REDWOOD
ENVIRONMENTAL GROUP, LLC

November 21, 2019 Project 201942

Tim Grenier
Grenier Group
3 Cole Circle
East Greenwich, RI 02818

Re: Letter Report
Soil and Ground Water Sampling
Residential Property
32 & 33 Exchange Street
East Greenwich, RI 02818

Dear Mr. Grenier:

Redwood Environmental Group, LLC (Redwood) has completed limited soil and ground water sampling at the address above (the Site) as requested by Grenier Group. The sampling was performed on November 6 and November 7, 2019. Redwood selected three (3) locations across the Site and using a truck-mounted GeoProbe direct-push drilling unit collected soil samples from the ground surface to the ground water interface. The three (3) borings were finished as ground water monitoring wells. The soil samples collected on November 6, 2019 were delivered to a Rhode Island Certified laboratory for the following analysis:

- Volatile Organic Compounds (VOCs) by U.S. EPA Method 8260;
- Total Petroleum Hydrocarbons (TPH) by U.S. EPA Method 8100M;
- Semi-Volatile Organic Compounds (SVOC) by U.S. EPA Method 8270 and
- Polychlorinated biphenyl (PCB) by U.S. EPA Method 8270.

As stated above, the borings were finished as ground water monitoring wells. Ground water sampling was performed on November 7, 2019. Three water samples were collected and delivered to the same certified laboratory and analyzed for the following:

- VOCs by U.S. EPA Method 8260.

Table 1 attached shows the soil laboratory results for VOCs, TPH, SVOC and PCB. None of the constituents were identified above laboratory reporting limits. As such, when comparing to comparing to the Rhode Island Department of Environment Management (RI DEM) Residential Direct Exposure Criteria (RDEC) and GA Leachability Criteria (GALC) applicable to the Site, none of VOCs, TPH, SVOCs or PCBs were identified above RDEC or GALC standards applicable to the Site.

Table 2 attached shows the ground water laboratory results for VOCs. None of the VOC constituents were identified above laboratory reporting limits. As such, when comparing to RI DEM GA Ground Water Criteria applicable to the Site, no VOCs were identified above ground water standards applicable to the Site.

If you have any questions regarding this report, please call me at (401) 270-7000. Thank you for the opportunity to provide environmental assessment services.

Sincerely,

REDWOOD ENVIRONMENTAL GROUP, LLC

Gary S. Kaufman
Principal/Senior Project Manager

Attachments

Figure 1
Table 1 & Table 2

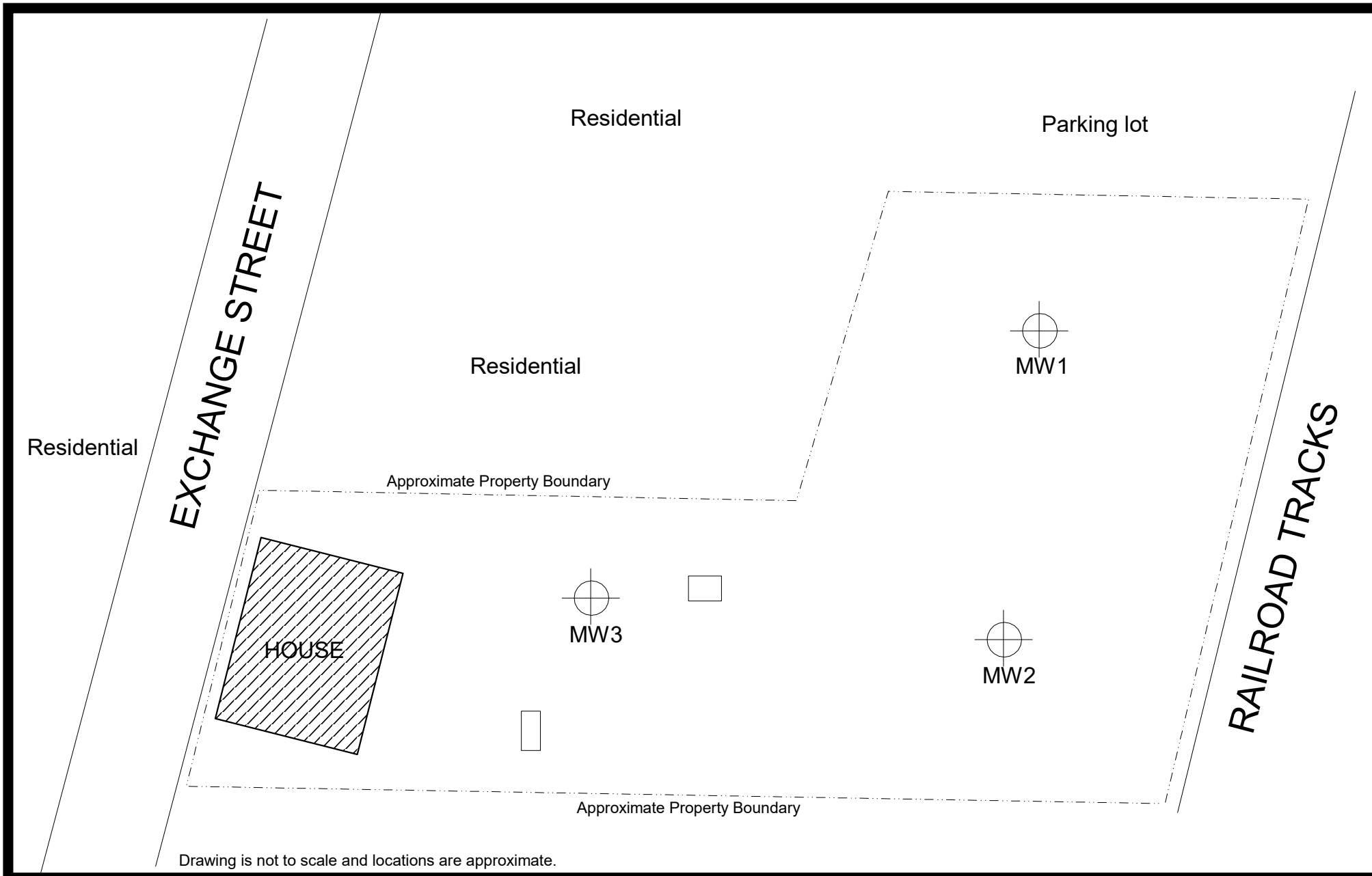

FIGURE 1

MONITORING WELL PLAN

REDWOOD ENVIRONMENTAL GROUP, LLC

SOIL AND GROUND WATER SAMPLING
RESIDENTIAL PROPERTY
32&33 EXCHANGE STREET
EAST GREENWICH, RHODE iSLAND

NORTH

PROJECT NO. 201942

Sample Results For Comparison to Direct Exposure Criteria

Sample Designation				201942-MW1-110619		201942-MW2-110619		201942-MW3-110619	
Sample Date				11/06/2019		11/06/2019		11/06/2019	
	Unit	RDEC	C/IDEC						
VOCs									
1,1,1,2-Tetrachloroethane	mg/kg	2.2	220	0.129	U	0.162	U	0.112	U
1,1,1-Trichloroethane	mg/kg	540	10000	0.129	U	0.162	U	0.112	U
1,1,2,2-Tetrachloroethane	mg/kg	1.3	29	0.129	U	0.162	U	0.112	U
1,1,2-Trichloroethane	mg/kg	3.6	100	0.129	U	0.162	U	0.112	U
1,1-Dichloroethane	mg/kg	920	10000	0.129	U	0.162	U	0.112	U
1,1-Dichloroethene	mg/kg	0.2	9.5	0.129	U	0.162	U	0.112	U
1,1-Dichloropropene	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
1,2,3-Trichlorobenzene	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
1,2,3-Trichloropropane	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
1,2,4-Trichlorobenzene	mg/kg	96	10000	0.129	U	0.162	U	0.112	U
1,2,4-Trimethylbenzene	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
1,2-Dibromo-3-Chloropropane	mg/kg	*0.5*	4.1	*0.644*	U	*0.809*	U	*0.561*	U
1,2-Dibromoethane	mg/kg	*0.01*	*0.07*	*0.129*	U	*0.162*	U	*0.112*	U
1,2-Dichlorobenzene	mg/kg	510	10000	0.129	U	0.162	U	0.112	U
1,2-Dichloroethane	mg/kg	0.9	63	0.129	U	0.162	U	0.112	U
1,2-Dichloropropane	mg/kg	1.9	84	0.129	U	0.162	U	0.112	U
1,3,5-Trimethylbenzene	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
1,3-Dichlorobenzene	mg/kg	430	10000	0.129	U	0.162	U	0.112	U
1,3-Dichloropropane	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
1,4-Dichlorobenzene	mg/kg	27	240	0.129	U	0.162	U	0.112	U
1,4-Dioxane - Screen	mg/kg	NE	NE	25.8	U	32.3	U	22.4	U
1-Chlorohexane	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
2,2-Dichloropropane	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
2-Butanone	mg/kg	10000	10000	0.644	U	0.809	U	0.561	U
2-Chlorotoluene	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
2-Hexanone	mg/kg	NE	NE	0.644	U	0.809	U	0.561	U
4-Chlorotoluene	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U

4-Isopropyltoluene	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
4-Methyl-2-Pentanone	mg/kg	1200	10000	0.644	U	0.809	U	0.561	U
Acetone	mg/kg	7800	10000	0.644	U	0.809	U	0.561	U
Benzene	mg/kg	2.5	200	0.129	U	0.162	U	0.112	U
Bromobenzene	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
Bromochloromethane	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
Bromodichloromethane	mg/kg	10	92	0.129	U	0.162	U	0.112	U
Bromoform	mg/kg	81	720	0.129	U	0.162	U	0.112	U
Bromomethane	mg/kg	0.8	2900	0.129	U	0.162	U	0.112	U
Carbon Disulfide	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
Carbon Tetrachloride	mg/kg	1.5	44	0.129	U	0.162	U	0.112	U
Chlorobenzene	mg/kg	210	10000	0.129	U	0.162	U	0.112	U
Chloroethane	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
Chloroform	mg/kg	1.2	940	0.129	U	0.162	U	0.112	U
Chloromethane	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
cis-1,2-Dichloroethene	mg/kg	630	10000	0.129	U	0.162	U	0.112	U
cis-1,3-Dichloropropene	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
Dibromochloromethane	mg/kg	7.6	68	0.129	U	0.162	U	0.112	U
Dibromomethane	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
Dichlorodifluoromethane	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
Diethyl Ether	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
Di-isopropyl ether	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
Ethyl tertiary-butyl ether	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
Ethylbenzene	mg/kg	71	10000	0.129	U	0.162	U	0.112	U
Hexachlorobutadiene	mg/kg	8.2	73	0.129	U	0.162	U	0.112	U
Isopropylbenzene	mg/kg	27	10000	0.129	U	0.162	U	0.112	U
Methyl tert-Butyl Ether	mg/kg	390	10000	0.129	U	0.162	U	0.112	U
Methylene Chloride	mg/kg	45	760	0.258	U	0.323	U	0.224	U
Naphthalene	mg/kg	54	10000	0.129	U	0.162	U	0.112	U
n-Butylbenzene	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
n-Propylbenzene	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
sec-Butylbenzene	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
Styrene	mg/kg	13	190	0.129	U	0.162	U	0.112	U

tert-Butylbenzene	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
Tertiary-amyl methyl ether	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
Tetrachloroethene	mg/kg	12	110	0.129	U	0.162	U	0.112	U
Tetrahydrofuran	mg/kg	NE	NE	0.644	U	0.809	U	0.561	U
Toluene	mg/kg	190	10000	0.129	U	0.162	U	0.112	U
trans-1,2-Dichloroethene	mg/kg	1100	10000	0.129	U	0.162	U	0.112	U
trans-1,3-Dichloropropene	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
Trichloroethene	mg/kg	13	520	0.129	U	0.162	U	0.112	U
Trichlorofluoromethane	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
Vinyl Acetate	mg/kg	NE	NE	0.129	U	0.162	U	0.112	U
Vinyl Chloride	mg/kg	*0.02*	3	*0.129*	U	*0.162*	U	*0.112*	U
Xylene O	mg/kg	110	10000	0.129	U	0.162	U	0.112	U
Xylene P,M	mg/kg	110	10000	0.258	U	0.323	U	0.224	U
Xylenes (Total)	mg/kg	110	10000	0.258	U, D	0.323	U, D	0.224	U, D
SVOCs									
1,1-Biphenyl	mg/kg	0.8	10000	0.364	U	---	---	0.329	U
1,2,4-Trichlorobenzene	mg/kg	96	10000	0.364	U	---	---	0.329	U
1,2-Dichlorobenzene	mg/kg	510	10000	0.364	U	---	---	0.329	U
1,3-Dichlorobenzene	mg/kg	430	10000	0.364	U	---	---	0.329	U
1,4-Dichlorobenzene	mg/kg	27	240	0.364	U	---	---	0.329	U
2,3,4,6-Tetrachlorophenol	mg/kg	NE	NE	1.83	U	---	---	1.65	U
2,4,5-Trichlorophenol	mg/kg	330	10000	0.364	U	---	---	0.329	U
2,4,6-Trichlorophenol	mg/kg	58	520	0.364	U	---	---	0.329	U
2,4-Dichlorophenol	mg/kg	30	6100	0.364	U	---	---	0.329	U
2,4-Dimethylphenol	mg/kg	1400	10000	0.364	U	---	---	0.329	U
2,4-Dinitrophenol	mg/kg	160	4100	1.83	U	---	---	1.65	U
2,4-Dinitrotoluene	mg/kg	0.9	8.4	0.364	U	---	---	0.329	U
2,6-Dinitrotoluene	mg/kg	NE	NE	0.364	U	---	---	0.329	U
2-Chloronaphthalene	mg/kg	NE	NE	0.364	U	---	---	0.329	U
2-Chlorophenol	mg/kg	50	10000	0.364	U	---	---	0.329	U
2-Methylnaphthalene	mg/kg	123	10000	0.364	U	---	---	0.329	U
2-Methylphenol	mg/kg	NE	NE	0.364	U	---	---	0.329	U

2-Nitroaniline	mg/kg	NE	NE	0.364	U	---	---	0.329	U
2-Nitrophenol	mg/kg	NE	NE	0.364	U	---	---	0.329	U
3,3´-Dichlorobenzidine	mg/kg	1.4	13	0.73	U	---	---	0.659	U
3+4-Methylphenol	mg/kg	NE	NE	0.73	U	---	---	0.659	U
3-Nitroaniline	mg/kg	NE	NE	0.364	U	---	---	0.329	U
4,6-Dinitro-2-Methylphenol	mg/kg	NE	NE	1.83	U	---	---	1.65	U
4-Bromophenyl-phenylether	mg/kg	NE	NE	0.364	U	---	---	0.329	U
4-Chloro-3-Methylphenol	mg/kg	NE	NE	0.364	U	---	---	0.329	U
4-Chloroaniline	mg/kg	310	8200	0.73	U	---	---	0.659	U
4-Chloro-phenyl-phenyl ether	mg/kg	NE	NE	0.364	U	---	---	0.329	U
4-Nitroaniline	mg/kg	NE	NE	0.364	U	---	---	0.329	U
4-Nitrophenol	mg/kg	NE	NE	1.83	U	---	---	1.65	U
Acenaphthene	mg/kg	43	10000	0.364	U	---	---	0.329	U
Acenaphthylene	mg/kg	23	10000	0.364	U	---	---	0.329	U
Acetophenone	mg/kg	NE	NE	0.73	U	---	---	0.659	U
Aniline	mg/kg	NE	NE	0.73	U	---	---	0.659	U
Anthracene	mg/kg	35	10000	0.364	U	---	---	0.329	U
Azobenzene	mg/kg	NE	NE	0.364	U	---	---	0.329	U
Benzo(a)anthracene	mg/kg	0.9	7.8	0.364	U	---	---	0.329	U
Benzo(a)pyrene	mg/kg	0.4	0.8	0.183	U	---	---	0.165	U
Benzo(b)fluoranthene	mg/kg	0.9	7.8	0.364	U	---	---	0.329	U
Benzo(g,h,i)perylene	mg/kg	0.8	10000	0.364	U	---	---	0.329	U
Benzo(k)fluoranthene	mg/kg	0.9	78	0.364	U	---	---	0.329	U
Benzoic Acid	mg/kg	NE	NE	1.83	U	---	---	1.65	U
Benzyl Alcohol	mg/kg	NE	NE	0.364	U	---	---	0.329	U
bis(2-Chloroethoxy)methane	mg/kg	NE	NE	0.364	U	---	---	0.329	U
bis(2-Chloroethyl)ether	mg/kg	0.6	5.2	0.364	U	---	---	0.329	U
bis(2-chloroisopropyl)Ether	mg/kg	9.1	82	0.364	U	---	---	0.329	U
bis(2-Ethylhexyl)phthalate	mg/kg	46	410	0.364	U	---	---	0.329	U
Butylbenzylphthalate	mg/kg	NE	NE	0.364	U	---	---	0.329	U
Carbazole	mg/kg	NE	NE	0.364	U	---	---	0.329	U
Chrysene	mg/kg	0.4	780	0.183	U	---	---	0.165	U
Dibenzo(a,h)Anthracene	mg/kg	0.4	0.8	0.183	U	---	---	0.165	U

Dibenzofuran	mg/kg	NE	NE	0.364	U	---	---	0.329	U
Diethylphthalate	mg/kg	340	10000	0.364	U	---	---	0.329	U
Dimethylphthalate	mg/kg	1900	10000	0.364	U	---	---	0.329	U
Di-n-butylphthalate	mg/kg	NE	NE	0.364	U	---	---	0.329	U
Di-n-octylphthalate	mg/kg	NE	NE	0.364	U	---	---	0.329	U
Fluoranthene	mg/kg	20	10000	0.364	U	---	---	0.329	U
Fluorene	mg/kg	28	10000	0.364	U	---	---	0.329	U
Hexachlorobenzene	mg/kg	0.4	3.6	0.183	U	---	---	0.165	U
Hexachlorobutadiene	mg/kg	8.2	73	0.364	U	---	---	0.329	U
Hexachlorocyclopentadiene	mg/kg	NE	NE	1.83	U	---	---	1.65	U
Hexachloroethane	mg/kg	46	410	0.364	U	---	---	0.329	U
Indeno(1,2,3-cd)Pyrene	mg/kg	0.9	7.8	0.364	U	---	---	0.329	U
Isophorone	mg/kg	NE	NE	0.364	U	---	---	0.329	U
Naphthalene	mg/kg	54	10000	0.364	U	---	---	0.329	U
Nitrobenzene	mg/kg	NE	NE	0.364	U	---	---	0.329	U
N-Nitrosodimethylamine	mg/kg	NE	NE	0.364	U	---	---	0.329	U
N-Nitroso-Di-n-Propylamine	mg/kg	NE	NE	0.364	U	---	---	0.329	U
N-nitrosodiphenylamine	mg/kg	NE	NE	0.364	U	---	---	0.329	U
Pentachlorophenol	mg/kg	5.3	48	1.83	U	---	---	1.65	U
Phenanthrene	mg/kg	40	10000	0.364	U	---	---	0.329	U
Phenol	mg/kg	6000	10000	0.364	U	---	---	0.329	U
Pyrene	mg/kg	13	10000	0.364	U	---	---	0.329	U
Pyridine	mg/kg	NE	NE	1.83	U	---	---	1.65	U
TPH - ETPH									
Total Petroleum Hydrocarbons	mg/kg	500	2500	41.2	U	43.4	U	40.1	U
PCBs									
Aroclor 1016	mg/kg	10	10	---	---	0.05	U	---	---
Aroclor 1221	mg/kg	10	10	---	---	0.05	U	---	---
Aroclor 1232	mg/kg	10	10	---	---	0.05	U	---	---
Aroclor 1242	mg/kg	10	10	---	---	0.05	U	---	---
Aroclor 1248	mg/kg	10	10	---	---	0.05	U	---	---

Aroclor 1254	mg/kg	10	10	---	---	0.05	U	---	---
Aroclor 1260	mg/kg	10	10	---	---	0.05	U	---	---
Aroclor 1262	mg/kg	10	10	---	---	0.05	U	---	---
Aroclor 1268	mg/kg	10	10	---	---	0.05	U	---	---

Highlight Exceedances

Bold - Result for this analyte exceeds the State limit.
Italics - The method requested for this analysis does not meet criteria for all compounds. The compound is undetected, however, the Method Reporting Limit is greater than the State limit.

Qualifiers

B = Present in Blank.
D = Sample was diluted in order to obtain a value within the calibration range.
J = Value below the Method reporting Limit; Estimated value.
U = Not Detected
V = Quality Control outside of acceptance limits; Estimated value.
NS-Not Sampled
NE-Not Established

Sample Designation			201942-MW1-110719		201942-MW2-110719		201942-MW3-110719	
Sample Date			11/07/2019		11/07/2019		11/07/2019	
VOCs	Units	GA Standard						
1,1,1,2-Tetrachloroethane	mg/L	NE	0.001	U	0.001	U	0.001	U
1,1,1-Trichloroethane	mg/L	0.2	0.001	U	0.001	U	0.001	U
1,1,2,2-Tetrachloroethane	mg/L	NE	0.0005	U	0.0005	U	0.0005	U
1,1,2-Trichloroethane	mg/L	0.005	0.001	U	0.001	U	0.001	U
1,1-Dichloroethane	mg/L	NE	0.001	U	0.001	U	0.001	U
1,1-Dichloroethene	mg/L	0.007	0.001	U	0.001	U	0.001	U
1,1-Dichloropropene	mg/L	NE	0.002	U	0.002	U	0.002	U
1,2,3-Trichlorobenzene	mg/L	NE	0.001	U	0.001	U	0.001	U
1,2,3-Trichloropropane	mg/L	NE	0.001	U	0.001	U	0.001	U
1,2,4-Trichlorobenzene	mg/L	0.07	0.001	U	0.001	U	0.001	U
1,2,4-Trimethylbenzene	mg/L	NE	0.001	U	0.001	U	0.001	U
1,2-Dibromo-3-Chloropropane	mg/L	*0.0002*	*0.005*	*U*	*0.005*	*U*	*0.005*	*U*
1,2-Dibromoethane	mg/L	*0.00005*	*0.001*	*U*	*0.001*	*U*	*0.001*	*U*
1,2-Dichlorobenzene	mg/L	0.6	0.001	U	0.001	U	0.001	U
1,2-Dichloroethane	mg/L	0.005	0.001	U	0.001	U	0.001	U
1,2-Dichloropropane	mg/L	0.005	0.001	U	0.001	U	0.001	U
1,3,5-Trimethylbenzene	mg/L	NE	0.001	U	0.001	U	0.001	U
1,3-Dichlorobenzene	mg/L	0.6	0.001	U	0.001	U	0.001	U
1,3-Dichloropropane	mg/L	NE	0.001	U	0.001	U	0.001	U
1,4-Dichlorobenzene	mg/L	0.075	0.001	U	0.001	U	0.001	U
1,4-Dioxane - Screen	mg/L	NE	0.5	U	0.5	U	0.5	U
1-Chlorohexane	mg/L	NE	0.001	U	0.001	U	0.001	U
2,2-Dichloropropane	mg/L	NE	0.001	U	0.001	U	0.001	U
2-Butanone	mg/L	NE	0.01	U	0.01	U	0.01	U
2-Chlorotoluene	mg/L	NE	0.001	U	0.001	U	0.001	U
2-Hexanone	mg/L	NE	0.01	U	0.01	U	0.01	U
4-Chlorotoluene	mg/L	NE	0.001	U	0.001	U	0.001	U
4-Isopropyltoluene	mg/L	NE	0.001	U	0.001	U	0.001	U
4-Methyl-2-Pentanone	mg/L	NE	0.025	U	0.025	U	0.025	U
Acetone	mg/L	NE	0.01	U	0.01	U	0.01	U

Benzene	mg/L	0.005	0.001	U	0.001	U	0.001	U
Bromobenzene	mg/L	NE	0.002	U	0.002	U	0.002	U
Bromochloromethane	mg/L	NE	0.001	U	0.001	U	0.001	U
Bromodichloromethane	mg/L	0.1	0.0006	U	0.0006	U	0.0006	U
Bromoform	mg/L	0.1	0.001	U	0.001	U	0.001	U
Bromomethane	mg/L	NE	0.002	U	0.002	U	0.002	U
Carbon Disulfide	mg/L	NE	0.001	U	0.001	U	0.001	U
Carbon Tetrachloride	mg/L	0.005	0.001	U	0.001	U	0.001	U
Chlorobenzene	mg/L	0.1	0.001	U	0.001	U	0.001	U
Chloroethane	mg/L	NE	0.002	U	0.002	U	0.002	U
Chloroform	mg/L	0.1	0.001	U	0.001	U	0.001	U
Chloromethane	mg/L	NE	0.002	U	0.002	U	0.002	U
cis-1,2-Dichloroethene	mg/L	0.07	0.001	U	0.001	U	0.001	U
cis-1,3-Dichloropropene	mg/L	NE	0.0004	U	0.0004	U	0.0004	U
Dibromochloromethane	mg/L	0.1	0.001	U	0.001	U	0.001	U
Dibromomethane	mg/L	NE	0.001	U	0.001	U	0.001	U
Dichlorodifluoromethane	mg/L	NE	0.002	U	0.002	U	0.002	U
Diethyl Ether	mg/L	NE	0.001	U	0.001	U	0.001	U
Di-isopropyl ether	mg/L	NE	0.001	U	0.001	U	0.001	U
Ethyl tertiary-butyl ether	mg/L	NE	0.001	U	0.001	U	0.001	U
Ethylbenzene	mg/L	0.7	0.001	U	0.001	U	0.001	U
Hexachlorobutadiene	mg/L	NE	0.0006	U	0.0006	U	0.0006	U
Hexachloroethane	mg/L	NE	0.001	U	0.001	U	0.001	U
Isopropylbenzene	mg/L	NE	0.001	U	0.001	U	0.001	U
Methyl tert-Butyl Ether	mg/L	0.04	0.001	U	0.001	U	0.001	U
Methylene Chloride	mg/L	0.005	0.002	U	0.002	U	0.002	U
Naphthalene	mg/L	0.1	0.001	U	0.001	U	0.001	U
n-Butylbenzene	mg/L	NE	0.001	U	0.001	U	0.001	U
n-Propylbenzene	mg/L	NE	0.001	U	0.001	U	0.001	U
sec-Butylbenzene	mg/L	NE	0.001	U	0.001	U	0.001	U
Styrene	mg/L	0.1	0.001	U	0.001	U	0.001	U
tert-Butylbenzene	mg/L	NE	0.001	U	0.001	U	0.001	U
Tertiary-amyl methyl ether	mg/L	NE	0.001	U	0.001	U	0.001	U
Tetrachloroethene	mg/L	0.005	0.001	U	0.001	U	0.001	U
Tetrahydrofuran	mg/L	NE	0.005	U	0.005	U	0.005	U

Toluene	mg/L	1	0.001	U	0.001	U	0.001	U
trans-1,2-Dichloroethene	mg/L	0.1	0.001	U	0.001	U	0.001	U
trans-1,3-Dichloropropene	mg/L	NE	0.0004	U	0.0004	U	0.0004	U
Trichloroethene	mg/L	0.005	0.001	U	0.001	U	0.001	U
Trichlorofluoromethane	mg/L	NE	0.001	U	0.001	U	0.001	U
Vinyl Acetate	mg/L	NE	0.005	U	0.005	U	0.005	U
Vinyl Chloride	mg/L	0.002	0.001	U	0.001	U	0.001	U
Xylene O	mg/L	10	0.001	U	0.001	U	0.001	U
Xylene P,M	mg/L	10	0.002	U	0.002	U	0.002	U
Xylenes (Total)	mg/L	10	0.002	U	0.002	U	0.002	U

Highlight Exceedances
Bold - Result for this analyte exceeds the State limit.
Italics - The method requested for this analysis does not meet criteria for all compounds.
The compound is undetected, however, the Method Reporting Limit is greater than the State limit.

Qualifiers
B = Present in Blank.
D = Sample was diluted in order to obtain a value within the calibration range.
J = Value below the Method reporting Limit; Estimated value.
U = Not Detected
V = Quality Control outside of acceptance limits; Estimated value.
NS-Not Sampled
NE-Not Established

CERTIFICATE OF ANALYSIS

Gary Kaufman
Redwood Environmental Group
10 Elmgrove Avenue
Providence, RI 02906

RE: Grenier (201942)
ESS Laboratory Work Order Number: 19K0160

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 4:33 pm, Nov 13, 2019

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

SAMPLE RECEIPT

The following samples were received on November 06, 2019 for the analyses specified on the enclosed Chain of Custody Record.

Lab Number	Sample Name	Matrix	Analysis
19K0160-01	201942-MW1-110619	Soil	8100M, 8260B, 8270D
19K0160-02	201942-MW2-110619	Soil	8082A, 8100M, 8260B
19K0160-03	201942-MW3-110619	Soil	8100M, 8260B, 8270D
19K0160-04	Trip Blank	Soil	8260B

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Methanol

19K0160-02 [redacted]
1,2-Dichloroethane-d4 (131% @ 70-130%), 4-Bromofluorobenzene (144% @ 70-130%), Dibromofluoromethane (132% @ 70-130%), Toluene-d8 (140% @ 70-130%)

C9K0156-CCV1 [redacted]
Acetone (102% @ 30%), Trichlorofluoromethane (54% @ 30%)

CK90829-BS1 [redacted]
Acetone (211% @ 70-130%), Trichlorofluoromethane (152% @ 70-130%)

CK90829-BSD1 [redacted]
Acetone (189% @ 70-130%), Trichlorofluoromethane (158% @ 70-130%)

8270D Semi-Volatile Organic Compounds

C9K0110-CCV1 [redacted]
2,4-Dinitrophenol (61% @ 80-120%), 4,6-Dinitro-2-Methylphenol (87% @ 80-120%), Benzoic Acid (56% @ 80-120%), Pentachlorophenol (102% @ 80-120%)

C9K0110-CCV1 [redacted]
4-Nitrophenol (34% @ 20%), Benzoic Acid (44% @ 20%), N-Nitrosodimethylamine (33% @ 20%)

C9K0114-CCV1 [redacted]
2,4-Dinitrophenol (72% @ 80-120%), 4,6-Dinitro-2-Methylphenol (87% @ 80-120%), Benzoic Acid (75% @ 80-120%), Di-n-octylphthalate (100% @ 80-120%), Pentachlorophenol (96% @ 80-120%)

C9K0114-CCV1 [redacted]
2,4-Dinitrophenol (28% @ 20%), 2-Nitroaniline (23% @ 20%), 4-Nitrophenol (33% @ 20%), Benzoic Acid (25% @ 20%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[redacted]

[redacted]

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW1-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 93
Initial Volume: 28.1
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,1,1-Trichloroethane	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,1,2,2-Tetrachloroethane	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,1,2-Trichloroethane	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,1-Dichloroethane	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,1-Dichloroethene	ND (0.129)	0.0386	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,1-Dichloropropene	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,2,3-Trichlorobenzene	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,2,3-Trichloropropane	ND (0.129)	0.0386	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,2,4-Trichlorobenzene	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,2,4-Trimethylbenzene	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,2-Dibromo-3-Chloropropane	ND (0.644)	0.129	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,2-Dibromoethane	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,2-Dichlorobenzene	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,2-Dichloroethane	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,2-Dichloropropane	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,3,5-Trimethylbenzene	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,3-Dichlorobenzene	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,3-Dichloropropane	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,4-Dichlorobenzene	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
1,4-Dioxane - Screen	ND (25.8)	24.5	8260B		1	11/08/19 15:10	C9K0156	CK90829
1-Chlorohexane	ND (0.129)	0.0515	8260B		1	11/08/19 15:10	C9K0156	CK90829
2,2-Dichloropropane	ND (0.129)	0.0386	8260B		1	11/08/19 15:10	C9K0156	CK90829
2-Butanone	ND (0.644)	0.438	8260B		1	11/08/19 15:10	C9K0156	CK90829
2-Chlorotoluene	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
2-Hexanone	ND (0.644)	0.193	8260B		1	11/08/19 15:10	C9K0156	CK90829
4-Chlorotoluene	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
4-Isopropyltoluene	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
4-Methyl-2-Pentanone	ND (0.644)	0.206	8260B		1	11/08/19 15:10	C9K0156	CK90829
Acetone	ND (0.644)	0.348	8260B		1	11/08/19 15:10	C9K0156	CK90829
Benzene	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
Bromobenzene	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW1-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 93
Initial Volume: 28.1
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.129)	0.0386	8260B		1	11/08/19 15:10	C9K0156	CK90829
Bromodichloromethane	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
Bromoform	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
Bromomethane	ND (0.129)	0.0515	8260B		1	11/08/19 15:10	C9K0156	CK90829
Carbon Disulfide	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
Carbon Tetrachloride	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
Chlorobenzene	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
Chloroethane	ND (0.129)	0.0515	8260B		1	11/08/19 15:10	C9K0156	CK90829
Chloroform	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
Chloromethane	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
cis-1,2-Dichloroethene	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
cis-1,3-Dichloropropene	ND (0.129)	0.0386	8260B		1	11/08/19 15:10	C9K0156	CK90829
Dibromochloromethane	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
Dibromomethane	ND (0.129)	0.0386	8260B		1	11/08/19 15:10	C9K0156	CK90829
Dichlorodifluoromethane	ND (0.129)	0.0386	8260B		1	11/08/19 15:10	C9K0156	CK90829
Diethyl Ether	ND (0.129)	0.0386	8260B		1	11/08/19 15:10	C9K0156	CK90829
Di-isopropyl ether	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
Ethyl tertiary-butyl ether	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
Ethylbenzene	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
Hexachlorobutadiene	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
Isopropylbenzene	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
Methyl tert-Butyl Ether	ND (0.129)	0.0386	8260B		1	11/08/19 15:10	C9K0156	CK90829
Methylene Chloride	ND (0.258)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
Naphthalene	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
n-Butylbenzene	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
n-Propylbenzene	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
sec-Butylbenzene	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
Styrene	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
tert-Butylbenzene	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
Tertiary-amyl methyl ether	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
Tetrachloroethene	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
Tetrahydrofuran	ND (0.644)	0.206	8260B		1	11/08/19 15:10	C9K0156	CK90829

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW1-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 93
Initial Volume: 28.1
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
trans-1,2-Dichloroethene	ND (0.129)	0.0386	8260B		1	11/08/19 15:10	C9K0156	CK90829
trans-1,3-Dichloropropene	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
Trichloroethene	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
Trichlorofluoromethane	ND (0.129)	0.0515	8260B		1	11/08/19 15:10	C9K0156	CK90829
Vinyl Acetate	ND (0.129)	0.0644	8260B		1	11/08/19 15:10	C9K0156	CK90829
Vinyl Chloride	ND (0.129)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
Xylene O	ND (0.129)	0.0129	8260B		1	11/08/19 15:10	C9K0156	CK90829
Xylene P,M	ND (0.258)	0.0258	8260B		1	11/08/19 15:10	C9K0156	CK90829
Xylenes (Total)	ND (0.258)		8260B		1	11/08/19 15:10		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*107 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*117 %*		*70-130*
Surrogate: Dibromofluoromethane	*111 %*		*70-130*
Surrogate: Toluene-d8	*113 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW1-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 93
Initial Volume: 19.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/19 20:47

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	ND (41.2)		8100M		1	11/07/19 14:27	C9K0122	CK90613

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*90 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW1-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 93
Initial Volume: 14.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/6/19 20:47

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
1,2,4-Trichlorobenzene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
1,2-Dichlorobenzene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
1,3-Dichlorobenzene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
1,4-Dichlorobenzene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
2,3,4,6-Tetrachlorophenol	ND (1.83)		8270D		1	11/07/19 19:47	C9K0114	CK90612
2,4,5-Trichlorophenol	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
2,4,6-Trichlorophenol	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
2,4-Dichlorophenol	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
2,4-Dimethylphenol	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
2,4-Dinitrophenol	ND (1.83)		8270D		1	11/07/19 19:47	C9K0114	CK90612
2,4-Dinitrotoluene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
2,6-Dinitrotoluene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
2-Chloronaphthalene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
2-Chlorophenol	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
2-Methylnaphthalene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
2-Methylphenol	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
2-Nitroaniline	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
2-Nitrophenol	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
3,3′-Dichlorobenzidine	ND (0.730)		8270D		1	11/07/19 19:47	C9K0114	CK90612
3+4-Methylphenol	ND (0.730)		8270D		1	11/07/19 19:47	C9K0114	CK90612
3-Nitroaniline	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
4,6-Dinitro-2-Methylphenol	ND (1.83)		8270D		1	11/07/19 19:47	C9K0114	CK90612
4-Bromophenyl-phenylether	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
4-Chloro-3-Methylphenol	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
4-Chloroaniline	ND (0.730)		8270D		1	11/07/19 19:47	C9K0114	CK90612
4-Chloro-phenyl-phenyl ether	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
4-Nitroaniline	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
4-Nitrophenol	ND (1.83)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Acenaphthene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Acenaphthylene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Acetophenone	ND (0.730)		8270D		1	11/07/19 19:47	C9K0114	CK90612

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW1-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 93
Initial Volume: 14.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/6/19 20:47

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aniline	ND (0.730)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Anthracene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Azobenzene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Benzo(a)anthracene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Benzo(a)pyrene	ND (0.183)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Benzo(b)fluoranthene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Benzo(g,h,i)perylene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Benzo(k)fluoranthene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Benzoic Acid	ND (1.83)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Benzyl Alcohol	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
bis(2-Chloroethoxy)methane	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
bis(2-Chloroethyl)ether	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
bis(2-chloroisopropyl)Ether	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
bis(2-Ethylhexyl)phthalate	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Butylbenzylphthalate	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Carbazole	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Chrysene	ND (0.183)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Dibenzo(a,h)Anthracene	ND (0.183)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Dibenzofuran	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Diethylphthalate	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Dimethylphthalate	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Di-n-butylphthalate	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Di-n-octylphthalate	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Fluoranthene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Fluorene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Hexachlorobenzene	ND (0.183)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Hexachlorobutadiene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Hexachlorocyclopentadiene	ND (1.83)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Hexachloroethane	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Indeno(1,2,3-cd)Pyrene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Isophorone	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Naphthalene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW1-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 93
Initial Volume: 14.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/6/19 20:47

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Nitrobenzene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
N-Nitrosodimethylamine	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
N-Nitroso-Di-n-Propylamine	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
N-nitrosodiphenylamine	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Pentachlorophenol	ND (1.83)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Phenanthrene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Phenol	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Pyrene	ND (0.364)		8270D		1	11/07/19 19:47	C9K0114	CK90612
Pyridine	ND (1.83)		8270D		1	11/07/19 19:47	C9K0114	CK90612

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*78 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*94 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*83 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*75 %*		*30-130*
Surrogate: 2-Fluorophenol	*79 %*		*30-130*
Surrogate: Nitrobenzene-d5	*73 %*		*30-130*
Surrogate: Phenol-d6	*83 %*		*30-130*
Surrogate: p-Terphenyl-d14	*87 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW2-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 89
Initial Volume: 24.9
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,1,1-Trichloroethane	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,1,2,2-Tetrachloroethane	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,1,2-Trichloroethane	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,1-Dichloroethane	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,1-Dichloroethene	ND (0.162)	0.0485	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,1-Dichloropropene	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,2,3-Trichlorobenzene	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,2,3-Trichloropropane	ND (0.162)	0.0485	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,2,4-Trichlorobenzene	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,2,4-Trimethylbenzene	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,2-Dibromo-3-Chloropropane	ND (0.809)	0.162	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,2-Dibromoethane	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,2-Dichlorobenzene	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,2-Dichloroethane	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,2-Dichloropropane	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,3,5-Trimethylbenzene	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,3-Dichlorobenzene	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,3-Dichloropropane	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,4-Dichlorobenzene	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
1,4-Dioxane - Screen	ND (32.3)	30.7	8260B		1	11/08/19 15:36	C9K0156	CK90829
1-Chlorohexane	ND (0.162)	0.0647	8260B		1	11/08/19 15:36	C9K0156	CK90829
2,2-Dichloropropane	ND (0.162)	0.0485	8260B		1	11/08/19 15:36	C9K0156	CK90829
2-Butanone	ND (0.809)	0.550	8260B		1	11/08/19 15:36	C9K0156	CK90829
2-Chlorotoluene	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
2-Hexanone	ND (0.809)	0.243	8260B		1	11/08/19 15:36	C9K0156	CK90829
4-Chlorotoluene	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
4-Isopropyltoluene	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
4-Methyl-2-Pentanone	ND (0.809)	0.259	8260B		1	11/08/19 15:36	C9K0156	CK90829
Acetone	ND (0.809)	0.437	8260B		1	11/08/19 15:36	C9K0156	CK90829
Benzene	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
Bromobenzene	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW2-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 89
Initial Volume: 24.9
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.162)	0.0485	8260B		1	11/08/19 15:36	C9K0156	CK90829
Bromodichloromethane	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
Bromoform	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
Bromomethane	ND (0.162)	0.0647	8260B		1	11/08/19 15:36	C9K0156	CK90829
Carbon Disulfide	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
Carbon Tetrachloride	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
Chlorobenzene	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
Chloroethane	ND (0.162)	0.0647	8260B		1	11/08/19 15:36	C9K0156	CK90829
Chloroform	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
Chloromethane	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
cis-1,2-Dichloroethene	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
cis-1,3-Dichloropropene	ND (0.162)	0.0485	8260B		1	11/08/19 15:36	C9K0156	CK90829
Dibromochloromethane	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
Dibromomethane	ND (0.162)	0.0485	8260B		1	11/08/19 15:36	C9K0156	CK90829
Dichlorodifluoromethane	ND (0.162)	0.0485	8260B		1	11/08/19 15:36	C9K0156	CK90829
Diethyl Ether	ND (0.162)	0.0485	8260B		1	11/08/19 15:36	C9K0156	CK90829
Di-isopropyl ether	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
Ethyl tertiary-butyl ether	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
Ethylbenzene	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
Hexachlorobutadiene	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
Isopropylbenzene	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
Methyl tert-Butyl Ether	ND (0.162)	0.0485	8260B		1	11/08/19 15:36	C9K0156	CK90829
Methylene Chloride	ND (0.323)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
Naphthalene	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
n-Butylbenzene	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
n-Propylbenzene	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
sec-Butylbenzene	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
Styrene	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
tert-Butylbenzene	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
Tertiary-amyl methyl ether	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
Tetrachloroethene	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
Tetrahydrofuran	ND (0.809)	0.259	8260B		1	11/08/19 15:36	C9K0156	CK90829

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW2-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 89
Initial Volume: 24.9
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
trans-1,2-Dichloroethene	ND (0.162)	0.0485	8260B		1	11/08/19 15:36	C9K0156	CK90829
trans-1,3-Dichloropropene	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
Trichloroethene	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
Trichlorofluoromethane	ND (0.162)	0.0647	8260B		1	11/08/19 15:36	C9K0156	CK90829
Vinyl Acetate	ND (0.162)	0.0809	8260B		1	11/08/19 15:36	C9K0156	CK90829
Vinyl Chloride	ND (0.162)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
Xylene O	ND (0.162)	0.0162	8260B		1	11/08/19 15:36	C9K0156	CK90829
Xylene P,M	ND (0.323)	0.0323	8260B		1	11/08/19 15:36	C9K0156	CK90829
Xylenes (Total)	ND (0.323)		8260B		1	11/08/19 15:36		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*131 %*	*S+*	*70-130*
Surrogate: 4-Bromofluorobenzene	*144 %*	*S+*	*70-130*
Surrogate: Dibromofluoromethane	*132 %*	*S+*	*70-130*
Surrogate: Toluene-d8	*140 %*	*S+*	*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW2-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 89
Initial Volume: 20.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 11/7/19 15:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	11/12/19 9:17		CK90702
Aroclor 1221	ND (0.05)		8082A		1	11/12/19 9:17		CK90702
Aroclor 1232	ND (0.05)		8082A		1	11/12/19 9:17		CK90702
Aroclor 1242	ND (0.05)		8082A		1	11/12/19 9:17		CK90702
Aroclor 1248	ND (0.05)		8082A		1	11/12/19 9:17		CK90702
Aroclor 1254	ND (0.05)		8082A		1	11/12/19 9:17		CK90702
Aroclor 1260	ND (0.05)		8082A		1	11/12/19 9:17		CK90702
Aroclor 1262	ND (0.05)		8082A		1	11/12/19 9:17		CK90702
Aroclor 1268	ND (0.05)		8082A		1	11/12/19 9:17		CK90702

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*58 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*77 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW2-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 89
Initial Volume: 19.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/19 20:47

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	ND (43.4)		8100M		1	11/07/19 14:59	C9K0122	CK90613

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*91 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW3-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 99
Initial Volume: 27.9
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,1,1-Trichloroethane	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,1,2,2-Tetrachloroethane	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,1,2-Trichloroethane	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,1-Dichloroethane	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,1-Dichloroethene	ND (0.112)	0.0336	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,1-Dichloropropene	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,2,3-Trichlorobenzene	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,2,3-Trichloropropane	ND (0.112)	0.0336	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,2,4-Trichlorobenzene	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,2,4-Trimethylbenzene	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,2-Dibromo-3-Chloropropane	ND (0.561)	0.112	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,2-Dibromoethane	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,2-Dichlorobenzene	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,2-Dichloroethane	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,2-Dichloropropane	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,3,5-Trimethylbenzene	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,3-Dichlorobenzene	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,3-Dichloropropane	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,4-Dichlorobenzene	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
1,4-Dioxane - Screen	ND (22.4)	21.3	8260B		1	11/08/19 16:03	C9K0156	CK90829
1-Chlorohexane	ND (0.112)	0.0448	8260B		1	11/08/19 16:03	C9K0156	CK90829
2,2-Dichloropropane	ND (0.112)	0.0336	8260B		1	11/08/19 16:03	C9K0156	CK90829
2-Butanone	ND (0.561)	0.381	8260B		1	11/08/19 16:03	C9K0156	CK90829
2-Chlorotoluene	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
2-Hexanone	ND (0.561)	0.168	8260B		1	11/08/19 16:03	C9K0156	CK90829
4-Chlorotoluene	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
4-Isopropyltoluene	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
4-Methyl-2-Pentanone	ND (0.561)	0.179	8260B		1	11/08/19 16:03	C9K0156	CK90829
Acetone	ND (0.561)	0.303	8260B		1	11/08/19 16:03	C9K0156	CK90829
Benzene	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
Bromobenzene	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW3-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 99
Initial Volume: 27.9
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.112)	0.0336	8260B		1	11/08/19 16:03	C9K0156	CK90829
Bromodichloromethane	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
Bromoform	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
Bromomethane	ND (0.112)	0.0448	8260B		1	11/08/19 16:03	C9K0156	CK90829
Carbon Disulfide	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
Carbon Tetrachloride	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
Chlorobenzene	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
Chloroethane	ND (0.112)	0.0448	8260B		1	11/08/19 16:03	C9K0156	CK90829
Chloroform	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
Chloromethane	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
cis-1,2-Dichloroethene	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
cis-1,3-Dichloropropene	ND (0.112)	0.0336	8260B		1	11/08/19 16:03	C9K0156	CK90829
Dibromochloromethane	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
Dibromomethane	ND (0.112)	0.0336	8260B		1	11/08/19 16:03	C9K0156	CK90829
Dichlorodifluoromethane	ND (0.112)	0.0336	8260B		1	11/08/19 16:03	C9K0156	CK90829
Diethyl Ether	ND (0.112)	0.0336	8260B		1	11/08/19 16:03	C9K0156	CK90829
Di-isopropyl ether	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
Ethyl tertiary-butyl ether	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
Ethylbenzene	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
Hexachlorobutadiene	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
Isopropylbenzene	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
Methyl tert-Butyl Ether	ND (0.112)	0.0336	8260B		1	11/08/19 16:03	C9K0156	CK90829
Methylene Chloride	ND (0.224)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
Naphthalene	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
n-Butylbenzene	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
n-Propylbenzene	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
sec-Butylbenzene	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
Styrene	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
tert-Butylbenzene	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
Tertiary-amyl methyl ether	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
Tetrachloroethene	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
Tetrahydrofuran	ND (0.561)	0.179	8260B		1	11/08/19 16:03	C9K0156	CK90829

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW3-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 99
Initial Volume: 27.9
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
trans-1,2-Dichloroethene	ND (0.112)	0.0336	8260B		1	11/08/19 16:03	C9K0156	CK90829
trans-1,3-Dichloropropene	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
Trichloroethene	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
Trichlorofluoromethane	ND (0.112)	0.0448	8260B		1	11/08/19 16:03	C9K0156	CK90829
Vinyl Acetate	ND (0.112)	0.0561	8260B		1	11/08/19 16:03	C9K0156	CK90829
Vinyl Chloride	ND (0.112)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
Xylene O	ND (0.112)	0.0112	8260B		1	11/08/19 16:03	C9K0156	CK90829
Xylene P,M	ND (0.224)	0.0224	8260B		1	11/08/19 16:03	C9K0156	CK90829
Xylenes (Total)	ND (0.224)		8260B		1	11/08/19 16:03		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*100 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*110 %*		*70-130*
Surrogate: Dibromofluoromethane	*103 %*		*70-130*
Surrogate: Toluene-d8	*107 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW3-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 99
Initial Volume: 19
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/19 13:58

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	ND (40.1)		8100M		1	11/07/19 20:55	C9K0122	CK90708

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*77 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW3-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 99
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/6/19 20:47

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
1,2,4-Trichlorobenzene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
1,2-Dichlorobenzene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
1,3-Dichlorobenzene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
1,4-Dichlorobenzene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
2,3,4,6-Tetrachlorophenol	ND (1.65)		8270D		1	11/07/19 20:14	C9K0114	CK90612
2,4,5-Trichlorophenol	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
2,4,6-Trichlorophenol	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
2,4-Dichlorophenol	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
2,4-Dimethylphenol	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
2,4-Dinitrophenol	ND (1.65)		8270D		1	11/07/19 20:14	C9K0114	CK90612
2,4-Dinitrotoluene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
2,6-Dinitrotoluene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
2-Chloronaphthalene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
2-Chlorophenol	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
2-Methylnaphthalene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
2-Methylphenol	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
2-Nitroaniline	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
2-Nitrophenol	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
3,3′-Dichlorobenzidine	ND (0.659)		8270D		1	11/07/19 20:14	C9K0114	CK90612
3+4-Methylphenol	ND (0.659)		8270D		1	11/07/19 20:14	C9K0114	CK90612
3-Nitroaniline	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
4,6-Dinitro-2-Methylphenol	ND (1.65)		8270D		1	11/07/19 20:14	C9K0114	CK90612
4-Bromophenyl-phenylether	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
4-Chloro-3-Methylphenol	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
4-Chloroaniline	ND (0.659)		8270D		1	11/07/19 20:14	C9K0114	CK90612
4-Chloro-phenyl-phenyl ether	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
4-Nitroaniline	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
4-Nitrophenol	ND (1.65)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Acenaphthene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Acenaphthylene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Acetophenone	ND (0.659)		8270D		1	11/07/19 20:14	C9K0114	CK90612

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW3-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 99
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/6/19 20:47

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aniline	ND (0.659)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Anthracene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Azobenzene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Benzo(a)anthracene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Benzo(a)pyrene	ND (0.165)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Benzo(b)fluoranthene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Benzo(g,h,i)perylene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Benzo(k)fluoranthene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Benzoic Acid	ND (1.65)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Benzyl Alcohol	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
bis(2-Chloroethoxy)methane	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
bis(2-Chloroethyl)ether	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
bis(2-chloroisopropyl)Ether	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
bis(2-Ethylhexyl)phthalate	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Butylbenzylphthalate	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Carbazole	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Chrysene	ND (0.165)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Dibenzo(a,h)Anthracene	ND (0.165)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Dibenzofuran	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Diethylphthalate	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Dimethylphthalate	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Di-n-butylphthalate	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Di-n-octylphthalate	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Fluoranthene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Fluorene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Hexachlorobenzene	ND (0.165)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Hexachlorobutadiene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Hexachlorocyclopentadiene	ND (1.65)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Hexachloroethane	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Indeno(1,2,3-cd)Pyrene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Isophorone	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Naphthalene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW3-110619
Date Sampled: 11/06/19 00:00
Percent Solids: 99
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 11/6/19 20:47

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Nitrobenzene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
N-Nitrosodimethylamine	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
N-Nitroso-Di-n-Propylamine	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
N-nitrosodiphenylamine	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Pentachlorophenol	ND (1.65)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Phenanthrene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Phenol	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Pyrene	ND (0.329)		8270D		1	11/07/19 20:14	C9K0114	CK90612
Pyridine	ND (1.65)		8270D		1	11/07/19 20:14	C9K0114	CK90612

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*79 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*78 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*78 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*76 %*		*30-130*
Surrogate: 2-Fluorophenol	*70 %*		*30-130*
Surrogate: Nitrobenzene-d5	*74 %*		*30-130*
Surrogate: Phenol-d6	*76 %*		*30-130*
Surrogate: p-Terphenyl-d14	*86 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: Trip Blank
Date Sampled: 11/06/19 00:00
Percent Solids: N/A
Initial Volume: 15
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-04
Sample Matrix: Soil
Units: mg/kg
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,1,1-Trichloroethane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,1,2,2-Tetrachloroethane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,1,2-Trichloroethane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,1-Dichloroethane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,1-Dichloroethene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,1-Dichloropropene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,2,3-Trichlorobenzene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,2,3-Trichloropropane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,2,4-Trichlorobenzene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,2,4-Trimethylbenzene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,2-Dibromo-3-Chloropropane	ND (1.00)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,2-Dibromoethane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,2-Dichlorobenzene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,2-Dichloroethane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,2-Dichloropropane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,3,5-Trimethylbenzene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,3-Dichlorobenzene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,3-Dichloropropane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,4-Dichlorobenzene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1,4-Dioxane - Screen	ND (40.0)		8260B		1	11/08/19 12:32	C9K0156	CK90829
1-Chlorohexane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
2,2-Dichloropropane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
2-Butanone	ND (1.00)		8260B		1	11/08/19 12:32	C9K0156	CK90829
2-Chlorotoluene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
2-Hexanone	ND (1.00)		8260B		1	11/08/19 12:32	C9K0156	CK90829
4-Chlorotoluene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
4-Isopropyltoluene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
4-Methyl-2-Pentanone	ND (1.00)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Acetone	ND (1.00)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Benzene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Bromobenzene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: Trip Blank
Date Sampled: 11/06/19 00:00
Percent Solids: N/A
Initial Volume: 15
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-04
Sample Matrix: Soil
Units: mg/kg
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Bromodichloromethane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Bromoform	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Bromomethane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Carbon Disulfide	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Carbon Tetrachloride	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Chlorobenzene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Chloroethane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Chloroform	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Chloromethane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
cis-1,2-Dichloroethene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
cis-1,3-Dichloropropene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Dibromochloromethane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Dibromomethane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Dichlorodifluoromethane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Diethyl Ether	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Di-isopropyl ether	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Ethyl tertiary-butyl ether	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Ethylbenzene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Hexachlorobutadiene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Isopropylbenzene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Methyl tert-Butyl Ether	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Methylene Chloride	ND (0.400)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Naphthalene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
n-Butylbenzene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
n-Propylbenzene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
sec-Butylbenzene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Styrene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
tert-Butylbenzene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Tertiary-amyl methyl ether	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Tetrachloroethene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Tetrahydrofuran	ND (1.00)		8260B		1	11/08/19 12:32	C9K0156	CK90829

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: Trip Blank
Date Sampled: 11/06/19 00:00
Percent Solids: N/A
Initial Volume: 15
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 19K0160
ESS Laboratory Sample ID: 19K0160-04
Sample Matrix: Soil
Units: mg/kg
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
trans-1,2-Dichloroethene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
trans-1,3-Dichloropropene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Trichloroethene	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Trichlorofluoromethane	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Vinyl Acetate	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Vinyl Chloride	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Xylene O	ND (0.200)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Xylene P,M	ND (0.400)		8260B		1	11/08/19 12:32	C9K0156	CK90829
Xylenes (Total)	ND (0.600)		8260B		0	11/08/19 12:32	C9K0156	CK90829

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*106 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*120 %*		*70-130*
Surrogate: Dibromofluoromethane	*108 %*		*70-130*
Surrogate: Toluene-d8	*116 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CK90829 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.200	mg/kg wet							
1,1,1-Trichloroethane	ND	0.200	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.200	mg/kg wet							
1,1,2-Trichloroethane	ND	0.200	mg/kg wet							
1,1-Dichloroethane	ND	0.200	mg/kg wet							
1,1-Dichloroethene	ND	0.200	mg/kg wet							
1,1-Dichloropropene	ND	0.200	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.200	mg/kg wet							
1,2,3-Trichloropropane	ND	0.200	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.200	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.200	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	1.00	mg/kg wet							
1,2-Dibromoethane	ND	0.200	mg/kg wet							
1,2-Dichlorobenzene	ND	0.200	mg/kg wet							
1,2-Dichloroethane	ND	0.200	mg/kg wet							
1,2-Dichloropropane	ND	0.200	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.200	mg/kg wet							
1,3-Dichlorobenzene	ND	0.200	mg/kg wet							
1,3-Dichloropropane	ND	0.200	mg/kg wet							
1,4-Dichlorobenzene	ND	0.200	mg/kg wet							
1,4-Dioxane - Screen	ND	40.0	mg/kg wet							
1-Chlorohexane	ND	0.200	mg/kg wet							
2,2-Dichloropropane	ND	0.200	mg/kg wet							
2-Butanone	ND	1.00	mg/kg wet							
2-Chlorotoluene	ND	0.200	mg/kg wet							
2-Hexanone	ND	1.00	mg/kg wet							
4-Chlorotoluene	ND	0.200	mg/kg wet							
4-Isopropyltoluene	ND	0.200	mg/kg wet							
4-Methyl-2-Pentanone	ND	1.00	mg/kg wet							
Acetone	ND	1.00	mg/kg wet							
Benzene	ND	0.200	mg/kg wet							
Bromobenzene	ND	0.200	mg/kg wet							
Bromochloromethane	ND	0.200	mg/kg wet							
Bromodichloromethane	ND	0.200	mg/kg wet							
Bromoform	ND	0.200	mg/kg wet							
Bromomethane	ND	0.200	mg/kg wet							
Carbon Disulfide	ND	0.200	mg/kg wet							
Carbon Tetrachloride	ND	0.200	mg/kg wet							
Chlorobenzene	ND	0.200	mg/kg wet							
Chloroethane	ND	0.200	mg/kg wet							
Chloroform	ND	0.200	mg/kg wet							
Chloromethane	ND	0.200	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.200	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.200	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CK90829 - 5035										
Dibromochloromethane	ND	0.200	mg/kg wet							
Dibromomethane	ND	0.200	mg/kg wet							
Dichlorodifluoromethane	ND	0.200	mg/kg wet							
Diethyl Ether	ND	0.200	mg/kg wet							
Di-isopropyl ether	ND	0.200	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.200	mg/kg wet							
Ethylbenzene	ND	0.200	mg/kg wet							
Hexachlorobutadiene	ND	0.200	mg/kg wet							
Isopropylbenzene	ND	0.200	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.200	mg/kg wet							
Methylene Chloride	ND	0.400	mg/kg wet							
Naphthalene	ND	0.200	mg/kg wet							
n-Butylbenzene	ND	0.200	mg/kg wet							
n-Propylbenzene	ND	0.200	mg/kg wet							
sec-Butylbenzene	ND	0.200	mg/kg wet							
Styrene	ND	0.200	mg/kg wet							
tert-Butylbenzene	ND	0.200	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.200	mg/kg wet							
Tetrachloroethene	ND	0.200	mg/kg wet							
Tetrahydrofuran	ND	1.00	mg/kg wet							
Toluene	ND	0.200	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.200	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.200	mg/kg wet							
Trichloroethene	ND	0.200	mg/kg wet							
Trichlorofluoromethane	ND	0.200	mg/kg wet							
Vinyl Acetate	ND	0.200	mg/kg wet							
Vinyl Chloride	ND	0.200	mg/kg wet							
Xylene O	ND	0.200	mg/kg wet							
Xylene P,M	ND	0.400	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*4.73*		mg/kg wet	*5.000*		*95*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*5.11*		mg/kg wet	*5.000*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*4.74*		mg/kg wet	*5.000*		*95*	*70-130*			
Surrogate: Toluene-d8	*5.07*		mg/kg wet	*5.000*		*101*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	1.99	0.200	mg/kg wet	2.000		100	70-130			
1,1,1-Trichloroethane	1.91	0.200	mg/kg wet	2.000		96	70-130			
1,1,2,2-Tetrachloroethane	1.88	0.200	mg/kg wet	2.000		94	70-130			
1,1,2-Trichloroethane	1.97	0.200	mg/kg wet	2.000		99	70-130			
1,1-Dichloroethane	1.96	0.200	mg/kg wet	2.000		98	70-130			
1,1-Dichloroethene	2.04	0.200	mg/kg wet	2.000		102	70-130			
1,1-Dichloropropene	2.02	0.200	mg/kg wet	2.000		101	70-130			
1,2,3-Trichlorobenzene	1.99	0.200	mg/kg wet	2.000		100	70-130			
1,2,3-Trichloropropane	1.73	0.200	mg/kg wet	2.000		87	70-130			
1,2,4-Trichlorobenzene	2.08	0.200	mg/kg wet	2.000		104	70-130			
1,2,4-Trimethylbenzene	2.11	0.200	mg/kg wet	2.000		105	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CK90829 - 5035										
1,2-Dibromo-3-Chloropropane	2.03	1.00	mg/kg wet	2.000		102	70-130			
1,2-Dibromoethane	2.04	0.200	mg/kg wet	2.000		102	70-130			
1,2-Dichlorobenzene	1.95	0.200	mg/kg wet	2.000		97	70-130			
1,2-Dichloroethane	1.87	0.200	mg/kg wet	2.000		93	70-130			
1,2-Dichloropropane	1.96	0.200	mg/kg wet	2.000		98	70-130			
1,3,5-Trimethylbenzene	2.05	0.200	mg/kg wet	2.000		102	70-130			
1,3-Dichlorobenzene	1.98	0.200	mg/kg wet	2.000		99	70-130			
1,3-Dichloropropane	1.95	0.200	mg/kg wet	2.000		98	70-130			
1,4-Dichlorobenzene	1.99	0.200	mg/kg wet	2.000		100	70-130			
1,4-Dioxane - Screen	54.6	40.0	mg/kg wet	40.00		137	44-241			
1-Chlorohexane	1.93	0.200	mg/kg wet	2.000		97	70-130			
2,2-Dichloropropane	1.90	0.200	mg/kg wet	2.000		95	70-130			
2-Butanone	9.15	1.00	mg/kg wet	10.00		92	70-130			
2-Chlorotoluene	1.90	0.200	mg/kg wet	2.000		95	70-130			
2-Hexanone	9.65	1.00	mg/kg wet	10.00		96	70-130			
4-Chlorotoluene	1.98	0.200	mg/kg wet	2.000		99	70-130			
4-Isopropyltoluene	2.07	0.200	mg/kg wet	2.000		103	70-130			
4-Methyl-2-Pentanone	9.31	1.00	mg/kg wet	10.00		93	70-130			
Acetone	21.1	1.00	mg/kg wet	10.00		211	70-130			B+
Benzene	1.92	0.200	mg/kg wet	2.000		96	70-130			
Bromobenzene	2.08	0.200	mg/kg wet	2.000		104	70-130			
Bromochloromethane	1.86	0.200	mg/kg wet	2.000		93	70-130			
Bromodichloromethane	1.92	0.200	mg/kg wet	2.000		96	70-130			
Bromoform	2.09	0.200	mg/kg wet	2.000		104	70-130			
Bromomethane	2.12	0.200	mg/kg wet	2.000		106	70-130			
Carbon Disulfide	2.01	0.200	mg/kg wet	2.000		100	70-130			
Carbon Tetrachloride	1.94	0.200	mg/kg wet	2.000		97	70-130			
Chlorobenzene	1.91	0.200	mg/kg wet	2.000		95	70-130			
Chloroethane	1.51	0.200	mg/kg wet	2.000		75	70-130			
Chloroform	1.95	0.200	mg/kg wet	2.000		98	70-130			
Chloromethane	2.16	0.200	mg/kg wet	2.000		108	70-130			
cis-1,2-Dichloroethene	1.93	0.200	mg/kg wet	2.000		97	70-130			
cis-1,3-Dichloropropene	1.97	0.200	mg/kg wet	2.000		99	70-130			
Dibromochloromethane	2.08	0.200	mg/kg wet	2.000		104	70-130			
Dibromomethane	1.92	0.200	mg/kg wet	2.000		96	70-130			
Dichlorodifluoromethane	1.48	0.200	mg/kg wet	2.000		74	70-130			
Diethyl Ether	2.48	0.200	mg/kg wet	2.000		124	70-130			
Di-isopropyl ether	1.97	0.200	mg/kg wet	2.000		99	70-130			
Ethyl tertiary-butyl ether	1.93	0.200	mg/kg wet	2.000		96	70-130			
Ethylbenzene	1.94	0.200	mg/kg wet	2.000		97	70-130			
Hexachlorobutadiene	2.17	0.200	mg/kg wet	2.000		109	70-130			
Isopropylbenzene	1.98	0.200	mg/kg wet	2.000		99	70-130			
Methyl tert-Butyl Ether	1.99	0.200	mg/kg wet	2.000		100	70-130			
Methylene Chloride	1.77	0.400	mg/kg wet	2.000		88	70-130			
Naphthalene	2.02	0.200	mg/kg wet	2.000		101	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CK90829 - 5035										
n-Butylbenzene	2.04	0.200	mg/kg wet	2.000		102	70-130			
n-Propylbenzene	1.97	0.200	mg/kg wet	2.000		99	70-130			
sec-Butylbenzene	1.94	0.200	mg/kg wet	2.000		97	70-130			
Styrene	1.96	0.200	mg/kg wet	2.000		98	70-130			
tert-Butylbenzene	2.01	0.200	mg/kg wet	2.000		101	70-130			
Tertiary-amyl methyl ether	2.05	0.200	mg/kg wet	2.000		102	70-130			
Tetrachloroethene	1.71	0.200	mg/kg wet	2.000		85	70-130			
Tetrahydrofuran	1.94	1.00	mg/kg wet	2.000		97	70-130			
Toluene	1.90	0.200	mg/kg wet	2.000		95	70-130			
trans-1,2-Dichloroethene	1.97	0.200	mg/kg wet	2.000		99	70-130			
trans-1,3-Dichloropropene	1.91	0.200	mg/kg wet	2.000		96	70-130			
Trichloroethene	1.92	0.200	mg/kg wet	2.000		96	70-130			
Trichlorofluoromethane	3.05	0.200	mg/kg wet	2.000		152	70-130			B+
Vinyl Acetate	2.07	0.200	mg/kg wet	2.000		104	70-130			
Vinyl Chloride	1.93	0.200	mg/kg wet	2.000		96	70-130			
Xylene O	2.06	0.200	mg/kg wet	2.000		103	70-130			
Xylene P,M	3.94	0.400	mg/kg wet	4.000		98	70-130			
Surrogate: 1,2-Dichloroethane-d4	*4.49*		mg/kg wet	*5.000*		*90*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*5.10*		mg/kg wet	*5.000*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*4.51*		mg/kg wet	*5.000*		*90*	*70-130*			
Surrogate: Toluene-d8	*4.88*		mg/kg wet	*5.000*		*98*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	1.97	0.200	mg/kg wet	2.000		99	70-130	0.9	25	
1,1,1-Trichloroethane	2.02	0.200	mg/kg wet	2.000		101	70-130	5	25	
1,1,2,2-Tetrachloroethane	1.91	0.200	mg/kg wet	2.000		96	70-130	1	25	
1,1,2-Trichloroethane	1.91	0.200	mg/kg wet	2.000		95	70-130	3	25	
1,1-Dichloroethane	2.00	0.200	mg/kg wet	2.000		100	70-130	2	25	
1,1-Dichloroethene	2.11	0.200	mg/kg wet	2.000		106	70-130	3	25	
1,1-Dichloropropene	2.15	0.200	mg/kg wet	2.000		107	70-130	6	25	
1,2,3-Trichlorobenzene	1.95	0.200	mg/kg wet	2.000		98	70-130	2	25	
1,2,3-Trichloropropane	1.74	0.200	mg/kg wet	2.000		87	70-130	0.2	25	
1,2,4-Trichlorobenzene	2.07	0.200	mg/kg wet	2.000		104	70-130	0.3	25	
1,2,4-Trimethylbenzene	2.16	0.200	mg/kg wet	2.000		108	70-130	2	25	
1,2-Dibromo-3-Chloropropane	1.86	1.00	mg/kg wet	2.000		93	70-130	9	25	
1,2-Dibromoethane	2.02	0.200	mg/kg wet	2.000		101	70-130	1	25	
1,2-Dichlorobenzene	2.00	0.200	mg/kg wet	2.000		100	70-130	3	25	
1,2-Dichloroethane	1.93	0.200	mg/kg wet	2.000		96	70-130	3	25	
1,2-Dichloropropane	1.84	0.200	mg/kg wet	2.000		92	70-130	6	25	
1,3,5-Trimethylbenzene	2.07	0.200	mg/kg wet	2.000		104	70-130	1	25	
1,3-Dichlorobenzene	2.04	0.200	mg/kg wet	2.000		102	70-130	3	25	
1,3-Dichloropropane	1.98	0.200	mg/kg wet	2.000		99	70-130	1	25	
1,4-Dichlorobenzene	2.00	0.200	mg/kg wet	2.000		100	70-130	0.4	25	
1,4-Dioxane - Screen	51.2	40.0	mg/kg wet	40.00		128	44-241	6	200	
1-Chlorohexane	2.06	0.200	mg/kg wet	2.000		103	70-130	6	25	
2,2-Dichloropropane	2.02	0.200	mg/kg wet	2.000		101	70-130	6	25	

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CK90829 - 5035										
2-Butanone	8.89	1.00	mg/kg wet	10.00		89	70-130	3	25	
2-Chlorotoluene	1.98	0.200	mg/kg wet	2.000		99	70-130	4	25	
2-Hexanone	9.03	1.00	mg/kg wet	10.00		90	70-130	7	25	
4-Chlorotoluene	2.01	0.200	mg/kg wet	2.000		100	70-130	2	25	
4-Isopropyltoluene	2.09	0.200	mg/kg wet	2.000		104	70-130	1	25	
4-Methyl-2-Pentanone	8.65	1.00	mg/kg wet	10.00		86	70-130	7	25	
Acetone	18.9	1.00	mg/kg wet	10.00		189	70-130	11	25	B+
Benzene	1.93	0.200	mg/kg wet	2.000		97	70-130	0.8	25	
Bromobenzene	2.19	0.200	mg/kg wet	2.000		109	70-130	5	25	
Bromochloromethane	1.94	0.200	mg/kg wet	2.000		97	70-130	4	25	
Bromodichloromethane	1.98	0.200	mg/kg wet	2.000		99	70-130	3	25	
Bromoform	2.04	0.200	mg/kg wet	2.000		102	70-130	2	25	
Bromomethane	2.27	0.200	mg/kg wet	2.000		114	70-130	7	25	
Carbon Disulfide	1.98	0.200	mg/kg wet	2.000		99	70-130	1	25	
Carbon Tetrachloride	2.07	0.200	mg/kg wet	2.000		104	70-130	7	25	
Chlorobenzene	1.96	0.200	mg/kg wet	2.000		98	70-130	3	25	
Chloroethane	1.65	0.200	mg/kg wet	2.000		82	70-130	9	25	
Chloroform	1.97	0.200	mg/kg wet	2.000		98	70-130	0.9	25	
Chloromethane	2.20	0.200	mg/kg wet	2.000		110	70-130	2	25	
cis-1,2-Dichloroethene	1.99	0.200	mg/kg wet	2.000		100	70-130	3	25	
cis-1,3-Dichloropropene	1.96	0.200	mg/kg wet	2.000		98	70-130	0.7	25	
Dibromochloromethane	2.06	0.200	mg/kg wet	2.000		103	70-130	1	25	
Dibromomethane	1.96	0.200	mg/kg wet	2.000		98	70-130	2	25	
Dichlorodifluoromethane	1.53	0.200	mg/kg wet	2.000		77	70-130	3	25	
Diethyl Ether	2.47	0.200	mg/kg wet	2.000		124	70-130	0.3	25	
Di-isopropyl ether	1.93	0.200	mg/kg wet	2.000		96	70-130	2	25	
Ethyl tertiary-butyl ether	2.01	0.200	mg/kg wet	2.000		100	70-130	4	25	
Ethylbenzene	2.03	0.200	mg/kg wet	2.000		102	70-130	5	25	
Hexachlorobutadiene	2.16	0.200	mg/kg wet	2.000		108	70-130	0.6	25	
Isopropylbenzene	2.06	0.200	mg/kg wet	2.000		103	70-130	4	25	
Methyl tert-Butyl Ether	1.95	0.200	mg/kg wet	2.000		97	70-130	2	25	
Methylene Chloride	1.90	0.400	mg/kg wet	2.000		95	70-130	7	25	
Naphthalene	1.93	0.200	mg/kg wet	2.000		97	70-130	5	25	
n-Butylbenzene	2.04	0.200	mg/kg wet	2.000		102	70-130	0.3	25	
n-Propylbenzene	2.02	0.200	mg/kg wet	2.000		101	70-130	2	25	
sec-Butylbenzene	2.04	0.200	mg/kg wet	2.000		102	70-130	5	25	
Styrene	2.03	0.200	mg/kg wet	2.000		102	70-130	4	25	
tert-Butylbenzene	2.06	0.200	mg/kg wet	2.000		103	70-130	2	25	
Tertiary-amyl methyl ether	1.96	0.200	mg/kg wet	2.000		98	70-130	4	25	
Tetrachloroethene	1.77	0.200	mg/kg wet	2.000		88	70-130	4	25	
Tetrahydrofuran	1.87	1.00	mg/kg wet	2.000		93	70-130	4	25	
Toluene	1.93	0.200	mg/kg wet	2.000		97	70-130	2	25	
trans-1,2-Dichloroethene	2.02	0.200	mg/kg wet	2.000		101	70-130	2	25	
trans-1,3-Dichloropropene	2.03	0.200	mg/kg wet	2.000		101	70-130	6	25	
Trichloroethene	1.92	0.200	mg/kg wet	2.000		96	70-130	0	25	

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CK90829 - 5035										
Trichlorofluoromethane	3.16	0.200	mg/kg wet	2.000		158	70-130	3	25	B+
Vinyl Acetate	2.07	0.200	mg/kg wet	2.000		104	70-130	0	25	
Vinyl Chloride	2.03	0.200	mg/kg wet	2.000		102	70-130	5	25	
Xylene O	2.06	0.200	mg/kg wet	2.000		103	70-130	0.3	25	
Xylene P,M	4.11	0.400	mg/kg wet	4.000		103	70-130	4	25	
Surrogate: 1,2-Dichloroethane-d4	*4.58*		mg/kg wet	*5.000*		*92*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*5.37*		mg/kg wet	*5.000*		*107*	*70-130*			
Surrogate: Dibromofluoromethane	*4.75*		mg/kg wet	*5.000*		*95*	*70-130*			
Surrogate: Toluene-d8	*5.05*		mg/kg wet	*5.000*		*101*	*70-130*			
8082A Polychlorinated Biphenyls (PCB)										
Batch CK90702 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0182*		mg/kg wet	*0.02500*		*73*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0167*		mg/kg wet	*0.02500*		*67*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0180*		mg/kg wet	*0.02500*		*72*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		82	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		77	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		83	40-140			
Surrogate: Decachlorobiphenyl	*0.0184*		mg/kg wet	*0.02500*		*74*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0199*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0171*		mg/kg wet	*0.02500*		*68*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CK90702 - 3540C										
Surrogate: Tetrachloro-m-xylene [2C]	*0.0174*		mg/kg wet	*0.02500*		*69*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		86	40-140	5	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140	4	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		82	40-140	5	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140	6	30	
Surrogate: Decachlorobiphenyl	*0.0196*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0179*		mg/kg wet	*0.02500*		*71*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0182*		mg/kg wet	*0.02500*		*73*	*30-150*			
8100M Total Petroleum Hydrocarbons										
Batch CK90613 - 3546										
Blank										
Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	37.5	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*4.21*		mg/kg wet	*5.000*		*84*	*40-140*			
LCS										
Decane (C10)	1.8	0.2	mg/kg wet	2.500		71	40-140			
Docosane (C22)	2.3	0.2	mg/kg wet	2.500		91	40-140			
Dodecane (C12)	1.8	0.2	mg/kg wet	2.500		74	40-140			
Eicosane (C20)	2.2	0.2	mg/kg wet	2.500		89	40-140			
Hexacosane (C26)	2.3	0.2	mg/kg wet	2.500		91	40-140			
Hexadecane (C16)	2.0	0.2	mg/kg wet	2.500		79	40-140			
Nonadecane (C19)	2.4	0.2	mg/kg wet	2.500		96	40-140			
Nonane (C9)	1.6	0.2	mg/kg wet	2.500		63	30-140			
Octacosane (C28)	2.3	0.2	mg/kg wet	2.500		91	40-140			
Octadecane (C18)	2.1	0.2	mg/kg wet	2.500		84	40-140			
Tetracosane (C24)	2.3	0.2	mg/kg wet	2.500		91	40-140			
Tetradecane (C14)	1.9	0.2	mg/kg wet	2.500		77	40-140			

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

Quality Control Data

8100M Total Petroleum Hydrocarbons

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch CK90613 - 3546										
Total Petroleum Hydrocarbons	29.7	37.5	mg/kg wet	35.00		85	40-140			
Triacontane (C30)	2.3	0.2	mg/kg wet	2.500		92	40-140			
Surrogate: O-Terphenyl	*4.16*		mg/kg wet	*5.000*		*83*	*40-140*			
LCS Dup										
Decane (C10)	1.8	0.2	mg/kg wet	2.500		72	40-140	1	25	
Docosane (C22)	2.3	0.2	mg/kg wet	2.500		92	40-140	1	25	
Dodecane (C12)	1.9	0.2	mg/kg wet	2.500		77	40-140	4	25	
Eicosane (C20)	2.3	0.2	mg/kg wet	2.500		90	40-140	2	25	
Hexacosane (C26)	2.3	0.2	mg/kg wet	2.500		92	40-140	1	25	
Hexadecane (C16)	2.1	0.2	mg/kg wet	2.500		83	40-140	6	25	
Nonadecane (C19)	2.5	0.2	mg/kg wet	2.500		99	40-140	3	25	
Nonane (C9)	1.6	0.2	mg/kg wet	2.500		63	30-140	0.4	25	
Octacosane (C28)	2.3	0.2	mg/kg wet	2.500		93	40-140	2	25	
Octadecane (C18)	2.2	0.2	mg/kg wet	2.500		87	40-140	4	25	
Tetracosane (C24)	2.3	0.2	mg/kg wet	2.500		92	40-140	1	25	
Tetradecane (C14)	2.0	0.2	mg/kg wet	2.500		81	40-140	5	25	
Total Petroleum Hydrocarbons	30.4	37.5	mg/kg wet	35.00		87	40-140	2	25	
Triacontane (C30)	2.3	0.2	mg/kg wet	2.500		93	40-140	1	25	
Surrogate: O-Terphenyl	*4.24*		mg/kg wet	*5.000*		*85*	*40-140*			
Batch CK90708 - 3546										
Blank										
Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	37.5	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*4.34*		mg/kg wet	*5.000*		*87*	*40-140*			
LCS										
Decane (C10)	2.0	0.2	mg/kg wet	2.500		80	40-140			
Docosane (C22)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Dodecane (C12)	2.1	0.2	mg/kg wet	2.500		84	40-140			
Eicosane (C20)	2.3	0.2	mg/kg wet	2.500		92	40-140			
Hexacosane (C26)	2.3	0.2	mg/kg wet	2.500		93	40-140			

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch CK90708 - 3546										
Hexadecane (C16)	2.2	0.2	mg/kg wet	2.500		89	40-140			
Nonadecane (C19)	2.5	0.2	mg/kg wet	2.500		102	40-140			
Nonane (C9)	1.8	0.2	mg/kg wet	2.500		71	30-140			
Octacosane (C28)	2.3	0.2	mg/kg wet	2.500		94	40-140			
Octadecane (C18)	2.3	0.2	mg/kg wet	2.500		91	40-140			
Tetracosane (C24)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Tetradecane (C14)	2.2	0.2	mg/kg wet	2.500		87	40-140			
Total Petroleum Hydrocarbons	31.5	37.5	mg/kg wet	35.00		90	40-140			
Triacontane (C30)	2.3	0.2	mg/kg wet	2.500		94	40-140			
Surrogate: O-Terphenyl	*4.49*		mg/kg wet	*5.000*		*90*	*40-140*			
LCS Dup										
Decane (C10)	2.1	0.2	mg/kg wet	2.500		82	40-140	3	25	
Docosane (C22)	2.5	0.2	mg/kg wet	2.500		98	40-140	6	25	
Dodecane (C12)	2.2	0.2	mg/kg wet	2.500		88	40-140	4	25	
Eicosane (C20)	2.4	0.2	mg/kg wet	2.500		97	40-140	6	25	
Hexacosane (C26)	2.5	0.2	mg/kg wet	2.500		98	40-140	6	25	
Hexadecane (C16)	2.4	0.2	mg/kg wet	2.500		94	40-140	6	25	
Nonadecane (C19)	2.7	0.2	mg/kg wet	2.500		107	40-140	6	25	
Nonane (C9)	1.8	0.2	mg/kg wet	2.500		73	30-140	2	25	
Octacosane (C28)	2.5	0.2	mg/kg wet	2.500		100	40-140	6	25	
Octadecane (C18)	2.4	0.2	mg/kg wet	2.500		97	40-140	6	25	
Tetracosane (C24)	2.5	0.2	mg/kg wet	2.500		98	40-140	6	25	
Tetradecane (C14)	2.3	0.2	mg/kg wet	2.500		92	40-140	5	25	
Total Petroleum Hydrocarbons	33.3	37.5	mg/kg wet	35.00		95	40-140	5	25	
Triacontane (C30)	2.5	0.2	mg/kg wet	2.500		100	40-140	6	25	
Surrogate: O-Terphenyl	*4.70*		mg/kg wet	*5.000*		*94*	*40-140*			
8270D Semi-Volatile Organic Compounds										
Batch CK90612 - 3546										
Blank										
1,1-Biphenyl	ND	0.333	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,3,4,6-Tetrachlorophenol	ND	1.67	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CK90612 - 3546										
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitroaniline	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.333	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
3-Nitroaniline	ND	0.333	mg/kg wet							
4,6-Dinitro-2-Methylphenol	ND	1.67	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloro-3-Methylphenol	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Chloro-phenyl-phenyl ether	ND	0.333	mg/kg wet							
4-Nitroaniline	ND	0.333	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	0.667	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
Benzoic Acid	ND	1.67	mg/kg wet							
Benzyl Alcohol	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.167	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.167	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CK90612 - 3546										
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
N-Nitroso-Di-n-Propylamine	ND	0.333	mg/kg wet							
N-nitrosodiphenylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.11*		mg/kg wet	*3.333*		*63*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.45*		mg/kg wet	*5.000*		*89*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.28*		mg/kg wet	*5.000*		*66*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.08*		mg/kg wet	*3.333*		*62*	*30-130*			
Surrogate: 2-Fluorophenol	*3.20*		mg/kg wet	*5.000*		*64*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.96*		mg/kg wet	*3.333*		*59*	*30-130*			
Surrogate: Phenol-d6	*3.07*		mg/kg wet	*5.000*		*61*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.16*		mg/kg wet	*3.333*		*95*	*30-130*			
LCS										
1,1-Biphenyl	2.25	0.333	mg/kg wet	3.333		68	40-140			
1,2,4-Trichlorobenzene	2.05	0.333	mg/kg wet	3.333		61	40-140			
1,2-Dichlorobenzene	1.87	0.333	mg/kg wet	3.333		56	40-140			
1,3-Dichlorobenzene	1.77	0.333	mg/kg wet	3.333		53	40-140			
1,4-Dichlorobenzene	1.80	0.333	mg/kg wet	3.333		54	40-140			
2,3,4,6-Tetrachlorophenol	2.90	1.67	mg/kg wet	3.333		87	30-130			
2,4,5-Trichlorophenol	2.71	0.333	mg/kg wet	3.333		81	30-130			
2,4,6-Trichlorophenol	2.61	0.333	mg/kg wet	3.333		78	30-130			
2,4-Dichlorophenol	2.26	0.333	mg/kg wet	3.333		68	30-130			
2,4-Dimethylphenol	2.05	0.333	mg/kg wet	3.333		61	30-130			
2,4-Dinitrophenol	2.38	1.67	mg/kg wet	3.333		72	30-130			
2,4-Dinitrotoluene	2.89	0.333	mg/kg wet	3.333		87	40-140			
2,6-Dinitrotoluene	2.62	0.333	mg/kg wet	3.333		79	40-140			
2-Chloronaphthalene	2.25	0.333	mg/kg wet	3.333		68	40-140			
2-Chlorophenol	1.98	0.333	mg/kg wet	3.333		60	30-130			
2-Methylnaphthalene	2.12	0.333	mg/kg wet	3.333		64	40-140			
2-Methylphenol	2.11	0.333	mg/kg wet	3.333		63	30-130			
2-Nitroaniline	2.25	0.333	mg/kg wet	3.333		68	40-140			
2-Nitrophenol	1.77	0.333	mg/kg wet	3.333		53	30-130			
3,3´-Dichlorobenzidine	2.06	0.333	mg/kg wet	3.333		62	40-140			
3+4-Methylphenol	4.37	0.667	mg/kg wet	6.667		66	30-130			

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CK90612 - 3546										
3-Nitroaniline	2.40	0.333	mg/kg wet	3.333		72	40-140			
4,6-Dinitro-2-Methylphenol	2.68	1.67	mg/kg wet	3.333		81	30-130			
4-Bromophenyl-phenylether	2.96	0.333	mg/kg wet	3.333		89	40-140			
4-Chloro-3-Methylphenol	2.34	0.333	mg/kg wet	3.333		70	30-130			
4-Chloroaniline	1.39	0.667	mg/kg wet	3.333		42	40-140			
4-Chloro-phenyl-phenyl ether	2.70	0.333	mg/kg wet	3.333		81	40-140			
4-Nitroaniline	2.14	0.333	mg/kg wet	3.333		64	40-140			
4-Nitrophenol	2.14	1.67	mg/kg wet	3.333		64	30-130			
Acenaphthene	2.36	0.333	mg/kg wet	3.333		71	40-140			
Acenaphthylene	2.40	0.333	mg/kg wet	3.333		72	40-140			
Acetophenone	1.93	0.667	mg/kg wet	3.333		58	40-140			
Aniline	1.44	0.667	mg/kg wet	3.333		43	40-140			
Anthracene	2.77	0.333	mg/kg wet	3.333		83	40-140			
Azobenzene	2.17	0.333	mg/kg wet	3.333		65	40-140			
Benzo(a)anthracene	2.98	0.333	mg/kg wet	3.333		89	40-140			
Benzo(a)pyrene	2.56	0.167	mg/kg wet	3.333		77	40-140			
Benzo(b)fluoranthene	3.02	0.333	mg/kg wet	3.333		91	40-140			
Benzo(g,h,i)perylene	3.19	0.333	mg/kg wet	3.333		96	40-140			
Benzo(k)fluoranthene	2.76	0.333	mg/kg wet	3.333		83	40-140			
Benzoic Acid	1.68	1.67	mg/kg wet	3.333		51	40-140			
Benzyl Alcohol	1.48	0.333	mg/kg wet	3.333		45	40-140			
bis(2-Chloroethoxy)methane	1.92	0.333	mg/kg wet	3.333		58	40-140			
bis(2-Chloroethyl)ether	1.81	0.167	mg/kg wet	3.333		54	40-140			
bis(2-chloroisopropyl)Ether	1.82	0.333	mg/kg wet	3.333		55	40-140			
bis(2-Ethylhexyl)phthalate	2.50	0.333	mg/kg wet	3.333		75	40-140			
Butylbenzylphthalate	2.36	0.333	mg/kg wet	3.333		71	40-140			
Carbazole	2.67	0.333	mg/kg wet	3.333		80	40-140			
Chrysene	2.84	0.167	mg/kg wet	3.333		85	40-140			
Dibenzo(a,h)Anthracene	2.90	0.167	mg/kg wet	3.333		87	40-140			
Dibenzofuran	2.52	0.333	mg/kg wet	3.333		76	40-140			
Diethylphthalate	2.83	0.333	mg/kg wet	3.333		85	40-140			
Dimethylphthalate	2.82	0.333	mg/kg wet	3.333		84	40-140			
Di-n-butylphthalate	2.37	0.333	mg/kg wet	3.333		71	40-140			
Di-n-octylphthalate	2.65	0.333	mg/kg wet	3.333		79	40-140			
Fluoranthene	2.80	0.333	mg/kg wet	3.333		84	40-140			
Fluorene	2.57	0.333	mg/kg wet	3.333		77	40-140			
Hexachlorobenzene	2.95	0.167	mg/kg wet	3.333		88	40-140			
Hexachlorobutadiene	2.03	0.333	mg/kg wet	3.333		61	40-140			
Hexachlorocyclopentadiene	1.62	1.67	mg/kg wet	3.333		49	40-140			
Hexachloroethane	1.74	0.333	mg/kg wet	3.333		52	40-140			
Indeno(1,2,3-cd)Pyrene	2.88	0.333	mg/kg wet	3.333		86	40-140			
Isophorone	1.70	0.333	mg/kg wet	3.333		51	40-140			
Naphthalene	1.94	0.333	mg/kg wet	3.333		58	40-140			
Nitrobenzene	1.73	0.333	mg/kg wet	3.333		52	40-140			
N-Nitrosodimethylamine	1.44	0.333	mg/kg wet	3.333		43	40-140			

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CK90612 - 3546										
N-Nitroso-Di-n-Propylamine	2.09	0.333	mg/kg wet	3.333		63	40-140			
N-nitrosodiphenylamine	2.70	0.333	mg/kg wet	3.333		81	40-140			
Pentachlorophenol	2.91	1.67	mg/kg wet	3.333		87	30-130			
Phenanthrene	2.67	0.333	mg/kg wet	3.333		80	40-140			
Phenol	1.90	0.333	mg/kg wet	3.333		57	30-130			
Pyrene	2.58	0.333	mg/kg wet	3.333		77	40-140			
Pyridine	1.67	1.67	mg/kg wet	3.333		50	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.00*		mg/kg wet	*3.333*		*60*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*5.08*		mg/kg wet	*5.000*		*102*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.25*		mg/kg wet	*5.000*		*65*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.56*		mg/kg wet	*3.333*		*77*	*30-130*			
Surrogate: 2-Fluorophenol	*3.23*		mg/kg wet	*5.000*		*65*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.97*		mg/kg wet	*3.333*		*59*	*30-130*			
Surrogate: Phenol-d6	*3.36*		mg/kg wet	*5.000*		*67*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.00*		mg/kg wet	*3.333*		*90*	*30-130*			
LCS Dup										
1,1-Biphenyl	2.30	0.333	mg/kg wet	3.333		69	40-140	2	30	
1,2,4-Trichlorobenzene	2.26	0.333	mg/kg wet	3.333		68	40-140	10	30	
1,2-Dichlorobenzene	2.21	0.333	mg/kg wet	3.333		66	40-140	17	30	
1,3-Dichlorobenzene	2.08	0.333	mg/kg wet	3.333		63	40-140	16	30	
1,4-Dichlorobenzene	2.11	0.333	mg/kg wet	3.333		63	40-140	16	30	
2,3,4,6-Tetrachlorophenol	2.92	1.67	mg/kg wet	3.333		88	30-130	0.7	30	
2,4,5-Trichlorophenol	2.71	0.333	mg/kg wet	3.333		81	30-130	0.1	30	
2,4,6-Trichlorophenol	2.57	0.333	mg/kg wet	3.333		77	30-130	2	30	
2,4-Dichlorophenol	2.46	0.333	mg/kg wet	3.333		74	30-130	8	30	
2,4-Dimethylphenol	2.10	0.333	mg/kg wet	3.333		63	30-130	3	30	
2,4-Dinitrophenol	2.52	1.67	mg/kg wet	3.333		76	30-130	5	30	
2,4-Dinitrotoluene	3.00	0.333	mg/kg wet	3.333		90	40-140	4	30	
2,6-Dinitrotoluene	2.71	0.333	mg/kg wet	3.333		81	40-140	4	30	
2-Chloronaphthalene	2.31	0.333	mg/kg wet	3.333		69	40-140	3	30	
2-Chlorophenol	2.28	0.333	mg/kg wet	3.333		68	30-130	14	30	
2-Methylnaphthalene	2.21	0.333	mg/kg wet	3.333		66	40-140	4	30	
2-Methylphenol	2.25	0.333	mg/kg wet	3.333		67	30-130	6	30	
2-Nitroaniline	2.27	0.333	mg/kg wet	3.333		68	40-140	0.9	30	
2-Nitrophenol	1.94	0.333	mg/kg wet	3.333		58	30-130	10	30	
3,3´-Dichlorobenzidine	2.32	0.333	mg/kg wet	3.333		70	40-140	12	30	
3+4-Methylphenol	4.58	0.667	mg/kg wet	6.667		69	30-130	5	30	
3-Nitroaniline	2.49	0.333	mg/kg wet	3.333		75	40-140	3	30	
4,6-Dinitro-2-Methylphenol	2.99	1.67	mg/kg wet	3.333		90	30-130	11	30	
4-Bromophenyl-phenylether	2.95	0.333	mg/kg wet	3.333		88	40-140	0.6	30	
4-Chloro-3-Methylphenol	2.42	0.333	mg/kg wet	3.333		73	30-130	3	30	
4-Chloroaniline	1.60	0.667	mg/kg wet	3.333		48	40-140	14	30	
4-Chloro-phenyl-phenyl ether	2.81	0.333	mg/kg wet	3.333		84	40-140	4	30	
4-Nitroaniline	2.39	0.333	mg/kg wet	3.333		72	40-140	11	30	
4-Nitrophenol	2.11	1.67	mg/kg wet	3.333		63	30-130	1	30	

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CK90612 - 3546										
Acenaphthene	2.43	0.333	mg/kg wet	3.333		73	40-140	3	30	
Acenaphthylene	2.46	0.333	mg/kg wet	3.333		74	40-140	3	30	
Acetophenone	2.06	0.667	mg/kg wet	3.333		62	40-140	7	30	
Aniline	1.73	0.667	mg/kg wet	3.333		52	40-140	19	30	
Anthracene	2.77	0.333	mg/kg wet	3.333		83	40-140	0.2	30	
Azobenzene	2.32	0.333	mg/kg wet	3.333		69	40-140	6	30	
Benzo(a)anthracene	3.06	0.333	mg/kg wet	3.333		92	40-140	3	30	
Benzo(a)pyrene	2.60	0.167	mg/kg wet	3.333		78	40-140	1	30	
Benzo(b)fluoranthene	2.98	0.333	mg/kg wet	3.333		90	40-140	1	30	
Benzo(g,h,i)perylene	3.21	0.333	mg/kg wet	3.333		96	40-140	0.6	30	
Benzo(k)fluoranthene	2.86	0.333	mg/kg wet	3.333		86	40-140	4	30	
Benzoic Acid	2.01	1.67	mg/kg wet	3.333		60	40-140	18	30	
Benzyl Alcohol	1.91	0.333	mg/kg wet	3.333		57	40-140	25	30	
bis(2-Chloroethoxy)methane	2.01	0.333	mg/kg wet	3.333		60	40-140	5	30	
bis(2-Chloroethyl)ether	2.12	0.167	mg/kg wet	3.333		64	40-140	16	30	
bis(2-chloroisopropyl)Ether	2.08	0.333	mg/kg wet	3.333		62	40-140	13	30	
bis(2-Ethylhexyl)phthalate	2.73	0.333	mg/kg wet	3.333		82	40-140	9	30	
Butylbenzylphthalate	2.49	0.333	mg/kg wet	3.333		75	40-140	5	30	
Carbazole	2.88	0.333	mg/kg wet	3.333		86	40-140	7	30	
Chrysene	2.98	0.167	mg/kg wet	3.333		89	40-140	5	30	
Dibenzo(a,h)Anthracene	2.98	0.167	mg/kg wet	3.333		89	40-140	3	30	
Dibenzofuran	2.41	0.333	mg/kg wet	3.333		72	40-140	5	30	
Diethylphthalate	2.96	0.333	mg/kg wet	3.333		89	40-140	4	30	
Dimethylphthalate	2.88	0.333	mg/kg wet	3.333		86	40-140	2	30	
Di-n-butylphthalate	2.48	0.333	mg/kg wet	3.333		74	40-140	5	30	
Di-n-octylphthalate	2.79	0.333	mg/kg wet	3.333		84	40-140	5	30	
Fluoranthene	2.97	0.333	mg/kg wet	3.333		89	40-140	6	30	
Fluorene	2.68	0.333	mg/kg wet	3.333		81	40-140	4	30	
Hexachlorobenzene	3.04	0.167	mg/kg wet	3.333		91	40-140	3	30	
Hexachlorobutadiene	2.27	0.333	mg/kg wet	3.333		68	40-140	11	30	
Hexachlorocyclopentadiene	1.80	1.67	mg/kg wet	3.333		54	40-140	10	30	
Hexachloroethane	2.08	0.333	mg/kg wet	3.333		62	40-140	18	30	
Indeno(1,2,3-cd)Pyrene	2.97	0.333	mg/kg wet	3.333		89	40-140	3	30	
Isophorone	1.82	0.333	mg/kg wet	3.333		55	40-140	7	30	
Naphthalene	2.12	0.333	mg/kg wet	3.333		64	40-140	9	30	
Nitrobenzene	1.93	0.333	mg/kg wet	3.333		58	40-140	11	30	
N-Nitrosodimethylamine	1.64	0.333	mg/kg wet	3.333		49	40-140	13	30	
N-Nitroso-Di-n-Propylamine	2.17	0.333	mg/kg wet	3.333		65	40-140	4	30	
N-nitrosodiphenylamine	2.87	0.333	mg/kg wet	3.333		86	40-140	6	30	
Pentachlorophenol	2.91	1.67	mg/kg wet	3.333		87	30-130	0.03	30	
Phenanthrene	2.72	0.333	mg/kg wet	3.333		82	40-140	2	30	
Phenol	2.09	0.333	mg/kg wet	3.333		63	30-130	9	30	
Pyrene	2.89	0.333	mg/kg wet	3.333		87	40-140	12	30	
Pyridine	1.83	1.67	mg/kg wet	3.333		55	40-140	9	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.28*		mg/kg wet	*3.333*		*68*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CK90612 - 3546										
Surrogate: 2,4,6-Tribromophenol	*5.06*		mg/kg wet	*5.000*		*101*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.60*		mg/kg wet	*5.000*		*72*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.48*		mg/kg wet	*3.333*		*75*	*30-130*			
Surrogate: 2-Fluorophenol	*3.51*		mg/kg wet	*5.000*		*70*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.12*		mg/kg wet	*3.333*		*64*	*30-130*			
Surrogate: Phenol-d6	*3.60*		mg/kg wet	*5.000*		*72*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.17*		mg/kg wet	*3.333*		*95*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

Notes and Definitions

U	Analyte included in the analysis, but not detected
S+	Surrogate recovery(ies) above upper control limit (S+).
Q	Calibration required quadratic regression (Q).
D	Diluted.
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
B+	Blank Spike recovery is above upper control limit (B+).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0160

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Redwood Environmental Group - KPB/HDM

Shipped/Delivered Via: ESS Courier

ESS Project ID: 19K0160
Date Received: 11/6/2019
Project Due Date: 11/13/2019
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 3.2 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? No
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / ~~NA~~
10. Were any analyses received outside of hold time? ~~Yes~~ / No

11. Any Subcontracting needed? Yes / ~~No~~
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? ~~Yes~~ / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	409883	Yes	NA	Yes	VOA Vial - Methanol	MeOH	
01	409886	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
01	409889	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
02	409882	Yes	NA	Yes	VOA Vial - Methanol	MeOH	
02	409885	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
02	409888	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
03	409881	Yes	NA	Yes	VOA Vial - Methanol	MeOH	
03	409884	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
03	409887	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
04	409923	Yes	NA	Yes	VOA Vial - Methanol	MeOH	

2nd Review

Were all containers scanned into storage/lab? Initials
Are barcode labels on correct containers? ~~Yes~~ / No
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: Date & Time: 11/6/19 14:31

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Redwood Environmental Group - KPB/HDM

ESS Project ID: 19K0160
Date Received: 11/6/2019

Reviewed By: [signature]
Date & Time: 11/6/19 1520

Delivered By: [signature]
11/6/19 1520

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 1 of 1

Turn Time: X Standard Other ____
If faster than 5 days, prior approval by laboratory is required # ____

State where samples were collected from:
MA (RI) CT NH NJ NY ME Other ____

Is this project for any of the following:
MA-MCP Navy USACE Other ____

Reporting Limits: ~~Res~~ Residential

ESS LAB PROJECT ID: 9K0160

Electronic Deliverable ___ Yes ___ No
Format: Excel__ Access__ PDF__ Other checker

Co. Name	Project #	Project Name (20 Char or less)
Redwood ENV.	201942	Grenier

Contact Person	Address

City	State	Zip	PO#

Telephone #	Fax #	Email Address

Circle and/or Write Required Analysis

ESS LAB Sample#	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	8260 624 / 624 524.2	8021 MTBE/BTEX / 8015 GRO / VPH w/targets	8100 TPH / 8015 DRO / EPH w/PAHs / EPH w/o PAHs	EPH 4 Diesel	8081 Pesticides / 608 Pesticides / 8082 PCB / 608 PCB	8270 SVOA / 625 / PAH 8270	RCRA5 / RCRA8 / PP13 / TAL23	TCLP-RCRA8 / NBC7	MCP-METALS (13) / MCP-METALS (13) w/Hg					
1	11/6/19			X	S	201942-mw1-110619				X		X			X								
2	/			X	S	201942-mw2-110619				X		X		X									
3	/			X	S	201942-mw3-110619				X		X			X								
4						TRIP Blank				X													

Container Type: P-Poly G-Glass S-Sterile V-VOA | Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ~~Yes~~ ___ No Internal Use Only
Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup
Cooler Temp: Ice 3.2 [ ] Technicians ___

Preservation Code: 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- ____

Sampled by: GSL

Comments: Delivered to Lab on ice.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
GLanfranco	11/6/19 1141		11/6/19 1140				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

CERTIFICATE OF ANALYSIS

Gary Kaufman
Redwood Environmental Group
10 Elmgrove Avenue
Providence, RI 02906

RE: Grenier (201942)
ESS Laboratory Work Order Number: 19K0207

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 12:31 pm, Nov 14, 2019

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0207

SAMPLE RECEIPT

The following samples were received on November 07, 2019 for the analyses specified on the enclosed Chain of Custody Record.

Lab Number	Sample Name	Matrix	Analysis
19K0207-01	201942-MW1-110719	Ground Water	8260B
19K0207-02	201942-MW2-110719	Ground Water	8260B
19K0207-03	201942-MW3-110719	Ground Water	8260B
19K0207-04	Trip Blank	Aqueous	8260B

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0207

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[redacted]

[redacted]

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0207

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW1-110719
Date Sampled: 11/07/19 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19K0207
ESS Laboratory Sample ID: 19K0207-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,1-Dichloroethane	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,1-Dichloroethene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,1-Dichloropropene	ND (0.0020)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,2-Dibromoethane	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,2-Dichloroethane	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,2-Dichloropropane	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,3-Dichloropropane	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1,4-Dioxane - Screen	ND (0.500)		8260B		1	11/08/19 16:23	C9K0155	CK90828
1-Chlorohexane	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
2,2-Dichloropropane	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
2-Butanone	ND (0.0100)		8260B		1	11/08/19 16:23	C9K0155	CK90828
2-Chlorotoluene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
2-Hexanone	ND (0.0100)		8260B		1	11/08/19 16:23	C9K0155	CK90828
4-Chlorotoluene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
4-Isopropyltoluene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Acetone	ND (0.0100)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Benzene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Bromobenzene	ND (0.0020)		8260B		1	11/08/19 16:23	C9K0155	CK90828

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW1-110719
Date Sampled: 11/07/19 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19K0207
ESS Laboratory Sample ID: 19K0207-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Bromodichloromethane	ND (0.0006)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Bromoform	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Bromomethane	ND (0.0020)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Carbon Disulfide	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Carbon Tetrachloride	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Chlorobenzene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Chloroethane	ND (0.0020)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Chloroform	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Chloromethane	ND (0.0020)		8260B		1	11/08/19 16:23	C9K0155	CK90828
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Dibromochloromethane	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Dibromomethane	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Dichlorodifluoromethane	ND (0.0020)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Diethyl Ether	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Di-isopropyl ether	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Ethylbenzene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Hexachlorobutadiene	ND (0.0006)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Hexachloroethane	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Isopropylbenzene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Methylene Chloride	ND (0.0020)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Naphthalene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
n-Butylbenzene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
n-Propylbenzene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
sec-Butylbenzene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Styrene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
tert-Butylbenzene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Tetrachloroethene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW1-110719
Date Sampled: 11/07/19 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19K0207
ESS Laboratory Sample ID: 19K0207-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Toluene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Trichloroethene	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Trichlorofluoromethane	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Vinyl Acetate	ND (0.0050)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Vinyl Chloride	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Xylene O	ND (0.0010)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Xylene P,M	ND (0.0020)		8260B		1	11/08/19 16:23	C9K0155	CK90828
Xylenes (Total)	ND (0.00200)		8260B		1	11/08/19 16:23		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*95 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*96 %*		*70-130*
Surrogate: Dibromofluoromethane	*96 %*		*70-130*
Surrogate: Toluene-d8	*98 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW2-110719
Date Sampled: 11/07/19 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19K0207
ESS Laboratory Sample ID: 19K0207-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,1-Dichloroethane	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,1-Dichloroethene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,1-Dichloropropene	ND (0.0020)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,2-Dibromoethane	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,2-Dichloroethane	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,2-Dichloropropane	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,3-Dichloropropane	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1,4-Dioxane - Screen	ND (0.500)		8260B		1	11/08/19 16:49	C9K0155	CK90828
1-Chlorohexane	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
2,2-Dichloropropane	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
2-Butanone	ND (0.0100)		8260B		1	11/08/19 16:49	C9K0155	CK90828
2-Chlorotoluene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
2-Hexanone	ND (0.0100)		8260B		1	11/08/19 16:49	C9K0155	CK90828
4-Chlorotoluene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
4-Isopropyltoluene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Acetone	ND (0.0100)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Benzene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Bromobenzene	ND (0.0020)		8260B		1	11/08/19 16:49	C9K0155	CK90828

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW2-110719
Date Sampled: 11/07/19 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19K0207
ESS Laboratory Sample ID: 19K0207-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Bromodichloromethane	ND (0.0006)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Bromoform	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Bromomethane	ND (0.0020)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Carbon Disulfide	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Carbon Tetrachloride	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Chlorobenzene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Chloroethane	ND (0.0020)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Chloroform	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Chloromethane	ND (0.0020)		8260B		1	11/08/19 16:49	C9K0155	CK90828
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Dibromochloromethane	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Dibromomethane	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Dichlorodifluoromethane	ND (0.0020)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Diethyl Ether	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Di-isopropyl ether	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Ethylbenzene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Hexachlorobutadiene	ND (0.0006)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Hexachloroethane	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Isopropylbenzene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Methylene Chloride	ND (0.0020)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Naphthalene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
n-Butylbenzene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
n-Propylbenzene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
sec-Butylbenzene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Styrene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
tert-Butylbenzene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Tetrachloroethene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW2-110719
Date Sampled: 11/07/19 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19K0207
ESS Laboratory Sample ID: 19K0207-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Toluene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Trichloroethene	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Trichlorofluoromethane	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Vinyl Acetate	ND (0.0050)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Vinyl Chloride	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Xylene O	ND (0.0010)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Xylene P,M	ND (0.0020)		8260B		1	11/08/19 16:49	C9K0155	CK90828
Xylenes (Total)	ND (0.00200)		8260B		1	11/08/19 16:49		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*95 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*96 %*		*70-130*
Surrogate: Dibromofluoromethane	*96 %*		*70-130*
Surrogate: Toluene-d8	*98 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW3-110719
Date Sampled: 11/07/19 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19K0207
ESS Laboratory Sample ID: 19K0207-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,1-Dichloroethane	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,1-Dichloroethene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,1-Dichloropropene	ND (0.0020)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,2-Dibromoethane	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,2-Dichloroethane	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,2-Dichloropropane	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,3-Dichloropropane	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1,4-Dioxane - Screen	ND (0.500)		8260B		1	11/08/19 17:15	C9K0155	CK90828
1-Chlorohexane	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
2,2-Dichloropropane	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
2-Butanone	ND (0.0100)		8260B		1	11/08/19 17:15	C9K0155	CK90828
2-Chlorotoluene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
2-Hexanone	ND (0.0100)		8260B		1	11/08/19 17:15	C9K0155	CK90828
4-Chlorotoluene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
4-Isopropyltoluene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Acetone	ND (0.0100)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Benzene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Bromobenzene	ND (0.0020)		8260B		1	11/08/19 17:15	C9K0155	CK90828

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW3-110719
Date Sampled: 11/07/19 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19K0207
ESS Laboratory Sample ID: 19K0207-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Bromodichloromethane	ND (0.0006)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Bromoform	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Bromomethane	ND (0.0020)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Carbon Disulfide	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Carbon Tetrachloride	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Chlorobenzene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Chloroethane	ND (0.0020)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Chloroform	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Chloromethane	ND (0.0020)		8260B		1	11/08/19 17:15	C9K0155	CK90828
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Dibromochloromethane	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Dibromomethane	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Dichlorodifluoromethane	ND (0.0020)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Diethyl Ether	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Di-isopropyl ether	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Ethylbenzene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Hexachlorobutadiene	ND (0.0006)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Hexachloroethane	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Isopropylbenzene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Methylene Chloride	ND (0.0020)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Naphthalene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
n-Butylbenzene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
n-Propylbenzene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
sec-Butylbenzene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Styrene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
tert-Butylbenzene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Tetrachloroethene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: 201942-MW3-110719
Date Sampled: 11/07/19 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19K0207
ESS Laboratory Sample ID: 19K0207-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Toluene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Trichloroethene	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Trichlorofluoromethane	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Vinyl Acetate	ND (0.0050)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Vinyl Chloride	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Xylene O	ND (0.0010)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Xylene P,M	ND (0.0020)		8260B		1	11/08/19 17:15	C9K0155	CK90828
Xylenes (Total)	ND (0.00200)		8260B		1	11/08/19 17:15		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*96 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*96 %*		*70-130*
Surrogate: Dibromofluoromethane	*96 %*		*70-130*
Surrogate: Toluene-d8	*98 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: Trip Blank
Date Sampled: 11/07/19 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19K0207
ESS Laboratory Sample ID: 19K0207-04
Sample Matrix: Aqueous
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,1-Dichloroethane	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,1-Dichloroethene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,1-Dichloropropene	ND (0.0020)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,2-Dibromoethane	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,2-Dichloroethane	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,2-Dichloropropane	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,3-Dichloropropane	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1,4-Dioxane - Screen	ND (0.500)		8260B		1	11/08/19 12:54	C9K0155	CK90828
1-Chlorohexane	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
2,2-Dichloropropane	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
2-Butanone	ND (0.0100)		8260B		1	11/08/19 12:54	C9K0155	CK90828
2-Chlorotoluene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
2-Hexanone	ND (0.0100)		8260B		1	11/08/19 12:54	C9K0155	CK90828
4-Chlorotoluene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
4-Isopropyltoluene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Acetone	ND (0.0100)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Benzene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Bromobenzene	ND (0.0020)		8260B		1	11/08/19 12:54	C9K0155	CK90828

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: Trip Blank
Date Sampled: 11/07/19 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19K0207
ESS Laboratory Sample ID: 19K0207-04
Sample Matrix: Aqueous
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Bromodichloromethane	ND (0.0006)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Bromoform	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Bromomethane	ND (0.0020)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Carbon Disulfide	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Carbon Tetrachloride	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Chlorobenzene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Chloroethane	ND (0.0020)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Chloroform	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Chloromethane	ND (0.0020)		8260B		1	11/08/19 12:54	C9K0155	CK90828
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Dibromochloromethane	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Dibromomethane	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Dichlorodifluoromethane	ND (0.0020)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Diethyl Ether	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Di-isopropyl ether	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Ethylbenzene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Hexachlorobutadiene	ND (0.0006)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Hexachloroethane	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Isopropylbenzene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Methylene Chloride	ND (0.0020)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Naphthalene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
n-Butylbenzene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
n-Propylbenzene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
sec-Butylbenzene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Styrene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
tert-Butylbenzene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Tetrachloroethene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier
Client Sample ID: Trip Blank
Date Sampled: 11/07/19 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19K0207
ESS Laboratory Sample ID: 19K0207-04
Sample Matrix: Aqueous
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Toluene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Trichloroethene	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Trichlorofluoromethane	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Vinyl Acetate	ND (0.0050)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Vinyl Chloride	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Xylene O	ND (0.0010)		8260B		1	11/08/19 12:54	C9K0155	CK90828
Xylene P,M	ND (0.0020)		8260B		1	11/08/19 12:54	C9K0155	CK90828

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*95 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*97 %*		*70-130*
Surrogate: Dibromofluoromethane	*96 %*		*70-130*
Surrogate: Toluene-d8	*99 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0207

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK90828 - 5030B										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0010	mg/L							
1,1,1-Trichloroethane	ND	0.0010	mg/L							
1,1,2,2-Tetrachloroethane	ND	0.0005	mg/L							
1,1,2-Trichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethene	ND	0.0010	mg/L							
1,1-Dichloropropene	ND	0.0020	mg/L							
1,2,3-Trichlorobenzene	ND	0.0010	mg/L							
1,2,3-Trichloropropane	ND	0.0010	mg/L							
1,2,4-Trichlorobenzene	ND	0.0010	mg/L							
1,2,4-Trimethylbenzene	ND	0.0010	mg/L							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/L							
1,2-Dibromoethane	ND	0.0010	mg/L							
1,2-Dichlorobenzene	ND	0.0010	mg/L							
1,2-Dichloroethane	ND	0.0010	mg/L							
1,2-Dichloropropane	ND	0.0010	mg/L							
1,3,5-Trimethylbenzene	ND	0.0010	mg/L							
1,3-Dichlorobenzene	ND	0.0010	mg/L							
1,3-Dichloropropane	ND	0.0010	mg/L							
1,4-Dichlorobenzene	ND	0.0010	mg/L							
1,4-Dioxane - Screen	ND	0.500	mg/L							
1-Chlorohexane	ND	0.0010	mg/L							
2,2-Dichloropropane	ND	0.0010	mg/L							
2-Butanone	ND	0.0100	mg/L							
2-Chlorotoluene	ND	0.0010	mg/L							
2-Hexanone	ND	0.0100	mg/L							
4-Chlorotoluene	ND	0.0010	mg/L							
4-Isopropyltoluene	ND	0.0010	mg/L							
4-Methyl-2-Pentanone	ND	0.0250	mg/L							
Acetone	ND	0.0100	mg/L							
Benzene	ND	0.0010	mg/L							
Bromobenzene	ND	0.0020	mg/L							
Bromochloromethane	ND	0.0010	mg/L							
Bromodichloromethane	ND	0.0006	mg/L							
Bromoform	ND	0.0010	mg/L							
Bromomethane	ND	0.0020	mg/L							
Carbon Disulfide	ND	0.0010	mg/L							
Carbon Tetrachloride	ND	0.0010	mg/L							
Chlorobenzene	ND	0.0010	mg/L							
Chloroethane	ND	0.0020	mg/L							
Chloroform	ND	0.0010	mg/L							
Chloromethane	ND	0.0020	mg/L							
cis-1,2-Dichloroethene	ND	0.0010	mg/L							
cis-1,3-Dichloropropene	ND	0.0004	mg/L							

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0207

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK90828 - 5030B										
Dibromochloromethane	ND	0.0010	mg/L							
Dibromomethane	ND	0.0010	mg/L							
Dichlorodifluoromethane	ND	0.0020	mg/L							
Diethyl Ether	ND	0.0010	mg/L							
Di-isopropyl ether	ND	0.0010	mg/L							
Ethyl tertiary-butyl ether	ND	0.0010	mg/L							
Ethylbenzene	ND	0.0010	mg/L							
Hexachlorobutadiene	ND	0.0006	mg/L							
Hexachloroethane	ND	0.0010	mg/L							
Isopropylbenzene	ND	0.0010	mg/L							
Methyl tert-Butyl Ether	ND	0.0010	mg/L							
Methylene Chloride	ND	0.0020	mg/L							
Naphthalene	ND	0.0010	mg/L							
n-Butylbenzene	ND	0.0010	mg/L							
n-Propylbenzene	ND	0.0010	mg/L							
sec-Butylbenzene	ND	0.0010	mg/L							
Styrene	ND	0.0010	mg/L							
tert-Butylbenzene	ND	0.0010	mg/L							
Tertiary-amyl methyl ether	ND	0.0010	mg/L							
Tetrachloroethene	ND	0.0010	mg/L							
Tetrahydrofuran	ND	0.0050	mg/L							
Toluene	ND	0.0010	mg/L							
trans-1,2-Dichloroethene	ND	0.0010	mg/L							
trans-1,3-Dichloropropene	ND	0.0004	mg/L							
Trichloroethene	ND	0.0010	mg/L							
Trichlorofluoromethane	ND	0.0010	mg/L							
Vinyl Acetate	ND	0.0050	mg/L							
Vinyl Chloride	ND	0.0010	mg/L							
Xylene O	ND	0.0010	mg/L							
Xylene P,M	ND	0.0020	mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0237*		mg/L	*0.02500*		*95*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0242*		mg/L	*0.02500*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0240*		mg/L	*0.02500*		*96*	*70-130*			
Surrogate: Toluene-d8	*0.0248*		mg/L	*0.02500*		*99*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	9.51		ug/L	10.00		95	70-130			
1,1,1-Trichloroethane	9.72		ug/L	10.00		97	70-130			
1,1,2,2-Tetrachloroethane	10.3		ug/L	10.00		103	70-130			
1,1,2-Trichloroethane	9.94		ug/L	10.00		99	70-130			
1,1-Dichloroethane	10.2		ug/L	10.00		102	70-130			
1,1-Dichloroethene	11.0		ug/L	10.00		110	70-130			
1,1-Dichloropropene	9.81		ug/L	10.00		98	70-130			
1,2,3-Trichlorobenzene	10.6		ug/L	10.00		106	70-130			
1,2,3-Trichloropropane	9.39		ug/L	10.00		94	70-130			
1,2,4-Trichlorobenzene	10.3		ug/L	10.00		103	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0207

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK90828 - 5030B										
1,2,4-Trimethylbenzene	10.6		ug/L	10.00		106	70-130			
1,2-Dibromo-3-Chloropropane	8.90		ug/L	10.00		89	70-130			
1,2-Dibromoethane	9.34		ug/L	10.00		93	70-130			
1,2-Dichlorobenzene	10.3		ug/L	10.00		103	70-130			
1,2-Dichloroethane	9.67		ug/L	10.00		97	70-130			
1,2-Dichloropropane	9.71		ug/L	10.00		97	70-130			
1,3,5-Trimethylbenzene	10.5		ug/L	10.00		105	70-130			
1,3-Dichlorobenzene	10.4		ug/L	10.00		104	70-130			
1,3-Dichloropropane	10.0		ug/L	10.00		100	70-130			
1,4-Dichlorobenzene	10.5		ug/L	10.00		105	70-130			
1,4-Dioxane - Screen	213		ug/L	200.0		107	0-332			
1-Chlorohexane	9.35		ug/L	10.00		94	70-130			
2,2-Dichloropropane	9.73		ug/L	10.00		97	70-130			
2-Butanone	48.0		ug/L	50.00		96	70-130			
2-Chlorotoluene	10.4		ug/L	10.00		104	70-130			
2-Hexanone	47.2		ug/L	50.00		94	70-130			
4-Chlorotoluene	10.3		ug/L	10.00		103	70-130			
4-Isopropyltoluene	10.2		ug/L	10.00		102	70-130			
4-Methyl-2-Pentanone	47.7		ug/L	50.00		95	70-130			
Acetone	43.9		ug/L	50.00		88	70-130			
Benzene	10.2		ug/L	10.00		102	70-130			
Bromobenzene	10.4		ug/L	10.00		104	70-130			
Bromochloromethane	9.72		ug/L	10.00		97	70-130			
Bromodichloromethane	9.80		ug/L	10.00		98	70-130			
Bromoform	9.21		ug/L	10.00		92	70-130			
Bromomethane	10.5		ug/L	10.00		105	70-130			
Carbon Disulfide	9.68		ug/L	10.00		97	70-130			
Carbon Tetrachloride	9.91		ug/L	10.00		99	70-130			
Chlorobenzene	9.99		ug/L	10.00		100	70-130			
Chloroethane	9.28		ug/L	10.00		93	70-130			
Chloroform	10.2		ug/L	10.00		102	70-130			
Chloromethane	8.86		ug/L	10.00		89	70-130			
cis-1,2-Dichloroethene	10.1		ug/L	10.00		101	70-130			
cis-1,3-Dichloropropene	9.68		ug/L	10.00		97	70-130			
Dibromochloromethane	9.07		ug/L	10.00		91	70-130			
Dibromomethane	9.85		ug/L	10.00		98	70-130			
Dichlorodifluoromethane	8.28		ug/L	10.00		83	70-130			
Diethyl Ether	9.36		ug/L	10.00		94	70-130			
Di-isopropyl ether	9.87		ug/L	10.00		99	70-130			
Ethyl tertiary-butyl ether	9.47		ug/L	10.00		95	70-130			
Ethylbenzene	10.0		ug/L	10.00		100	70-130			
Hexachlorobutadiene	10.0		ug/L	10.00		100	70-130			
Hexachloroethane	9.76		ug/L	10.00		98	70-130			
Isopropylbenzene	10.3		ug/L	10.00		103	70-130			
Methyl tert-Butyl Ether	10.3		ug/L	10.00		103	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0207

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK90828 - 5030B										
Methylene Chloride	10.1		ug/L	10.00		101	70-130			
Naphthalene	10.1		ug/L	10.00		101	70-130			
n-Butylbenzene	10.3		ug/L	10.00		103	70-130			
n-Propylbenzene	10.2		ug/L	10.00		102	70-130			
sec-Butylbenzene	9.98		ug/L	10.00		100	70-130			
Styrene	9.80		ug/L	10.00		98	70-130			
tert-Butylbenzene	10.3		ug/L	10.00		103	70-130			
Tertiary-amyl methyl ether	10.1		ug/L	10.00		101	70-130			
Tetrachloroethene	9.11		ug/L	10.00		91	70-130			
Tetrahydrofuran	9.44		ug/L	10.00		94	70-130			
Toluene	10.3		ug/L	10.00		103	70-130			
trans-1,2-Dichloroethene	10.5		ug/L	10.00		105	70-130			
trans-1,3-Dichloropropene	9.43		ug/L	10.00		94	70-130			
Trichloroethene	9.88		ug/L	10.00		99	70-130			
Trichlorofluoromethane	10.4		ug/L	10.00		104	70-130			
Vinyl Acetate	11.0		ug/L	10.00		110	70-130			
Vinyl Chloride	8.29		ug/L	10.00		83	70-130			
Xylene O	10.0		ug/L	10.00		100	70-130			
Xylene P,M	20.2		ug/L	20.00		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0237*		mg/L	*0.02500*		*95*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0240*		mg/L	*0.02500*		*96*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0245*		mg/L	*0.02500*		*98*	*70-130*			
Surrogate: Toluene-d8	*0.0245*		mg/L	*0.02500*		*98*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	9.57		ug/L	10.00		96	70-130	0.6	25	
1,1,1-Trichloroethane	9.57		ug/L	10.00		96	70-130	2	25	
1,1,2,2-Tetrachloroethane	10.6		ug/L	10.00		106	70-130	3	25	
1,1,2-Trichloroethane	9.81		ug/L	10.00		98	70-130	1	25	
1,1-Dichloroethane	9.94		ug/L	10.00		99	70-130	2	25	
1,1-Dichloroethene	10.9		ug/L	10.00		109	70-130	1	25	
1,1-Dichloropropene	9.64		ug/L	10.00		96	70-130	2	25	
1,2,3-Trichlorobenzene	10.6		ug/L	10.00		106	70-130	0.09	25	
1,2,3-Trichloropropane	9.55		ug/L	10.00		96	70-130	2	25	
1,2,4-Trichlorobenzene	10.4		ug/L	10.00		104	70-130	1	25	
1,2,4-Trimethylbenzene	10.5		ug/L	10.00		105	70-130	0.7	25	
1,2-Dibromo-3-Chloropropane	9.42		ug/L	10.00		94	70-130	6	25	
1,2-Dibromoethane	9.43		ug/L	10.00		94	70-130	1	25	
1,2-Dichlorobenzene	10.2		ug/L	10.00		102	70-130	0.8	25	
1,2-Dichloroethane	9.50		ug/L	10.00		95	70-130	2	25	
1,2-Dichloropropane	9.60		ug/L	10.00		96	70-130	1	25	
1,3,5-Trimethylbenzene	10.3		ug/L	10.00		103	70-130	2	25	
1,3-Dichlorobenzene	10.2		ug/L	10.00		102	70-130	2	25	
1,3-Dichloropropane	10.3		ug/L	10.00		103	70-130	3	25	
1,4-Dichlorobenzene	10.4		ug/L	10.00		104	70-130	1	25	
1,4-Dioxane - Screen	215		ug/L	200.0		108	0-332	0.9	200	

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0207

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK90828 - 5030B										
1-Chlorohexane	9.41		ug/L	10.00		94	70-130	0.6	25	
2,2-Dichloropropane	9.49		ug/L	10.00		95	70-130	2	25	
2-Butanone	48.4		ug/L	50.00		97	70-130	0.7	25	
2-Chlorotoluene	10.2		ug/L	10.00		102	70-130	2	25	
2-Hexanone	48.9		ug/L	50.00		98	70-130	4	25	
4-Chlorotoluene	10.1		ug/L	10.00		101	70-130	2	25	
4-Isopropyltoluene	10.0		ug/L	10.00		100	70-130	2	25	
4-Methyl-2-Pentanone	49.6		ug/L	50.00		99	70-130	4	25	
Acetone	44.4		ug/L	50.00		89	70-130	1	25	
Benzene	10.1		ug/L	10.00		101	70-130	1	25	
Bromobenzene	10.3		ug/L	10.00		103	70-130	1	25	
Bromochloromethane	9.83		ug/L	10.00		98	70-130	1	25	
Bromodichloromethane	9.74		ug/L	10.00		97	70-130	0.6	25	
Bromoform	9.30		ug/L	10.00		93	70-130	1	25	
Bromomethane	10.2		ug/L	10.00		102	70-130	3	25	
Carbon Disulfide	9.54		ug/L	10.00		95	70-130	1	25	
Carbon Tetrachloride	9.69		ug/L	10.00		97	70-130	2	25	
Chlorobenzene	9.96		ug/L	10.00		100	70-130	0.3	25	
Chloroethane	9.09		ug/L	10.00		91	70-130	2	25	
Chloroform	9.96		ug/L	10.00		100	70-130	3	25	
Chloromethane	8.67		ug/L	10.00		87	70-130	2	25	
cis-1,2-Dichloroethene	10.1		ug/L	10.00		101	70-130	0.4	25	
cis-1,3-Dichloropropene	9.52		ug/L	10.00		95	70-130	2	25	
Dibromochloromethane	9.26		ug/L	10.00		93	70-130	2	25	
Dibromomethane	10.0		ug/L	10.00		100	70-130	2	25	
Dichlorodifluoromethane	8.09		ug/L	10.00		81	70-130	2	25	
Diethyl Ether	9.34		ug/L	10.00		93	70-130	0.2	25	
Di-isopropyl ether	9.78		ug/L	10.00		98	70-130	0.9	25	
Ethyl tertiary-butyl ether	9.27		ug/L	10.00		93	70-130	2	25	
Ethylbenzene	10.0		ug/L	10.00		100	70-130	0.3	25	
Hexachlorobutadiene	10.2		ug/L	10.00		102	70-130	2	25	
Hexachloroethane	9.58		ug/L	10.00		96	70-130	2	25	
Isopropylbenzene	10.1		ug/L	10.00		101	70-130	2	25	
Methyl tert-Butyl Ether	10.3		ug/L	10.00		103	70-130	0.1	25	
Methylene Chloride	10.1		ug/L	10.00		101	70-130	0.3	25	
Naphthalene	10.0		ug/L	10.00		100	70-130	0.3	25	
n-Butylbenzene	10.2		ug/L	10.00		102	70-130	2	25	
n-Propylbenzene	10.0		ug/L	10.00		100	70-130	2	25	
sec-Butylbenzene	9.79		ug/L	10.00		98	70-130	2	25	
Styrene	9.86		ug/L	10.00		99	70-130	0.6	25	
tert-Butylbenzene	10.1		ug/L	10.00		101	70-130	2	25	
Tertiary-amyl methyl ether	10.0		ug/L	10.00		100	70-130	0.5	25	
Tetrachloroethene	9.01		ug/L	10.00		90	70-130	1	25	
Tetrahydrofuran	10.3		ug/L	10.00		103	70-130	9	25	
Toluene	10.1		ug/L	10.00		101	70-130	2	25	

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0207

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK90828 - 5030B										
trans-1,2-Dichloroethene	10.1		ug/L	10.00		101	70-130	3	25	
trans-1,3-Dichloropropene	9.32		ug/L	10.00		93	70-130	1	25	
Trichloroethene	9.65		ug/L	10.00		96	70-130	2	25	
Trichlorofluoromethane	10.1		ug/L	10.00		101	70-130	2	25	
Vinyl Acetate	11.2		ug/L	10.00		112	70-130	2	25	
Vinyl Chloride	8.13		ug/L	10.00		81	70-130	2	25	
Xylene O	10.0		ug/L	10.00		100	70-130	0.1	25	
Xylene P,M	20.2		ug/L	20.00		101	70-130	0.3	25	
Surrogate: 1,2-Dichloroethane-d4	*0.0237*		mg/L	*0.02500*		*95*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0242*		mg/L	*0.02500*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0242*		mg/L	*0.02500*		*97*	*70-130*			
Surrogate: Toluene-d8	*0.0247*		mg/L	*0.02500*		*99*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0207

Notes and Definitions

U	Analyte included in the analysis, but not detected
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: Redwood Environmental Group
Client Project ID: Grenier

ESS Laboratory Work Order: 19K0207

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Redwood Environmental Group - KPB/EO

Shipped/Delivered Via: Client

ESS Project ID: 19K0207
Date Received: 11/7/2019
Project Due Date: 11/14/2019
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.8 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / (NA)
10. Were any analyses received outside of hold time? Yes / (No)

11. Any Subcontracting needed? Yes / (No)
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? (Yes) / No
    a. Air bubbles in aqueous VOAs? Yes / (No)
    b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? (Yes) / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / (No)
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	411115	Yes	No	Yes	VOA Vial - HCl	HCl	
01	411116	Yes	No	Yes	VOA Vial - HCl	HCl	
01	411117	Yes	No	Yes	VOA Vial - HCl	HCl	
02	411112	Yes	No	Yes	VOA Vial - HCl	HCl	
02	411113	Yes	No	Yes	VOA Vial - HCl	HCl	
02	411114	Yes	No	Yes	VOA Vial - HCl	HCl	
03	411109	Yes	No	Yes	VOA Vial - HCl	HCl	
03	411110	Yes	No	Yes	VOA Vial - HCl	HCl	
03	411111	Yes	No	Yes	VOA Vial - HCl	HCl	
04	411106	Yes	No	Yes	VOA Vial - HCl	HCl	

2nd Review

Were all containers scanned into storage/lab? Initials
Are barcode labels on correct containers? (Yes) / No
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: Date & Time: 11/7/19 2134

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Redwood Environmental Group - KPB/EO

ESS Project ID: 19K0207

Date Received: 11/7/2019

Reviewed By:

Date & Time: 11/7/19 2257

Delivered By:

11/7/19 2257

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 1 of 1

Turn Time ✓ Standard Other _____
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
MA (RI) CT NH NJ NY ME Other _____

Is this project for any of the following:
MA-MCP Navy USACE Other _____

Reporting Limits: GA

ESS LAB PROJECT ID: 19K0207

Electronic Deliverable Yes ___ No ___
Format: Excel ___ Access ___ PDF ___ Other Checker

Co. Name	Project #	Project Name (20 Char. or less)
Redwood Env	201942	Grenier

Contact Person	Address	
G Kaufman		

City	State	Zip	PO#

Telephone #	Fax #	Email Address

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: VOC 8260
1	11/7/19			X	GW	201942 – mw1 – 110719		3	V	X
2	/			X	GW	201942 – mw2 – 110719		3	V	X
3	/			X	GW	201942 – mw3 – 110719		3	V	X
4						Trip Blank				

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___Yes ___No

Seals Intact ___Yes ___No NA: ___

Cooler Temp: Ice 2.8

Internal Use Only
[ ] Pickup
[ ] Technicians ___

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by: GSK

Comments: Delivered to Lab on ice

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
G Kaufman	11/7/19 1019		11/7/19 10:19				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt