This technique can include disconnecting downspouts and draining sidewalks and patios into french drains, trenches, small rain gardens, or other surface depressions. For downspout disconnections and other impervious area disconnection involving dispersion over pervious surfaces, but without intentional ponding, see HSC-2: Impervious Area Dispersion.

Also known as:

- *Downspout infiltration*
- *Retention grading*
- *French drains*
- *On-lot rain gardens*

On-lot rain garden
Source: lowimpactdevelopment.org

Feasibility Screening Considerations

- 'Localized on-lot infiltration' shall meet infiltration infeasibility screening criteria to be considered for use.

Opportunity Criteria

- Runoff can be directed to and temporarily pond in pervious area depressions, rock trenches, or similar.
- Soils are adequate for infiltration or can be amended to provide an adequate infiltration rate.
- Shallow utilities are not present below infiltration areas.

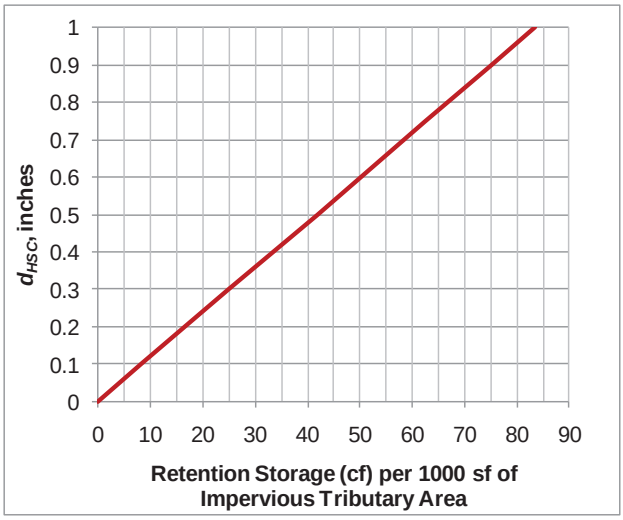
OC-Specific Design Criteria and Considerations

- ☐ A single on-lot infiltration area should not be sized to retain runoff from impervious areas greater than 4,000 sq. ft.; if the drainage area exceeds this criteria, sizing should be based on calculations for bioretention areas or infiltration trenches.
- ☐ Soils should be sufficiently permeable to eliminate ponded water within 24 hours following a 85th percentile, 24-hour storm event.
- ☐ Maximum ponding depth should be should be less than 3 inches and trench depth should be less than 1.5 feet.
- ☐ Infiltration should not be used when the depth to the mounded seasonally high table is within 5 feet of the bottom of infiltrating surface.
- ☐ Infiltration via depression storage, french drains, or rain gardens should be located greater than 8 feet from building foundations.
- ☐ Site slope should be less than 10%.
- ☐ Infiltration unit should not be located within 50 feet of slopes greater than 15 percent.
- ☐ Side slopes of rain garden or depression storage should not exceed 3H:1V.
- ☐ Effective energy dissipation and uniform flow spreading methods should be employed to prevent erosion resulting fromwater entering infiltration areas.

☐ Overflow should be located such that it does not cause erosion orand is conveyed away from structures toward the downstream conveyance and treatment system. .

Calculating HSC Retention Volume

- The retention volume provided by localized on-lot infiltration can be computed as the storage volume provided by surface ponding and the pore space within an amended soil layer or gravel trench.
- Estimate the average retention volume per 1000 square feet impervious tributary area provided by on-lot infiltration.
- Look up the storm retention depth, d_{HSC} from the chart to the right.
- The max d_{HSC} is equal to the design capture storm depth for the project site.



Configuration for Use in a Treatment Train

- Localized on-lot infiltration would typically serve as the first in a treatment train and should only be used where tributary areas do not generate significant sediment that would require pretreatment to mitigate clogging.
- The use of impervious area disconnection reduces the sizing requirement for downstream LID and/or conventional treatment control BMPs.

Additional References for Design Guidance

- LID Center – Rain Garden Design Template. http://www.lowimpactdevelopment.org/raingarden_design/
- University of Wisconsin Extension. Rain Gardens: A How-To Manual for Homeowners. http://learningstore.uwex.edu/assets/pdfs/GWQ037.pdf

HSC-2: Impervious Area Dispersion

Impervious area dispersion refers to the practice of routing runoff from impervious areas, such as rooftops, walkways, and patios onto the surface of adjacent pervious areas. Runoff is dispersed uniformly via splash block or dispersion trench and soaks into the ground as it move slowly across the surface of pervious areas. Minor ponding may occur, but it is not the intent of this practice to actively promote localized on-lot storage (See HSC-1: Localized On-Lot Infiltration).

Also known as:

- *Downspout disconnection*
- *Impervious area disconnection*
- *Sheet flow dispersion*

Simple Downspout Dispersion
Source: toronto.ca/environment/water.htm

Feasibility Screening Considerations

- Impervious area dispersion can be used where infiltration would otherwise be infeasible, however dispersion depth over landscaped areas should be limited by site-specific conditions to prevent standing water or geotechnical issues.

Opportunity Criteria

- Rooftops and other low traffic impervious surface present in drainage area.
- Soils are adequate for infiltration. If not, soils can be amended to improve capacity to absorb dispersed water (see MISC-2: Amended Soils).
- Significant pervious area present in drainage area with shallow slope
- Overflow from pervious area can be safely managed.

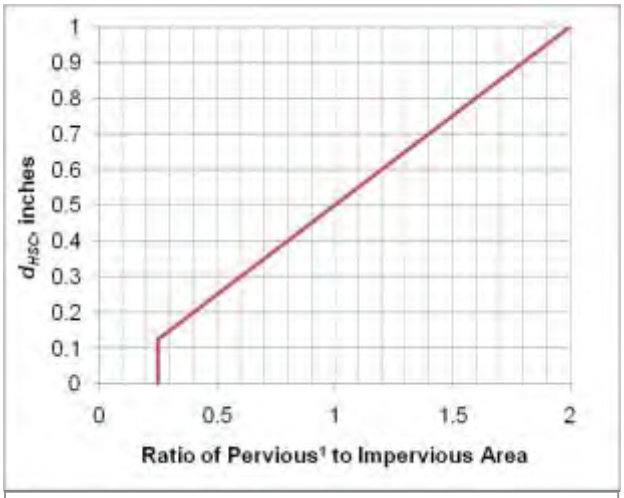
OC-Specific Design Criteria and Considerations

- ☐ Soils should be preserved from their natural condition or restored via soil amendments to meet minimum criteria described in Section .
- ☐ A minimum of 1 part pervious area capable of receiving flow should be provided for every 2 parts of impervious area disconnected.
- ☐ The pervious area receiving flow should have a slope ≤ 2 percent and path lengths of ≥ 20 feet per 1000 sf of impervious area.
- ☐ Dispersion areas should be maintained to remove trash and debris, loose vegetation, and protect any areas of bare soil from erosion.
- ☐ Velocity of dispersed flow should not be greater than 0.5 ft per second to avoid scour.

Calculating HSC Retention Volume

- The retention volume provided by downspout dispersion is a function of the ratio of impervious to pervious area and the condition of soils in the pervious area.
- Determine flow patterns in pervious area and estimate footprint of pervious area receiving dispersed flow. Calculate the ratio of pervious to impervious area.
- Check soil conditions using the soil condition design criteria below; amend if necessary.
- Look up the storm retention depth, d_{HSC} from the chart below.

- The max d_{HSC} is equal to the design storm depth for the project site.



[1] Pervious area used in calculation should only include the pervious area receiving flow, not pervious area receiving only direct rainfall or upslope pervious drainage.

Soil Condition Design Criteria

- ☐ Maximum slope of 2 percent
- ☐ Well-established lawn or landscaping
- ☐ Minimum soil amendments per criteria in MISC-2: Amended Soils.

Configuration for Use in a Treatment Train

- Impervious area disconnection is an HSC that may be used as the first element in any treatment train
- The use of impervious area disconnection reduces the sizing requirement for downstream LID and/or treatment control BMPs

Additional References for Design Guidance

- SMC LID Manual (pp 131) http://www.lowimpactdevelopment.org/guest75/pub/All_Projects/SoCal_LID_Manual/SoCalLID_Manual_FINAL_040910.pdf
- City of Portland Bureau of Environmental Services. 2010. How to manage stormwater – Disconnect Downspouts. http://www.portlandonline.com/bes/index.cfm?c=43081&a=177702
- Seattle Public Utility: http://www.cityofseattle.org/util/stellent/groups/public/@spu/@usm/documents/webcontent/spu01_006395.pdf
- Thurston County, Washington State (pp 10): http://www.co.thurston.wa.us/stormwater/manual/docs-faqs/DG-5-Roof-Runoff-Control_Rev11Jan24.pdf

HSC-3: Street Trees

By intercepting rainfall, trees can provide several aesthetic and stormwater benefits including peak flow control, increased infiltration and ET, and runoff temperature reduction. The volume of precipitation intercepted by the canopy reduces the treatment volume required for downstream treatment BMPs. Shading reduces the heat island effect as well as the temperature of adjacent impervious surfaces, over which stormwater flows, and thus reduces the heat transferred to downstream receiving waters. Tree roots also strengthen the soil structure and provide infiltrative pathways, simultaneously reducing erosion potential and enhancing infiltration.

Also known as:

- *Canopy interception*

Street trees
Source: Geosyntec Consultants

Feasibility Screening Considerations

- Not applicable

Opportunity Criteria

- Street trees can be incorporated in green streets designs along sidewalks, streets, parking lots, or driveways.
- Street trees can be used in combination with bioretention systems along medians or in traffic calming bays.
- There must be sufficient space available to accommodate both the tree canopy and root system.

OC-Specific Design Criteria and Considerations

- ☐ Mature tree canopy, height, and root system should not interfere with subsurface utilities, suspended powerlines, buildings and foundations, or other existing or planned structures. Required setbacks should be adhered to.
- ☐ Depending on space constarints, a 20 to 30 foot diameter canopy (at maturity) is recommended for stormwater mitigation.
- ☐ Native, drought-tolerant species should be selected in order to minimize irrigation requirements and improve the long-term viability of trees.
- ☐ Trees should not impede pedstrian or vehicle sight lines.
- ☐ Planting locations should receive adequate sunlight and wind protection; other environmental factors should be considered prior to planting.
- ☐ Frequency and degree of vegetation management and maintenance should be considered with respect to owner capabilities (e.g., staffing, funding, etc.).
- ☐ Soils should be preserved in their natural condition (if appropriate for planting) or restored via soil amendments to meet minimum criteria described in MISC-2: Amended Soils. If necessary, a landscape architect or plant biologist should be consulted.
- ☐ A street tree selection guide, such as that specific to the City of Los Angeles, may need to be consulted to select species appropriate for the site design constraints (e.g., parkway size, tree height, canopy spread, etc.)
- ☐ Infiltration should not cause geotechnical hazards related to adjacent structures (buildings,

roadways, sidewalks, utilities, etc.)

Calculating HSC Retention Volume

- The retention volume provided by streets trees via canopy interception is dependent on the tree species, time of the year, and maturity.
- To compute the retention depth, the expected impervious area covered by the full tree canopy after 4 years of growth must be computed (IA_{HSC}). The maximum retention depth credit for canopy interception (d_{HSC}) is 0.05 inches over the area covered by the canopy at 4 years of growth.

Configuration for Use in a Treatment Train

- As a HSC, street trees would serve as the first step in a treatment train by reducing the treatment volume and flow rate of a downstream treatment BMP.

Additional References for Design Guidance

- California Stormwater BMP Handbook. **http://www.cabmphandbooks.com/Documents/Development/Section_3.pdf**
- City of Los Angeles, Street Tree Division - Street Tree Selection Guide. **http://bss.lacity.org/UrbanForestryDivision/StreetTreeSelectionGuide.htm**
- Portland Stormwater Management Manual. **http://www.portlandonline.com/bes/index.cfm?c=35122&a=55791**
- San Diego County – Low Impact Development Fact Sheets. **http://www.sdcounty.ca.gov/dplu/docs/LID-Appendices.pdf**