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SOIL MANAGEMENT PLAN FOR IMPACTED STOCKPILES NORTHSTAR VERMONT YANKEE DECOMMISSIONING PROJECT VERNON, VERMONT

by
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Portland, Maine

for
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Vernon, Vermont

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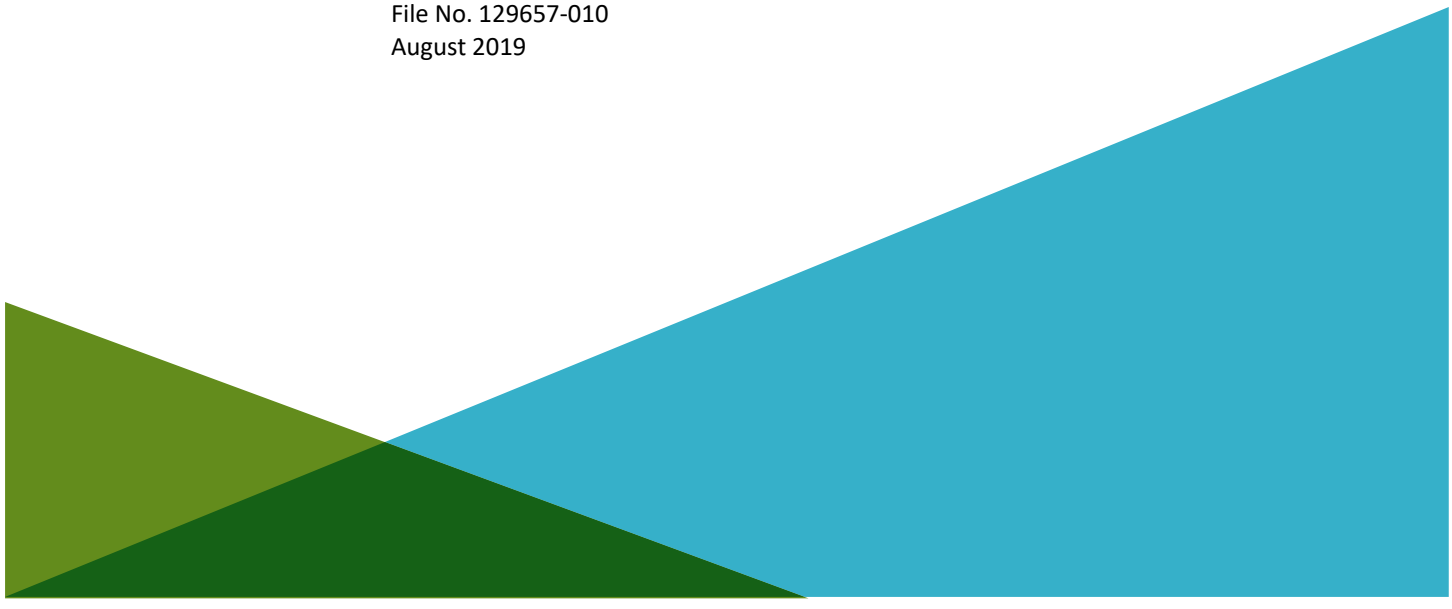

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1. Introduction

In accordance with the Investigation and Remediation of Contaminated Properties Rule (I-Rule) and on behalf of NorthStar Nuclear Decommissioning Company, LLC. (NorthStar), Haley & Aldrich, Inc. (Haley & Aldrich) has prepared this Soil Management Plan (SMP) to address stockpiled soil on-site that are impacted with contaminants of concern (COCs). Impacted stockpile locations are shown on Figure 1.

1.1 PROJECT DESCRIPTION

In January 2019, NorthStar purchased the former Vermont Yankee Nuclear Power Station from Entergy Nuclear Vermont Yankee, LLC (ENVY) with the purpose of decontaminating and decommissioning (D&D) the Site and restoring it by 2021. As part of this transfer, NorthStar acquired preexisting stockpiled soils. The exact source of the stockpiled material is unknown but believed to be generated from various projects on-site. To achieve the project goal of site restoration, impacted stockpiled material will be disposed of off-site.

1.2 GOALS AND OBJECTIVES

The goals and objects for this SMP are to properly manage stockpiled soils in accordance with the I-Rule, as well as, the Memorandum of Understanding (MOU) during the Site restoration process. Site personnel will conduct decommissioning and demolition activities in a way that properly manages wastes; reduces levels of contamination/cross-contamination; and is protective of both the environment and public health and safety.

2. Description of Contamination

As part of the Non-Radiological Site Investigation (SI) conducted in April and May 2019, soil samples were obtained from stockpiles and submitted for characterization analyses. Based on the results, two areas of stockpiled soil (North Field and Cooling Tower areas) were determined to be impacted with COCs. These areas are shown on Figure 1. Laboratory analytical results are summarized on Tables 2.1 and 2.2 and are included in Appendix A.

2.1 NORTH FIELD STOCKPILES

Approximately 15,000 cubic yards of soil is stockpiled in the North Field Area. These piles are currently covered with vegetation are stable with no visible signs of erosion. On 16 May 2019, two soil samples (SP1301 and SP1302) were collected and submitted for analysis of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH), total TAL metals, and polychlorinated biphenyls (PCBs). No VOCs or PCBs were detected above reporting limits. Several SVOCs were reported at low concentrations with the exception of benzo(a)pyrene, which exceeded the RVSS in both samples. A low concentration of petroleum (diesel range) was detected in one (SP1302) of the two samples. Total metal concentrations were below the RVSS and/or established background values with the exception of vanadium in SP1302. Results are summarized on Table 2.1 and sample locations are shown on Figure 2.1.

2.2 COOLING TOWER STOCKPILES

Approximately 100 cubic yards of soil is stockpiled along the access road to the former Cooling Towers. This stockpile is currently covered with vegetation and stable with no visible signs of erosion. On 17 May 2019, two soil samples (SP1501 and SP1502) and a field duplicate of SP1501 (SP150100DUP) were collected and submitted for analysis of VOCs, SVOCs, TPH, herbicides, pesticides, PCBs and total TAL metals. No VOCs, herbicides or PCBs were detected above reporting limits. A few SVOCs [benzo(a)pyrene and pyrene], the pesticide 4,4-DDT, and petroleum (diesel range) were reported at low concentrations in the soil from this stockpile. Total metal concentrations were below the RVSS or established background values Results are summarized on Table 2.1 and sample locations are shown on Figure 2.1.

3. Waste Generation and Management

3.1 MATERIAL GENERATED

Although specific information regarding the source of the material stockpiled in both the North Field and near the Cooling Towers is unknown, the material was reportedly generated from various on-site projects. The piles are not located near drinking water wells, surface waters, wetlands or other drainage features. Piles at both locations are currently covered with vegetation. No evidence of erosion has been observed.

3.2 OFF-SITE DISPOSAL

As part of the decommissioning activities, wastes including plant components and demolition debris are being shipped off-site for disposal at Waste Control Specialists (WCS). The impacted soil from the stockpiles will be used, as needed, to balance out loads, and to fill cavities within waste components. Characterization samples of the stockpiled soil will be collected and analyzed in accordance with each facilities' requirements.

Loading of soils will be done in a manner to minimize the generation of visible emissions. NorthStar will instruct transporters to use best management practices including wetting, tarping or covering loads, as needed, when transporting wastes off-site.

NorthStar will use I.C.E. Service Group, Inc., a licensed hauler to transport all impacted materials by rail to the disposal facility, Waste Control Specialists (WCS), located in Andrews, Texas. Copies of manifests, disposal receipts, and/or bills of laden tracking the soil disposal will be maintained on site with the work packages and appended to the completion report following final post removal sampling.

3.3 INSPECTIONS

Both stockpiles are currently stable. Once they are disturbed for off-site disposal, best management practices will be followed to prevent erosion. NorthStar will perform routine inspections and maintain sediment and erosion controls (silt sock or fence) around the base of the piles until they are completely removed and/or the pile is restabilized.

4. Project Schedule

Decommissioning activities are currently underway. The stockpiled material will be transported off-site starting late Summer 2019 and continuing until material from both stockpiles are gone, likely by the end of 2020, depending on the concurrent needs from shipping other internal building components.

5. Restoration

5.1 POST EXCAVATION SAMPLING

Neither stockpile was placed on a polyethylene liner at the time of generation therefore; once the stockpiles have been removed, confirmatory soil samples will be collected from the underlying soil. Samples will be submitted for analysis of COCs previously identified in the stockpiled material at each location. If any COCs are detected at concentration above the RVSS, additional soil will be excavated for off-site disposal. Confirmatory soil data will be provided to the VTDEC upon completion.

5.2 STABLIZATION

Following removal of impacted soil from stockpile areas, erosion controls will be removed, and the areas will be seeded for stabilization.

5.3 UPDATED SITE FIGURES

Upon completion, updated figures providing confirmatory sample locations and limits of any addition excavation performed to achieve compliance, will be provided to VTDEC.

6. Completion

Following the implementation of the SMP, NorthStar will provide documentation to the Secretary demonstrating that the work described in this document was completed in accordance with §35-804(b). Disposal documentation including waste manifests and/or bill of lading will also be provided as well as confirmatory sample data and updated site figures as required.

TABLES

TABLE 2.1
SUMMARY OF SOIL ANALYTICAL RESULTS - NORTH FIELD STOCKPILES
VERMONT YANKEE
VERNON, VERMONT

Location Name Sample Name Sample Date Lab Sample ID Sample Depth (bgs)	VT ANR 2019 Proposed Residential Soil	VT ANR 2019 Proposed Non-Residential Soil	SP1301 SP130100 05/16/2019 JC88412-1 0 - 0.5 (ft)	SP1302 SP130200 05/16/2019 JC88412-2 0 - 0.5 (ft)
Volatile Organic Compounds (mg/kg)				
1,1,1,2-Tetrachloroethane	1.3	8	0.0019 U	0.0023 U
1,1,1-Trichloroethane	NA	NA	0.0019 U	0.0023 U
1,1,2,2-Tetrachloroethane	NA	NA	0.0019 U	0.0023 U
1,1,2-Trichloroethane	NA	NA	0.0019 U	0.0023 U
1,1-Dichloroethane	2.1	13	0.00097 U	0.0011 U
1,1-Dichloroethene	NA	NA	0.00097 U	0.0011 U
1,1-Dichloropropene	NA	NA	0.0019 U	0.0023 U
1,2,3-Trichlorobenzene	NA	NA	0.0048 U	0.0057 U
1,2,3-Trichloropropane	0.00311	0.07	**0.0048 U**	**0.0057 U**
1,2,4-Trichlorobenzene	NA	NA	0.0048 U	0.0057 U
1,2,4-Trimethylbenzene	144	177	0.0019 U	0.0023 U
1,2-Dibromo-3-chloropropane (DBCP)	0.01	0.06	0.0019 U	0.0023 U
1,2-Dibromoethane (Ethylene Dibromide)	0.02	0.14	0.00097 U	0.0011 U
1,2-Dichlorobenzene	NA	NA	0.00097 U	0.0011 U
1,2-Dichloroethane	0.29	1.7	0.00097 U	0.0011 U
1,2-Dichloropropane	1.5	9.1	0.0019 U	0.0023 U
1,3,5-Trimethylbenzene	144	177	0.0019 U	0.0023 U
1,3-Dichlorobenzene	NA	NA	0.00097 U	0.0011 U
1,3-Dichloropropane	NA	NA	0.0019 U	0.0023 U
1,4-Dichlorobenzene	NA	NA	0.00097 U	0.0011 U
2,2-Dichloropropane	NA	NA	0.0019 U	0.0023 U
2-Butanone (Methyl Ethyl Ketone)	16952	26991	0.0097 U	0.011 U
2-Chlorotoluene	NA	NA	0.0019 U	0.0023 U
2-Phenylbutane (sec-Butylbenzene)	7009	102200	0.0019 U	0.0023 U
4-Chlorotoluene	NA	NA	0.0019 U	0.0023 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	0.0048 U	0.0057 U
Acetone	40609	100028	0.0097 U	0.0241 U
Benzene	0.7	4.2	0.00048 U	0.00057 U
Bromobenzene	NA	NA	0.0048 U	0.0057 U
Bromodichloromethane	NA	NA	0.0019 U	0.0023 U
Bromoform	NA	NA	0.0048 U	0.0057 U
Bromomethane (Methyl Bromide)	NA	NA	0.0048 U	0.0057 U
Carbon tetrachloride	0.37	2.2	0.0019 U	0.0023 U
Chlorobenzene	414	726	0.0019 U	0.0023 U
Chlorobromomethane	193	597	0.0048 U	0.0057 U
Chloroethane	NA	NA	0.0048 U	0.0057 U
Chloroform (Trichloromethane)	NA	NA	0.0019 U	0.0023 U
Chloromethane (Methyl Chloride)	NA	NA	0.0048 U	0.0057 U
cis-1,2-Dichloroethene	140	1814	0.00097 U	0.0011 U
cis-1,3-Dichloropropene	NA	NA	0.0019 U	0.0023 U
Cymene (p-Isopropyltoluene)	NA	NA	0.0019 U	0.0023 U
Dibromochloromethane	NA	NA	0.0019 U	0.0023 U
Dibromomethane	NA	NA	0.0048 U	0.0057 U
Dichlorodifluoromethane (CFC-12)	NA	NA	0.0048 U	0.0057 U
Ethylbenzene	3.7	22	0.00097 U	0.0011 U
Hexachlorobutadiene	NA	NA	0.0048 U	0.0057 U
Isopropylbenzene (Cumene)	256	264	0.0019 U	0.0023 U
m,p-Xylenes	NA	NA	0.00097 U	0.0011 U
Methyl Tert Butyl Ether	649	4464	0.00097 U	0.0011 U
Methylene chloride	NA	NA	0.0048 U	0.0057 U
Naphthalene	2.7	16	0.0048 U	0.0057 U
n-Butylbenzene	3504	51100	0.0019 U	0.0023 U
n-Propylbenzene	253	261	0.0019 U	0.0023 U
o-Xylene	NA	NA	0.00097 U	0.0011 U
Styrene	NA	NA	0.0019 U	0.0023 U
tert-Butylbenzene	7009	102200	0.0019 U	0.0023 U

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SUMMARY OF SOIL ANALYTICAL RESULTS - NORTH FIELD STOCKPILES
VERMONT YANKEE
VERNON, VERMONT

Location Name Sample Name Sample Date Lab Sample ID Sample Depth (bgs)	VT ANR 2019 Proposed Residential Soil	VT ANR 2019 Proposed Non-Residential Soil	SP1301 SP130100 05/16/2019 JC88412-1 0 - 0.5 (ft)	SP1302 SP130200 05/16/2019 JC88412-2 0 - 0.5 (ft)
Tetrachloroethene	2.4	14	0.0019 U	0.0023 U
Toluene	706	798	0.00097 U	0.0011 U
trans-1,2-Dichloroethene	1402	18137	0.00097 U	0.0011 U
trans-1,3-Dichloropropene	NA	NA	0.0019 U	0.0023 U
Trichloroethene	0.68	6.5	0.00097 U	0.0011 U
Trichlorofluoromethane (CFC-11)	NA	NA	0.0048 U	0.0057 U
Vinyl chloride	0.1	0.59	0.0019 U	0.0023 U
Xylene (total)	252	257	0.00097 U	0.0011 U
Semi-Volatile Organic Compounds (mg/kg)				
1,2,4-Trichlorobenzene	NA	NA	0.073 U	0.071 U
1,2-Dichlorobenzene	NA	NA	0.073 U	0.071 U
1,2-Diphenylhydrazine	NA	NA	0.073 U	0.071 U
1,3-Dichlorobenzene	NA	NA	0.073 U	0.071 U
1,4-Dichlorobenzene	NA	NA	0.073 U	0.071 U
1-Methylnaphthalene	NA	NA	0.036 U	0.035 UJ
2,2'-oxybis(1-Chloropropane)	2804	36274	0.073 U	0.071 U
2,4,5-Trichlorophenol	NA	NA	0.18 U	0.18 U
2,4,6-Trichlorophenol	NA	NA	0.18 U	0.18 U
2,4-Dichlorophenol	NA	NA	0.18 U	0.18 U
2,4-Dimethylphenol	NA	NA	0.18 U	0.18 U
2,4-Dinitrophenol	NA	NA	0.18 U	0.18 U
2,4-Dinitrotoluene	NA	NA	0.036 U	0.035 UJ
2,6-Dinitrotoluene	NA	NA	0.036 U	0.035 UJ
2-Chloronaphthalene	NA	NA	0.073 U	0.071 UJ
2-Chlorophenol	NA	NA	0.073 U	0.071 U
2-Methylnaphthalene	NA	NA	0.036 U	0.035 UJ
2-Methylphenol (o-Cresol)	NA	NA	0.073 U	0.071 U
2-Nitroaniline	NA	NA	0.18 U	0.18 UJ
2-Nitrophenol	NA	NA	0.18 U	0.18 U
3&4-Methylphenol	NA	NA	0.073 U	0.071 U
3,3'-Dichlorobenzidine	NA	NA	0.073 U	0.071 UJ
3-Nitroaniline	NA	NA	0.18 U	0.18 UJ
4,6-Dinitro-2-methylphenol	NA	NA	0.18 U	0.18 U
4-Bromophenyl phenyl ether	NA	NA	0.073 U	0.071 UJ
4-Chloro-3-methylphenol	NA	NA	0.18 U	0.18 U
4-Chloroaniline	NA	NA	0.18 U	0.18 U
4-Chlorophenyl phenyl ether	NA	NA	0.073 U	0.071 UJ
4-Nitroaniline	NA	NA	0.18 U	0.18 UJ
4-Nitrophenol	NA	NA	0.36 U	0.35 U
Acenaphthene	NA	NA	0.036 U	0.0146 J-
Acenaphthylene	NA	NA	0.0247 J	0.0779 J-
Aniline	NA	NA	0.073 U	0.071 U
Anthracene	NA	NA	0.0227 J	0.0782 J-
Benzidine	NA	NA	0.36 U	0.35 UJ
Benzo(a)anthracene	NA	NA	0.086	0.196 J-
Benzo(a)pyrene	0.07	1.54	**0.103**	**0.285 J-**
Benzo(b)fluoranthene	NA	NA	0.158	0.445 J-
Benzo(g,h,i)perylene	NA	NA	0.0629	0.187 J-
Benzo(k)fluoranthene	NA	NA	0.0568	0.143 J-
Benzoic acid	NA	NA	0.73 U	0.71 U
Benzyl Alcohol	NA	NA	0.073 U	0.819
bis(2-Chloroethoxy)methane	NA	NA	0.073 U	0.071 U
bis(2-Chloroethyl)ether	NA	NA	0.073 U	0.071 U
bis(2-Ethylhexyl)phthalate	20	120	0.0572 J	0.0628 J-
Butyl benzylphthalate	NA	NA	0.073 U	0.071 UJ
Carbazole	NA	NA	0.073 U	0.0116 J-
Chrysene	NA	NA	0.079	0.209 J-

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Location Name Sample Name Sample Date Lab Sample ID Sample Depth (bgs)	VT ANR 2019 Proposed Residential Soil	VT ANR 2019 Proposed Non-Residential Soil	SP1301 SP130100 05/16/2019 JC88412-1 0 - 0.5 (ft)	SP1302 SP130200 05/16/2019 JC88412-2 0 - 0.5 (ft)
Dibenz(a,h)anthracene	NA	NA	0.036 U	0.0534 J-
Dibenzofuran	NA	NA	0.073 U	0.071 UJ
Diethyl phthalate	NA	NA	0.073 U	0.071 UJ
Dimethyl phthalate	NA	NA	0.073 U	0.071 UJ
Di-n-butylphthalate	NA	NA	0.073 U	0.071 UJ
Di-n-octyl phthalate	NA	NA	0.073 U	0.071 UJ
Fluoranthene	2301	26371	0.13	0.288 J-
Fluorene	2301	26371	0.036 U	0.035 UJ
Hexachlorobenzene	0.13	0.69	0.073 U	0.071 UJ
Hexachlorobutadiene	NA	NA	0.036 U	0.035 U
Hexachlorocyclopentadiene	NA	NA	0.36 U	0.35 UJ
Hexachloroethane	NA	NA	0.18 U	0.18 U
Indeno(1,2,3-cd)pyrene	NA	NA	0.0988	0.204 J-
Isophorone	NA	NA	0.073 U	0.071 U
Naphthalene	2.7	16	0.036 U	0.035 U
Nitrobenzene	NA	NA	0.073 U	0.071 U
N-Nitrosodimethylamine	NA	NA	0.073 U	0.071 U
N-Nitrosodi-n-propylamine	NA	NA	0.073 U	0.071 U
N-Nitrosodiphenylamine	NA	NA	0.18 U	0.18 UJ
Pentachlorophenol	0.48	2.9	0.15 U	0.14 U
Phenanthrene	NA	NA	0.0158 J	0.0453
Phenol	NA	NA	0.073 U	0.0572 J
Pyrene	NA	NA	0.177	0.361 J-
Pyridine	NA	NA	0.073 U	0.071 U
Benzo(a)Pyrene Equivalent (ND = 0 RL)	0.07	1.54	**0.14**	**0.42**
Benzo(a)Pyrene Equivalent (ND = 1/2 RL)	0.07	1.54	**0.16**	**0.42**
Total Petroleum Hydrocarbons (mg/kg)				
Total Petroleum Hydrocarbons (C10-C28) DRO	NA	NA	10 U	53.1
Total Petroleum Hydrocarbons (C6-C10) GRO	NA	NA	21 U	23 U
Inorganic Compounds (mg/kg)				
Aluminum	72507	941748	9010 J+	11200 J+
Antimony	26	319	2.3 UJ	2.1 UJ
Arsenic	16	16	10.6	7.9
Barium	11247	127382	25.3	23.9
Beryllium	35	289	0.23 U	0.21 U
Cadmium	6.9	87	0.58 U	0.54 U
Calcium	NA	NA	1660	3620
Chromium	NA	NA	14.6	14.6
Cobalt	22	291	8.7	11.3
Copper	10407	139231	19.7	24.4
Iron	51302	686351	17800	26300
Lead	400	800	18.4	13
Magnesium	NA	NA	3970	5830
Manganese	1118	11350	464	494
Mercury	3.1	3.1	0.033 U	0.033 U
Nickel	940	9707	19.7	20.5
Potassium	NA	NA	1200 U	1100 U
Selenium	366	4900	2.3 U	4.3 U
Silver	237	2483	0.58 U	1.1 U
Sodium	NA	NA	1200 U	1100 U
Thallium	0.73	196100	**1.2 U**	**2.1 U**
Vanadium	2.8	27	**20.2**	***35.4***
Zinc	21986	294150	78.3	74.5

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VERMONT YANKEE
VERNON, VERMONT

Location Name Sample Name Sample Date Lab Sample ID Sample Depth (bgs)	VT ANR 2019 Proposed Residential Soil	VT ANR 2019 Proposed Non-Residential Soil	SP1301 SP130100 05/16/2019 JC88412-1 0 - 0.5 (ft)	SP1302 SP130200 05/16/2019 JC88412-2 0 - 0.5 (ft)
PCBs (mg/kg)				
Aroclor-1016 (PCB-1016)	NA	NA	0.036 U	0.034 U
Aroclor-1221 (PCB-1221)	NA	NA	0.036 U	0.034 U
Aroclor-1232 (PCB-1232)	NA	NA	0.036 U	0.034 U
Aroclor-1242 (PCB-1242)	NA	NA	0.036 U	0.034 U
Aroclor-1248 (PCB-1248)	NA	NA	0.036 U	0.034 U
Aroclor-1254 (PCB-1254)	NA	NA	0.036 U	0.034 U
Aroclor-1260 (PCB-1260)	NA	NA	0.036 U	0.034 U
Aroclor-1262 (PCB-1262)	NA	NA	0.036 U	0.034 U
Aroclor-1268 (PCB-1268)	NA	NA	0.036 U	0.034 U
SUM of PCBs	NA	NA	ND	ND
Other				
Total Solids (%)	NA	NA	87.8	88.8

ABBREVIATIONS AND NOTES:
-: Not Analyzed
*: Outside of QC limits
J: value is estimated
mg/kg: milligram per kilogram
NA: Not Applicable
RSL: Risk-Based Screening Levels
U: Not detected, value is the laboratory reporting limit
VT ANR: Vermont Agency of Natural Resources
USEPA: United State Environmental Protection Agency

- Volatile and Semi-Volatile analytes detected in at least one sample are reported herein. For a complete list of analytes see the laboratory data sheets.
- Bold values indicate an exceedance of the Proposed 2019 VT ANR Residential Soil values and the USEPA May 2019 Residential Soil RSL where no VT ANR value is available.

TABLE 2.2
SUMMARY OF SOIL ANALYTICAL RESULTS - COOLING TOWER STOCKPILE
VERMONT YANKEE
VERNON, VERMONT

Location Name Sample Name Sample Date Lab Sample ID Sample Depth (bgs)	VT ANR 2019 Proposed Residential Soil	VT ANR 2019 Proposed Non-Residential Soil	SP1501 SP150100 05/17/2019 JC88412-10 0 - 0.5 (ft)	SP1501 SP150100DUP 05/17/2019 JC88412-11 0 - 0.5 (ft)	SP1502 SP150200 05/17/2019 JC88412-12 0 - 0.5 (ft)
Volatile Organic Compounds (mg/kg)					
1,1,1,2-Tetrachloroethane	1.3	8	0.0032 U	0.0038 U	0.0029 U
1,1,1-Trichloroethane	NA	NA	0.0032 U	0.0038 U	0.0029 U
1,1,2,2-Tetrachloroethane	NA	NA	0.0032 U	0.0038 U	0.0029 U
1,1,2-Trichloroethane	NA	NA	0.0032 U	0.0038 U	0.0029 U
1,1-Dichloroethane	2.1	13	0.0016 U	0.0019 U	0.0014 U
1,1-Dichloroethene	NA	NA	0.0016 U	0.0019 U	0.0014 U
1,1-Dichloropropene	NA	NA	0.0032 U	0.0038 U	0.0029 U
1,2,3-Trichlorobenzene	NA	NA	0.008 U	0.0095 U	0.0072 U
1,2,3-Trichloropropane	0.00311	0.07	**0.008 U**	**0.0095 U**	**0.0072 U**
1,2,4-Trichlorobenzene	NA	NA	0.008 U	0.0095 U	0.0072 U
1,2,4-Trimethylbenzene	144	177	0.0032 U	0.0038 U	0.0029 U
1,2-Dibromo-3-chloropropane (DBCP)	0.01	0.06	0.0032 U	0.0038 U	0.0029 U
1,2-Dibromoethane (Ethylene Dibromide)	0.02	0.14	0.0016 U	0.0019 U	0.0014 U
1,2-Dichlorobenzene	NA	NA	0.0016 U	0.0019 U	0.0014 U
1,2-Dichloroethane	0.29	1.7	0.0016 U	0.0019 U	0.0014 U
1,2-Dichloropropane	1.5	9.1	0.0032 U	0.0038 U	0.0029 U
1,3,5-Trimethylbenzene	144	177	0.0032 U	0.0038 U	0.0029 U
1,3-Dichlorobenzene	NA	NA	0.0016 U	0.0019 U	0.0014 U
1,3-Dichloropropane	NA	NA	0.0032 U	0.0038 U	0.0029 U
1,4-Dichlorobenzene	NA	NA	0.0016 U	0.0019 U	0.0014 U
2,2-Dichloropropane	NA	NA	0.0032 U	0.0038 U	0.0029 U
2-Butanone (Methyl Ethyl Ketone)	16952	26991	0.016 U	0.019 U	0.014 U
2-Chlorotoluene	NA	NA	0.0032 U	0.0038 U	0.0029 U
2-Phenylbutane (sec-Butylbenzene)	7009	102200	0.0032 U	0.0038 U	0.0029 U
4-Chlorotoluene	NA	NA	0.0032 U	0.0038 U	0.0029 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	0.008 U	0.0095 U	0.0072 U
Acetone	40609	100028	0.016 U	0.019 U	0.014 U
Benzene	0.7	4.2	0.0008 U	0.00095 U	0.00072 U
Bromobenzene	NA	NA	0.008 U	0.0095 U	0.0072 U
Bromodichloromethane	NA	NA	0.0032 U	0.0038 U	0.0029 U
Bromoform	NA	NA	0.008 U	0.0095 U	0.0072 U
Bromomethane (Methyl Bromide)	NA	NA	0.008 U	0.0095 U	0.0072 U
Carbon tetrachloride	0.37	2.2	0.0032 U	0.0038 U	0.0029 U
Chlorobenzene	414	726	0.0032 U	0.0038 U	0.0029 U
Chlorobromomethane	193	597	0.008 U	0.0095 U	0.0072 U
Chloroethane	NA	NA	0.008 U	0.0095 U	0.0072 U
Chloroform (Trichloromethane)	NA	NA	0.0032 U	0.0038 U	0.0029 U
Chloromethane (Methyl Chloride)	NA	NA	0.008 U	0.0095 U	0.0072 U
cis-1,2-Dichloroethene	140	1814	0.0016 U	0.0019 U	0.0014 U
cis-1,3-Dichloropropene	NA	NA	0.0032 U	0.0038 U	0.0029 U
Cymene (p-Isopropyltoluene)	NA	NA	0.0032 U	0.0038 U	0.0029 U
Dibromochloromethane	NA	NA	0.0032 U	0.0038 U	0.0029 U
Dibromomethane	NA	NA	0.008 U	0.0095 U	0.0072 U
Dichlorodifluoromethane (CFC-12)	NA	NA	0.008 U	0.0095 U	0.0072 U
Ethylbenzene	3.7	22	0.0016 U	0.0019 U	0.0014 U
Hexachlorobutadiene	NA	NA	0.008 U	0.0095 U	0.0072 U
Isopropylbenzene (Cumene)	256	264	0.0032 U	0.0038 U	0.0029 U
m,p-Xylenes	NA	NA	0.0016 U	0.0019 U	0.0014 U
Methyl Tert Butyl Ether	649	4464	0.0016 U	0.0019 U	0.0014 U
Methylene chloride	NA	NA	0.008 U	0.0095 U	0.0072 U
Naphthalene	2.7	16	0.008 U	0.0095 U	0.0072 U
n-Butylbenzene	3504	51100	0.0032 U	0.0038 U	0.0029 U
n-Propylbenzene	253	261	0.0032 U	0.0038 U	0.0029 U
o-Xylene	NA	NA	0.0016 U	0.0019 U	0.0014 U
Styrene	NA	NA	0.0032 U	0.0038 U	0.0029 U
tert-Butylbenzene	7009	102200	0.0032 U	0.0038 U	0.0029 U

TABLE 2.2
SUMMARY OF SOIL ANALYTICAL RESULTS - COOLING TOWER STOCKPILE
VERMONT YANKEE
VERNON, VERMONT

Location Name Sample Name Sample Date Lab Sample ID Sample Depth (bgs)	VT ANR 2019 Proposed Residential Soil	VT ANR 2019 Proposed Non-Residential Soil	SP1501 SP150100 05/17/2019 JC88412-10 0 - 0.5 (ft)	SP1501 SP150100DUP 05/17/2019 JC88412-11 0 - 0.5 (ft)	SP1502 SP150200 05/17/2019 JC88412-12 0 - 0.5 (ft)
Tetrachloroethene	2.4	14	0.0032 U	0.0038 U	0.0029 U
Toluene	706	798	0.0016 U	0.0019 U	0.0014 U
trans-1,2-Dichloroethene	1402	18137	0.0016 U	0.0019 U	0.0014 U
trans-1,3-Dichloropropene	NA	NA	0.0032 U	0.0038 U	0.0029 U
Trichloroethene	0.68	6.5	0.0016 U	0.0019 U	0.0014 U
Trichlorofluoromethane (CFC-11)	NA	NA	0.008 U	0.0095 U	0.0072 U
Vinyl chloride	0.1	0.59	0.0032 U	0.0038 U	0.0029 U
Xylene (total)	252	257	0.0016 U	0.0019 U	0.0014 U
Semi-Volatile Organic Compounds (mg/kg)					
1,2,4-Trichlorobenzene	NA	NA	0.075 U	0.073 U	0.073 U
1,2-Dichlorobenzene	NA	NA	0.075 U	0.073 U	0.073 U
1,2-Diphenylhydrazine	NA	NA	0.075 U	0.073 U	0.073 U
1,3-Dichlorobenzene	NA	NA	0.075 U	0.073 U	0.073 U
1,4-Dichlorobenzene	NA	NA	0.075 U	0.073 U	0.073 U
1-Methylnaphthalene	NA	NA	0.038 U	0.037 U	0.037 UJ
2,2'-oxybis(1-Chloropropane)	2804	36274	0.075 U	0.073 U	0.073 U
2,4,5-Trichlorophenol	NA	NA	0.19 U	0.18 U	0.18 U
2,4,6-Trichlorophenol	NA	NA	0.19 U	0.18 U	0.18 U
2,4-Dichlorophenol	NA	NA	0.19 U	0.18 U	0.18 U
2,4-Dimethylphenol	NA	NA	0.19 U	0.18 U	0.18 U
2,4-Dinitrophenol	NA	NA	0.19 U	0.18 U	0.18 U
2,4-Dinitrotoluene	NA	NA	0.038 U	0.037 U	0.037 UJ
2,6-Dinitrotoluene	NA	NA	0.038 U	0.037 U	0.037 UJ
2-Chloronaphthalene	NA	NA	0.075 U	0.073 U	0.073 UJ
2-Chlorophenol	NA	NA	0.075 U	0.073 U	0.073 U
2-Methylnaphthalene	NA	NA	0.038 U	0.037 U	0.037 UJ
2-Methylphenol (o-Cresol)	NA	NA	0.075 U	0.073 U	0.073 U
2-Nitroaniline	NA	NA	0.19 U	0.18 U	0.18 UJ
2-Nitrophenol	NA	NA	0.19 U	0.18 U	0.18 U
3&4-Methylphenol	NA	NA	0.075 U	0.073 U	0.073 U
3,3'-Dichlorobenzidine	NA	NA	0.075 UJ	0.073 U	0.073 UJ
3-Nitroaniline	NA	NA	0.19 U	0.18 U	0.18 UJ
4,6-Dinitro-2-methylphenol	NA	NA	0.19 U	0.18 U	0.18 U
4-Bromophenyl phenyl ether	NA	NA	0.075 U	0.073 U	0.073 UJ
4-Chloro-3-methylphenol	NA	NA	0.19 U	0.18 U	0.18 U
4-Chloroaniline	NA	NA	0.19 U	0.18 U	0.18 U
4-Chlorophenyl phenyl ether	NA	NA	0.075 U	0.073 U	0.073 UJ
4-Nitroaniline	NA	NA	0.19 U	0.18 U	0.18 UJ
4-Nitrophenol	NA	NA	0.38 U	0.37 U	0.37 U
Acenaphthene	NA	NA	0.038 U	0.037 U	0.037 UJ
Acenaphthylene	NA	NA	0.038 U	0.037 U	0.037 UJ
Aniline	NA	NA	0.075 U	0.073 U	0.073 U
Anthracene	NA	NA	0.038 U	0.037 U	0.037 UJ
Benzidine	NA	NA	***0.38 UJ***	***0.37 U***	***0.37 UJ***
Benzo(a)anthracene	NA	NA	0.038 U	0.037 U	0.0115 J-
Benzo(a)pyrene	0.07	1.54	0.038 U	0.037 U	0.037 UJ
Benzo(b)fluoranthene	NA	NA	0.038 U	0.037 U	0.037 UJ
Benzo(g,h,i)perylene	NA	NA	0.038 U	0.037 U	0.037 UJ
Benzo(k)fluoranthene	NA	NA	0.038 U	0.037 U	0.037 UJ
Benzoic acid	NA	NA	0.75 U	0.73 U	0.73 U
Benzyl Alcohol	NA	NA	0.075 U	0.073 U	0.073 U
bis(2-Chloroethoxy)methane	NA	NA	0.075 U	0.073 U	0.073 U
bis(2-Chloroethyl)ether	NA	NA	0.075 U	0.073 U	0.073 U
bis(2-Ethylhexyl)phthalate	20	120	0.075 U	0.073 U	0.073 UJ
Butyl benzylphthalate	NA	NA	0.075 U	0.073 U	0.073 UJ
Carbazole	NA	NA	0.075 U	0.073 U	0.073 UJ
Chrysene	NA	NA	0.038 U	0.037 U	0.037 UJ

TABLE 2.2
SUMMARY OF SOIL ANALYTICAL RESULTS - COOLING TOWER STOCKPILE
VERMONT YANKEE
VERNON, VERMONT

Location Name Sample Name Sample Date Lab Sample ID Sample Depth (bgs)	VT ANR 2019 Proposed Residential Soil	VT ANR 2019 Proposed Non-Residential Soil	SP1501 SP150100 05/17/2019 JC88412-10 0 - 0.5 (ft)	SP1501 SP150100DUP 05/17/2019 JC88412-11 0 - 0.5 (ft)	SP1502 SP150200 05/17/2019 JC88412-12 0 - 0.5 (ft)
Dibenz(a,h)anthracene	NA	NA	0.038 U	0.037 U	0.037 UJ
Dibenzofuran	NA	NA	0.075 U	0.073 U	0.073 UJ
Diethyl phthalate	NA	NA	0.075 U	0.073 U	0.073 UJ
Dimethyl phthalate	NA	NA	0.075 U	0.073 U	0.073 UJ
Di-n-butylphthalate	NA	NA	0.075 U	0.073 U	0.073 UJ
Di-n-octyl phthalate	NA	NA	0.075 U	0.073 U	0.073 UJ
Fluoranthene	2301	26371	0.038 U	0.037 U	0.037 UJ
Fluorene	2301	26371	0.038 U	0.037 U	0.037 UJ
Hexachlorobenzene	0.13	0.69	0.075 U	0.073 U	0.073 UJ
Hexachlorobutadiene	NA	NA	0.038 U	0.037 U	0.037 U
Hexachlorocyclopentadiene	NA	NA	0.38 U	0.37 U	0.37 UJ
Hexachloroethane	NA	NA	0.19 U	0.18 U	0.18 U
Indeno(1,2,3-cd)pyrene	NA	NA	0.038 U	0.037 U	0.037 UJ
Isophorone	NA	NA	0.075 U	0.073 U	0.073 U
Naphthalene	2.7	16	0.038 U	0.037 U	0.037 U
Nitrobenzene	NA	NA	0.075 U	0.073 U	0.073 U
N-Nitrosodimethylamine	NA	NA	***0.075 U***	***0.073 U***	***0.073 U***
N-Nitrosodi-n-propylamine	NA	NA	0.075 U	0.073 U	0.073 U
N-Nitrosodiphenylamine	NA	NA	0.19 U	0.18 U	0.18 UJ
Pentachlorophenol	0.48	2.9	0.15 U	0.15 U	0.15 U
Phenanthrene	NA	NA	0.038 UJ	0.037 U	0.037 UJ
Phenol	NA	NA	0.075 U	0.073 U	0.073 U
Pyrene	NA	NA	0.038 U	0.037 U	0.0144 J-
Pyridine	NA	NA	0.075 U	0.073 U	0.073 U
Benzo(a)Pyrene Equivalent (ND = 0 RL)	0.07	1.54	ND	ND	0.012
Benzo(a)Pyrene Equivalent (ND = 1/2 RL)	0.07	1.54	ND	ND	0.036
Total Petroleum Hydrocarbons (mg/kg)					
Total Petroleum Hydrocarbons (C10-C28) DRO	NA	NA	11 U	10 U	26.9
Total Petroleum Hydrocarbons (C6-C10) GRO	NA	NA	35 U	34 U	80 U
Inorganic Compounds (mg/kg)					
Aluminum	72507	941748	9960 J+	9940 J+	9500 J+
Antimony	26	319	2.3 UJ	2.2 UJ	2.3 UJ
Arsenic	16	16	3.8	3.8	6.1
Barium	11247	127382	32	30.5	25
Beryllium	35	289	0.24	0.25	0.23 U
Cadmium	6.9	87	0.58 U	0.55 U	0.57 U
Calcium	NA	NA	1740	1720	1440
Chromium	NA	NA	14.2	13.9	18.1
Cobalt	22	291	5.8 U	5.5 U	6.8
Copper	10407	139231	11.5	11	18.2
Iron	51302	686351	12800	12500	17600
Lead	400	800	10.4	10.2	12.1
Magnesium	NA	NA	2970	2910	4230
Manganese	1118	11350	339	349	281
Mercury	3.1	3.1	0.035 U	0.036 U	0.034 U
Nickel	940	9707	13.8	13.8	17.4
Potassium	NA	NA	1200 U	1100 U	1100 U
Selenium	366	4900	2.3 U	2.2 U	2.3 U
Silver	237	2483	0.58 U	0.55 U	0.57 U
Sodium	NA	NA	1200 U	1100 U	1100 U
Thallium	0.73	196100	**1.2 U**	**1.1 U**	**1.1 U**
Vanadium	2.8	27	**17.5**	**17.5**	**26.4**
Zinc	21986	294150	39.7	38.4	72.8

TABLE 2.2
SUMMARY OF SOIL ANALYTICAL RESULTS - COOLING TOWER STOCKPILE
VERMONT YANKEE
VERNON, VERMONT

Location Name Sample Name Sample Date Lab Sample ID Sample Depth (bgs)	VT ANR 2019 Proposed Residential Soil	VT ANR 2019 Proposed Non-Residential Soil	SP1501 SP150100 05/17/2019 JC88412-10 0 - 0.5 (ft)	SP1501 SP150100DUP 05/17/2019 JC88412-11 0 - 0.5 (ft)	SP1502 SP150200 05/17/2019 JC88412-12 0 - 0.5 (ft)
PCBs (mg/kg)					
Aroclor-1016 (PCB-1016)	NA	NA	0.035 U	0.034 U	0.035 U
Aroclor-1221 (PCB-1221)	NA	NA	0.035 U	0.034 U	0.035 U
Aroclor-1232 (PCB-1232)	NA	NA	0.035 U	0.034 U	0.035 U
Aroclor-1242 (PCB-1242)	NA	NA	0.035 U	0.034 U	0.035 U
Aroclor-1248 (PCB-1248)	NA	NA	0.035 U	0.034 U	0.035 U
Aroclor-1254 (PCB-1254)	NA	NA	0.035 U	0.034 U	0.035 U
Aroclor-1260 (PCB-1260)	NA	NA	0.035 U	0.034 U	0.035 U
Aroclor-1262 (PCB-1262)	NA	NA	0.035 U	0.034 U	0.035 U
Aroclor-1268 (PCB-1268)	NA	NA	0.035 U	0.034 U	0.035 U
SUM of PCBs	NA	NA	ND	ND	ND
Other					
Total Solids (%)	NA	NA	87	90.8	90.8
Herbicides (mg/kg)					
2,4,5-T	NA	NA	0.0037 U	0.0033 U	0.0034 U
2,4,5-TP (Silvex)	NA	NA	0.0037 U	0.0033 U	0.0034 U
2,4-Dichlorophenoxyacetic acid (2,4-D)	NA	NA	0.018 U	0.016 U	0.017 U
Dalapon	NA	NA	0.0037 U	0.0033 U	0.0034 U
Dichloroprop	NA	NA	0.018 UJ	0.016 U	0.017 U
Dinoseb	NA	NA	0.018 U	0.016 U	0.017 U
Pesticides (mg/kg)					
4,4'-DDD	NA	NA	0.00069 U	0.00068 U	0.00073 U
4,4'-DDE	NA	NA	0.00069 U	0.00068 U	0.00073 U
4,4'-DDT	NA	NA	0.002	0.00068 U	0.00073 U
Aldrin	0.02	0.1	0.00069 U	0.00068 U	0.00073 U
alpha-BHC	NA	NA	0.00069 U	0.00068 U	0.00073 U
alpha-Chlordane	NA	NA	0.00069 U	0.00068 U	0.00073 U
beta-BHC	NA	NA	0.00069 U	0.00068 U	0.00073 U
delta-BHC	NA	NA	0.00069 U	0.00068 U	0.00073 U
Dieldrin	NA	NA	0.00069 U	0.00068 U	0.00073 U
Endosulfan I	NA	NA	0.00069 U	0.00068 U	0.00073 U
Endosulfan II	NA	NA	0.00069 U	0.00068 U	0.00073 U
Endosulfan sulfate	NA	NA	0.00069 U	0.00068 U	0.00073 U
Endrin	NA	NA	0.00069 U	0.00068 U	0.00073 U
Endrin aldehyde	NA	NA	0.00069 U	0.00068 U	0.00073 U
Endrin ketone	NA	NA	0.00069 U	0.00068 U	0.00073 U
gamma-BHC (Lindane)	NA	NA	0.00069 U	0.00068 U	0.00073 U
gamma-Chlordane	NA	NA	0.00069 U	0.00068 U	0.00073 U
Heptachlor	NA	NA	0.00069 U	0.00068 U	0.00073 U
Heptachlor epoxide	NA	NA	0.00069 U	0.00068 U	0.00073 U
Methoxychlor	NA	NA	0.0014 U	0.0014 U	0.0015 U
Toxaphene	NA	NA	0.017 U	0.017 U	0.018 U

ABBREVIATIONS AND NOTES:
-: Not Analyzed
*: Outside of QC limits
J: value is estimated
mg/kg: milligram per kilogram
NA: Not Applicable
RSL: Risk-Based Screening Levels
U: Not detected, value is the laboratory reporting limit
VT ANR: Vermont Agency of Natural Resources
USEPA: United State Environmental Protection Agency

- Volatile and Semi-Volatile analytes detected in at least one sample are reported herein. For a complete list of analytes see the laboratory data sheets.
- Bold values indicate an exceedance of the Proposed 2019 VT ANR Residential Soil values and the USEPA May 2019 Residential Soil RSL where no VT ANR value is available.
- Italicized values indicate an exceedance of the Proposed 2019 VT ANR Non-Residential Soil values and the USEPA May 2019 Industrial Soil RSL where no VT ANR value is available.

FIGURES

CONNECTICUT RIVER

CLEAN WORKSHOP
SOUTH STORM DRAIN OUTFALL
COOLING TOWER STOCKPILE
OFFICE BUILDING
FORMER SOUTH WAREHOUSE
SOUTHEAST STORM DRAIN OUTFALL
REACTOR BUILDING
RAD WASTE BUILDING
HYDROGEN STORAGE FACILITY
SOUTH FIELD APPLICATION AREA
CONTROL BUILDING
COOLING TOWERS
ISFSI PAD
SOUTHWEST STORM DRAIN OUTFALL
FORMER NORTH WAREHOUSE
NORTH STORM DRAIN OUTFALL
SHIPPING & RECEIVING
LOW-LEVEL RAD WASTE BUILDING
NEW WAREHOUSE
345 kV SWITCHYARD STORM DRAIN OUTFALL
TURBINE BUILDING
115 kV SWITCHYARD STORM DRAIN OUTFALL
115 kV SWITCHYARD
VELCO SUBSTATION STORM DRAIN OUTFALL
FORMER EDSON'S GULF STATION & GARAGE
NORTH FIELD SOIL PILES
ROTOR STORAGE
345 kV SWITCHYARD
PLANT SUPPORT BUILDING
GOVERNOR HUNT RD
NORTH FIELD APPLICATION AREA
VELCO SUBSTATION

LEGEND

- EXISTING WELL
- STORMWATER OUTFALL
- EXCLUSION AREA
- SITE BOUNDARY

NOTE

AERIAL IMAGERY SOURCE:
ESRI 2015

N

0 400 800
SCALE IN FEET

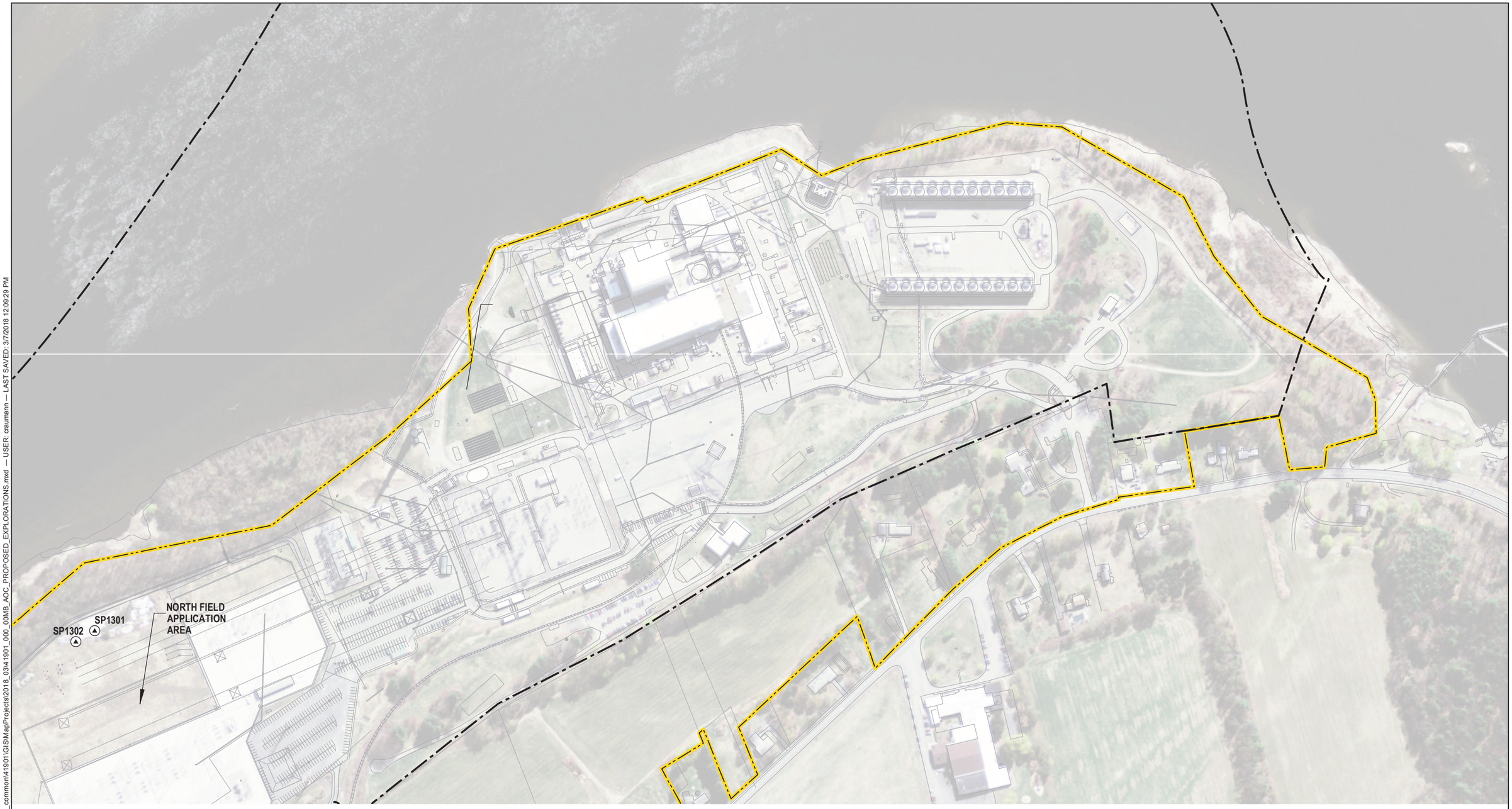
HALEY ALDRICH

VERMONT YANKEE NUCLEAR POWER STATION
320 GOVERNOR HUNT ROAD
VERNON, VERMONT

SITE PLAN

FIGURE 1-0

GIS FILE PATH: G:\41901\GIS\MapProjects\2017_04\41901_000_00MB_AOCs_NO_SAMPLE_LOCS.mxd — USER: ajospe — LAST SAVED: 4/12/2017 11:26:19 AM



LEGEND

- STOCKPILE SAMPLING LOCATION
- SITE BOUNDARY
- EXCLUSION AREA

NOTES

1. AERIAL IMAGERY SOURCE: ESRI

N

0 300 600

SCALE IN FEET

HALEY ALDRICH

VERMONT YANKEE NUCLEAR POWER STATION
320 GOVERNOR HUNT ROAD
VERNON, VERMONT

NORTH FIELD STOCKPILE SAMPLE LOCATIONS

AUGUST 2019

FIGURE 2.1

GIS FILE PATH: \\haleyaldrich.com\share\bos_common\419011\GIS\MapProjects\2018_03\419011_000_00MB_AOC_PROPOSED_EXPLORATIONS.mxd — USER: craumann — LAST SAVED: 3/7/2018 12:09:29 PM

GIS FILE PATH: \\haleyaldrich.com\share\bos_common\41901\GIS\MapProjects\2019_0714 1901_000_00MB_AOC_PROPOSED_EXPLORATIONS.mxd — USER: hwachholz — LAST SAVED: 7/11/2019 1:11:11 PM

LEGEND

- STOCKPILE SAMPLING LOCATION SITE
- BOUNDARY
- EXCLUSION AREA

NOTES

1. AERIAL IMAGERY SOURCE: ESRI

N

0 60 120

SCALE IN FEET

HALEY ALDRICH

VERMONT YANKEE NUCLEAR POWER STATION
320 GOVERNOR HUNT ROAD
VERNON, VERMONT

COOLING TOWER STOCKPILE SAMPLE LOCATIONS

AUGUST 2019

FIGURE 2.2

APPENDIX A

Laboratory Analytical Reports

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Haley & Aldrich, Inc.

VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

129657.009

SGS Job Number: JC88412

Sampling Dates: 05/16/19 - 05/17/19

Report to:

Haley & Aldrich, Inc.
100 Corporate Place
Rocky Hill, CT 06067
MvanNoordennen@haleyaldrich.com

ATTN: M. VanNoordennen

Total number of pages in report: 224

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Brian McGuire
General Manager

Client Service contact: Victoria Pushkova 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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Table of Contents

SGS North America Inc.

Sample Summary

Haley & Aldrich, Inc.

Job No: JC88412

VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT
Project No: 129657.009

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC88412-1	05/16/19	14:00	JW	05/17/19	SO	Soil	SP130100
JC88412-2	05/16/19	14:15	JW	05/17/19	SO	Soil	SP130200
JC88412-3	05/16/19	14:30	JW	05/17/19	SO	Soil	SS070100
JC88412-4	05/16/19	13:20	JW	05/17/19	SO	Soil	SS070200
JC88412-5	05/16/19	12:40	JW	05/17/19	SO	Soil	SS070300
JC88412-6	05/16/19	14:00	JW	05/17/19	SO	Soil	SS070400
JC88412-7	05/16/19	15:15	JW	05/17/19	SO	Soil	SD140100
JC88412-8	05/16/19	16:05	JW	05/17/19	SO	Soil	SD140500
JC88412-9	05/16/19	16:40	JW	05/17/19	SO	Soil	SD140600
JC88412-10	05/17/19	09:15	JW	05/17/19	SO	Soil	SP150100
JC88412-10D	05/17/19	09:15	JW	05/17/19	SO	Soil Dup/MSD	SP150100MSD
JC88412-10S	05/17/19	09:15	JW	05/17/19	SO	Soil Matrix Spike	SP150100MS
JC88412-11	05/17/19	09:15	JW	05/17/19	SO	Soil	SP150100DUP

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Sample Summary
(continued)

Haley & Aldrich, Inc.

Job No: JC88412

VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT
Project No: 129657.009

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC88412-12	05/17/19	09:45	JW	05/17/19	SO	Soil	SP150200
JC88412-13	05/17/19	09:45	JW	05/17/19	SO	Trip Blank Soil	TB051719

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Job Number: JC88412
Account: Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT
Collected: 05/16/19 thru 05/17/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC88412-1	**SP130100**					
Acenaphthylene		24.7 J	36	18	ug/kg	SW846 8270D
Anthracene		22.7 J	36	22	ug/kg	SW846 8270D
Benzo(a)anthracene		86.0	36	10	ug/kg	SW846 8270D
Benzo(a)pyrene		103	36	17	ug/kg	SW846 8270D
Benzo(b)fluoranthene		158	36	16	ug/kg	SW846 8270D
Benzo(g,h,i)perylene		62.9	36	18	ug/kg	SW846 8270D
Benzo(k)fluoranthene		56.8	36	17	ug/kg	SW846 8270D
Chrysene		79.0	36	11	ug/kg	SW846 8270D
bis(2-Ethylhexyl)phthalate		57.2 J	73	8.5	ug/kg	SW846 8270D
Fluoranthene		130	36	16	ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		98.8	36	17	ug/kg	SW846 8270D
Phenanthrene		15.8 J	36	12	ug/kg	SW846 8270D
Pyrene		177	36	12	ug/kg	SW846 8270D
Aluminum		9010	58		mg/kg	SW846 6010D
Arsenic		10.6	2.3		mg/kg	SW846 6010D
Barium		25.3	23		mg/kg	SW846 6010D
Calcium		1660	580		mg/kg	SW846 6010D
Chromium		14.6	1.2		mg/kg	SW846 6010D
Cobalt		8.7	5.8		mg/kg	SW846 6010D
Copper		19.7	2.9		mg/kg	SW846 6010D
Iron		17800	58		mg/kg	SW846 6010D
Lead		18.4	2.3		mg/kg	SW846 6010D
Magnesium		3970	580		mg/kg	SW846 6010D
Manganese		464	1.7		mg/kg	SW846 6010D
Nickel		19.7	4.6		mg/kg	SW846 6010D
Vanadium		20.2	5.8		mg/kg	SW846 6010D
Zinc		78.3	5.8		mg/kg	SW846 6010D
JC88412-2	**SP130200**					
Acetone		24.1	11	4.6	ug/kg	SW846 8260C
Phenol		57.2 J	71	18	ug/kg	SW846 8270D
Acenaphthene		14.6 J	35	12	ug/kg	SW846 8270D
Acenaphthylene		77.9	35	18	ug/kg	SW846 8270D
Anthracene		78.2	35	22	ug/kg	SW846 8270D
Benzo(a)anthracene		196	35	10	ug/kg	SW846 8270D
Benzo(a)pyrene		285	35	16	ug/kg	SW846 8270D
Benzo(b)fluoranthene		445	35	16	ug/kg	SW846 8270D
Benzo(g,h,i)perylene		187	35	18	ug/kg	SW846 8270D
Benzo(k)fluoranthene		143	35	16	ug/kg	SW846 8270D
Benzyl Alcohol		819	71	13	ug/kg	SW846 8270D
Carbazole		11.6 J	71	5.1	ug/kg	SW846 8270D
Chrysene		209	35	11	ug/kg	SW846 8270D

Summary of Hits

Job Number: JC88412
Account: Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT
Collected: 05/16/19 thru 05/17/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Dibenzo(a,h)anthracene		53.4	35	16	ug/kg	SW846 8270D
bis(2-Ethylhexyl)phthalate		62.8 J	71	8.3	ug/kg	SW846 8270D
Fluoranthene		288	35	16	ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		204	35	17	ug/kg	SW846 8270D
Phenanthrene		45.3	35	12	ug/kg	SW846 8270D
Pyrene		361	35	11	ug/kg	SW846 8270D
TPH-DRO (C10-C28)		53.1	11	2.0	mg/kg	SW846 8015D
Aluminum		11200	54		mg/kg	SW846 6010D
Arsenic [a]		7.9	4.3		mg/kg	SW846 6010D
Barium		23.9	21		mg/kg	SW846 6010D
Calcium		3620	540		mg/kg	SW846 6010D
Chromium		14.6	1.1		mg/kg	SW846 6010D
Cobalt		11.3	5.4		mg/kg	SW846 6010D
Copper [a]		24.4	5.4		mg/kg	SW846 6010D
Iron		26300	110		mg/kg	SW846 6010D
Lead		13.0	2.1		mg/kg	SW846 6010D
Magnesium		5830	540		mg/kg	SW846 6010D
Manganese [a]		494	3.2		mg/kg	SW846 6010D
Nickel		20.5	4.3		mg/kg	SW846 6010D
Vanadium		35.4	5.4		mg/kg	SW846 6010D
Zinc		74.5	5.4		mg/kg	SW846 6010D
JC88412-3	**SS070100**					
Acetone		31.4	11	4.6	ug/kg	SW846 8260C
Benzo(a)anthracene		50.2	37	10	ug/kg	SW846 8270D
Benzo(a)pyrene		63.5	37	17	ug/kg	SW846 8270D
Benzo(b)fluoranthene		82.3	37	16	ug/kg	SW846 8270D
Benzo(g,h,i)perylene		54.7	37	18	ug/kg	SW846 8270D
Benzo(k)fluoranthene		31.8 J	37	17	ug/kg	SW846 8270D
Chrysene		46.9	37	12	ug/kg	SW846 8270D
Fluoranthene		74.8	37	16	ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		86.3	37	17	ug/kg	SW846 8270D
Phenanthrene		23.5 J	37	12	ug/kg	SW846 8270D
Pyrene		79.6	37	12	ug/kg	SW846 8270D
TPH-DRO (C10-C28)		13.9	11	2.0	mg/kg	SW846 8015D
Aluminum		9670	55		mg/kg	SW846 6010D
Arsenic		7.6	2.2		mg/kg	SW846 6010D
Barium		44.1	22		mg/kg	SW846 6010D
Beryllium		0.22	0.22		mg/kg	SW846 6010D
Cadmium		0.68	0.55		mg/kg	SW846 6010D
Calcium		1110	550		mg/kg	SW846 6010D
Chromium		18.8	1.1		mg/kg	SW846 6010D
Cobalt		7.9	5.5		mg/kg	SW846 6010D
Copper		28.9	2.8		mg/kg	SW846 6010D

Summary of Hits

Job Number: JC88412
Account: Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT
Collected: 05/16/19 thru 05/17/19

Lab Sample ID / Client Sample ID / Analyte	Result/ Qual	RL	MDL	Units	Method
Iron	17700	55		mg/kg	SW846 6010D
Lead	33.2	2.2		mg/kg	SW846 6010D
Magnesium	4160	550		mg/kg	SW846 6010D
Manganese	725	1.7		mg/kg	SW846 6010D
Nickel	21.8	4.4		mg/kg	SW846 6010D
Vanadium	23.7	5.5		mg/kg	SW846 6010D
Zinc	560	5.5		mg/kg	SW846 6010D
JC88412-4 SS070200					
Benzo(a)anthracene	30.6 J	38	11	ug/kg	SW846 8270D
Benzo(a)pyrene	19.8 J	38	17	ug/kg	SW846 8270D
Benzo(b)fluoranthene	36.7 J	38	17	ug/kg	SW846 8270D
Chrysene	35.3 J	38	12	ug/kg	SW846 8270D
Fluoranthene	51.4	38	17	ug/kg	SW846 8270D
Pyrene	64.3	38	12	ug/kg	SW846 8270D
Aluminum	12200	60		mg/kg	SW846 6010D
Arsenic	4.5	2.4		mg/kg	SW846 6010D
Barium	32.2	24		mg/kg	SW846 6010D
Beryllium	0.27	0.24		mg/kg	SW846 6010D
Calcium	1200	600		mg/kg	SW846 6010D
Chromium	17.8	1.2		mg/kg	SW846 6010D
Cobalt	7.0	6.0		mg/kg	SW846 6010D
Copper	16.0	3.0		mg/kg	SW846 6010D
Iron	16700	60		mg/kg	SW846 6010D
Lead	15.2	2.4		mg/kg	SW846 6010D
Magnesium	3440	600		mg/kg	SW846 6010D
Manganese	380	1.8		mg/kg	SW846 6010D
Nickel	16.9	4.8		mg/kg	SW846 6010D
Vanadium	22.5	6.0		mg/kg	SW846 6010D
Zinc	82.2	6.0		mg/kg	SW846 6010D
JC88412-5 SS070300					
Benzo(a)anthracene	21.7 J	38	11	ug/kg	SW846 8270D
Benzo(a)pyrene	22.1 J	38	17	ug/kg	SW846 8270D
Benzo(b)fluoranthene	31.0 J	38	17	ug/kg	SW846 8270D
Chrysene	25.4 J	38	12	ug/kg	SW846 8270D
Fluoranthene	49.4	38	17	ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene	59.1	38	18	ug/kg	SW846 8270D
Phenanthrene	20.4 J	38	13	ug/kg	SW846 8270D
Pyrene	45.3	38	12	ug/kg	SW846 8270D
TPH-DRO (C10-C28)	109	11	2.0	mg/kg	SW846 8015D
Aluminum	10400	60		mg/kg	SW846 6010D
Arsenic	60.3	2.4		mg/kg	SW846 6010D

Summary of Hits

Job Number: JC88412
Account: Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT
Collected: 05/16/19 thru 05/17/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Calcium		1070	600		mg/kg	SW846 6010D
Chromium		28.9	1.2		mg/kg	SW846 6010D
Cobalt		8.6	6.0		mg/kg	SW846 6010D
Copper		35.4	3.0		mg/kg	SW846 6010D
Iron		21400	60		mg/kg	SW846 6010D
Lead		16.9	2.4		mg/kg	SW846 6010D
Magnesium		4190	600		mg/kg	SW846 6010D
Manganese		462	1.8		mg/kg	SW846 6010D
Nickel		25.2	4.8		mg/kg	SW846 6010D
Vanadium		21.1	6.0		mg/kg	SW846 6010D
Zinc		157	6.0		mg/kg	SW846 6010D
JC88412-6	**SS070400**					
Aluminum		18200	54		mg/kg	SW846 6010D
Arsenic [a]		12.4	4.3		mg/kg	SW846 6010D
Barium		61.8	22		mg/kg	SW846 6010D
Beryllium		0.24	0.22		mg/kg	SW846 6010D
Calcium		3780	540		mg/kg	SW846 6010D
Chromium		45.1	1.1		mg/kg	SW846 6010D
Cobalt		17.5	5.4		mg/kg	SW846 6010D
Copper [a]		57.4	5.4		mg/kg	SW846 6010D
Iron		37400	110		mg/kg	SW846 6010D
Lead		15.8	2.2		mg/kg	SW846 6010D
Magnesium		12500	540		mg/kg	SW846 6010D
Manganese [a]		692	3.2		mg/kg	SW846 6010D
Nickel		41.5	4.3		mg/kg	SW846 6010D
Potassium		1530	1100		mg/kg	SW846 6010D
Vanadium		56.8	5.4		mg/kg	SW846 6010D
Zinc		249	5.4		mg/kg	SW846 6010D
JC88412-7	**SD140100**					
Benzo(a)anthracene		15.9 J	36	10	ug/kg	SW846 8270D
Benzo(b)fluoranthene		18.7 J	36	16	ug/kg	SW846 8270D
Chrysene		16.3 J	36	11	ug/kg	SW846 8270D
bis(2-Ethylhexyl)phthalate		69.7 J	73	8.5	ug/kg	SW846 8270D
Fluoranthene		17.6 J	36	16	ug/kg	SW846 8270D
Pyrene		16.2 J	36	12	ug/kg	SW846 8270D
TPH-DRO (C10-C28)		22.1	10	1.8	mg/kg	SW846 8015D
Aluminum		6580	58		mg/kg	SW846 6010D
Arsenic		4.8	2.3		mg/kg	SW846 6010D
Calcium		1080	580		mg/kg	SW846 6010D
Chromium		11.6	1.2		mg/kg	SW846 6010D
Copper		11.6	2.9		mg/kg	SW846 6010D

Summary of Hits

Job Number: JC88412
Account: Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT
Collected: 05/16/19 thru 05/17/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Iron		15700	58		mg/kg	SW846 6010D
Lead		6.6	2.3		mg/kg	SW846 6010D
Magnesium		3190	580		mg/kg	SW846 6010D
Manganese		285	1.7		mg/kg	SW846 6010D
Nickel		14.0	4.7		mg/kg	SW846 6010D
Vanadium		15.7	5.8		mg/kg	SW846 6010D
Zinc		119	5.8		mg/kg	SW846 6010D
JC88412-8	**SD140500**					
Acetone		5.3 J	7.8	3.1	ug/kg	SW846 8260C
Aluminum		4720	55		mg/kg	SW846 6010D
Arsenic [a]		6.3	4.4		mg/kg	SW846 6010D
Calcium		632	550		mg/kg	SW846 6010D
Chromium		9.1	1.1		mg/kg	SW846 6010D
Copper [a]		27.1	5.5		mg/kg	SW846 6010D
Iron		24000	110		mg/kg	SW846 6010D
Lead [a]		6.9	4.4		mg/kg	SW846 6010D
Magnesium		2190	550		mg/kg	SW846 6010D
Manganese [a]		163	3.3		mg/kg	SW846 6010D
Nickel		15.1	4.4		mg/kg	SW846 6010D
Vanadium		10.1	5.5		mg/kg	SW846 6010D
Zinc		292	5.5		mg/kg	SW846 6010D
JC88412-9	**SD140600**					
Acetone		21.0	8.2	3.3	ug/kg	SW846 8260C
Aluminum		4720	58		mg/kg	SW846 6010D
Arsenic		3.0	2.3		mg/kg	SW846 6010D
Calcium		954	580		mg/kg	SW846 6010D
Chromium		8.7	1.2		mg/kg	SW846 6010D
Cobalt		7.3	5.8		mg/kg	SW846 6010D
Copper		5.7	2.9		mg/kg	SW846 6010D
Iron		8980	58		mg/kg	SW846 6010D
Lead		3.3	2.3		mg/kg	SW846 6010D
Magnesium		1920	580		mg/kg	SW846 6010D
Manganese		886	1.7		mg/kg	SW846 6010D
Nickel		10.6	4.6		mg/kg	SW846 6010D
Vanadium		10.0	5.8		mg/kg	SW846 6010D
Zinc		20.6	5.8		mg/kg	SW846 6010D
JC88412-10	**SP150100**					
4,4'-DDT		2.0	0.69	0.61	ug/kg	SW846 8081B
Aluminum		9960	58		mg/kg	SW846 6010D

Summary of Hits

Job Number: JC88412
Account: Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT
Collected: 05/16/19 thru 05/17/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Arsenic		3.8	2.3		mg/kg	SW846 6010D
Barium		32.0	23		mg/kg	SW846 6010D
Beryllium		0.24	0.23		mg/kg	SW846 6010D
Calcium		1740	580		mg/kg	SW846 6010D
Chromium		14.2	1.2		mg/kg	SW846 6010D
Copper		11.5	2.9		mg/kg	SW846 6010D
Iron		12800	58		mg/kg	SW846 6010D
Lead		10.4	2.3		mg/kg	SW846 6010D
Magnesium		2970	580		mg/kg	SW846 6010D
Manganese		339	1.7		mg/kg	SW846 6010D
Nickel		13.8	4.6		mg/kg	SW846 6010D
Vanadium		17.5	5.8		mg/kg	SW846 6010D
Zinc		39.7	5.8		mg/kg	SW846 6010D
JC88412-11	**SP150100DUP**					
Acetone		7.8 J	19	7.6	ug/kg	SW846 8260C
Aluminum		9940	55		mg/kg	SW846 6010D
Arsenic		3.8	2.2		mg/kg	SW846 6010D
Barium		30.5	22		mg/kg	SW846 6010D
Beryllium		0.25	0.22		mg/kg	SW846 6010D
Calcium		1720	550		mg/kg	SW846 6010D
Chromium		13.9	1.1		mg/kg	SW846 6010D
Copper		11.0	2.8		mg/kg	SW846 6010D
Iron		12500	55		mg/kg	SW846 6010D
Lead		10.2	2.2		mg/kg	SW846 6010D
Magnesium		2910	550		mg/kg	SW846 6010D
Manganese		349	1.7		mg/kg	SW846 6010D
Nickel		13.8	4.4		mg/kg	SW846 6010D
Vanadium		17.5	5.5		mg/kg	SW846 6010D
Zinc		38.4	5.5		mg/kg	SW846 6010D
JC88412-12	**SP150200**					
Benzo(a)anthracene		11.5 J	37	10	ug/kg	SW846 8270D
Pyrene		14.4 J	37	12	ug/kg	SW846 8270D
TPH-DRO (C10-C28)		26.9	10	1.9	mg/kg	SW846 8015D
Aluminum		9500	57		mg/kg	SW846 6010D
Arsenic		6.1	2.3		mg/kg	SW846 6010D
Barium		25.0	23		mg/kg	SW846 6010D
Calcium		1440	570		mg/kg	SW846 6010D
Chromium		18.1	1.1		mg/kg	SW846 6010D
Cobalt		6.8	5.7		mg/kg	SW846 6010D
Copper		18.2	2.9		mg/kg	SW846 6010D
Iron		17600	57		mg/kg	SW846 6010D

Summary of Hits

Job Number: JC88412
Account: Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT
Collected: 05/16/19 thru 05/17/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Lead		12.1	2.3		mg/kg	SW846 6010D
Magnesium		4230	570		mg/kg	SW846 6010D
Manganese		281	1.7		mg/kg	SW846 6010D
Nickel		17.4	4.6		mg/kg	SW846 6010D
Vanadium		26.4	5.7		mg/kg	SW846 6010D
Zinc		72.8	5.7		mg/kg	SW846 6010D
JC88412-13	**TB051719**					
Acetone		14.8	10	4.0	ug/kg	SW846 8260C

(a) Elevated detection limit due to dilution required for high interfering element.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SP130100		
Lab Sample ID:	JC88412-1	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	87.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C152145.D	1	05/21/19 11:10	PS	n/a	n/a	V3C6833
Run #2							

	Initial Weight
Run #1	5.9 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	9.7	3.9	ug/kg	
71-43-2	Benzene	ND	0.48	0.44	ug/kg	
108-86-1	Bromobenzene	ND	4.8	0.53	ug/kg	
74-97-5	Bromochloromethane	ND	4.8	0.54	ug/kg	
75-27-4	Bromodichloromethane	ND	1.9	0.43	ug/kg	
75-25-2	Bromoform	ND	4.8	0.56	ug/kg	
74-83-9	Bromomethane	ND	4.8	0.96	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.7	3.6	ug/kg	
104-51-8	n-Butylbenzene	ND	1.9	0.39	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.9	0.41	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.9	0.48	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.9	0.60	ug/kg	
108-90-7	Chlorobenzene	ND	1.9	0.44	ug/kg	
75-00-3	Chloroethane	ND	4.8	0.57	ug/kg	
67-66-3	Chloroform	ND	1.9	0.47	ug/kg	
74-87-3	Chloromethane	ND	4.8	1.9	ug/kg	
95-49-8	o-Chlorotoluene	ND	1.9	0.52	ug/kg	
106-43-4	p-Chlorotoluene	ND	1.9	0.54	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.81	ug/kg	
124-48-1	Dibromochloromethane	ND	1.9	0.54	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.97	0.41	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.97	0.53	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.97	0.48	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.97	0.48	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.8	0.70	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.97	0.48	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.97	0.45	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.97	0.63	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.97	0.81	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.97	0.59	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.9	0.46	ug/kg	
142-28-9	1,3-Dichloropropane	ND	1.9	0.50	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP130100		
Lab Sample ID:	JC88412-1	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	87.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
594-20-7	2,2-Dichloropropane	ND	1.9	0.41	ug/kg	
563-58-6	1,1-Dichloropropene	ND	1.9	0.52	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.46	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.44	ug/kg	
100-41-4	Ethylbenzene	ND	0.97	0.53	ug/kg	
87-68-3	Hexachlorobutadiene	ND	4.8	0.63	ug/kg	
98-82-8	Isopropylbenzene	ND	1.9	0.67	ug/kg	
99-87-6	p-Isopropyltoluene	ND	1.9	0.38	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.97	0.45	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.8	2.2	ug/kg	
74-95-3	Methylene bromide	ND	4.8	0.51	ug/kg	
75-09-2	Methylene chloride	ND	4.8	0.96	ug/kg	
91-20-3	Naphthalene	ND	4.8	0.49	ug/kg	
103-65-1	n-Propylbenzene	ND	1.9	0.45	ug/kg	
100-42-5	Styrene	ND	1.9	0.55	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.9	0.55	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.58	ug/kg	
127-18-4	Tetrachloroethene	ND	1.9	0.56	ug/kg	
108-88-3	Toluene	ND	0.97	0.51	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.8	1.9	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.8	1.5	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.47	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.53	ug/kg	
79-01-6	Trichloroethene	ND	0.97	0.74	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.8	0.66	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	4.8	0.54	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	1.9	0.61	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	1.9	0.42	ug/kg	
75-01-4	Vinyl chloride	ND	1.9	0.46	ug/kg	
	m,p-Xylene	ND	0.97	0.86	ug/kg	
95-47-6	o-Xylene	ND	0.97	0.56	ug/kg	
1330-20-7	Xylene (total)	ND	0.97	0.56	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		75-127%
17060-07-0	1,2-Dichloroethane-D4	107%		75-130%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	105%		79-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP130100		
Lab Sample ID:	JC88412-1	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	87.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5P60315.D	1	06/04/19 19:54	CC	05/30/19 17:50	OP20619	E5P2841
Run #2							

	Initial Weight	Final Volume
Run #1	31.4 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid [a]	ND	730	60	ug/kg	
95-57-8	2-Chlorophenol	ND	73	18	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	180	22	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	180	31	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	180	65	ug/kg	
51-28-5	2,4-Dinitrophenol [a]	ND	180	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	180	39	ug/kg	
95-48-7	2-Methylphenol	ND	73	23	ug/kg	
	3&4-Methylphenol	ND	73	30	ug/kg	
88-75-5	2-Nitrophenol [a]	ND	180	24	ug/kg	
100-02-7	4-Nitrophenol [a]	ND	360	97	ug/kg	
87-86-5	Pentachlorophenol	ND	150	34	ug/kg	
108-95-2	Phenol	ND	73	19	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	180	27	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	180	22	ug/kg	
83-32-9	Acenaphthene	ND	36	13	ug/kg	
208-96-8	Acenaphthylene	24.7	36	18	ug/kg	J
62-53-3	Aniline	ND	73	16	ug/kg	
120-12-7	Anthracene	22.7	36	22	ug/kg	J
92-87-5	Benzidine [a]	ND	360	63	ug/kg	
56-55-3	Benzo(a)anthracene	86.0	36	10	ug/kg	
50-32-8	Benzo(a)pyrene	103	36	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	158	36	16	ug/kg	
191-24-2	Benzo(g,h,i)perylene	62.9	36	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	56.8	36	17	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	73	14	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	73	8.9	ug/kg	
100-51-6	Benzyl Alcohol	ND	73	13	ug/kg	
91-58-7	2-Chloronaphthalene	ND	73	8.6	ug/kg	
106-47-8	4-Chloroaniline	ND	180	13	ug/kg	
86-74-8	Carbazole	ND	73	5.3	ug/kg	
218-01-9	Chrysene	79.0	36	11	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP130100		
Lab Sample ID:	JC88412-1	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	87.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	73	7.8	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	73	16	ug/kg	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	73	13	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	73	12	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	73	10	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	73	8.2	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	73	7.7	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	73	8.8	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	36	11	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	36	18	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	73	30	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	36	16	ug/kg	
132-64-9	Dibenzofuran	ND	73	15	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	73	5.9	ug/kg	
117-84-0	Di-n-octyl phthalate [a]	ND	73	9.0	ug/kg	
84-66-2	Diethyl phthalate	ND	73	7.7	ug/kg	
131-11-3	Dimethyl phthalate	ND	73	6.5	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	57.2	73	8.5	ug/kg	J
206-44-0	Fluoranthene	130	36	16	ug/kg	
86-73-7	Fluorene	ND	36	17	ug/kg	
118-74-1	Hexachlorobenzene	ND	73	9.2	ug/kg	
87-68-3	Hexachlorobutadiene	ND	36	15	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	360	14	ug/kg	
67-72-1	Hexachloroethane	ND	180	18	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	98.8	36	17	ug/kg	
78-59-1	Isophorone	ND	73	7.8	ug/kg	
90-12-0	1-Methylnaphthalene	ND	36	7.1	ug/kg	
91-57-6	2-Methylnaphthalene	ND	36	8.2	ug/kg	
88-74-4	2-Nitroaniline [a]	ND	180	8.6	ug/kg	
99-09-2	3-Nitroaniline	ND	180	9.1	ug/kg	
100-01-6	4-Nitroaniline	ND	180	9.4	ug/kg	
91-20-3	Naphthalene	ND	36	10	ug/kg	
98-95-3	Nitrobenzene	ND	73	14	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	73	13	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	73	10	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	180	13	ug/kg	
85-01-8	Phenanthrene	15.8	36	12	ug/kg	J
129-00-0	Pyrene	177	36	12	ug/kg	
110-86-1	Pyridine	ND	73	12	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	73	9.5	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP130100		
Lab Sample ID:	JC88412-1	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	87.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	45%		23-115%
4165-62-2	Phenol-d5	47%		27-114%
118-79-6	2,4,6-Tribromophenol	52%		19-152%
4165-60-0	Nitrobenzene-d5	64%		26-134%
321-60-8	2-Fluorobiphenyl	52%		39-124%
1718-51-0	Terphenyl-d14	62%		36-134%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP130100		
Lab Sample ID:	JC88412-1	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D	**Percent Solids:**	87.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF151105.D	1	05/22/19 13:56	XPL	n/a	n/a	GPF4894
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.7 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	21	4.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	88%		70-116%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP130100		
Lab Sample ID:	JC88412-1	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8082A SW846 3546	**Percent Solids:**	87.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G180354A.D	1	05/30/19 02:48	TR	05/29/19 06:00	OP20630	G2G4668
Run #2							

	Initial Weight	Final Volume
Run #1	15.8 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	36	17	ug/kg	
11104-28-2	Aroclor 1221	ND	36	18	ug/kg	
11141-16-5	Aroclor 1232	ND	36	28	ug/kg	
53469-21-9	Aroclor 1242	ND	36	15	ug/kg	
12672-29-6	Aroclor 1248	ND	36	32	ug/kg	
11097-69-1	Aroclor 1254	ND	36	19	ug/kg	
11096-82-5	Aroclor 1260	ND	36	15	ug/kg	
11100-14-4	Aroclor 1268	ND	36	15	ug/kg	
37324-23-5	Aroclor 1262	ND	36	24	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	93%		31-146%
877-09-8	Tetrachloro-m-xylene	93%		31-146%
2051-24-3	Decachlorobiphenyl	89%		17-164%
2051-24-3	Decachlorobiphenyl	72%		17-164%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP130100		
Lab Sample ID:	JC88412-1	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D SW846 3546	**Percent Solids:**	87.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y97520.D	1	05/29/19 02:39	CP	05/28/19 09:45	OP20583	G2Y3706
Run #2							

	Initial Weight	Final Volume
Run #1	11.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	10	1.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	63%		18-132%
438-22-2	5a-Androstane	62%		22-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SP130100
Lab Sample ID: JC88412-1
Matrix: SO - Soil
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Date Sampled: 05/16/19
Date Received: 05/17/19
Percent Solids: 87.8

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	9010	58	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Antimony	< 2.3	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Arsenic	10.6	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Barium	25.3	23	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Beryllium	< 0.23	0.23	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cadmium	< 0.58	0.58	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Calcium	1660	580	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Chromium	14.6	1.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cobalt	8.7	5.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Copper	19.7	2.9	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Iron	17800	58	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Lead	18.4	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Magnesium	3970	580	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Manganese	464	1.7	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Mercury	< 0.033	0.033	mg/kg	1	05/21/19	05/21/19	LL	SW846 7471B [1]	SW846 7471B [3]
Nickel	19.7	4.6	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Potassium	< 1200	1200	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Selenium	< 2.3	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Silver	< 0.58	0.58	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Sodium	< 1200	1200	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Thallium	< 1.2	1.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Vanadium	20.2	5.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Zinc	78.3	5.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA46758
(2) Instrument QC Batch: MA46773
(3) Prep QC Batch: MP15219
(4) Prep QC Batch: MP15223

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SP130200		
Lab Sample ID:	JC88412-2	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	88.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C152146.D	1	05/21/19 11:33	PS	n/a	n/a	V3C6833
Run #2							

	Initial Weight
Run #1	4.9 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	24.1	11	4.6	ug/kg	
71-43-2	Benzene	ND	0.57	0.52	ug/kg	
108-86-1	Bromobenzene	ND	5.7	0.64	ug/kg	
74-97-5	Bromochloromethane	ND	5.7	0.64	ug/kg	
75-27-4	Bromodichloromethane	ND	2.3	0.51	ug/kg	
75-25-2	Bromoform	ND	5.7	0.66	ug/kg	
74-83-9	Bromomethane	ND	5.7	1.1	ug/kg	
78-93-3	2-Butanone (MEK)	ND	11	4.3	ug/kg	
104-51-8	n-Butylbenzene	ND	2.3	0.47	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.3	0.49	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.3	0.57	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.3	0.71	ug/kg	
108-90-7	Chlorobenzene	ND	2.3	0.53	ug/kg	
75-00-3	Chloroethane	ND	5.7	0.68	ug/kg	
67-66-3	Chloroform	ND	2.3	0.56	ug/kg	
74-87-3	Chloromethane	ND	5.7	2.3	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.3	0.62	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.3	0.65	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.3	0.96	ug/kg	
124-48-1	Dibromochloromethane	ND	2.3	0.64	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.1	0.48	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.1	0.63	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.1	0.57	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.1	0.57	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.7	0.84	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.1	0.57	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.1	0.54	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.1	0.75	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.1	0.97	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.1	0.70	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.3	0.54	ug/kg	
142-28-9	1,3-Dichloropropane	ND	2.3	0.60	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP130200		
Lab Sample ID:	JC88412-2	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	88.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
594-20-7	2,2-Dichloropropane	ND	2.3	0.49	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.3	0.62	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	0.55	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	0.53	ug/kg	
100-41-4	Ethylbenzene	ND	1.1	0.63	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.7	0.75	ug/kg	
98-82-8	Isopropylbenzene	ND	2.3	0.80	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.3	0.45	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.1	0.54	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.7	2.6	ug/kg	
74-95-3	Methylene bromide	ND	5.7	0.60	ug/kg	
75-09-2	Methylene chloride	ND	5.7	1.1	ug/kg	
91-20-3	Naphthalene	ND	5.7	0.58	ug/kg	
103-65-1	n-Propylbenzene	ND	2.3	0.54	ug/kg	
100-42-5	Styrene	ND	2.3	0.66	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.3	0.65	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	0.69	ug/kg	
127-18-4	Tetrachloroethene	ND	2.3	0.67	ug/kg	
108-88-3	Toluene	ND	1.1	0.60	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.7	2.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.7	1.8	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.3	0.56	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.3	0.64	ug/kg	
79-01-6	Trichloroethene	ND	1.1	0.88	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.7	0.79	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.7	0.64	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.3	0.73	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.3	0.50	ug/kg	
75-01-4	Vinyl chloride	ND	2.3	0.55	ug/kg	
	m,p-Xylene	ND	1.1	1.0	ug/kg	
95-47-6	o-Xylene	ND	1.1	0.67	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	0.67	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		75-127%
17060-07-0	1,2-Dichloroethane-D4	108%		75-130%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	108%		79-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP130200		
Lab Sample ID:	JC88412-2	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	88.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5P60316.D	1	06/04/19 20:18	CC	05/30/19 17:50	OP20619	E5P2841
Run #2 [a]	5P60515.D	5	06/08/19 11:22	CS	06/07/19 18:00	OP20901	E5P2847

	Initial Weight	Final Volume
Run #1	31.9 g	1.0 ml
Run #2	30.3 g	1.0 ml

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid [b]	ND	710	58	ug/kg	
95-57-8	2-Chlorophenol	ND	71	17	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	180	22	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	180	30	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	180	63	ug/kg	
51-28-5	2,4-Dinitrophenol [b]	ND	180	130	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	180	38	ug/kg	
95-48-7	2-Methylphenol	ND	71	23	ug/kg	
	3&4-Methylphenol	ND	71	29	ug/kg	
88-75-5	2-Nitrophenol [b]	ND	180	23	ug/kg	
100-02-7	4-Nitrophenol [b]	ND	350	94	ug/kg	
87-86-5	Pentachlorophenol	ND	140	33	ug/kg	
108-95-2	Phenol	57.2	71	18	ug/kg	J
95-95-4	2,4,5-Trichlorophenol	ND	180	26	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	180	21	ug/kg	
83-32-9	Acenaphthene	14.6	35	12	ug/kg	J
208-96-8	Acenaphthylene	77.9	35	18	ug/kg	
62-53-3	Aniline	ND	71	16	ug/kg	
120-12-7	Anthracene	78.2	35	22	ug/kg	
92-87-5	Benzidine [b]	ND	350	61	ug/kg	
56-55-3	Benzo(a)anthracene	196	35	10	ug/kg	
50-32-8	Benzo(a)pyrene	285	35	16	ug/kg	
205-99-2	Benzo(b)fluoranthene	445	35	16	ug/kg	
191-24-2	Benzo(g,h,i)perylene	187	35	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	143	35	16	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	71	14	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	71	8.6	ug/kg	
100-51-6	Benzyl Alcohol	819	71	13	ug/kg	
91-58-7	2-Chloronaphthalene	ND	71	8.4	ug/kg	
106-47-8	4-Chloroaniline	ND	180	13	ug/kg	
86-74-8	Carbazole	11.6	71	5.1	ug/kg	J
218-01-9	Chrysene	209	35	11	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP130200		
Lab Sample ID:	JC88412-2	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	88.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	71	7.6	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	71	15	ug/kg	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	71	13	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	71	11	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	71	10	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	71	8.0	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	71	7.5	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	71	8.6	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	35	11	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	35	18	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	71	29	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	53.4	35	16	ug/kg	
132-64-9	Dibenzofuran	ND	71	14	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	71	5.8	ug/kg	
117-84-0	Di-n-octyl phthalate [b]	ND	71	8.8	ug/kg	
84-66-2	Diethyl phthalate	ND	71	7.5	ug/kg	
131-11-3	Dimethyl phthalate	ND	71	6.3	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	62.8	71	8.3	ug/kg	J
206-44-0	Fluoranthene	288	35	16	ug/kg	
86-73-7	Fluorene	ND	35	16	ug/kg	
118-74-1	Hexachlorobenzene	ND	71	8.9	ug/kg	
87-68-3	Hexachlorobutadiene	ND	35	14	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	350	14	ug/kg	
67-72-1	Hexachloroethane	ND	180	17	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	204	35	17	ug/kg	
78-59-1	Isophorone	ND	71	7.6	ug/kg	
90-12-0	1-Methylnaphthalene	ND	35	6.9	ug/kg	
91-57-6	2-Methylnaphthalene	ND	35	8.0	ug/kg	
88-74-4	2-Nitroaniline [b]	ND	180	8.3	ug/kg	
99-09-2	3-Nitroaniline	ND	180	8.8	ug/kg	
100-01-6	4-Nitroaniline	ND	180	9.1	ug/kg	
91-20-3	Naphthalene	ND	35	10	ug/kg	
98-95-3	Nitrobenzene	ND	71	14	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	71	13	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	71	10	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	180	13	ug/kg	
85-01-8	Phenanthrene	45.3	35	12	ug/kg	
129-00-0	Pyrene	361	35	11	ug/kg	
110-86-1	Pyridine	ND	71	12	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	71	9.2	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP130200		
Lab Sample ID:	JC88412-2	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	88.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	30%	42%	23-115%
4165-62-2	Phenol-d5	35%	45%	27-114%
118-79-6	2,4,6-Tribromophenol	37%	45%	19-152%
4165-60-0	Nitrobenzene-d5	41%	70%	26-134%
321-60-8	2-Fluorobiphenyl	38% [c]	49%	39-124%
1718-51-0	Terphenyl-d14	43%	56%	36-134%

(a) Sample extracted outside the holding time. Confirmation run.
(b) Associated CCV outside of control limits high, sample was ND.
(c) Outside in house control limits biased low. The results confirmed by re-extraction outside the holding time.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP130200		
Lab Sample ID:	JC88412-2	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D	**Percent Solids:**	88.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF151106.D	1	05/22/19 14:22	XPL	n/a	n/a	GPF4894
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.2 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	23	4.6	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	86%		70-116%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP130200		
Lab Sample ID:	JC88412-2	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8082A SW846 3546	**Percent Solids:**	88.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G180346.D	1	05/30/19 00:15	TR	05/29/19 06:00	OP20630	G2G4668
Run #2							

	Initial Weight	Final Volume
Run #1	16.8 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	34	16	ug/kg	
11104-28-2	Aroclor 1221	ND	34	17	ug/kg	
11141-16-5	Aroclor 1232	ND	34	26	ug/kg	
53469-21-9	Aroclor 1242	ND	34	14	ug/kg	
12672-29-6	Aroclor 1248	ND	34	30	ug/kg	
11097-69-1	Aroclor 1254	ND	34	18	ug/kg	
11096-82-5	Aroclor 1260	ND	34	14	ug/kg	
11100-14-4	Aroclor 1268	ND	34	14	ug/kg	
37324-23-5	Aroclor 1262	ND	34	22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	99%		31-146%
877-09-8	Tetrachloro-m-xylene	87%		31-146%
2051-24-3	Decachlorobiphenyl	80%		17-164%
2051-24-3	Decachlorobiphenyl	98%		17-164%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP130200		
Lab Sample ID:	JC88412-2	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D SW846 3546	**Percent Solids:**	88.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y97521.D	1	05/29/19 03:13	CP	05/28/19 09:45	OP20583	G2Y3706
Run #2							

	Initial Weight	Final Volume
Run #1	10.4 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	53.1	11	2.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	72%		18-132%
438-22-2	5a-Androstane	71%		22-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP130200		
Lab Sample ID:	JC88412-2	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
		Percent Solids:	88.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	11200	54	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Antimony	< 2.1	2.1	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Arsenic [a]	7.9	4.3	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [5]
Barium	23.9	21	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Beryllium	< 0.21	0.21	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Cadmium	< 0.54	0.54	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Calcium	3620	540	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Chromium	14.6	1.1	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Cobalt	11.3	5.4	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Copper [a]	24.4	5.4	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [5]
Iron	26300	110	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [5]
Lead	13.0	2.1	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Magnesium	5830	540	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Manganese [a]	494	3.2	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [5]
Mercury	< 0.033	0.033	mg/kg	1	05/21/19	05/21/19	LL	SW846 7471B [1]	SW846 7471B [4]
Nickel	20.5	4.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Potassium	< 1100	1100	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Selenium [a]	< 4.3	4.3	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [5]
Silver [a]	< 1.1	1.1	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [5]
Sodium	< 1100	1100	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Thallium [a]	< 2.1	2.1	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [5]
Vanadium	35.4	5.4	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Zinc	74.5	5.4	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]

(1) Instrument QC Batch: MA46758
(2) Instrument QC Batch: MA46773
(3) Instrument QC Batch: MA46796
(4) Prep QC Batch: MP15219
(5) Prep QC Batch: MP15223

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS070100		
Lab Sample ID:	JC88412-3	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	89.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C152147.D	1	05/21/19 11:56	PS	n/a	n/a	V3C6833
Run #2							

	Initial Weight
Run #1	4.9 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	31.4	11	4.6	ug/kg	
71-43-2	Benzene	ND	0.57	0.52	ug/kg	
108-86-1	Bromobenzene	ND	5.7	0.63	ug/kg	
74-97-5	Bromochloromethane	ND	5.7	0.64	ug/kg	
75-27-4	Bromodichloromethane	ND	2.3	0.51	ug/kg	
75-25-2	Bromoform	ND	5.7	0.66	ug/kg	
74-83-9	Bromomethane	ND	5.7	1.1	ug/kg	
78-93-3	2-Butanone (MEK)	ND	11	4.3	ug/kg	
104-51-8	n-Butylbenzene	ND	2.3	0.47	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.3	0.49	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.3	0.57	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.3	0.71	ug/kg	
108-90-7	Chlorobenzene	ND	2.3	0.53	ug/kg	
75-00-3	Chloroethane	ND	5.7	0.68	ug/kg	
67-66-3	Chloroform	ND	2.3	0.56	ug/kg	
74-87-3	Chloromethane	ND	5.7	2.2	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.3	0.62	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.3	0.64	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.3	0.96	ug/kg	
124-48-1	Dibromochloromethane	ND	2.3	0.64	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.1	0.48	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.1	0.63	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.1	0.57	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.1	0.57	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.7	0.83	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.1	0.57	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.1	0.54	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.1	0.75	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.1	0.96	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.1	0.70	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.3	0.54	ug/kg	
142-28-9	1,3-Dichloropropane	ND	2.3	0.60	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070100		
Lab Sample ID:	JC88412-3	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	89.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
594-20-7	2,2-Dichloropropane	ND	2.3	0.49	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.3	0.62	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	0.54	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	0.52	ug/kg	
100-41-4	Ethylbenzene	ND	1.1	0.63	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.7	0.75	ug/kg	
98-82-8	Isopropylbenzene	ND	2.3	0.80	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.3	0.45	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.1	0.54	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.7	2.6	ug/kg	
74-95-3	Methylene bromide	ND	5.7	0.60	ug/kg	
75-09-2	Methylene chloride	ND	5.7	1.1	ug/kg	
91-20-3	Naphthalene	ND	5.7	0.58	ug/kg	
103-65-1	n-Propylbenzene	ND	2.3	0.54	ug/kg	
100-42-5	Styrene	ND	2.3	0.66	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.3	0.65	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	0.69	ug/kg	
127-18-4	Tetrachloroethene	ND	2.3	0.66	ug/kg	
108-88-3	Toluene	ND	1.1	0.60	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.7	2.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.7	1.8	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.3	0.55	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.3	0.63	ug/kg	
79-01-6	Trichloroethene	ND	1.1	0.87	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.7	0.78	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.7	0.64	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.3	0.73	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.3	0.49	ug/kg	
75-01-4	Vinyl chloride	ND	2.3	0.55	ug/kg	
	m,p-Xylene	ND	1.1	1.0	ug/kg	
95-47-6	o-Xylene	ND	1.1	0.67	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	0.67	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		75-127%
17060-07-0	1,2-Dichloroethane-D4	106%		75-130%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	101%		79-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070100		
Lab Sample ID:	JC88412-3	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	89.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5P60234.D	1	06/03/19 00:04	CS	05/30/19 17:50	OP20619	E5P2838
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	37	13	ug/kg	
208-96-8	Acenaphthylene	ND	37	19	ug/kg	
120-12-7	Anthracene	ND	37	23	ug/kg	
56-55-3	Benzo(a)anthracene	50.2	37	10	ug/kg	
50-32-8	Benzo(a)pyrene	63.5	37	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	82.3	37	16	ug/kg	
191-24-2	Benzo(g,h,i)perylene	54.7	37	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	31.8	37	17	ug/kg	J
218-01-9	Chrysene	46.9	37	12	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	37	16	ug/kg	
206-44-0	Fluoranthene	74.8	37	16	ug/kg	
86-73-7	Fluorene	ND	37	17	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	86.3	37	17	ug/kg	
91-20-3	Naphthalene	ND	37	10	ug/kg	
85-01-8	Phenanthrene	23.5	37	12	ug/kg	J
129-00-0	Pyrene	79.6	37	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	50%		26-134%
321-60-8	2-Fluorobiphenyl	44%		39-124%
1718-51-0	Terphenyl-d14	52%		36-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070100		
Lab Sample ID:	JC88412-3	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D	**Percent Solids:**	89.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF151107.D	1	05/22/19 14:49	XPL	n/a	n/a	GPF4894
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.2 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	19	3.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	82%		70-116%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070100		
Lab Sample ID:	JC88412-3	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D SW846 3546	**Percent Solids:**	89.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y97522.D	1	05/29/19 03:47	CP	05/28/19 09:45	OP20583	G2Y3706
Run #2							

	Initial Weight	Final Volume
Run #1	10.3 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	13.9	11	2.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	66%		18-132%
438-22-2	5a-Androstane	65%		22-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070100		
Lab Sample ID:	JC88412-3	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
		Percent Solids:	89.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	9670	55	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Antimony	< 2.2	2.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Arsenic	7.6	2.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Barium	44.1	22	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Beryllium	0.22	0.22	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cadmium	0.68	0.55	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Calcium	1110	550	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Chromium	18.8	1.1	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cobalt	7.9	5.5	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Copper	28.9	2.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Iron	17700	55	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Lead	33.2	2.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Magnesium	4160	550	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Manganese	725	1.7	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Mercury	< 0.036	0.036	mg/kg	1	05/21/19	05/21/19	LL	SW846 7471B [1]	SW846 7471B [3]
Nickel	21.8	4.4	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Potassium	< 1100	1100	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Selenium	< 2.2	2.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Silver	< 0.55	0.55	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Sodium	< 1100	1100	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Thallium	< 1.1	1.1	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Vanadium	23.7	5.5	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Zinc	560	5.5	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA46758
(2) Instrument QC Batch: MA46773
(3) Prep QC Batch: MP15219
(4) Prep QC Batch: MP15223

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS070200		
Lab Sample ID:	JC88412-4	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	86.4
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C152148.D	1	05/21/19 12:19	PS	n/a	n/a	V3C6833
Run #2							

	Initial Weight
Run #1	4.7 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	12	4.9	ug/kg	
71-43-2	Benzene	ND	0.62	0.56	ug/kg	
108-86-1	Bromobenzene	ND	6.2	0.68	ug/kg	
74-97-5	Bromochloromethane	ND	6.2	0.69	ug/kg	
75-27-4	Bromodichloromethane	ND	2.5	0.55	ug/kg	
75-25-2	Bromoform	ND	6.2	0.71	ug/kg	
74-83-9	Bromomethane	ND	6.2	1.2	ug/kg	
78-93-3	2-Butanone (MEK)	ND	12	4.6	ug/kg	
104-51-8	n-Butylbenzene	ND	2.5	0.50	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.5	0.53	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.5	0.62	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.5	0.76	ug/kg	
108-90-7	Chlorobenzene	ND	2.5	0.57	ug/kg	
75-00-3	Chloroethane	ND	6.2	0.73	ug/kg	
67-66-3	Chloroform	ND	2.5	0.60	ug/kg	
74-87-3	Chloromethane	ND	6.2	2.4	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.5	0.66	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.5	0.69	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	1.0	ug/kg	
124-48-1	Dibromochloromethane	ND	2.5	0.69	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.2	0.52	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.2	0.67	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.2	0.61	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.2	0.61	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.2	0.90	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.2	0.61	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.2	0.58	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.2	0.81	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.2	1.0	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.2	0.75	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.5	0.58	ug/kg	
142-28-9	1,3-Dichloropropane	ND	2.5	0.64	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070200		
Lab Sample ID:	JC88412-4	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	86.4
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
594-20-7	2,2-Dichloropropane	ND	2.5	0.53	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.5	0.67	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.5	0.58	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.5	0.56	ug/kg	
100-41-4	Ethylbenzene	ND	1.2	0.68	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.2	0.81	ug/kg	
98-82-8	Isopropylbenzene	ND	2.5	0.86	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.5	0.49	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.2	0.58	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	6.2	2.8	ug/kg	
74-95-3	Methylene bromide	ND	6.2	0.65	ug/kg	
75-09-2	Methylene chloride	ND	6.2	1.2	ug/kg	
91-20-3	Naphthalene	ND	6.2	0.63	ug/kg	
103-65-1	n-Propylbenzene	ND	2.5	0.58	ug/kg	
100-42-5	Styrene	ND	2.5	0.71	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.5	0.70	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.5	0.74	ug/kg	
127-18-4	Tetrachloroethene	ND	2.5	0.71	ug/kg	
108-88-3	Toluene	ND	1.2	0.65	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.2	2.4	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.2	1.9	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.59	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.5	0.68	ug/kg	
79-01-6	Trichloroethene	ND	1.2	0.94	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.2	0.84	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.2	0.68	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.78	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.53	ug/kg	
75-01-4	Vinyl chloride	ND	2.5	0.59	ug/kg	
	m,p-Xylene	ND	1.2	1.1	ug/kg	
95-47-6	o-Xylene	ND	1.2	0.72	ug/kg	
1330-20-7	Xylene (total)	ND	1.2	0.72	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		75-127%
17060-07-0	1,2-Dichloroethane-D4	109%		75-130%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	102%		79-127%

ND = Not detected MDL = Method Detection Limit
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E = Indicates value exceeds calibration range
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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070200		
Lab Sample ID:	JC88412-4	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	86.4
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5P60224.D	1	06/02/19 20:01	CS	05/30/19 17:50	OP20619	E5P2838
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	38	13	ug/kg	
208-96-8	Acenaphthylene	ND	38	19	ug/kg	
120-12-7	Anthracene	ND	38	23	ug/kg	
56-55-3	Benzo(a)anthracene	30.6	38	11	ug/kg	J
50-32-8	Benzo(a)pyrene	19.8	38	17	ug/kg	J
205-99-2	Benzo(b)fluoranthene	36.7	38	17	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	ND	38	19	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	38	18	ug/kg	
218-01-9	Chrysene	35.3	38	12	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	38	17	ug/kg	
206-44-0	Fluoranthene	51.4	38	17	ug/kg	
86-73-7	Fluorene	ND	38	18	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	38	18	ug/kg	
91-20-3	Naphthalene	ND	38	11	ug/kg	
85-01-8	Phenanthrene	ND	38	13	ug/kg	
129-00-0	Pyrene	64.3	38	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	51%		26-134%
321-60-8	2-Fluorobiphenyl	44%		39-124%
1718-51-0	Terphenyl-d14	53%		36-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070200		
Lab Sample ID:	JC88412-4	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D	**Percent Solids:**	86.4
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF151108.D	1	05/22/19 15:15	XPL	n/a	n/a	GPF4894
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.0 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	30	6.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	88%		70-116%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070200		
Lab Sample ID:	JC88412-4	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D SW846 3546	**Percent Solids:**	86.4
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y97523.D	1	05/29/19 04:21	CP	05/28/19 09:45	OP20583	G2Y3706
Run #2							

	Initial Weight	Final Volume
Run #1	10.6 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	11	2.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	62%		18-132%
438-22-2	5a-Androstane	61%		22-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070200		
Lab Sample ID:	JC88412-4	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
		Percent Solids:	86.4
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	12200	60	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Antimony	< 2.4	2.4	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Arsenic	4.5	2.4	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Barium	32.2	24	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Beryllium	0.27	0.24	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cadmium	< 0.60	0.60	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Calcium	1200	600	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Chromium	17.8	1.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cobalt	7.0	6.0	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Copper	16.0	3.0	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Iron	16700	60	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Lead	15.2	2.4	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Magnesium	3440	600	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Manganese	380	1.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Mercury	< 0.037	0.037	mg/kg	1	05/21/19	05/21/19	LL	SW846 7471B [1]	SW846 7471B [3]
Nickel	16.9	4.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Potassium	< 1200	1200	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Selenium	< 2.4	2.4	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Silver	< 0.60	0.60	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Sodium	< 1200	1200	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Thallium	< 1.2	1.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Vanadium	22.5	6.0	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Zinc	82.2	6.0	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA46758
(2) Instrument QC Batch: MA46773
(3) Prep QC Batch: MP15219
(4) Prep QC Batch: MP15223

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS070300		
Lab Sample ID:	JC88412-5	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	87.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C152149.D	1	05/21/19 12:42	PS	n/a	n/a	V3C6833
Run #2							

	Initial Weight
Run #1	5.5 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	4.2	ug/kg	
71-43-2	Benzene	ND	0.52	0.47	ug/kg	
108-86-1	Bromobenzene	ND	5.2	0.58	ug/kg	
74-97-5	Bromochloromethane	ND	5.2	0.58	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.46	ug/kg	
75-25-2	Bromoform	ND	5.2	0.60	ug/kg	
74-83-9	Bromomethane	ND	5.2	1.0	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	3.9	ug/kg	
104-51-8	n-Butylbenzene	ND	2.1	0.42	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.1	0.45	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.1	0.52	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	0.65	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.48	ug/kg	
75-00-3	Chloroethane	ND	5.2	0.62	ug/kg	
67-66-3	Chloroform	ND	2.1	0.51	ug/kg	
74-87-3	Chloromethane	ND	5.2	2.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.1	0.56	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	0.59	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	0.87	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	0.58	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.44	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.57	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.52	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.52	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.2	0.76	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.0	0.52	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.49	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.0	0.68	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.88	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.64	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.49	ug/kg	
142-28-9	1,3-Dichloropropane	ND	2.1	0.54	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070300		
Lab Sample ID:	JC88412-5	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	87.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
594-20-7	2,2-Dichloropropane	ND	2.1	0.45	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.1	0.57	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.50	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.48	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.58	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.2	0.68	ug/kg	
98-82-8	Isopropylbenzene	ND	2.1	0.73	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.1	0.41	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.49	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.2	2.4	ug/kg	
74-95-3	Methylene bromide	ND	5.2	0.55	ug/kg	
75-09-2	Methylene chloride	ND	5.2	1.0	ug/kg	
91-20-3	Naphthalene	ND	5.2	0.53	ug/kg	
103-65-1	n-Propylbenzene	ND	2.1	0.49	ug/kg	
100-42-5	Styrene	ND	2.1	0.60	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.1	0.59	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.63	ug/kg	
127-18-4	Tetrachloroethene	ND	2.1	0.61	ug/kg	
108-88-3	Toluene	ND	1.0	0.55	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.2	2.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.2	1.6	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.50	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.58	ug/kg	
79-01-6	Trichloroethene	ND	1.0	0.80	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.2	0.71	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.2	0.58	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.66	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.45	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.50	ug/kg	
	m,p-Xylene	ND	1.0	0.94	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.61	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.61	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		75-127%
17060-07-0	1,2-Dichloroethane-D4	107%		75-130%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	102%		79-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070300		
Lab Sample ID:	JC88412-5	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	87.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5P60225.D	1	06/02/19 20:25	CS	05/30/19 17:50	OP20619	E5P2838
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	38	13	ug/kg	
208-96-8	Acenaphthylene	ND	38	19	ug/kg	
120-12-7	Anthracene	ND	38	23	ug/kg	
56-55-3	Benzo(a)anthracene	21.7	38	11	ug/kg	J
50-32-8	Benzo(a)pyrene	22.1	38	17	ug/kg	J
205-99-2	Benzo(b)fluoranthene	31.0	38	17	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	ND	38	19	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	38	18	ug/kg	
218-01-9	Chrysene	25.4	38	12	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	38	17	ug/kg	
206-44-0	Fluoranthene	49.4	38	17	ug/kg	
86-73-7	Fluorene	ND	38	17	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	59.1	38	18	ug/kg	
91-20-3	Naphthalene	ND	38	11	ug/kg	
85-01-8	Phenanthrene	20.4	38	13	ug/kg	J
129-00-0	Pyrene	45.3	38	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	55%		26-134%
321-60-8	2-Fluorobiphenyl	48%		39-124%
1718-51-0	Terphenyl-d14	56%		36-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070300		
Lab Sample ID:	JC88412-5	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D	**Percent Solids:**	87.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF151109.D	1	05/22/19 15:41	XPL	n/a	n/a	GPF4894
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.4 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	28	5.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	85%		70-116%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070300		
Lab Sample ID:	JC88412-5	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D SW846 3546	**Percent Solids:**	87.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y97528.D	1	05/29/19 07:10	CP	05/28/19 09:45	OP20583	G2Y3706
Run #2							

	Initial Weight	Final Volume
Run #1	10.6 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	109	11	2.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	82%		18-132%
438-22-2	5a-Androstane	68%		22-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070300		
Lab Sample ID:	JC88412-5	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
		Percent Solids:	87.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	10400	60	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Antimony	< 2.4	2.4	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Arsenic	60.3	2.4	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Barium	< 24	24	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Beryllium	< 0.24	0.24	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cadmium	< 0.60	0.60	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Calcium	1070	600	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Chromium	28.9	1.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cobalt	8.6	6.0	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Copper	35.4	3.0	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Iron	21400	60	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Lead	16.9	2.4	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Magnesium	4190	600	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Manganese	462	1.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Mercury	< 0.036	0.036	mg/kg	1	05/21/19	05/21/19	LL	SW846 7471B [1]	SW846 7471B [3]
Nickel	25.2	4.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Potassium	< 1200	1200	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Selenium	< 2.4	2.4	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Silver	< 0.60	0.60	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Sodium	< 1200	1200	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Thallium	< 1.2	1.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Vanadium	21.1	6.0	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Zinc	157	6.0	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA46758
(2) Instrument QC Batch: MA46773
(3) Prep QC Batch: MP15219
(4) Prep QC Batch: MP15223

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS070400		
Lab Sample ID:	JC88412-6	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	90.0
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C152150.D	1	05/21/19 13:06	PS	n/a	n/a	V3C6833
Run #2							

	Initial Weight
Run #1	4.5 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	12	5.0	ug/kg	
71-43-2	Benzene	ND	0.62	0.56	ug/kg	
108-86-1	Bromobenzene	ND	6.2	0.68	ug/kg	
74-97-5	Bromochloromethane	ND	6.2	0.69	ug/kg	
75-27-4	Bromodichloromethane	ND	2.5	0.55	ug/kg	
75-25-2	Bromoform	ND	6.2	0.71	ug/kg	
74-83-9	Bromomethane	ND	6.2	1.2	ug/kg	
78-93-3	2-Butanone (MEK)	ND	12	4.6	ug/kg	
104-51-8	n-Butylbenzene	ND	2.5	0.50	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.5	0.53	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.5	0.62	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.5	0.76	ug/kg	
108-90-7	Chlorobenzene	ND	2.5	0.57	ug/kg	
75-00-3	Chloroethane	ND	6.2	0.73	ug/kg	
67-66-3	Chloroform	ND	2.5	0.60	ug/kg	
74-87-3	Chloromethane	ND	6.2	2.4	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.5	0.67	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.5	0.69	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	1.0	ug/kg	
124-48-1	Dibromochloromethane	ND	2.5	0.69	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.2	0.52	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.2	0.67	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.2	0.61	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.2	0.61	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.2	0.90	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.2	0.61	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.2	0.58	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.2	0.81	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.2	1.0	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.2	0.75	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.5	0.58	ug/kg	
142-28-9	1,3-Dichloropropane	ND	2.5	0.64	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070400		
Lab Sample ID:	JC88412-6	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	90.0
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
594-20-7	2,2-Dichloropropane	ND	2.5	0.53	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.5	0.67	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.5	0.59	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.5	0.56	ug/kg	
100-41-4	Ethylbenzene	ND	1.2	0.68	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.2	0.81	ug/kg	
98-82-8	Isopropylbenzene	ND	2.5	0.86	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.5	0.49	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.2	0.58	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	6.2	2.8	ug/kg	
74-95-3	Methylene bromide	ND	6.2	0.65	ug/kg	
75-09-2	Methylene chloride	ND	6.2	1.2	ug/kg	
91-20-3	Naphthalene	ND	6.2	0.63	ug/kg	
103-65-1	n-Propylbenzene	ND	2.5	0.58	ug/kg	
100-42-5	Styrene	ND	2.5	0.71	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.5	0.70	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.5	0.74	ug/kg	
127-18-4	Tetrachloroethene	ND	2.5	0.72	ug/kg	
108-88-3	Toluene	ND	1.2	0.65	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.2	2.4	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.2	1.9	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.60	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.5	0.68	ug/kg	
79-01-6	Trichloroethene	ND	1.2	0.94	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.2	0.84	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.2	0.69	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.78	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.53	ug/kg	
75-01-4	Vinyl chloride	ND	2.5	0.59	ug/kg	
	m,p-Xylene	ND	1.2	1.1	ug/kg	
95-47-6	o-Xylene	ND	1.2	0.72	ug/kg	
1330-20-7	Xylene (total)	ND	1.2	0.72	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		75-127%
17060-07-0	1,2-Dichloroethane-D4	105%		75-130%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	101%		79-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070400		
Lab Sample ID:	JC88412-6	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	90.0
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5P60218.D	1	06/02/19 17:33	CS	05/30/19 17:50	OP20619	E5P2838
Run #2 [b]	F185014.D	1	06/07/19 10:21	CS	06/06/19 18:30	OP20737	EF7949

	Initial Weight	Final Volume
Run #1	30.9 g	1.0 ml
Run #2	31.6 g	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	36	12	ug/kg	
208-96-8	Acenaphthylene	ND	36	18	ug/kg	
120-12-7	Anthracene	ND	36	22	ug/kg	
56-55-3	Benzo(a)anthracene	ND	36	10	ug/kg	
50-32-8	Benzo(a)pyrene	ND	36	16	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	36	16	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	36	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	36	17	ug/kg	
218-01-9	Chrysene	ND	36	11	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	36	16	ug/kg	
206-44-0	Fluoranthene	ND	36	16	ug/kg	
86-73-7	Fluorene	ND	36	17	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	36	17	ug/kg	
91-20-3	Naphthalene	ND	36	10	ug/kg	
85-01-8	Phenanthrene	ND	36	12	ug/kg	
129-00-0	Pyrene	ND	36	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	20% [c]	66%	26-134%
321-60-8	2-Fluorobiphenyl	17% [c]	72%	39-124%
1718-51-0	Terphenyl-d14	23% [c]	80%	36-134%

(a) Surrogate recoveries outside in house control limits biased low. The results confirmed by re-extraction outside the holding time.
(b) Sample extracted outside the holding time. Confirmation run.
(c) Outside in house control limits biased low. The results confirmed by re-extraction outside the holding time.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070400		
Lab Sample ID:	JC88412-6	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D	**Percent Solids:**	90.0
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF151110.D	1	05/22/19 16:07	XPL	n/a	n/a	GPF4894
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.9 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	24	4.8	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	88%		70-116%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070400		
Lab Sample ID:	JC88412-6	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8082A SW846 3546	**Percent Solids:**	90.0
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G180347.D	1	05/30/19 00:32	TR	05/29/19 06:00	OP20630	G2G4668
Run #2							

	Initial Weight	Final Volume
Run #1	16.5 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	34	16	ug/kg	
11104-28-2	Aroclor 1221	ND	34	17	ug/kg	
11141-16-5	Aroclor 1232	ND	34	26	ug/kg	
53469-21-9	Aroclor 1242	ND	34	14	ug/kg	
12672-29-6	Aroclor 1248	ND	34	30	ug/kg	
11097-69-1	Aroclor 1254	ND	34	18	ug/kg	
11096-82-5	Aroclor 1260	ND	34	14	ug/kg	
11100-14-4	Aroclor 1268	ND	34	14	ug/kg	
37324-23-5	Aroclor 1262	ND	34	22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	90%		31-146%
877-09-8	Tetrachloro-m-xylene	84%		31-146%
2051-24-3	Decachlorobiphenyl	81%		17-164%
2051-24-3	Decachlorobiphenyl	51%		17-164%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SS070400
Lab Sample ID: JC88412-6
Matrix: SO - Soil
Method: SW846 8015D SW846 3546
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Date Sampled: 05/16/19
Date Received: 05/17/19
Percent Solids: 90.0

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y97529.D	1	05/29/19 07:44	CP	05/28/19 09:45	OP20583	G2Y3706
Run #2							

	Initial Weight	Final Volume
Run #1	11.6 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	9.6	1.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	66%		18-132%
438-22-2	5a-Androstane	66%		22-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS070400		
Lab Sample ID:	JC88412-6	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
		Percent Solids:	90.0
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	18200	54	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [6]
Antimony [a]	< 4.3	4.3	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [6]
Arsenic [a]	12.4	4.3	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [6]
Barium	61.8	22	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [6]
Beryllium	0.24	0.22	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [6]
Cadmium	< 0.54	0.54	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [6]
Calcium	3780	540	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [6]
Chromium	45.1	1.1	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [6]
Cobalt	17.5	5.4	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [6]
Copper [a]	57.4	5.4	mg/kg	2	05/21/19	05/29/19	ND	SW846 6010D [4]	SW846 3050B [6]
Iron	37400	110	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [6]
Lead	15.8	2.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [6]
Magnesium	12500	540	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [6]
Manganese [a]	692	3.2	mg/kg	2	05/21/19	05/29/19	ND	SW846 6010D [4]	SW846 3050B [6]
Mercury	< 0.033	0.033	mg/kg	1	05/21/19	05/21/19	LL	SW846 7471B [1]	SW846 7471B [5]
Nickel	41.5	4.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [6]
Potassium	1530	1100	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [6]
Selenium [a]	< 4.3	4.3	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [6]
Silver [a]	< 1.1	1.1	mg/kg	2	05/21/19	05/29/19	ND	SW846 6010D [4]	SW846 3050B [6]
Sodium	< 1100	1100	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [6]
Thallium [a]	< 2.2	2.2	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [6]
Vanadium	56.8	5.4	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [6]
Zinc	249	5.4	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [6]

(1) Instrument QC Batch: MA46758
(2) Instrument QC Batch: MA46773
(3) Instrument QC Batch: MA46796
(4) Instrument QC Batch: MA46812
(5) Prep QC Batch: MP15219
(6) Prep QC Batch: MP15223

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SD140100		
Lab Sample ID:	JC88412-7	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	87.6
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C152151.D	1	05/21/19 13:29	PS	n/a	n/a	V3C6833
Run #2							

	Initial Weight
Run #1	5.5 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	4.2	ug/kg	
71-43-2	Benzene	ND	0.52	0.47	ug/kg	
108-86-1	Bromobenzene	ND	5.2	0.57	ug/kg	
74-97-5	Bromochloromethane	ND	5.2	0.58	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.46	ug/kg	
75-25-2	Bromoform	ND	5.2	0.60	ug/kg	
74-83-9	Bromomethane	ND	5.2	1.0	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	3.9	ug/kg	
104-51-8	n-Butylbenzene	ND	2.1	0.42	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.1	0.44	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.1	0.52	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	0.64	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.48	ug/kg	
75-00-3	Chloroethane	ND	5.2	0.61	ug/kg	
67-66-3	Chloroform	ND	2.1	0.51	ug/kg	
74-87-3	Chloromethane	ND	5.2	2.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.1	0.56	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	0.58	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	0.87	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	0.58	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.44	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.57	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.51	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.2	0.75	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.0	0.51	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.49	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.0	0.68	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.87	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.63	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.49	ug/kg	
142-28-9	1,3-Dichloropropane	ND	2.1	0.54	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140100		
Lab Sample ID:	JC88412-7	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	87.6
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
594-20-7	2,2-Dichloropropane	ND	2.1	0.45	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.1	0.56	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.49	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.47	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.57	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.2	0.68	ug/kg	
98-82-8	Isopropylbenzene	ND	2.1	0.72	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.1	0.41	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.49	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.2	2.4	ug/kg	
74-95-3	Methylene bromide	ND	5.2	0.55	ug/kg	
75-09-2	Methylene chloride	ND	5.2	1.0	ug/kg	
91-20-3	Naphthalene	ND	5.2	0.53	ug/kg	
103-65-1	n-Propylbenzene	ND	2.1	0.49	ug/kg	
100-42-5	Styrene	ND	2.1	0.60	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.1	0.59	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.62	ug/kg	
127-18-4	Tetrachloroethene	ND	2.1	0.60	ug/kg	
108-88-3	Toluene	ND	1.0	0.54	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.2	2.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.2	1.6	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.50	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.57	ug/kg	
79-01-6	Trichloroethene	ND	1.0	0.79	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.2	0.71	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.2	0.58	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.66	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.45	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.50	ug/kg	
	m,p-Xylene	ND	1.0	0.93	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.61	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.61	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		75-127%
17060-07-0	1,2-Dichloroethane-D4	105%		75-130%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	102%		79-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140100		
Lab Sample ID:	JC88412-7	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	87.6
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5P60320.D	1	06/04/19 21:55	CC	05/30/19 17:50	OP20619	E5P2841
Run #2							

	Initial Weight	Final Volume
Run #1	31.4 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid [a]	ND	730	60	ug/kg	
95-57-8	2-Chlorophenol	ND	73	18	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	180	22	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	180	31	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	180	65	ug/kg	
51-28-5	2,4-Dinitrophenol [a]	ND	180	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	180	39	ug/kg	
95-48-7	2-Methylphenol	ND	73	23	ug/kg	
	3&4-Methylphenol	ND	73	30	ug/kg	
88-75-5	2-Nitrophenol [a]	ND	180	24	ug/kg	
100-02-7	4-Nitrophenol [a]	ND	360	97	ug/kg	
87-86-5	Pentachlorophenol	ND	150	34	ug/kg	
108-95-2	Phenol	ND	73	19	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	180	27	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	180	22	ug/kg	
83-32-9	Acenaphthene	ND	36	13	ug/kg	
208-96-8	Acenaphthylene	ND	36	18	ug/kg	
62-53-3	Aniline	ND	73	16	ug/kg	
120-12-7	Anthracene	ND	36	22	ug/kg	
92-87-5	Benzidine [a]	ND	360	63	ug/kg	
56-55-3	Benzo(a)anthracene	15.9	36	10	ug/kg	J
50-32-8	Benzo(a)pyrene	ND	36	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	18.7	36	16	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	ND	36	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	36	17	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	73	14	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	73	8.9	ug/kg	
100-51-6	Benzyl Alcohol	ND	73	13	ug/kg	
91-58-7	2-Chloronaphthalene	ND	73	8.7	ug/kg	
106-47-8	4-Chloroaniline	ND	180	13	ug/kg	
86-74-8	Carbazole	ND	73	5.3	ug/kg	
218-01-9	Chrysene	16.3	36	11	ug/kg	J

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140100		
Lab Sample ID:	JC88412-7	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	87.6
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	73	7.8	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	73	16	ug/kg	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	73	13	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	73	12	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	73	11	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	73	8.3	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	73	7.7	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	73	8.8	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	36	11	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	36	18	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	73	30	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	36	16	ug/kg	
132-64-9	Dibenzofuran	ND	73	15	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	73	5.9	ug/kg	
117-84-0	Di-n-octyl phthalate [a]	ND	73	9.1	ug/kg	
84-66-2	Diethyl phthalate	ND	73	7.7	ug/kg	
131-11-3	Dimethyl phthalate	ND	73	6.5	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	69.7	73	8.5	ug/kg	J
206-44-0	Fluoranthene	17.6	36	16	ug/kg	J
86-73-7	Fluorene	ND	36	17	ug/kg	
118-74-1	Hexachlorobenzene	ND	73	9.2	ug/kg	
87-68-3	Hexachlorobutadiene	ND	36	15	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	360	14	ug/kg	
67-72-1	Hexachloroethane	ND	180	18	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	36	17	ug/kg	
78-59-1	Isophorone	ND	73	7.8	ug/kg	
90-12-0	1-Methylnaphthalene	ND	36	7.1	ug/kg	
91-57-6	2-Methylnaphthalene	ND	36	8.2	ug/kg	
88-74-4	2-Nitroaniline [a]	ND	180	8.6	ug/kg	
99-09-2	3-Nitroaniline	ND	180	9.1	ug/kg	
100-01-6	4-Nitroaniline	ND	180	9.4	ug/kg	
91-20-3	Naphthalene	ND	36	10	ug/kg	
98-95-3	Nitrobenzene	ND	73	14	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	73	13	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	73	11	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	180	13	ug/kg	
85-01-8	Phenanthrene	ND	36	12	ug/kg	
129-00-0	Pyrene	16.2	36	12	ug/kg	J
110-86-1	Pyridine	ND	73	12	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	73	9.5	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140100		
Lab Sample ID:	JC88412-7	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	87.6
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	54%		23-115%
4165-62-2	Phenol-d5	57%		27-114%
118-79-6	2,4,6-Tribromophenol	57%		19-152%
4165-60-0	Nitrobenzene-d5	72%		26-134%
321-60-8	2-Fluorobiphenyl	62%		39-124%
1718-51-0	Terphenyl-d14	66%		36-134%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140100		
Lab Sample ID:	JC88412-7	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D	**Percent Solids:**	87.6
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF151111.D	1	05/22/19 16:33	XPL	n/a	n/a	GPF4894
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.5 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	22	4.4	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	89%		70-116%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140100		
Lab Sample ID:	JC88412-7	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8151A SW846 3546	**Percent Solids:**	87.6
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G123052.D	1	05/23/19 20:33	VDT	05/23/19 11:30	OP20581	G3G4311
Run #2							

	Initial Weight	Final Volume
Run #1	16.1 g	5.0 ml
Run #2		

Herbicide List

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	18	4.5	ug/kg	
93-72-1	2,4,5-TP (Silvex)	ND	3.5	3.2	ug/kg	
93-76-5	2,4,5-T	ND	3.5	2.9	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	49%		10-159%
19719-28-9	2,4-DCAA	42%		10-159%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140100		
Lab Sample ID:	JC88412-7	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8081B SW846 3546	**Percent Solids:**	87.6
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4G959643.D	1	05/30/19 11:23	MH	05/29/19 06:00	OP20631	G4G2766
Run #2							

	Initial Weight	Final Volume
Run #1	16.7 g	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.68	0.56	ug/kg	
319-84-6	alpha-BHC	ND	0.68	0.56	ug/kg	
319-85-7	beta-BHC	ND	0.68	0.62	ug/kg	
319-86-8	delta-BHC	ND	0.68	0.66	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	0.68	0.50	ug/kg	
5103-71-9	alpha-Chlordane [a]	ND	0.68	0.55	ug/kg	
5103-74-2	gamma-Chlordane [a]	ND	0.68	0.31	ug/kg	
60-57-1	Dieldrin	ND	0.68	0.47	ug/kg	
72-54-8	4,4'-DDD	ND	0.68	0.63	ug/kg	
72-55-9	4,4'-DDE	ND	0.68	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	0.68	0.61	ug/kg	
72-20-8	Endrin	ND	0.68	0.53	ug/kg	
1031-07-8	Endosulfan sulfate [a]	ND	0.68	0.53	ug/kg	
7421-93-4	Endrin aldehyde	ND	0.68	0.39	ug/kg	
959-98-8	Endosulfan-I	ND	0.68	0.39	ug/kg	
33213-65-9	Endosulfan-II	ND	0.68	0.43	ug/kg	
76-44-8	Heptachlor	ND	0.68	0.59	ug/kg	
1024-57-3	Heptachlor epoxide [a]	ND	0.68	0.48	ug/kg	
72-43-5	Methoxychlor	ND	1.4	0.54	ug/kg	
53494-70-5	Endrin ketone [a]	ND	0.68	0.49	ug/kg	
8001-35-2	Toxaphene	ND	17	16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	55%		25-135%
877-09-8	Tetrachloro-m-xylene	52%		25-135%
2051-24-3	Decachlorobiphenyl	43%		10-156%
2051-24-3	Decachlorobiphenyl	46%		10-156%

(a) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140100		
Lab Sample ID:	JC88412-7	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8082A SW846 3546	**Percent Solids:**	87.6
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G180347A.D	1	05/30/19 00:49	TR	05/29/19 06:00	OP20630	G2G4668
Run #2							

	Initial Weight	Final Volume
Run #1	16.7 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	34	16	ug/kg	
11104-28-2	Aroclor 1221	ND	34	17	ug/kg	
11141-16-5	Aroclor 1232	ND	34	26	ug/kg	
53469-21-9	Aroclor 1242	ND	34	14	ug/kg	
12672-29-6	Aroclor 1248	ND	34	30	ug/kg	
11097-69-1	Aroclor 1254	ND	34	18	ug/kg	
11096-82-5	Aroclor 1260	ND	34	15	ug/kg	
11100-14-4	Aroclor 1268	ND	34	14	ug/kg	
37324-23-5	Aroclor 1262	ND	34	22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	67%		31-146%
877-09-8	Tetrachloro-m-xylene	65%		31-146%
2051-24-3	Decachlorobiphenyl	65%		17-164%
2051-24-3	Decachlorobiphenyl	42%		17-164%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140100		
Lab Sample ID:	JC88412-7	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D SW846 3546	**Percent Solids:**	87.6
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y97530.D	1	05/29/19 08:18	CP	05/28/19 09:45	OP20583	G2Y3706
Run #2							

	Initial Weight	Final Volume
Run #1	11.4 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	22.1	10	1.8	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	68%		18-132%
438-22-2	5a-Androstane	65%		22-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140100		
Lab Sample ID:	JC88412-7	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
		Percent Solids:	87.6
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	6580	58	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Antimony	< 2.3	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Arsenic	4.8	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Barium	< 23	23	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Beryllium	< 0.23	0.23	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cadmium	< 0.58	0.58	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Calcium	1080	580	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Chromium	11.6	1.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cobalt	< 5.8	5.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Copper	11.6	2.9	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Iron	15700	58	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Lead	6.6	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Magnesium	3190	580	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Manganese	285	1.7	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Mercury	< 0.031	0.031	mg/kg	1	05/21/19	05/21/19	LL	SW846 7471B [1]	SW846 7471B [3]
Nickel	14.0	4.7	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Potassium	< 1200	1200	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Selenium	< 2.3	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Silver	< 0.58	0.58	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Sodium	< 1200	1200	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Thallium	< 1.2	1.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Vanadium	15.7	5.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Zinc	119	5.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA46758
(2) Instrument QC Batch: MA46773
(3) Prep QC Batch: MP15219
(4) Prep QC Batch: MP15223

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SD140500		
Lab Sample ID:	JC88412-8	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	90.7
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C152143.D	1	05/21/19 10:24	PS	n/a	n/a	V3C6833
Run #2							

	Initial Weight
Run #1	7.1 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	5.3	7.8	3.1	ug/kg	J
71-43-2	Benzene	ND	0.39	0.35	ug/kg	
108-86-1	Bromobenzene	ND	3.9	0.43	ug/kg	
74-97-5	Bromochloromethane	ND	3.9	0.43	ug/kg	
75-27-4	Bromodichloromethane	ND	1.6	0.34	ug/kg	
75-25-2	Bromoform	ND	3.9	0.45	ug/kg	
74-83-9	Bromomethane	ND	3.9	0.77	ug/kg	
78-93-3	2-Butanone (MEK)	ND	7.8	2.9	ug/kg	
104-51-8	n-Butylbenzene	ND	1.6	0.32	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.6	0.33	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.6	0.39	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.6	0.48	ug/kg	
108-90-7	Chlorobenzene	ND	1.6	0.36	ug/kg	
75-00-3	Chloroethane	ND	3.9	0.46	ug/kg	
67-66-3	Chloroform	ND	1.6	0.38	ug/kg	
74-87-3	Chloromethane	ND	3.9	1.5	ug/kg	
95-49-8	o-Chlorotoluene	ND	1.6	0.42	ug/kg	
106-43-4	p-Chlorotoluene	ND	1.6	0.44	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.6	0.65	ug/kg	
124-48-1	Dibromochloromethane	ND	1.6	0.43	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.78	0.33	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.78	0.42	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.78	0.39	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.78	0.38	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	3.9	0.56	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.78	0.38	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.78	0.36	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.78	0.51	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.78	0.65	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.78	0.47	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.6	0.37	ug/kg	
142-28-9	1,3-Dichloropropane	ND	1.6	0.40	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140500		
Lab Sample ID:	JC88412-8	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	90.7
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
594-20-7	2,2-Dichloropropane	ND	1.6	0.33	ug/kg	
563-58-6	1,1-Dichloropropene	ND	1.6	0.42	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.6	0.37	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.6	0.35	ug/kg	
100-41-4	Ethylbenzene	ND	0.78	0.43	ug/kg	
87-68-3	Hexachlorobutadiene	ND	3.9	0.51	ug/kg	
98-82-8	Isopropylbenzene	ND	1.6	0.54	ug/kg	
99-87-6	p-Isopropyltoluene	ND	1.6	0.31	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.78	0.36	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	3.9	1.8	ug/kg	
74-95-3	Methylene bromide	ND	3.9	0.41	ug/kg	
75-09-2	Methylene chloride	ND	3.9	0.77	ug/kg	
91-20-3	Naphthalene	ND	3.9	0.39	ug/kg	
103-65-1	n-Propylbenzene	ND	1.6	0.36	ug/kg	
100-42-5	Styrene	ND	1.6	0.45	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.6	0.44	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.6	0.47	ug/kg	
127-18-4	Tetrachloroethene	ND	1.6	0.45	ug/kg	
108-88-3	Toluene	ND	0.78	0.41	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	3.9	1.5	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	3.9	1.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.6	0.38	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.6	0.43	ug/kg	
79-01-6	Trichloroethene	ND	0.78	0.59	ug/kg	
75-69-4	Trichlorofluoromethane	ND	3.9	0.53	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	3.9	0.43	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	1.6	0.49	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	1.6	0.33	ug/kg	
75-01-4	Vinyl chloride	ND	1.6	0.37	ug/kg	
	m,p-Xylene	ND	0.78	0.70	ug/kg	
95-47-6	o-Xylene	ND	0.78	0.45	ug/kg	
1330-20-7	Xylene (total)	ND	0.78	0.45	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		75-127%
17060-07-0	1,2-Dichloroethane-D4	104%		75-130%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	103%		79-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140500		
Lab Sample ID:	JC88412-8	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	90.7
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5P60317.D	1	06/04/19 20:42	CC	05/30/19 17:50	OP20619	E5P2841
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid [a]	ND	730	60	ug/kg	
95-57-8	2-Chlorophenol	ND	73	18	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	180	22	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	180	31	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	180	65	ug/kg	
51-28-5	2,4-Dinitrophenol [a]	ND	180	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	180	39	ug/kg	
95-48-7	2-Methylphenol	ND	73	23	ug/kg	
	3&4-Methylphenol	ND	73	30	ug/kg	
88-75-5	2-Nitrophenol [a]	ND	180	24	ug/kg	
100-02-7	4-Nitrophenol [a]	ND	360	97	ug/kg	
87-86-5	Pentachlorophenol	ND	150	34	ug/kg	
108-95-2	Phenol	ND	73	19	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	180	27	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	180	22	ug/kg	
83-32-9	Acenaphthene	ND	36	13	ug/kg	
208-96-8	Acenaphthylene	ND	36	18	ug/kg	
62-53-3	Aniline	ND	73	16	ug/kg	
120-12-7	Anthracene	ND	36	22	ug/kg	
92-87-5	Benzidine [a]	ND	360	63	ug/kg	
56-55-3	Benzo(a)anthracene	ND	36	10	ug/kg	
50-32-8	Benzo(a)pyrene	ND	36	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	36	16	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	36	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	36	17	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	73	14	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	73	8.9	ug/kg	
100-51-6	Benzyl Alcohol	ND	73	13	ug/kg	
91-58-7	2-Chloronaphthalene	ND	73	8.7	ug/kg	
106-47-8	4-Chloroaniline	ND	180	13	ug/kg	
86-74-8	Carbazole	ND	73	5.3	ug/kg	
218-01-9	Chrysene	ND	36	11	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140500		
Lab Sample ID:	JC88412-8	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	90.7
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	73	7.8	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	73	16	ug/kg	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	73	13	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	73	12	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	73	11	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	73	8.3	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	73	7.8	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	73	8.8	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	36	11	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	36	18	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	73	30	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	36	16	ug/kg	
132-64-9	Dibenzofuran	ND	73	15	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	73	5.9	ug/kg	
117-84-0	Di-n-octyl phthalate [a]	ND	73	9.1	ug/kg	
84-66-2	Diethyl phthalate	ND	73	7.8	ug/kg	
131-11-3	Dimethyl phthalate	ND	73	6.5	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	73	8.5	ug/kg	
206-44-0	Fluoranthene	ND	36	16	ug/kg	
86-73-7	Fluorene	ND	36	17	ug/kg	
118-74-1	Hexachlorobenzene	ND	73	9.2	ug/kg	
87-68-3	Hexachlorobutadiene	ND	36	15	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	360	14	ug/kg	
67-72-1	Hexachloroethane	ND	180	18	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	36	17	ug/kg	
78-59-1	Isophorone	ND	73	7.8	ug/kg	
90-12-0	1-Methylnaphthalene	ND	36	7.1	ug/kg	
91-57-6	2-Methylnaphthalene	ND	36	8.2	ug/kg	
88-74-4	2-Nitroaniline [a]	ND	180	8.6	ug/kg	
99-09-2	3-Nitroaniline	ND	180	9.1	ug/kg	
100-01-6	4-Nitroaniline	ND	180	9.4	ug/kg	
91-20-3	Naphthalene	ND	36	10	ug/kg	
98-95-3	Nitrobenzene	ND	73	14	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	73	13	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	73	11	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	180	13	ug/kg	
85-01-8	Phenanthrene	ND	36	12	ug/kg	
129-00-0	Pyrene	ND	36	12	ug/kg	
110-86-1	Pyridine	ND	73	12	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	73	9.5	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140500		
Lab Sample ID:	JC88412-8	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	90.7
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	54%		23-115%
4165-62-2	Phenol-d5	57%		27-114%
118-79-6	2,4,6-Tribromophenol	67%		19-152%
4165-60-0	Nitrobenzene-d5	78%		26-134%
321-60-8	2-Fluorobiphenyl	61%		39-124%
1718-51-0	Terphenyl-d14	72%		36-134%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140500		
Lab Sample ID:	JC88412-8	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D	**Percent Solids:**	90.7
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF151112.D	1	05/22/19 16:59	XPL	n/a	n/a	GPF4894
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.9 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	20	3.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	87%		70-116%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140500		
Lab Sample ID:	JC88412-8	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8151A SW846 3546	**Percent Solids:**	90.7
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G123053.D	1	05/23/19 21:01	VDT	05/23/19 11:30	OP20581	G3G4311
Run #2							

	Initial Weight	Final Volume
Run #1	15.8 g	5.0 ml
Run #2		

Herbicide List

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	17	4.4	ug/kg	
93-72-1	2,4,5-TP (Silvex)	ND	3.5	3.1	ug/kg	
93-76-5	2,4,5-T	ND	3.5	2.8	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	41%		10-159%
19719-28-9	2,4-DCAA	35%		10-159%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140500		
Lab Sample ID:	JC88412-8	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8081B SW846 3546	**Percent Solids:**	90.7
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4G959644.D	1	05/30/19 11:40	MH	05/29/19 06:00	OP20631	G4G2766
Run #2							

	Initial Weight	Final Volume
Run #1	16.8 g	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.66	0.54	ug/kg	
319-84-6	alpha-BHC	ND	0.66	0.53	ug/kg	
319-85-7	beta-BHC	ND	0.66	0.59	ug/kg	
319-86-8	delta-BHC	ND	0.66	0.63	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	0.66	0.48	ug/kg	
5103-71-9	alpha-Chlordane [a]	ND	0.66	0.53	ug/kg	
5103-74-2	gamma-Chlordane [a]	ND	0.66	0.30	ug/kg	
60-57-1	Dieldrin	ND	0.66	0.45	ug/kg	
72-54-8	4,4'-DDD	ND	0.66	0.60	ug/kg	
72-55-9	4,4'-DDE	ND	0.66	0.58	ug/kg	
50-29-3	4,4'-DDT	ND	0.66	0.58	ug/kg	
72-20-8	Endrin	ND	0.66	0.51	ug/kg	
1031-07-8	Endosulfan sulfate [a]	ND	0.66	0.51	ug/kg	
7421-93-4	Endrin aldehyde	ND	0.66	0.37	ug/kg	
959-98-8	Endosulfan-I	ND	0.66	0.38	ug/kg	
33213-65-9	Endosulfan-II	ND	0.66	0.41	ug/kg	
76-44-8	Heptachlor	ND	0.66	0.57	ug/kg	
1024-57-3	Heptachlor epoxide [a]	ND	0.66	0.46	ug/kg	
72-43-5	Methoxychlor	ND	1.3	0.52	ug/kg	
53494-70-5	Endrin ketone [a]	ND	0.66	0.47	ug/kg	
8001-35-2	Toxaphene	ND	16	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	75%		25-135%
877-09-8	Tetrachloro-m-xylene	74%		25-135%
2051-24-3	Decachlorobiphenyl	55%		10-156%
2051-24-3	Decachlorobiphenyl	62%		10-156%

(a) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140500		
Lab Sample ID:	JC88412-8	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8082A SW846 3546	**Percent Solids:**	90.7
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G180353.D	1	05/30/19 02:14	TR	05/29/19 06:00	OP20630	G2G4668
Run #2							

	Initial Weight	Final Volume
Run #1	16.8 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	33	15	ug/kg	
11104-28-2	Aroclor 1221	ND	33	17	ug/kg	
11141-16-5	Aroclor 1232	ND	33	25	ug/kg	
53469-21-9	Aroclor 1242	ND	33	13	ug/kg	
12672-29-6	Aroclor 1248	ND	33	29	ug/kg	
11097-69-1	Aroclor 1254	ND	33	18	ug/kg	
11096-82-5	Aroclor 1260	ND	33	14	ug/kg	
11100-14-4	Aroclor 1268	ND	33	14	ug/kg	
37324-23-5	Aroclor 1262	ND	33	21	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	94%		31-146%
877-09-8	Tetrachloro-m-xylene	90%		31-146%
2051-24-3	Decachlorobiphenyl	86%		17-164%
2051-24-3	Decachlorobiphenyl	62%		17-164%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140500		
Lab Sample ID:	JC88412-8	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D SW846 3546	**Percent Solids:**	90.7
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y97531.D	1	05/29/19 08:52	CP	05/28/19 09:45	OP20583	G2Y3706
Run #2							

	Initial Weight	Final Volume
Run #1	11.6 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	9.5	1.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	64%		18-132%
438-22-2	5a-Androstane	64%		22-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140500		
Lab Sample ID:	JC88412-8	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
		Percent Solids:	90.7
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	4720	55	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Antimony	< 2.2	2.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Arsenic [a]	6.3	4.4	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [5]
Barium	< 22	22	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Beryllium	< 0.22	0.22	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Cadmium	< 0.55	0.55	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Calcium	632	550	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Chromium	9.1	1.1	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Cobalt	< 5.5	5.5	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Copper [a]	27.1	5.5	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [5]
Iron	24000	110	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [5]
Lead [a]	6.9	4.4	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [5]
Magnesium	2190	550	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Manganese [a]	163	3.3	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [5]
Mercury	< 0.029	0.029	mg/kg	1	05/21/19	05/21/19	LL	SW846 7471B [1]	SW846 7471B [4]
Nickel	15.1	4.4	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Potassium	< 1100	1100	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Selenium [a]	< 4.4	4.4	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [5]
Silver [a]	< 1.1	1.1	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [5]
Sodium	< 1100	1100	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Thallium [a]	< 2.2	2.2	mg/kg	2	05/21/19	05/24/19	ND	SW846 6010D [3]	SW846 3050B [5]
Vanadium	10.1	5.5	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]
Zinc	292	5.5	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [5]

(1) Instrument QC Batch: MA46758
(2) Instrument QC Batch: MA46773
(3) Instrument QC Batch: MA46796
(4) Prep QC Batch: MP15219
(5) Prep QC Batch: MP15223

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SD140600		
Lab Sample ID:	JC88412-9	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	86.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C152152.D	1	05/21/19 13:52	PS	n/a	n/a	V3C6833
Run #2							

	Initial Weight
Run #1	7.1 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	21.0	8.2	3.3	ug/kg	
71-43-2	Benzene	ND	0.41	0.37	ug/kg	
108-86-1	Bromobenzene	ND	4.1	0.45	ug/kg	
74-97-5	Bromochloromethane	ND	4.1	0.46	ug/kg	
75-27-4	Bromodichloromethane	ND	1.6	0.36	ug/kg	
75-25-2	Bromoform	ND	4.1	0.47	ug/kg	
74-83-9	Bromomethane	ND	4.1	0.81	ug/kg	
78-93-3	2-Butanone (MEK)	ND	8.2	3.1	ug/kg	
104-51-8	n-Butylbenzene	ND	1.6	0.33	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.6	0.35	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.6	0.41	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.6	0.51	ug/kg	
108-90-7	Chlorobenzene	ND	1.6	0.38	ug/kg	
75-00-3	Chloroethane	ND	4.1	0.48	ug/kg	
67-66-3	Chloroform	ND	1.6	0.40	ug/kg	
74-87-3	Chloromethane	ND	4.1	1.6	ug/kg	
95-49-8	o-Chlorotoluene	ND	1.6	0.44	ug/kg	
106-43-4	p-Chlorotoluene	ND	1.6	0.46	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.6	0.68	ug/kg	
124-48-1	Dibromochloromethane	ND	1.6	0.46	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.82	0.34	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.82	0.45	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.82	0.41	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.82	0.40	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.1	0.59	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.82	0.40	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.82	0.38	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.82	0.54	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.82	0.69	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	0.50	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.6	0.39	ug/kg	
142-28-9	1,3-Dichloropropane	ND	1.6	0.43	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140600		
Lab Sample ID:	JC88412-9	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	86.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
594-20-7	2,2-Dichloropropane	ND	1.6	0.35	ug/kg	
563-58-6	1,1-Dichloropropene	ND	1.6	0.44	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.6	0.39	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.6	0.37	ug/kg	
100-41-4	Ethylbenzene	ND	0.82	0.45	ug/kg	
87-68-3	Hexachlorobutadiene	ND	4.1	0.54	ug/kg	
98-82-8	Isopropylbenzene	ND	1.6	0.57	ug/kg	
99-87-6	p-Isopropyltoluene	ND	1.6	0.32	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.82	0.38	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.1	1.9	ug/kg	
74-95-3	Methylene bromide	ND	4.1	0.43	ug/kg	
75-09-2	Methylene chloride	ND	4.1	0.81	ug/kg	
91-20-3	Naphthalene	ND	4.1	0.42	ug/kg	
103-65-1	n-Propylbenzene	ND	1.6	0.38	ug/kg	
100-42-5	Styrene	ND	1.6	0.47	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.6	0.47	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.6	0.49	ug/kg	
127-18-4	Tetrachloroethene	ND	1.6	0.47	ug/kg	
108-88-3	Toluene	ND	0.82	0.43	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.1	1.6	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.1	1.3	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.6	0.40	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.6	0.45	ug/kg	
79-01-6	Trichloroethene	ND	0.82	0.62	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.1	0.56	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	4.1	0.45	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	1.6	0.52	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	1.6	0.35	ug/kg	
75-01-4	Vinyl chloride	ND	1.6	0.39	ug/kg	
	m,p-Xylene	ND	0.82	0.73	ug/kg	
95-47-6	o-Xylene	ND	0.82	0.48	ug/kg	
1330-20-7	Xylene (total)	ND	0.82	0.48	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		75-127%
17060-07-0	1,2-Dichloroethane-D4	101%		75-130%
2037-26-5	Toluene-D8	105%		80-120%
460-00-4	4-Bromofluorobenzene	110%		79-127%

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140600		
Lab Sample ID:	JC88412-9	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	86.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5P60312.D	1	06/04/19 18:42	CC	05/30/19 17:50	OP20619	E5P2841
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid [a]	ND	770	63	ug/kg	
95-57-8	2-Chlorophenol	ND	77	19	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	190	23	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	190	33	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	190	68	ug/kg	
51-28-5	2,4-Dinitrophenol [a]	ND	190	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	190	41	ug/kg	
95-48-7	2-Methylphenol	ND	77	24	ug/kg	
	3&4-Methylphenol	ND	77	32	ug/kg	
88-75-5	2-Nitrophenol [a]	ND	190	25	ug/kg	
100-02-7	4-Nitrophenol [a]	ND	380	100	ug/kg	
87-86-5	Pentachlorophenol	ND	150	36	ug/kg	
108-95-2	Phenol	ND	77	20	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	190	29	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	190	23	ug/kg	
83-32-9	Acenaphthene	ND	38	13	ug/kg	
208-96-8	Acenaphthylene	ND	38	19	ug/kg	
62-53-3	Aniline	ND	77	17	ug/kg	
120-12-7	Anthracene	ND	38	23	ug/kg	
92-87-5	Benzidine [a]	ND	380	67	ug/kg	
56-55-3	Benzo(a)anthracene	ND	38	11	ug/kg	
50-32-8	Benzo(a)pyrene	ND	38	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	38	17	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	38	19	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	38	18	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	77	15	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	77	9.4	ug/kg	
100-51-6	Benzyl Alcohol	ND	77	14	ug/kg	
91-58-7	2-Chloronaphthalene	ND	77	9.1	ug/kg	
106-47-8	4-Chloroaniline	ND	190	14	ug/kg	
86-74-8	Carbazole	ND	77	5.6	ug/kg	
218-01-9	Chrysene	ND	38	12	ug/kg	

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140600		
Lab Sample ID:	JC88412-9	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	86.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	77	8.2	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	77	17	ug/kg	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	77	14	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	77	12	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	77	11	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	77	8.7	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	77	8.2	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	77	9.3	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	38	12	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	38	19	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	77	32	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	38	17	ug/kg	
132-64-9	Dibenzofuran	ND	77	16	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	77	6.2	ug/kg	
117-84-0	Di-n-octyl phthalate [a]	ND	77	9.5	ug/kg	
84-66-2	Diethyl phthalate	ND	77	8.2	ug/kg	
131-11-3	Dimethyl phthalate	ND	77	6.8	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	77	9.0	ug/kg	
206-44-0	Fluoranthene	ND	38	17	ug/kg	
86-73-7	Fluorene	ND	38	18	ug/kg	
118-74-1	Hexachlorobenzene	ND	77	9.7	ug/kg	
87-68-3	Hexachlorobutadiene	ND	38	15	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	380	15	ug/kg	
67-72-1	Hexachloroethane	ND	190	19	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	38	18	ug/kg	
78-59-1	Isophorone	ND	77	8.2	ug/kg	
90-12-0	1-Methylnaphthalene	ND	38	7.5	ug/kg	
91-57-6	2-Methylnaphthalene	ND	38	8.7	ug/kg	
88-74-4	2-Nitroaniline [a]	ND	190	9.0	ug/kg	
99-09-2	3-Nitroaniline	ND	190	9.6	ug/kg	
100-01-6	4-Nitroaniline	ND	190	9.9	ug/kg	
91-20-3	Naphthalene	ND	38	11	ug/kg	
98-95-3	Nitrobenzene	ND	77	15	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	77	14	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	77	11	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	190	14	ug/kg	
85-01-8	Phenanthrene	ND	38	13	ug/kg	
129-00-0	Pyrene	ND	38	12	ug/kg	
110-86-1	Pyridine	ND	77	13	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	77	10	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140600		
Lab Sample ID:	JC88412-9	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	86.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	54%		23-115%
4165-62-2	Phenol-d5	59%		27-114%
118-79-6	2,4,6-Tribromophenol	53%		19-152%
4165-60-0	Nitrobenzene-d5	80%		26-134%
321-60-8	2-Fluorobiphenyl	60%		39-124%
1718-51-0	Terphenyl-d14	72%		36-134%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140600		
Lab Sample ID:	JC88412-9	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D	**Percent Solids:**	86.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF151099.D	1	05/22/19 11:19	XPL	n/a	n/a	GPF4894
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.9 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	21	4.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	90%		70-116%

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140600		
Lab Sample ID:	JC88412-9	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8151A SW846 3546	**Percent Solids:**	86.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G123054.D	1	05/23/19 21:30	VDT	05/23/19 11:30	OP20581	G3G4311
Run #2							

	Initial Weight	Final Volume
Run #1	15.1 g	5.0 ml
Run #2		

Herbicide List

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	19	4.9	ug/kg	
93-72-1	2,4,5-TP (Silvex)	ND	3.8	3.5	ug/kg	
93-76-5	2,4,5-T	ND	3.8	3.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	49%		10-159%
19719-28-9	2,4-DCAA	42%		10-159%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
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J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140600		
Lab Sample ID:	JC88412-9	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8081B SW846 3546	**Percent Solids:**	86.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4G959645.D	1	05/30/19 11:57	MH	05/29/19 06:00	OP20631	G4G2766
Run #2							

	Initial Weight	Final Volume
Run #1	15.8 g	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.74	0.61	ug/kg	
319-84-6	alpha-BHC	ND	0.74	0.60	ug/kg	
319-85-7	beta-BHC	ND	0.74	0.66	ug/kg	
319-86-8	delta-BHC	ND	0.74	0.71	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	0.74	0.54	ug/kg	
5103-71-9	alpha-Chlordane [a]	ND	0.74	0.59	ug/kg	
5103-74-2	gamma-Chlordane [a]	ND	0.74	0.33	ug/kg	
60-57-1	Dieldrin	ND	0.74	0.51	ug/kg	
72-54-8	4,4'-DDD	ND	0.74	0.67	ug/kg	
72-55-9	4,4'-DDE	ND	0.74	0.64	ug/kg	
50-29-3	4,4'-DDT	ND	0.74	0.65	ug/kg	
72-20-8	Endrin	ND	0.74	0.57	ug/kg	
1031-07-8	Endosulfan sulfate [a]	ND	0.74	0.57	ug/kg	
7421-93-4	Endrin aldehyde	ND	0.74	0.42	ug/kg	
959-98-8	Endosulfan-I	ND	0.74	0.42	ug/kg	
33213-65-9	Endosulfan-II	ND	0.74	0.46	ug/kg	
76-44-8	Heptachlor	ND	0.74	0.63	ug/kg	
1024-57-3	Heptachlor epoxide [a]	ND	0.74	0.52	ug/kg	
72-43-5	Methoxychlor	ND	1.5	0.58	ug/kg	
53494-70-5	Endrin ketone [a]	ND	0.74	0.53	ug/kg	
8001-35-2	Toxaphene	ND	18	17	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	63%		25-135%
877-09-8	Tetrachloro-m-xylene	65%		25-135%
2051-24-3	Decachlorobiphenyl	50%		10-156%
2051-24-3	Decachlorobiphenyl	55%		10-156%

(a) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SD140600		
Lab Sample ID:	JC88412-9	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8082A SW846 3546	**Percent Solids:**	86.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G180354.D	1	05/30/19 02:31	TR	05/29/19 06:00	OP20630	G2G4668
Run #2							

	Initial Weight	Final Volume
Run #1	15.8 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	37	17	ug/kg	
11104-28-2	Aroclor 1221	ND	37	19	ug/kg	
11141-16-5	Aroclor 1232	ND	37	28	ug/kg	
53469-21-9	Aroclor 1242	ND	37	15	ug/kg	
12672-29-6	Aroclor 1248	ND	37	33	ug/kg	
11097-69-1	Aroclor 1254	ND	37	20	ug/kg	
11096-82-5	Aroclor 1260	ND	37	16	ug/kg	
11100-14-4	Aroclor 1268	ND	37	16	ug/kg	
37324-23-5	Aroclor 1262	ND	37	24	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	75%		31-146%
877-09-8	Tetrachloro-m-xylene	71%		31-146%
2051-24-3	Decachlorobiphenyl	72%		17-164%
2051-24-3	Decachlorobiphenyl	49%		17-164%

ND = Not detected MDL = Method Detection Limit
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Report of Analysis

Client Sample ID:	SD140600		
Lab Sample ID:	JC88412-9	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D SW846 3546	**Percent Solids:**	86.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y97532.D	1	05/29/19 09:26	CP	05/28/19 09:45	OP20583	G2Y3706
Run #2							

	Initial Weight	Final Volume
Run #1	10.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	11	2.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	59%		18-132%
438-22-2	5a-Androstane	56%		22-134%

ND = Not detected MDL = Method Detection Limit
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Report of Analysis

Client Sample ID:	SD140600		
Lab Sample ID:	JC88412-9	**Date Sampled:**	05/16/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
		Percent Solids:	86.1
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	4720	58	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Antimony	< 2.3	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Arsenic	3.0	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Barium	< 23	23	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Beryllium	< 0.23	0.23	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cadmium	< 0.58	0.58	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Calcium	954	580	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Chromium	8.7	1.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cobalt	7.3	5.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Copper	5.7	2.9	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Iron	8980	58	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Lead	3.3	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Magnesium	1920	580	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Manganese	886	1.7	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Mercury	< 0.026	0.026	mg/kg	1	05/21/19	05/21/19	LL	SW846 7471B [1]	SW846 7471B [3]
Nickel	10.6	4.6	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Potassium	< 1200	1200	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Selenium	< 2.3	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Silver	< 0.58	0.58	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Sodium	< 1200	1200	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Thallium	< 1.2	1.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Vanadium	10.0	5.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Zinc	20.6	5.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA46758
(2) Instrument QC Batch: MA46773
(3) Prep QC Batch: MP15219
(4) Prep QC Batch: MP15223

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SP150100		
Lab Sample ID:	JC88412-10	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	87.0
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C152144.D	1	05/21/19 10:47	PS	n/a	n/a	V3C6833
Run #2							

	Initial Weight
Run #1	3.6 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	16	6.4	ug/kg	
71-43-2	Benzene	ND	0.80	0.73	ug/kg	
108-86-1	Bromobenzene	ND	8.0	0.88	ug/kg	
74-97-5	Bromochloromethane	ND	8.0	0.89	ug/kg	
75-27-4	Bromodichloromethane	ND	3.2	0.71	ug/kg	
75-25-2	Bromoform	ND	8.0	0.92	ug/kg	
74-83-9	Bromomethane	ND	8.0	1.6	ug/kg	
78-93-3	2-Butanone (MEK)	ND	16	6.0	ug/kg	
104-51-8	n-Butylbenzene	ND	3.2	0.65	ug/kg	
135-98-8	sec-Butylbenzene	ND	3.2	0.68	ug/kg	
98-06-6	tert-Butylbenzene	ND	3.2	0.80	ug/kg	
56-23-5	Carbon tetrachloride	ND	3.2	0.99	ug/kg	
108-90-7	Chlorobenzene	ND	3.2	0.73	ug/kg	
75-00-3	Chloroethane	ND	8.0	0.94	ug/kg	
67-66-3	Chloroform	ND	3.2	0.78	ug/kg	
74-87-3	Chloromethane	ND	8.0	3.1	ug/kg	
95-49-8	o-Chlorotoluene	ND	3.2	0.86	ug/kg	
106-43-4	p-Chlorotoluene	ND	3.2	0.90	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	3.2	1.3	ug/kg	
124-48-1	Dibromochloromethane	ND	3.2	0.89	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.6	0.67	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.6	0.87	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.6	0.79	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.6	0.79	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	8.0	1.2	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.6	0.79	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.6	0.75	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.6	1.0	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.6	1.3	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.6	0.98	ug/kg	
78-87-5	1,2-Dichloropropane	ND	3.2	0.76	ug/kg	
142-28-9	1,3-Dichloropropane	ND	3.2	0.83	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150100		
Lab Sample ID:	JC88412-10	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	87.0
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
594-20-7	2,2-Dichloropropane	ND	3.2	0.68	ug/kg	
563-58-6	1,1-Dichloropropene	ND	3.2	0.87	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	3.2	0.76	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	3.2	0.73	ug/kg	
100-41-4	Ethylbenzene	ND	1.6	0.88	ug/kg	
87-68-3	Hexachlorobutadiene	ND	8.0	1.0	ug/kg	
98-82-8	Isopropylbenzene	ND	3.2	1.1	ug/kg	
99-87-6	p-Isopropyltoluene	ND	3.2	0.63	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.6	0.75	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	8.0	3.6	ug/kg	
74-95-3	Methylene bromide	ND	8.0	0.84	ug/kg	
75-09-2	Methylene chloride	ND	8.0	1.6	ug/kg	
91-20-3	Naphthalene	ND	8.0	0.81	ug/kg	
103-65-1	n-Propylbenzene	ND	3.2	0.75	ug/kg	
100-42-5	Styrene	ND	3.2	0.92	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	3.2	0.91	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	3.2	0.96	ug/kg	
127-18-4	Tetrachloroethene	ND	3.2	0.93	ug/kg	
108-88-3	Toluene	ND	1.6	0.84	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	8.0	3.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	8.0	2.4	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	3.2	0.77	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	3.2	0.88	ug/kg	
79-01-6	Trichloroethene	ND	1.6	1.2	ug/kg	
75-69-4	Trichlorofluoromethane	ND	8.0	1.1	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	8.0	0.89	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	3.2	1.0	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	3.2	0.69	ug/kg	
75-01-4	Vinyl chloride	ND	3.2	0.77	ug/kg	
	m,p-Xylene	ND	1.6	1.4	ug/kg	
95-47-6	o-Xylene	ND	1.6	0.93	ug/kg	
1330-20-7	Xylene (total)	ND	1.6	0.93	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		75-127%
17060-07-0	1,2-Dichloroethane-D4	106%		75-130%
2037-26-5	Toluene-D8	112%		80-120%
460-00-4	4-Bromofluorobenzene	125%		79-127%

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150100		
Lab Sample ID:	JC88412-10	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	87.0
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5P60270.D	1	06/03/19 13:21	AR	05/30/19 17:50	OP20619	E5P2839
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid [a]	ND	750	62	ug/kg	
95-57-8	2-Chlorophenol	ND	75	19	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	190	23	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	190	32	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	190	67	ug/kg	
51-28-5	2,4-Dinitrophenol [a]	ND	190	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol [a]	ND	190	40	ug/kg	
95-48-7	2-Methylphenol	ND	75	24	ug/kg	
	3&4-Methylphenol	ND	75	31	ug/kg	
88-75-5	2-Nitrophenol [a]	ND	190	25	ug/kg	
100-02-7	4-Nitrophenol	ND	380	100	ug/kg	
87-86-5	Pentachlorophenol	ND	150	35	ug/kg	
108-95-2	Phenol	ND	75	20	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	190	28	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	190	22	ug/kg	
83-32-9	Acenaphthene	ND	38	13	ug/kg	
208-96-8	Acenaphthylene	ND	38	19	ug/kg	
62-53-3	Aniline	ND	75	17	ug/kg	
120-12-7	Anthracene	ND	38	23	ug/kg	
92-87-5	Benzidine [a]	ND	380	66	ug/kg	
56-55-3	Benzo(a)anthracene	ND	38	11	ug/kg	
50-32-8	Benzo(a)pyrene	ND	38	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	38	17	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	38	19	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	38	18	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	75	15	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	75	9.2	ug/kg	
100-51-6	Benzyl Alcohol	ND	75	13	ug/kg	
91-58-7	2-Chloronaphthalene	ND	75	9.0	ug/kg	
106-47-8	4-Chloroaniline	ND	190	14	ug/kg	
86-74-8	Carbazole	ND	75	5.5	ug/kg	
218-01-9	Chrysene	ND	38	12	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150100		
Lab Sample ID:	JC88412-10	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	87.0
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	75	8.1	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	75	16	ug/kg	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	75	14	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	75	12	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	75	11	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	75	8.6	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	75	8.0	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	75	9.2	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	38	12	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	38	19	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	75	31	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	38	17	ug/kg	
132-64-9	Dibenzofuran	ND	75	15	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	75	6.1	ug/kg	
117-84-0	Di-n-octyl phthalate [a]	ND	75	9.4	ug/kg	
84-66-2	Diethyl phthalate	ND	75	8.0	ug/kg	
131-11-3	Dimethyl phthalate	ND	75	6.7	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	75	8.8	ug/kg	
206-44-0	Fluoranthene	ND	38	17	ug/kg	
86-73-7	Fluorene	ND	38	17	ug/kg	
118-74-1	Hexachlorobenzene	ND	75	9.5	ug/kg	
87-68-3	Hexachlorobutadiene	ND	38	15	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	380	15	ug/kg	
67-72-1	Hexachloroethane	ND	190	19	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	38	18	ug/kg	
78-59-1	Isophorone	ND	75	8.1	ug/kg	
90-12-0	1-Methylnaphthalene	ND	38	7.4	ug/kg	
91-57-6	2-Methylnaphthalene	ND	38	8.5	ug/kg	
88-74-4	2-Nitroaniline [a]	ND	190	8.9	ug/kg	
99-09-2	3-Nitroaniline [a]	ND	190	9.4	ug/kg	
100-01-6	4-Nitroaniline	ND	190	9.8	ug/kg	
91-20-3	Naphthalene	ND	38	11	ug/kg	
98-95-3	Nitrobenzene	ND	75	15	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	75	13	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	75	11	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	190	14	ug/kg	
85-01-8	Phenanthrene	ND	38	13	ug/kg	
129-00-0	Pyrene	ND	38	12	ug/kg	
110-86-1	Pyridine	ND	75	13	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	75	9.9	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150100		
Lab Sample ID:	JC88412-10	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	87.0
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	30%		23-115%
4165-62-2	Phenol-d5	33%		27-114%
118-79-6	2,4,6-Tribromophenol	36%		19-152%
4165-60-0	Nitrobenzene-d5	43%		26-134%
321-60-8	2-Fluorobiphenyl	36% [b]		39-124%
1718-51-0	Terphenyl-d14	43%		36-134%

(a) Associated CCV outside of control limits high, sample was ND.
(b) Outside control limits due to matrix interference.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150100		
Lab Sample ID:	JC88412-10	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D	**Percent Solids:**	87.0
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF151096.D	1	05/22/19 09:59	XPL	n/a	n/a	GPF4894
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	3.5 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	35	6.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	87%		70-116%

ND = Not detected MDL = Method Detection Limit
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E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150100		
Lab Sample ID:	JC88412-10	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8151A SW846 3546	**Percent Solids:**	87.0
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G123055.D	1	05/23/19 21:58	VDT	05/23/19 11:30	OP20581	G3G4311
Run #2							

	Initial Weight	Final Volume
Run #1	15.6 g	5.0 ml
Run #2		

Herbicide List

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	18	4.7	ug/kg	
93-72-1	2,4,5-TP (Silvex)	ND	3.7	3.3	ug/kg	
93-76-5	2,4,5-T	ND	3.7	3.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	41%		10-159%
19719-28-9	2,4-DCAA	37%		10-159%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SP150100
Lab Sample ID: JC88412-10
Matrix: SO - Soil
Method: SW846 8081B SW846 3546
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Date Sampled: 05/17/19
Date Received: 05/17/19
Percent Solids: 87.0

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	8G23733.D	1	05/31/19 11:22	MH	05/29/19 09:15	OP20633	G8G808
Run #2							

	Initial Weight	Final Volume
Run #1	16.7 g	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.69	0.57	ug/kg	
319-84-6	alpha-BHC	ND	0.69	0.56	ug/kg	
319-85-7	beta-BHC	ND	0.69	0.62	ug/kg	
319-86-8	delta-BHC	ND	0.69	0.66	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	0.69	0.51	ug/kg	
5103-71-9	alpha-Chlordane	ND	0.69	0.56	ug/kg	
5103-74-2	gamma-Chlordane	ND	0.69	0.31	ug/kg	
60-57-1	Dieldrin	ND	0.69	0.47	ug/kg	
72-54-8	4,4'-DDD	ND	0.69	0.63	ug/kg	
72-55-9	4,4'-DDE	ND	0.69	0.60	ug/kg	
50-29-3	4,4'-DDT	2.0	0.69	0.61	ug/kg	
72-20-8	Endrin	ND	0.69	0.53	ug/kg	
1031-07-8	Endosulfan sulfate	ND	0.69	0.54	ug/kg	
7421-93-4	Endrin aldehyde	ND	0.69	0.39	ug/kg	
959-98-8	Endosulfan-I	ND	0.69	0.40	ug/kg	
33213-65-9	Endosulfan-II	ND	0.69	0.43	ug/kg	
76-44-8	Heptachlor	ND	0.69	0.59	ug/kg	
1024-57-3	Heptachlor epoxide	ND	0.69	0.48	ug/kg	
72-43-5	Methoxychlor	ND	1.4	0.55	ug/kg	
53494-70-5	Endrin ketone	ND	0.69	0.50	ug/kg	
8001-35-2	Toxaphene	ND	17	16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	102%		25-135%
877-09-8	Tetrachloro-m-xylene	91%		25-135%
2051-24-3	Decachlorobiphenyl	102%		10-156%
2051-24-3	Decachlorobiphenyl	96%		10-156%

ND = Not detected MDL = Method Detection Limit
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E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150100		
Lab Sample ID:	JC88412-10	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8082A SW846 3546	**Percent Solids:**	87.0
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G180372.D	1	05/30/19 17:49	TR	05/29/19 09:15	OP20632	G2G4669
Run #2							

	Initial Weight	Final Volume
Run #1	16.2 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	35	17	ug/kg	
11104-28-2	Aroclor 1221	ND	35	18	ug/kg	
11141-16-5	Aroclor 1232	ND	35	27	ug/kg	
53469-21-9	Aroclor 1242	ND	35	15	ug/kg	
12672-29-6	Aroclor 1248	ND	35	32	ug/kg	
11097-69-1	Aroclor 1254	ND	35	19	ug/kg	
11096-82-5	Aroclor 1260	ND	35	15	ug/kg	
11100-14-4	Aroclor 1268	ND	35	15	ug/kg	
37324-23-5	Aroclor 1262	ND	35	23	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	113%		31-146%
877-09-8	Tetrachloro-m-xylene	109%		31-146%
2051-24-3	Decachlorobiphenyl	120%		17-164%
2051-24-3	Decachlorobiphenyl	104%		17-164%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150100		
Lab Sample ID:	JC88412-10	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D SW846 3546	**Percent Solids:**	87.0
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y97539.D	1	05/29/19 13:23	CP	05/28/19 09:45	OP20583	G2Y3706
Run #2							

	Initial Weight	Final Volume
Run #1	10.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	11	2.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	59%		18-132%
438-22-2	5a-Androstane	58%		22-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
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N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP150100		
Lab Sample ID:	JC88412-10	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
		Percent Solids:	87.0
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	9960	58	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Antimony	< 2.3	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Arsenic	3.8	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Barium	32.0	23	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Beryllium	0.24	0.23	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cadmium	< 0.58	0.58	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Calcium	1740	580	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Chromium	14.2	1.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cobalt	< 5.8	5.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Copper	11.5	2.9	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Iron	12800	58	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Lead	10.4	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Magnesium	2970	580	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Manganese	339	1.7	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Mercury	< 0.035	0.035	mg/kg	1	05/21/19	05/21/19	LL	SW846 7471B [1]	SW846 7471B [3]
Nickel	13.8	4.6	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Potassium	< 1200	1200	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Selenium	< 2.3	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Silver	< 0.58	0.58	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Sodium	< 1200	1200	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Thallium	< 1.2	1.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Vanadium	17.5	5.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Zinc	39.7	5.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA46758
(2) Instrument QC Batch: MA46773
(3) Prep QC Batch: MP15219
(4) Prep QC Batch: MP15223

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SP150100DUP		
Lab Sample ID:	JC88412-11	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C152158.D	1	05/21/19 16:11	PS	n/a	n/a	V3C6833
Run #2							

	Initial Weight
Run #1	2.9 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	7.8	19	7.6	ug/kg	J
71-43-2	Benzene	ND	0.95	0.86	ug/kg	
108-86-1	Bromobenzene	ND	9.5	1.1	ug/kg	
74-97-5	Bromochloromethane	ND	9.5	1.1	ug/kg	
75-27-4	Bromodichloromethane	ND	3.8	0.84	ug/kg	
75-25-2	Bromoform	ND	9.5	1.1	ug/kg	
74-83-9	Bromomethane	ND	9.5	1.9	ug/kg	
78-93-3	2-Butanone (MEK)	ND	19	7.1	ug/kg	
104-51-8	n-Butylbenzene	ND	3.8	0.77	ug/kg	
135-98-8	sec-Butylbenzene	ND	3.8	0.81	ug/kg	
98-06-6	tert-Butylbenzene	ND	3.8	0.95	ug/kg	
56-23-5	Carbon tetrachloride	ND	3.8	1.2	ug/kg	
108-90-7	Chlorobenzene	ND	3.8	0.87	ug/kg	
75-00-3	Chloroethane	ND	9.5	1.1	ug/kg	
67-66-3	Chloroform	ND	3.8	0.93	ug/kg	
74-87-3	Chloromethane	ND	9.5	3.7	ug/kg	
95-49-8	o-Chlorotoluene	ND	3.8	1.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	3.8	1.1	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	3.8	1.6	ug/kg	
124-48-1	Dibromochloromethane	ND	3.8	1.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.9	0.80	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.9	1.0	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.94	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.94	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	9.5	1.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.9	0.94	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.9	0.89	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.9	1.2	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.9	1.6	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	1.2	ug/kg	
78-87-5	1,2-Dichloropropane	ND	3.8	0.90	ug/kg	
142-28-9	1,3-Dichloropropane	ND	3.8	0.99	ug/kg	

ND = Not detected MDL = Method Detection Limit
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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150100DUP		
Lab Sample ID:	JC88412-11	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
594-20-7	2,2-Dichloropropane	ND	3.8	0.81	ug/kg	
563-58-6	1,1-Dichloropropene	ND	3.8	1.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	3.8	0.90	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	3.8	0.87	ug/kg	
100-41-4	Ethylbenzene	ND	1.9	1.0	ug/kg	
87-68-3	Hexachlorobutadiene	ND	9.5	1.2	ug/kg	
98-82-8	Isopropylbenzene	ND	3.8	1.3	ug/kg	
99-87-6	p-Isopropyltoluene	ND	3.8	0.75	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.9	0.89	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	9.5	4.3	ug/kg	
74-95-3	Methylene bromide	ND	9.5	1.0	ug/kg	
75-09-2	Methylene chloride	ND	9.5	1.9	ug/kg	
91-20-3	Naphthalene	ND	9.5	0.96	ug/kg	
103-65-1	n-Propylbenzene	ND	3.8	0.89	ug/kg	
100-42-5	Styrene	ND	3.8	1.1	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	3.8	1.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	3.8	1.1	ug/kg	
127-18-4	Tetrachloroethene	ND	3.8	1.1	ug/kg	
108-88-3	Toluene	ND	1.9	1.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	9.5	3.7	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	9.5	2.9	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	3.8	0.92	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	3.8	1.1	ug/kg	
79-01-6	Trichloroethene	ND	1.9	1.4	ug/kg	
75-69-4	Trichlorofluoromethane	ND	9.5	1.3	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	9.5	1.1	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	3.8	1.2	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	3.8	0.82	ug/kg	
75-01-4	Vinyl chloride	ND	3.8	0.91	ug/kg	
	m,p-Xylene	ND	1.9	1.7	ug/kg	
95-47-6	o-Xylene	ND	1.9	1.1	ug/kg	
1330-20-7	Xylene (total)	ND	1.9	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		75-127%
17060-07-0	1,2-Dichloroethane-D4	107%		75-130%
2037-26-5	Toluene-D8	114%		80-120%
460-00-4	4-Bromofluorobenzene	123%		79-127%

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150100DUP		
Lab Sample ID:	JC88412-11	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5P60318.D	1	06/04/19 21:06	CC	05/30/19 17:50	OP20619	E5P2841
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid [a]	ND	730	61	ug/kg	
95-57-8	2-Chlorophenol	ND	73	18	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	180	23	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	180	31	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	180	65	ug/kg	
51-28-5	2,4-Dinitrophenol [a]	ND	180	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	180	39	ug/kg	
95-48-7	2-Methylphenol	ND	73	23	ug/kg	
	3&4-Methylphenol	ND	73	30	ug/kg	
88-75-5	2-Nitrophenol [a]	ND	180	24	ug/kg	
100-02-7	4-Nitrophenol [a]	ND	370	98	ug/kg	
87-86-5	Pentachlorophenol	ND	150	34	ug/kg	
108-95-2	Phenol	ND	73	19	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	180	27	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	180	22	ug/kg	
83-32-9	Acenaphthene	ND	37	13	ug/kg	
208-96-8	Acenaphthylene	ND	37	19	ug/kg	
62-53-3	Aniline	ND	73	17	ug/kg	
120-12-7	Anthracene	ND	37	23	ug/kg	
92-87-5	Benzidine [a]	ND	370	64	ug/kg	
56-55-3	Benzo(a)anthracene	ND	37	10	ug/kg	
50-32-8	Benzo(a)pyrene	ND	37	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	37	16	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	37	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	37	17	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	73	14	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	73	9.0	ug/kg	
100-51-6	Benzyl Alcohol	ND	73	13	ug/kg	
91-58-7	2-Chloronaphthalene	ND	73	8.7	ug/kg	
106-47-8	4-Chloroaniline	ND	180	13	ug/kg	
86-74-8	Carbazole	ND	73	5.3	ug/kg	
218-01-9	Chrysene	ND	37	12	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150100DUP		
Lab Sample ID:	JC88412-11	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	73	7.9	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	73	16	ug/kg	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	73	13	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	73	12	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	73	11	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	73	8.3	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	73	7.8	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	73	8.9	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	37	11	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	37	18	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	73	31	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	37	16	ug/kg	
132-64-9	Dibenzofuran	ND	73	15	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	73	6.0	ug/kg	
117-84-0	Di-n-octyl phthalate [a]	ND	73	9.1	ug/kg	
84-66-2	Diethyl phthalate	ND	73	7.8	ug/kg	
131-11-3	Dimethyl phthalate	ND	73	6.5	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	73	8.6	ug/kg	
206-44-0	Fluoranthene	ND	37	16	ug/kg	
86-73-7	Fluorene	ND	37	17	ug/kg	
118-74-1	Hexachlorobenzene	ND	73	9.3	ug/kg	
87-68-3	Hexachlorobutadiene	ND	37	15	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	370	15	ug/kg	
67-72-1	Hexachloroethane	ND	180	18	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	37	17	ug/kg	
78-59-1	Isophorone	ND	73	7.9	ug/kg	
90-12-0	1-Methylnaphthalene	ND	37	7.2	ug/kg	
91-57-6	2-Methylnaphthalene	ND	37	8.3	ug/kg	
88-74-4	2-Nitroaniline [a]	ND	180	8.7	ug/kg	
99-09-2	3-Nitroaniline	ND	180	9.2	ug/kg	
100-01-6	4-Nitroaniline	ND	180	9.5	ug/kg	
91-20-3	Naphthalene	ND	37	10	ug/kg	
98-95-3	Nitrobenzene	ND	73	14	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	73	13	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	73	11	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	180	13	ug/kg	
85-01-8	Phenanthrene	ND	37	12	ug/kg	
129-00-0	Pyrene	ND	37	12	ug/kg	
110-86-1	Pyridine	ND	73	13	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	73	9.6	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150100DUP		
Lab Sample ID:	JC88412-11	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	45%		23-115%
4165-62-2	Phenol-d5	47%		27-114%
118-79-6	2,4,6-Tribromophenol	49%		19-152%
4165-60-0	Nitrobenzene-d5	60%		26-134%
321-60-8	2-Fluorobiphenyl	51%		39-124%
1718-51-0	Terphenyl-d14	56%		36-134%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150100DUP		
Lab Sample ID:	JC88412-11	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF151097.D	1	05/22/19 10:26	XPL	n/a	n/a	GPF4894
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	3.4 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	34	6.8	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	81%		70-116%

ND = Not detected MDL = Method Detection Limit
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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150100DUP		
Lab Sample ID:	JC88412-11	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8151A SW846 3546	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G123056.D	1	05/23/19 22:26	VDT	05/23/19 11:30	OP20581	G3G4311
Run #2							

	Initial Weight	Final Volume
Run #1	16.8 g	5.0 ml
Run #2		

Herbicide List

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	16	4.2	ug/kg	
93-72-1	2,4,5-TP (Silvex)	ND	3.3	3.0	ug/kg	
93-76-5	2,4,5-T	ND	3.3	2.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	22%		10-159%
19719-28-9	2,4-DCAA	23%		10-159%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SP150100DUP
Lab Sample ID: JC88412-11
Matrix: SO - Soil
Method: SW846 8081B SW846 3546
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Date Sampled: 05/17/19
Date Received: 05/17/19
Percent Solids: 90.8

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	8G23736.D	1	05/31/19 12:11	MH	05/29/19 09:15	OP20633	G8G808
Run #2							

	Initial Weight	Final Volume
Run #1	16.3 g	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.68	0.56	ug/kg	
319-84-6	alpha-BHC	ND	0.68	0.55	ug/kg	
319-85-7	beta-BHC	ND	0.68	0.61	ug/kg	
319-86-8	delta-BHC	ND	0.68	0.65	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	0.68	0.50	ug/kg	
5103-71-9	alpha-Chlordane	ND	0.68	0.55	ug/kg	
5103-74-2	gamma-Chlordane	ND	0.68	0.31	ug/kg	
60-57-1	Dieldrin	ND	0.68	0.46	ug/kg	
72-54-8	4,4'-DDD	ND	0.68	0.62	ug/kg	
72-55-9	4,4'-DDE	ND	0.68	0.59	ug/kg	
50-29-3	4,4'-DDT	ND	0.68	0.60	ug/kg	
72-20-8	Endrin	ND	0.68	0.52	ug/kg	
1031-07-8	Endosulfan sulfate	ND	0.68	0.53	ug/kg	
7421-93-4	Endrin aldehyde	ND	0.68	0.38	ug/kg	
959-98-8	Endosulfan-I	ND	0.68	0.39	ug/kg	
33213-65-9	Endosulfan-II	ND	0.68	0.42	ug/kg	
76-44-8	Heptachlor	ND	0.68	0.58	ug/kg	
1024-57-3	Heptachlor epoxide	ND	0.68	0.47	ug/kg	
72-43-5	Methoxychlor	ND	1.4	0.54	ug/kg	
53494-70-5	Endrin ketone	ND	0.68	0.49	ug/kg	
8001-35-2	Toxaphene	ND	17	16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	111%		25-135%
877-09-8	Tetrachloro-m-xylene	88%		25-135%
2051-24-3	Decachlorobiphenyl	105%		10-156%
2051-24-3	Decachlorobiphenyl	82%		10-156%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150100DUP		
Lab Sample ID:	JC88412-11	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8082A SW846 3546	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G180375.D	1	05/30/19 18:39	TR	05/29/19 09:15	OP20632	G2G4669
Run #2							

	Initial Weight	Final Volume
Run #1	16.3 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	34	16	ug/kg	
11104-28-2	Aroclor 1221	ND	34	17	ug/kg	
11141-16-5	Aroclor 1232	ND	34	26	ug/kg	
53469-21-9	Aroclor 1242	ND	34	14	ug/kg	
12672-29-6	Aroclor 1248	ND	34	30	ug/kg	
11097-69-1	Aroclor 1254	ND	34	18	ug/kg	
11096-82-5	Aroclor 1260	ND	34	14	ug/kg	
11100-14-4	Aroclor 1268	ND	34	14	ug/kg	
37324-23-5	Aroclor 1262	ND	34	22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	111%		31-146%
877-09-8	Tetrachloro-m-xylene	107%		31-146%
2051-24-3	Decachlorobiphenyl	118%		17-164%
2051-24-3	Decachlorobiphenyl	85%		17-164%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150100DUP		
Lab Sample ID:	JC88412-11	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D SW846 3546	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y97533.D	1	05/29/19 10:00	CP	05/28/19 09:45	OP20583	G2Y3706
Run #2							

	Initial Weight	Final Volume
Run #1	10.6 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	10	1.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	63%		18-132%
438-22-2	5a-Androstane	61%		22-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SP150100DUP
Lab Sample ID: JC88412-11
Matrix: SO - Soil
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Date Sampled: 05/17/19
Date Received: 05/17/19
Percent Solids: 90.8

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	9940	55	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Antimony	< 2.2	2.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Arsenic	3.8	2.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Barium	30.5	22	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Beryllium	0.25	0.22	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cadmium	< 0.55	0.55	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Calcium	1720	550	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Chromium	13.9	1.1	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cobalt	< 5.5	5.5	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Copper	11.0	2.8	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Iron	12500	55	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Lead	10.2	2.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Magnesium	2910	550	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Manganese	349	1.7	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Mercury	< 0.036	0.036	mg/kg	1	05/21/19	05/21/19	LL	SW846 7471B [1]	SW846 7471B [3]
Nickel	13.8	4.4	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Potassium	< 1100	1100	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Selenium	< 2.2	2.2	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Silver	< 0.55	0.55	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Sodium	< 1100	1100	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Thallium	< 1.1	1.1	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Vanadium	17.5	5.5	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Zinc	38.4	5.5	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA46758
(2) Instrument QC Batch: MA46773
(3) Prep QC Batch: MP15219
(4) Prep QC Batch: MP15223

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SP150200		
Lab Sample ID:	JC88412-12	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C152159.D	1	05/21/19 16:34	PS	n/a	n/a	V3C6833
Run #2							

	Initial Weight
Run #1	3.8 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	14	5.8	ug/kg	
71-43-2	Benzene	ND	0.72	0.66	ug/kg	
108-86-1	Bromobenzene	ND	7.2	0.80	ug/kg	
74-97-5	Bromochloromethane	ND	7.2	0.81	ug/kg	
75-27-4	Bromodichloromethane	ND	2.9	0.64	ug/kg	
75-25-2	Bromoform	ND	7.2	0.84	ug/kg	
74-83-9	Bromomethane	ND	7.2	1.4	ug/kg	
78-93-3	2-Butanone (MEK)	ND	14	5.4	ug/kg	
104-51-8	n-Butylbenzene	ND	2.9	0.59	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.9	0.62	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.9	0.72	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.9	0.90	ug/kg	
108-90-7	Chlorobenzene	ND	2.9	0.67	ug/kg	
75-00-3	Chloroethane	ND	7.2	0.86	ug/kg	
67-66-3	Chloroform	ND	2.9	0.71	ug/kg	
74-87-3	Chloromethane	ND	7.2	2.8	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.9	0.78	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.9	0.81	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.9	1.2	ug/kg	
124-48-1	Dibromochloromethane	ND	2.9	0.81	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.4	0.61	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.4	0.79	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.4	0.72	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.4	0.72	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	7.2	1.1	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.4	0.72	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.4	0.68	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.4	0.95	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.4	1.2	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.4	0.89	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.9	0.69	ug/kg	
142-28-9	1,3-Dichloropropane	ND	2.9	0.75	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150200		
Lab Sample ID:	JC88412-12	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
594-20-7	2,2-Dichloropropane	ND	2.9	0.62	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.9	0.79	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.9	0.69	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.9	0.66	ug/kg	
100-41-4	Ethylbenzene	ND	1.4	0.80	ug/kg	
87-68-3	Hexachlorobutadiene	ND	7.2	0.95	ug/kg	
98-82-8	Isopropylbenzene	ND	2.9	1.0	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.9	0.57	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.4	0.68	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	7.2	3.3	ug/kg	
74-95-3	Methylene bromide	ND	7.2	0.76	ug/kg	
75-09-2	Methylene chloride	ND	7.2	1.4	ug/kg	
91-20-3	Naphthalene	ND	7.2	0.74	ug/kg	
103-65-1	n-Propylbenzene	ND	2.9	0.68	ug/kg	
100-42-5	Styrene	ND	2.9	0.83	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.9	0.83	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.9	0.87	ug/kg	
127-18-4	Tetrachloroethene	ND	2.9	0.84	ug/kg	
108-88-3	Toluene	ND	1.4	0.76	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	7.2	2.8	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	7.2	2.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.9	0.70	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.9	0.80	ug/kg	
79-01-6	Trichloroethene	ND	1.4	1.1	ug/kg	
75-69-4	Trichlorofluoromethane	ND	7.2	0.99	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	7.2	0.80	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.9	0.92	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.9	0.62	ug/kg	
75-01-4	Vinyl chloride	ND	2.9	0.70	ug/kg	
	m,p-Xylene	ND	1.4	1.3	ug/kg	
95-47-6	o-Xylene	ND	1.4	0.84	ug/kg	
1330-20-7	Xylene (total)	ND	1.4	0.84	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		75-127%
17060-07-0	1,2-Dichloroethane-D4	105%		75-130%
2037-26-5	Toluene-D8	108%		80-120%
460-00-4	4-Bromofluorobenzene	118%		79-127%

ND = Not detected MDL = Method Detection Limit
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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150200		
Lab Sample ID:	JC88412-12	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5P60319.D	1	06/04/19 21:30	CC	05/30/19 17:50	OP20619	E5P2841
Run #2 [a]	5P60514.D	1	06/08/19 10:58	CS	06/07/19 18:00	OP20901	E5P2847

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2	30.2 g	1.0 ml

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid [b]	ND	730	60	ug/kg	
95-57-8	2-Chlorophenol	ND	73	18	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	180	22	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	180	31	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	180	65	ug/kg	
51-28-5	2,4-Dinitrophenol [b]	ND	180	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	180	39	ug/kg	
95-48-7	2-Methylphenol	ND	73	23	ug/kg	
	3&4-Methylphenol	ND	73	30	ug/kg	
88-75-5	2-Nitrophenol [b]	ND	180	24	ug/kg	
100-02-7	4-Nitrophenol [b]	ND	370	98	ug/kg	
87-86-5	Pentachlorophenol	ND	150	34	ug/kg	
108-95-2	Phenol	ND	73	19	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	180	27	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	180	22	ug/kg	
83-32-9	Acenaphthene	ND	37	13	ug/kg	
208-96-8	Acenaphthylene	ND	37	19	ug/kg	
62-53-3	Aniline	ND	73	16	ug/kg	
120-12-7	Anthracene	ND	37	22	ug/kg	
92-87-5	Benzidine [b]	ND	370	64	ug/kg	
56-55-3	Benzo(a)anthracene	11.5	37	10	ug/kg	J
50-32-8	Benzo(a)pyrene	ND	37	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	37	16	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	37	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	37	17	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	73	14	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	73	8.9	ug/kg	
100-51-6	Benzyl Alcohol	ND	73	13	ug/kg	
91-58-7	2-Chloronaphthalene	ND	73	8.7	ug/kg	
106-47-8	4-Chloroaniline	ND	180	13	ug/kg	
86-74-8	Carbazole	ND	73	5.3	ug/kg	
218-01-9	Chrysene	ND	37	12	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150200		
Lab Sample ID:	JC88412-12	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	73	7.8	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	73	16	ug/kg	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	73	13	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	73	12	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	73	11	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	73	8.3	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	73	7.8	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	73	8.9	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	37	11	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	37	18	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	73	31	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	37	16	ug/kg	
132-64-9	Dibenzofuran	ND	73	15	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	73	6.0	ug/kg	
117-84-0	Di-n-octyl phthalate [b]	ND	73	9.1	ug/kg	
84-66-2	Diethyl phthalate	ND	73	7.8	ug/kg	
131-11-3	Dimethyl phthalate	ND	73	6.5	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	73	8.6	ug/kg	
206-44-0	Fluoranthene	ND	37	16	ug/kg	
86-73-7	Fluorene	ND	37	17	ug/kg	
118-74-1	Hexachlorobenzene	ND	73	9.3	ug/kg	
87-68-3	Hexachlorobutadiene	ND	37	15	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	370	15	ug/kg	
67-72-1	Hexachloroethane	ND	180	18	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	37	17	ug/kg	
78-59-1	Isophorone	ND	73	7.8	ug/kg	
90-12-0	1-Methylnaphthalene	ND	37	7.2	ug/kg	
91-57-6	2-Methylnaphthalene	ND	37	8.3	ug/kg	
88-74-4	2-Nitroaniline [b]	ND	180	8.6	ug/kg	
99-09-2	3-Nitroaniline	ND	180	9.1	ug/kg	
100-01-6	4-Nitroaniline	ND	180	9.5	ug/kg	
91-20-3	Naphthalene	ND	37	10	ug/kg	
98-95-3	Nitrobenzene	ND	73	14	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	73	13	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	73	11	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	180	13	ug/kg	
85-01-8	Phenanthrene	ND	37	12	ug/kg	
129-00-0	Pyrene	14.4	37	12	ug/kg	J
110-86-1	Pyridine	ND	73	13	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	73	9.6	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150200		
Lab Sample ID:	JC88412-12	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8270D SW846 3546	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	25%	19% c	23-115%
4165-62-2	Phenol-d5	27%	22% c	27-114%
118-79-6	2,4,6-Tribromophenol	28%	15% c	19-152%
4165-60-0	Nitrobenzene-d5	36%	26%	26-134%
321-60-8	2-Fluorobiphenyl	30% d	16% c	39-124%
1718-51-0	Terphenyl-d14	32% d	17% c	36-134%

(a) Sample extracted outside the holding time. Confirmation run.
(b) Associated CCV outside of control limits high, sample was ND.
(c) Outside of in house control limits.
(d) Outside in house control limits biased low. The results confirmed by re-extraction outside the holding time.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150200		
Lab Sample ID:	JC88412-12	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF151098.D	1	05/22/19 10:52	XPL	n/a	n/a	GPF4894
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	1.4 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	80	16	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	82%		70-116%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150200		
Lab Sample ID:	JC88412-12	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8151A SW846 3546	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G123057.D	1	05/23/19 22:55	VDT	05/23/19 11:30	OP20581	G3G4311
Run #2							

	Initial Weight	Final Volume
Run #1	16.3 g	5.0 ml
Run #2		

Herbicide List

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	17	4.3	ug/kg	
93-72-1	2,4,5-TP (Silvex)	ND	3.4	3.0	ug/kg	
93-76-5	2,4,5-T	ND	3.4	2.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	36%		10-159%
19719-28-9	2,4-DCAA	32%		10-159%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SP150200
Lab Sample ID: JC88412-12 **Date Sampled:** 05/17/19
Matrix: SO - Soil **Date Received:** 05/17/19
Method: SW846 8081B SW846 3546 **Percent Solids:** 90.8
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	8G23737.D	1	05/31/19 12:27	MH	05/29/19 09:15	OP20633	G8G808
Run #2							

	Initial Weight	Final Volume
Run #1	15.0 g	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.73	0.60	ug/kg	
319-84-6	alpha-BHC	ND	0.73	0.60	ug/kg	
319-85-7	beta-BHC	ND	0.73	0.66	ug/kg	
319-86-8	delta-BHC	ND	0.73	0.70	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	0.73	0.54	ug/kg	
5103-71-9	alpha-Chlordane	ND	0.73	0.59	ug/kg	
5103-74-2	gamma-Chlordane	ND	0.73	0.33	ug/kg	
60-57-1	Dieldrin	ND	0.73	0.50	ug/kg	
72-54-8	4,4'-DDD	ND	0.73	0.67	ug/kg	
72-55-9	4,4'-DDE	ND	0.73	0.64	ug/kg	
50-29-3	4,4'-DDT	ND	0.73	0.65	ug/kg	
72-20-8	Endrin	ND	0.73	0.57	ug/kg	
1031-07-8	Endosulfan sulfate	ND	0.73	0.57	ug/kg	
7421-93-4	Endrin aldehyde	ND	0.73	0.42	ug/kg	
959-98-8	Endosulfan-I	ND	0.73	0.42	ug/kg	
33213-65-9	Endosulfan-II	ND	0.73	0.46	ug/kg	
76-44-8	Heptachlor	ND	0.73	0.63	ug/kg	
1024-57-3	Heptachlor epoxide	ND	0.73	0.51	ug/kg	
72-43-5	Methoxychlor	ND	1.5	0.58	ug/kg	
53494-70-5	Endrin ketone	ND	0.73	0.53	ug/kg	
8001-35-2	Toxaphene	ND	18	17	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	76%		25-135%
877-09-8	Tetrachloro-m-xylene	71%		25-135%
2051-24-3	Decachlorobiphenyl	70%		10-156%
2051-24-3	Decachlorobiphenyl	62%		10-156%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150200		
Lab Sample ID:	JC88412-12	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8082A SW846 3546	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G180376.D	1	05/30/19 18:56	TR	05/29/19 09:15	OP20632	G2G4669
Run #2							

	Initial Weight	Final Volume
Run #1	15.9 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	35	16	ug/kg	
11104-28-2	Aroclor 1221	ND	35	18	ug/kg	
11141-16-5	Aroclor 1232	ND	35	27	ug/kg	
53469-21-9	Aroclor 1242	ND	35	14	ug/kg	
12672-29-6	Aroclor 1248	ND	35	31	ug/kg	
11097-69-1	Aroclor 1254	ND	35	19	ug/kg	
11096-82-5	Aroclor 1260	ND	35	15	ug/kg	
11100-14-4	Aroclor 1268	ND	35	15	ug/kg	
37324-23-5	Aroclor 1262	ND	35	23	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	89%		31-146%
877-09-8	Tetrachloro-m-xylene	83%		31-146%
2051-24-3	Decachlorobiphenyl	84%		17-164%
2051-24-3	Decachlorobiphenyl	61%		17-164%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150200		
Lab Sample ID:	JC88412-12	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
Method:	SW846 8015D SW846 3546	**Percent Solids:**	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y97534.D	1	05/29/19 10:33	CP	05/28/19 09:45	OP20583	G2Y3706
Run #2							

	Initial Weight	Final Volume
Run #1	10.8 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	26.9	10	1.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	60%		18-132%
438-22-2	5a-Androstane	59%		22-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP150200		
Lab Sample ID:	JC88412-12	**Date Sampled:**	05/17/19
Matrix:	SO - Soil	**Date Received:**	05/17/19
		Percent Solids:	90.8
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	9500	57	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Antimony	< 2.3	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Arsenic	6.1	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Barium	25.0	23	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Beryllium	< 0.23	0.23	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cadmium	< 0.57	0.57	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Calcium	1440	570	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Chromium	18.1	1.1	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Cobalt	6.8	5.7	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Copper	18.2	2.9	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Iron	17600	57	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Lead	12.1	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Magnesium	4230	570	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Manganese	281	1.7	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Mercury	< 0.034	0.034	mg/kg	1	05/21/19	05/21/19	LL	SW846 7471B [1]	SW846 7471B [3]
Nickel	17.4	4.6	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Potassium	< 1100	1100	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Selenium	< 2.3	2.3	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Silver	< 0.57	0.57	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Sodium	< 1100	1100	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Thallium	< 1.1	1.1	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Vanadium	26.4	5.7	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]
Zinc	72.8	5.7	mg/kg	1	05/21/19	05/23/19	ND	SW846 6010D [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA46758
(2) Instrument QC Batch: MA46773
(3) Prep QC Batch: MP15219
(4) Prep QC Batch: MP15223

RL = Reporting Limit

Report of Analysis

Client Sample ID:	TB051719		
Lab Sample ID:	JC88412-13	**Date Sampled:**	05/17/19
Matrix:	SO - Trip Blank Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C152257.D	1	05/25/19 11:29	PS	n/a	n/a	V3C6837
Run #2							

	Initial Weight
Run #1	5.0 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	14.8	10	4.0	ug/kg	
71-43-2	Benzene	ND	0.50	0.46	ug/kg	
108-86-1	Bromobenzene	ND	5.0	0.55	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	0.56	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	0.44	ug/kg	
75-25-2	Bromoform	ND	5.0	0.58	ug/kg	
74-83-9	Bromomethane	ND	5.0	1.0	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	3.7	ug/kg	
104-51-8	n-Butylbenzene	ND	2.0	0.41	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.0	0.43	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.0	0.50	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	0.62	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	0.46	ug/kg	
75-00-3	Chloroethane	ND	5.0	0.59	ug/kg	
67-66-3	Chloroform	ND	2.0	0.49	ug/kg	
74-87-3	Chloromethane	ND	5.0	2.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.0	0.54	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.0	0.56	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.84	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.56	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.42	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.55	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.49	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	0.73	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.47	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.0	0.66	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.84	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.61	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	0.47	ug/kg	
142-28-9	1,3-Dichloropropane	ND	2.0	0.52	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB051719		
Lab Sample ID:	JC88412-13	**Date Sampled:**	05/17/19
Matrix:	SO - Trip Blank Soil	**Date Received:**	05/17/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
594-20-7	2,2-Dichloropropane	ND	2.0	0.43	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.0	0.54	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.48	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.46	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.55	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	0.66	ug/kg	
98-82-8	Isopropylbenzene	ND	2.0	0.70	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.0	0.40	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.47	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	2.3	ug/kg	
74-95-3	Methylene bromide	ND	5.0	0.53	ug/kg	
75-09-2	Methylene chloride	ND	5.0	0.99	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.51	ug/kg	
103-65-1	n-Propylbenzene	ND	2.0	0.47	ug/kg	
100-42-5	Styrene	ND	2.0	0.58	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.0	0.57	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.60	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	0.58	ug/kg	
108-88-3	Toluene	ND	1.0	0.53	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.9	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.5	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.48	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.55	ug/kg	
79-01-6	Trichloroethene	ND	1.0	0.76	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	0.68	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.56	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.64	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.43	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	0.48	ug/kg	
	m,p-Xylene	ND	1.0	0.90	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.58	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		75-127%
17060-07-0	1,2-Dichloroethane-D4	107%		75-130%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	100%		79-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

SGS

SLL
SME
SSTB
MTB

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

Mstr

Page 1 of 2

FED EX Tracking # 4401 7491 8885
SGS Quote #
Bottle Order Control #
SGS Job # JC88412

Client / Reporting Information	Project Information
Company Name: Haley + Aldrich	Project Name: Vermont Yankee Site Investigation
Street Address: 100 Corporate Place	Street: 320 Governor Hunt
City: Rocky Hill State: CT Zip: 06067	City: Vernon State: VT
Project Contact: M. van Noordennen E-mail:	Project #: 129657
Phone #: 860 817 3152	Client Purchase Order #: 129657-009
Sampler(s) Name(s): M. van Noordennen Phone #	Project Manager: J. Kingston
	Billing Information (if different from Report to)
	Company Name
	Street Address
	City State Zip
	Attention:

Requested Analysis

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB - Field Blank; EB-Equipment Blank; RB - Rinse Blank; TB - Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Grab (G) Comp (C)	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO_3	H_2SO_4	NONE	DI Water	MEOH	ENCORE	VOCs - 8260	TAL Metals	TPH - DRO/GRO	PAHs - 8270	PCBs - 8082	SVOCs - 8270	Dioxins - 1613	Pesticides - 8081	Herbicides - 8151	LAB USE ONLY
1	SP130100		5.16.19	1400	JW	C	So	7						3	22		X	X	X		X	X				
2	SP130200		5.16.19	1415	JW	C	So	7						3	22		X	X	X		X	X				DFCR
3	SS070100		5.16.19	1430	JW	G	So	7	A					3	22		X	X	X	X						P78
4	SS070200		5.16.19	1320	JW	G	So	7						3	22		X	X	X	X						1472
5	SS070300		5.16.19	1240	JW	G	So	7						3	22		X	X	X	X						4928
6	SS070400		5.16.19	1400	JW	G	So	7						3	22		X	X	X	X	X					
7	~~SD140300~~ SD140100		5.16.19	1515	ED	G	So	8						4	22		X	X	X		X	X	X	X	X	
8	SD140500		5.16.19	1605	ED	G	So	8						4	22		X	X	X		X	X	X	X	X	
9	SD140600		5.16.19	1640	ED	G	So	8						4	22		X	X	X		X	X	X	X	X	
10	SP150100		5.17.19	0915	JW	C	So	8						4	22		X	X	X		X	X		X	X	
11	SP150100SUP		5.17.19	0915	JW	C	So	8						4	22		X	X	X		X	X		X	X	
12	SP150200		5.17.19	0945	JW	C	So	8						4	22		X	X	X		X	X		X	X	

Turn Around Time (Business Days)

Approved By (SGS PM): / Date:

- [x] 10 Business Days
- [ ] 5 Business Days
- [ ] 3 Business Days*
- [ ] 2 Business Days*
- [ ] 1 Business Day*
- [ ] Other

All data available via Lablink

* Approval needed for 1-3 Business Day TAT

Deliverable

- [ ] Commercial "A" (Level 1)
- [x] Commercial "B" (Level 2)
- [ ] NJ Reduced (Level 3)
- [ ] Full Tier I (Level 4)
- [ ] Commercial "C"
- [ ] NJ DKQP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] MA MCP Criteria
- [ ] CT RCP Criteria
- [ ] State Forms
- [ ] EDD Format
- [ ] DOD-QSM5

Commercial "A" = Results only; Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC Summary + Partial Raw data

Comments / Special Instructions

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date / Time:	Received By:	Relinquished By:	Date / Time:	Received By:
1	5.17.19 1216	1	2	5-17-19 1245	2
3	5/17/19 1940	3	4	5/17/19 0945	4
5		5			

Custody Seal # 302207 302208 — Intact / Not intact — Preserved where applicable: On Ice / Absent — Therm. ID: — Cooler Temp. °C: 2.4 2.1

1243

INITIAL ASSESSMENT 3A

LABEL VERIFICATION:

SGS-ACCUTEST MARLBOR 5/17

EHSA-QAC-0023-02-FORM-Dayton - Standard COC.xlsx

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

Page 2 of 2

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: JC88412

Client / Reporting Information

Company Name: Haley & Aldrich
Street Address: 100 Corporate Place
City: Rocky Hill State: CT Zip: 06067
Project Contact: M. van Noordennen E-mail:
Phone #: 860 817 3152
Sampler(s) Name(s): M. van Noordennen Phone #:

Project Information

Project Name: Vermont Yankee Site Investigation
Street: 320 Governor Hunt
City: Vernon State: VT
Project #: 129653
Client Purchase Order #: 129653.009
Project Manager: J. Kingston

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Grab (G) Comp (C)	Matrix	# of bottles	HCl	NaOH	HNO_3	H_2SO_4	NONE	DI Water	MEOH	ENCORE	VOCs - 8260	SVOCs - 8270	PCBs - 8082	TPH - DRO/GRO	TAL Metals	Pest/Hrbcds - 8081	Herbicides - 8151						LAB USE ONLY
10	SP150100MS		5.17.19	0915	JW	C	SO	8					4	2	2		X	X	X	X	X	X	X						
	SP150100MSD		5.17.19	0915	JW	C	SO	8					4	2	2		X	X	X	X	X	X	X						
13	TB051719		5.17.19	1040	MV	G	TB	3						2	1		X												

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB - Field Blank; EB-Equipment Blank; RB - Rinse Blank; TB - Trip Blank

Turn Around Time (Business Days)

Approved By (SGS PM): / Date:

- [X] 10 Business Days
- [ ] 5 Business Days
- [ ] 3 Business Days*
- [ ] 2 Business Days*
- [ ] 1 Business Day*
- [ ] Other

All data available via Lablink * Approval needed for 1-3 Business Day TAT

Deliverable

- [ ] Commercial "A" (Level 1)
- [X] Commercial "B" (Level 2)
- [ ] NJ Reduced (Level 3)
- [ ] Full Tier I (Level 4)
- [ ] Commercial "C"
- [ ] NJ DKQP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] MA MCP Criteria_____
- [ ] CT RCP Criteria_____
- [ ] State Forms
- [ ] EDD Format _____
- [ ] DOD-QSM5

Commercial "A" = Results only; Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC Summary + Partial Raw data

Comments / Special Instructions

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by:	Date / Time:	Received By:	Relinquished By:	Date / Time:	Received By:
1		5-17-19 1210		2	5-17-19 1715	
3		5/17/19 1947		4	5/18/19 0945	
5						

Custody Seal # 30207 / 30208 — Intact / Not intact — Preserved where applicable — On Ice — Cooler Temp. °C — Absent — Therm. ID:

SGS-ACCUTEST MARLBOR 5/17

EHSA-QAC-0023-02-FORM-Dayton - Standard COC.xlsx

SGS Sample Receipt Summary

Job Number: JC88412 **Client:** _____ **Project:** _____

Date / Time Received: 5/17/2019 7:00:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (2.4); Cooler 2: (2.7);

Cooler Temps (Corrected) °C: Cooler 1: (1.4); Cooler 2: (1.7);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	2		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 206717 pH 12+: 208717 Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

JC88412: Chain of Custody
Page 3 of 3

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C6833-MB	3C152142.D	1	05/21/19	PS	n/a	n/a	V3C6833

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	4.0	ug/kg	
71-43-2	Benzene	ND	0.50	0.46	ug/kg	
108-86-1	Bromobenzene	ND	5.0	0.55	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	0.56	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	0.44	ug/kg	
75-25-2	Bromoform	ND	5.0	0.58	ug/kg	
74-83-9	Bromomethane	ND	5.0	1.0	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	3.7	ug/kg	
104-51-8	n-Butylbenzene	ND	2.0	0.41	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.0	0.43	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.0	0.50	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	0.62	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	0.46	ug/kg	
75-00-3	Chloroethane	ND	5.0	0.59	ug/kg	
67-66-3	Chloroform	ND	2.0	0.49	ug/kg	
74-87-3	Chloromethane	ND	5.0	2.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.0	0.54	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.0	0.56	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.84	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.56	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.42	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.55	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.49	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	0.73	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.47	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.0	0.66	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.84	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.61	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	0.47	ug/kg	
142-28-9	1,3-Dichloropropane	ND	2.0	0.52	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.0	0.43	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.0	0.54	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.48	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.46	ug/kg	

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C6833-MB	3C152142.D	1	05/21/19	PS	n/a	n/a	V3C6833

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Result	RL	MDL	Units	Q
100-41-4	Ethylbenzene	ND	1.0	0.55	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	0.66	ug/kg	
98-82-8	Isopropylbenzene	ND	2.0	0.70	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.0	0.40	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.47	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	2.3	ug/kg	
74-95-3	Methylene bromide	ND	5.0	0.53	ug/kg	
75-09-2	Methylene chloride	ND	5.0	0.99	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.51	ug/kg	
103-65-1	n-Propylbenzene	ND	2.0	0.47	ug/kg	
100-42-5	Styrene	ND	2.0	0.58	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.0	0.57	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.60	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	0.58	ug/kg	
108-88-3	Toluene	ND	1.0	0.53	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.9	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.5	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.48	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.55	ug/kg	
79-01-6	Trichloroethene	ND	1.0	0.76	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	0.68	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.56	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.64	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.43	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	0.48	ug/kg	
	m,p-Xylene	ND	1.0	0.90	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.58	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	75-127%
17060-07-0	1,2-Dichloroethane-D4	102%	75-130%
2037-26-5	Toluene-D8	99%	80-120%
460-00-4	4-Bromofluorobenzene	102%	79-127%

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C6833-MB	3C152142.D	1	05/21/19	PS	n/a	n/a	V3C6833

The QC reported here applies to the following samples: **Method:**

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C6837-MB	3C152256.D	1	05/25/19	PS	n/a	n/a	V3C6837

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC88412-13

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	4.0	ug/kg	
71-43-2	Benzene	ND	0.50	0.46	ug/kg	
108-86-1	Bromobenzene	ND	5.0	0.55	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	0.56	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	0.44	ug/kg	
75-25-2	Bromoform	ND	5.0	0.58	ug/kg	
74-83-9	Bromomethane	ND	5.0	1.0	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	3.7	ug/kg	
104-51-8	n-Butylbenzene	ND	2.0	0.41	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.0	0.43	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.0	0.50	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	0.62	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	0.46	ug/kg	
75-00-3	Chloroethane	ND	5.0	0.59	ug/kg	
67-66-3	Chloroform	ND	2.0	0.49	ug/kg	
74-87-3	Chloromethane	ND	5.0	2.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.0	0.54	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.0	0.56	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.84	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.56	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.42	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.55	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.49	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	0.73	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.47	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.0	0.66	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.84	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.61	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	0.47	ug/kg	
142-28-9	1,3-Dichloropropane	ND	2.0	0.52	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.0	0.43	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.0	0.54	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.48	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.46	ug/kg	

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C6837-MB	3C152256.D	1	05/25/19	PS	n/a	n/a	V3C6837

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC88412-13

CAS No.	Compound	Result	RL	MDL	Units	Q
100-41-4	Ethylbenzene	ND	1.0	0.55	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	0.66	ug/kg	
98-82-8	Isopropylbenzene	ND	2.0	0.70	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.0	0.40	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.47	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	2.3	ug/kg	
74-95-3	Methylene bromide	ND	5.0	0.53	ug/kg	
75-09-2	Methylene chloride	ND	5.0	0.99	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.51	ug/kg	
103-65-1	n-Propylbenzene	ND	2.0	0.47	ug/kg	
100-42-5	Styrene	ND	2.0	0.58	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.0	0.57	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.60	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	0.58	ug/kg	
108-88-3	Toluene	ND	1.0	0.53	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.9	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.5	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.48	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.55	ug/kg	
79-01-6	Trichloroethene	ND	1.0	0.76	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	0.68	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.56	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.64	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.43	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	0.48	ug/kg	
	m,p-Xylene	ND	1.0	0.90	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.58	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	75-127%
17060-07-0	1,2-Dichloroethane-D4	99%	75-130%
2037-26-5	Toluene-D8	99%	80-120%
460-00-4	4-Bromofluorobenzene	100%	79-127%

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C6837-MB	3C152256.D	1	05/25/19	PS	n/a	n/a	V3C6837

The QC reported here applies to the following samples: **Method:**

JC88412-13

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

Blank Spike Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C6833-BS	3C152140.D	1	05/21/19	PS	n/a	n/a	V3C6833

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	200	187	94	48-149
71-43-2	Benzene	50	46.7	93	74-117
108-86-1	Bromobenzene	50	45.6	91	77-117
74-97-5	Bromochloromethane	50	50.4	101	82-121
75-27-4	Bromodichloromethane	50	50.9	102	78-119
75-25-2	Bromoform	50	40.4	81	76-130
74-83-9	Bromomethane	50	42.7	85	58-137
78-93-3	2-Butanone (MEK)	200	200	100	65-143
104-51-8	n-Butylbenzene	50	48.8	98	74-123
135-98-8	sec-Butylbenzene	50	45.2	90	74-123
98-06-6	tert-Butylbenzene	50	44.0	88	73-124
56-23-5	Carbon tetrachloride	50	46.5	93	69-136
108-90-7	Chlorobenzene	50	45.2	90	79-117
75-00-3	Chloroethane	50	47.7	95	62-139
67-66-3	Chloroform	50	48.1	96	76-119
74-87-3	Chloromethane	50	46.8	94	52-144
95-49-8	o-Chlorotoluene	50	45.8	92	77-118
106-43-4	p-Chlorotoluene	50	45.7	91	75-117
96-12-8	1,2-Dibromo-3-chloropropane	50	52.8	106	72-124
124-48-1	Dibromochloromethane	50	49.9	100	78-122
106-93-4	1,2-Dibromoethane	50	48.2	96	80-116
95-50-1	1,2-Dichlorobenzene	50	44.7	89	77-117
541-73-1	1,3-Dichlorobenzene	50	45.2	90	75-117
106-46-7	1,4-Dichlorobenzene	50	45.3	91	76-115
75-71-8	Dichlorodifluoromethane	50	44.2	88	43-156
75-34-3	1,1-Dichloroethane	50	51.2	102	75-124
107-06-2	1,2-Dichloroethane	50	47.1	94	74-124
75-35-4	1,1-Dichloroethene	50	49.8	100	64-129
156-59-2	cis-1,2-Dichloroethene	50	50.3	101	74-118
156-60-5	trans-1,2-Dichloroethene	50	49.7	99	71-125
78-87-5	1,2-Dichloropropane	50	48.7	97	80-119
142-28-9	1,3-Dichloropropane	50	47.2	94	79-115
594-20-7	2,2-Dichloropropane	50	49.3	99	66-130
563-58-6	1,1-Dichloropropene	50	48.8	98	74-124
10061-01-5	cis-1,3-Dichloropropene	50	49.8	100	80-119
10061-02-6	trans-1,3-Dichloropropene	50	49.6	99	78-119

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C6833-BS	3C152140.D	1	05/21/19	PS	n/a	n/a	V3C6833

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
100-41-4	Ethylbenzene	50	45.6	91	75-118
87-68-3	Hexachlorobutadiene	50	46.5	93	64-133
98-82-8	Isopropylbenzene	50	45.3	91	74-122
99-87-6	p-Isopropyltoluene	50	45.7	91	74-121
1634-04-4	Methyl Tert Butyl Ether	50	51.9	104	75-123
108-10-1	4-Methyl-2-pentanone(MIBK)	200	204	102	73-136
74-95-3	Methylene bromide	50	50.9	102	82-120
75-09-2	Methylene chloride	50	46.1	92	73-120
91-20-3	Naphthalene	50	46.5	93	71-130
103-65-1	n-Propylbenzene	50	45.0	90	75-120
100-42-5	Styrene	50	46.3	93	78-120
630-20-6	1,1,1,2-Tetrachloroethane	50	49.6	99	75-122
79-34-5	1,1,2,2-Tetrachloroethane	50	49.8	100	72-120
127-18-4	Tetrachloroethene	50	44.6	89	69-128
108-88-3	Toluene	50	45.1	90	74-117
87-61-6	1,2,3-Trichlorobenzene	50	48.2	96	72-133
120-82-1	1,2,4-Trichlorobenzene	50	48.2	96	73-132
71-55-6	1,1,1-Trichloroethane	50	50.0	100	73-131
79-00-5	1,1,2-Trichloroethane	50	48.4	97	79-117
79-01-6	Trichloroethene	50	48.8	98	80-120
75-69-4	Trichlorofluoromethane	50	41.3	83	63-141
96-18-4	1,2,3-Trichloropropane	50	47.1	94	77-121
95-63-6	1,2,4-Trimethylbenzene	50	43.6	87	76-119
108-67-8	1,3,5-Trimethylbenzene	50	44.3	89	74-119
75-01-4	Vinyl chloride	50	47.1	94	55-145
	m,p-Xylene	100	89.5	90	75-120
95-47-6	o-Xylene	50	44.4	89	75-119
1330-20-7	Xylene (total)	150	134	89	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	106%	75-127%
17060-07-0	1,2-Dichloroethane-D4	105%	75-130%
2037-26-5	Toluene-D8	99%	80-120%
460-00-4	4-Bromofluorobenzene	101%	79-127%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C6837-BS	3C152254.D	1	05/25/19	PS	n/a	n/a	V3C6837

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC88412-13

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	200	198	99	48-149
71-43-2	Benzene	50	45.3	91	74-117
108-86-1	Bromobenzene	50	44.9	90	77-117
74-97-5	Bromochloromethane	50	49.4	99	82-121
75-27-4	Bromodichloromethane	50	51.0	102	78-119
75-25-2	Bromoform	50	42.2	84	76-130
74-83-9	Bromomethane	50	42.3	85	58-137
78-93-3	2-Butanone (MEK)	200	207	104	65-143
104-51-8	n-Butylbenzene	50	46.0	92	74-123
135-98-8	sec-Butylbenzene	50	43.6	87	74-123
98-06-6	tert-Butylbenzene	50	42.6	85	73-124
56-23-5	Carbon tetrachloride	50	45.4	91	69-136
108-90-7	Chlorobenzene	50	43.8	88	79-117
75-00-3	Chloroethane	50	44.6	89	62-139
67-66-3	Chloroform	50	46.7	93	76-119
74-87-3	Chloromethane	50	43.0	86	52-144
95-49-8	o-Chlorotoluene	50	43.8	88	77-118
106-43-4	p-Chlorotoluene	50	44.0	88	75-117
96-12-8	1,2-Dibromo-3-chloropropane	50	53.7	107	72-124
124-48-1	Dibromochloromethane	50	51.1	102	78-122
106-93-4	1,2-Dibromoethane	50	49.1	98	80-116
95-50-1	1,2-Dichlorobenzene	50	43.6	87	77-117
541-73-1	1,3-Dichlorobenzene	50	43.3	87	75-117
106-46-7	1,4-Dichlorobenzene	50	43.6	87	76-115
75-71-8	Dichlorodifluoromethane	50	39.8	80	43-156
75-34-3	1,1-Dichloroethane	50	48.8	98	75-124
107-06-2	1,2-Dichloroethane	50	46.4	93	74-124
75-35-4	1,1-Dichloroethene	50	47.5	95	64-129
156-59-2	cis-1,2-Dichloroethene	50	47.9	96	74-118
156-60-5	trans-1,2-Dichloroethene	50	46.8	94	71-125
78-87-5	1,2-Dichloropropane	50	47.7	95	80-119
142-28-9	1,3-Dichloropropane	50	47.8	96	79-115
594-20-7	2,2-Dichloropropane	50	46.8	94	66-130
563-58-6	1,1-Dichloropropene	50	47.1	94	74-124
10061-01-5	cis-1,3-Dichloropropene	50	49.7	99	80-119
10061-02-6	trans-1,3-Dichloropropene	50	49.5	99	78-119

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C6837-BS	3C152254.D	1	05/25/19	PS	n/a	n/a	V3C6837

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC88412-13

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
100-41-4	Ethylbenzene	50	44.3	89	75-118
87-68-3	Hexachlorobutadiene	50	44.0	88	64-133
98-82-8	Isopropylbenzene	50	44.3	89	74-122
99-87-6	p-Isopropyltoluene	50	43.8	88	74-121
1634-04-4	Methyl Tert Butyl Ether	50	51.5	103	75-123
108-10-1	4-Methyl-2-pentanone(MIBK)	200	214	107	73-136
74-95-3	Methylene bromide	50	51.7	103	82-120
75-09-2	Methylene chloride	50	45.5	91	73-120
91-20-3	Naphthalene	50	46.4	93	71-130
103-65-1	n-Propylbenzene	50	43.3	87	75-120
100-42-5	Styrene	50	45.1	90	78-120
630-20-6	1,1,1,2-Tetrachloroethane	50	48.5	97	75-122
79-34-5	1,1,2,2-Tetrachloroethane	50	50.8	102	72-120
127-18-4	Tetrachloroethene	50	43.2	86	69-128
108-88-3	Toluene	50	43.7	87	74-117
87-61-6	1,2,3-Trichlorobenzene	50	46.5	93	72-133
120-82-1	1,2,4-Trichlorobenzene	50	46.1	92	73-132
71-55-6	1,1,1-Trichloroethane	50	48.0	96	73-131
79-00-5	1,1,2-Trichloroethane	50	48.8	98	79-117
79-01-6	Trichloroethene	50	46.5	93	80-120
75-69-4	Trichlorofluoromethane	50	42.9	86	63-141
96-18-4	1,2,3-Trichloropropane	50	47.3	95	77-121
95-63-6	1,2,4-Trimethylbenzene	50	41.5	83	76-119
108-67-8	1,3,5-Trimethylbenzene	50	42.4	85	74-119
75-01-4	Vinyl chloride	50	43.2	86	55-145
	m,p-Xylene	100	87.0	87	75-120
95-47-6	o-Xylene	50	43.5	87	75-119
1330-20-7	Xylene (total)	150	130	87	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	106%	75-127%
17060-07-0	1,2-Dichloroethane-D4	104%	75-130%
2037-26-5	Toluene-D8	100%	80-120%
460-00-4	4-Bromofluorobenzene	100%	79-127%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC88637-1MS	3C152267.D	1	05/25/19	PS	n/a	n/a	V3C6837
JC88637-1	3C152258.D	1	05/25/19	PS	n/a	n/a	V3C6837

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC88412-13

CAS No.	Compound	JC88637-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
67-64-1	Acetone	122		217	182	28	10-157
71-43-2	Benzene	ND		54.4	57.8	106	58-125
108-86-1	Bromobenzene	ND		54.4	53.8	99	50-129
74-97-5	Bromochloromethane	ND		54.4	57.2	105	60-127
75-27-4	Bromodichloromethane	ND		54.4	59.0	109	57-128
75-25-2	Bromoform	ND		54.4	41.8	77	48-133
74-83-9	Bromomethane	ND		54.4	58.9	108	31-141
78-93-3	2-Butanone (MEK)	ND		217	188	86	29-146
104-51-8	n-Butylbenzene	ND		54.4	54.9	101	23-149
135-98-8	sec-Butylbenzene	ND		54.4	55.1	101	33-147
98-06-6	tert-Butylbenzene	ND		54.4	54.3	100	39-145
56-23-5	Carbon tetrachloride	ND		54.4	58.3	107	51-143
108-90-7	Chlorobenzene	ND		54.4	53.7	99	54-130
75-00-3	Chloroethane	ND		54.4	63.6	117	22-153
67-66-3	Chloroform	ND		54.4	58.2	107	61-125
74-87-3	Chloromethane	ND		54.4	63.5	117	43-142
95-49-8	o-Chlorotoluene	ND		54.4	55.1	101	47-137
106-43-4	p-Chlorotoluene	ND		54.4	54.0	99	44-133
96-12-8	1,2-Dibromo-3-chloropropane	ND		54.4	46.3	85	41-127
124-48-1	Dibromochloromethane	ND		54.4	54.5	100	56-127
106-93-4	1,2-Dibromoethane	ND		54.4	51.1	94	54-121
95-50-1	1,2-Dichlorobenzene	ND		54.4	51.2	94	41-134
541-73-1	1,3-Dichlorobenzene	ND		54.4	52.8	97	41-135
106-46-7	1,4-Dichlorobenzene	ND		54.4	51.7	95	41-133
75-71-8	Dichlorodifluoromethane	ND		54.4	58.5	108	30-153
75-34-3	1,1-Dichloroethane	ND		54.4	62.2	114	61-131
107-06-2	1,2-Dichloroethane	ND		54.4	52.3	96	56-126
75-35-4	1,1-Dichloroethene	ND		54.4	62.0	114	53-132
156-59-2	cis-1,2-Dichloroethene	ND		54.4	60.1	111	57-125
156-60-5	trans-1,2-Dichloroethene	ND		54.4	60.4	111	56-130
78-87-5	1,2-Dichloropropane	ND		54.4	58.5	108	63-126
142-28-9	1,3-Dichloropropane	ND		54.4	51.8	95	58-119
594-20-7	2,2-Dichloropropane	ND		54.4	50.2	92	41-135
563-58-6	1,1-Dichloropropene	ND		54.4	60.1	111	53-132
10061-01-5	cis-1,3-Dichloropropene	ND		54.4	54.8	101	55-126
10061-02-6	trans-1,3-Dichloropropene	ND		54.4	51.6	95	51-126

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC88637-1MS	3C152267.D	1	05/25/19	PS	n/a	n/a	V3C6837
JC88637-1	3C152258.D	1	05/25/19	PS	n/a	n/a	V3C6837

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC88412-13

CAS No.	Compound	JC88637-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
100-41-4	Ethylbenzene	ND		54.4	56.3	104	49-132
87-68-3	Hexachlorobutadiene	ND		54.4	48.2	89	10-165
98-82-8	Isopropylbenzene	ND		54.4	55.3	102	43-141
99-87-6	p-Isopropyltoluene	ND		54.4	54.5	100	34-144
1634-04-4	Methyl Tert Butyl Ether	ND		54.4	54.5	100	58-123
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		217	193	89	40-140
74-95-3	Methylene bromide	ND		54.4	54.8	101	57-124
75-09-2	Methylene chloride	ND		54.4	54.9	101	57-123
91-20-3	Naphthalene	ND		54.4	46.2	85	22-145
103-65-1	n-Propylbenzene	ND		54.4	54.6	100	41-139
100-42-5	Styrene	ND		54.4	54.4	100	46-139
630-20-6	1,1,1,2-Tetrachloroethane	ND		54.4	57.2	105	53-133
79-34-5	1,1,2,2-Tetrachloroethane	ND		54.4	51.5	95	44-127
127-18-4	Tetrachloroethene	ND		54.4	54.3	100	39-154
108-88-3	Toluene	ND		54.4	54.9	101	54-127
87-61-6	1,2,3-Trichlorobenzene	ND		54.4	50.4	93	17-151
120-82-1	1,2,4-Trichlorobenzene	ND		54.4	50.6	93	19-153
71-55-6	1,1,1-Trichloroethane	ND		54.4	61.7	113	57-138
79-00-5	1,1,2-Trichloroethane	ND		54.4	53.5	98	53-127
79-01-6	Trichloroethene	ND		54.4	59.6	110	52-140
75-69-4	Trichlorofluoromethane	ND		54.4	58.5	108	46-142
96-18-4	1,2,3-Trichloropropane	ND		54.4	48.1	88	48-129
95-63-6	1,2,4-Trimethylbenzene	ND		54.4	51.8	95	39-142
108-67-8	1,3,5-Trimethylbenzene	ND		54.4	53.8	99	40-140
75-01-4	Vinyl chloride	ND		54.4	64.4	118	43-146
	m,p-Xylene	ND		109	108	99	45-137
95-47-6	o-Xylene	ND		54.4	53.7	99	48-135
1330-20-7	Xylene (total)	ND		163	162	99	46-137

CAS No.	Surrogate Recoveries	MS	JC88637-1	Limits
1868-53-7	Dibromofluoromethane	106%	104%	75-127%
17060-07-0	1,2-Dichloroethane-D4	96%	103%	75-130%
2037-26-5	Toluene-D8	102%	99%	80-120%
460-00-4	4-Bromofluorobenzene	101%	102%	79-127%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC88412-10MS	3C152154.D	1	05/21/19	PS	n/a	n/a	V3C6833
JC88412-10MSD	3C152155.D	1	05/21/19	PS	n/a	n/a	V3C6833
JC88412-10	3C152144.D	1	05/21/19	PS	n/a	n/a	V3C6833

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	JC88412-10 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		348	270	78	274	219	80	21	10-157/31
71-43-2	Benzene	ND		87.1	87.9	101	68.4	71.6	105	20	58-125/22
108-86-1	Bromobenzene	ND		87.1	89.9	103	68.4	71.3	104	23* [a]	50-129/22
74-97-5	Bromochloromethane	ND		87.1	88.6	102	68.4	73.3	107	19	60-127/22
75-27-4	Bromodichloromethane	ND		87.1	86.0	99	68.4	73.2	107	16	57-128/22
75-25-2	Bromoform	ND		87.1	54.1	62	68.4	49.4	72	9	48-133/21
74-83-9	Bromomethane	ND		87.1	77.7	89	68.4	62.8	92	21	31-141/28
78-93-3	2-Butanone (MEK)	ND		348	263	76	274	240	88	9	29-146/27
104-51-8	n-Butylbenzene	ND		87.1	58.3	67	68.4	52.1	76	11	23-149/29
135-98-8	sec-Butylbenzene	ND		87.1	74.9	86	68.4	63.8	93	16	33-147/26
98-06-6	tert-Butylbenzene	ND		87.1	84.9	97	68.4	70.3	103	19	39-145/26
56-23-5	Carbon tetrachloride	ND		87.1	82.8	95	68.4	68.4	100	19	51-143/25
108-90-7	Chlorobenzene	ND		87.1	77.7	89	68.4	63.3	93	20	54-130/22
75-00-3	Chloroethane	ND		87.1	97.5	112	68.4	77.5	113	23	22-153/32
67-66-3	Chloroform	ND		87.1	90.1	103	68.4	72.4	106	22	61-125/22
74-87-3	Chloromethane	ND		87.1	95.6	110	68.4	74.7	109	25	43-142/27
95-49-8	o-Chlorotoluene	ND		87.1	85.9	99	68.4	71.8	105	18	47-137/23
106-43-4	p-Chlorotoluene	ND		87.1	83.4	96	68.4	66.9	98	22* [a]	44-133/21
96-12-8	1,2-Dibromo-3-chloropropane	ND		87.1	67.8	78	68.4	64.2	94	5	41-127/23
124-48-1	Dibromochloromethane	ND		87.1	81.4	93	68.4	68.8	101	17	56-127/21
106-93-4	1,2-Dibromoethane	ND		87.1	80.8	93	68.4	65.5	96	21	54-121/21
95-50-1	1,2-Dichlorobenzene	ND		87.1	62.8	72	68.4	56.8	83	10	41-134/22
541-73-1	1,3-Dichlorobenzene	ND		87.1	67.9	78	68.4	58.2	85	15	41-135/22
106-46-7	1,4-Dichlorobenzene	ND		87.1	66.5	76	68.4	57.8	84	14	41-133/22
75-71-8	Dichlorodifluoromethane	ND		87.1	78.6	90	68.4	62.5	91	23	30-153/29
75-34-3	1,1-Dichloroethane	ND		87.1	98.8	113	68.4	79.3	116	22	61-131/23
107-06-2	1,2-Dichloroethane	ND		87.1	80.1	92	68.4	67.0	98	18	56-126/21
75-35-4	1,1-Dichloroethene	ND		87.1	95.5	110	68.4	74.8	109	24* [a]	53-132/23
156-59-2	cis-1,2-Dichloroethene	ND		87.1	93.0	107	68.4	73.3	107	24* [a]	57-125/22
156-60-5	trans-1,2-Dichloroethene	ND		87.1	93.8	108	68.4	73.7	108	24* [a]	56-130/23
78-87-5	1,2-Dichloropropane	ND		87.1	89.6	103	68.4	72.5	106	21	63-126/22
142-28-9	1,3-Dichloropropane	ND		87.1	85.2	98	68.4	68.7	100	21	58-119/21
594-20-7	2,2-Dichloropropane	ND		87.1	63.8	73	68.4	51.1	75	22	41-135/25
563-58-6	1,1-Dichloropropene	ND		87.1	87.9	101	68.4	70.0	102	23	53-132/23
10061-01-5	cis-1,3-Dichloropropene	ND		87.1	69.4	80	68.4	58.3	85	17	55-126/21
10061-02-6	trans-1,3-Dichloropropene	ND		87.1	75.2	86	68.4	61.3	90	20	51-126/21

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC88412-10MS	3C152154.D	1	05/21/19	PS	n/a	n/a	V3C6833
JC88412-10MSD	3C152155.D	1	05/21/19	PS	n/a	n/a	V3C6833
JC88412-10	3C152144.D	1	05/21/19	PS	n/a	n/a	V3C6833

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	JC88412-10 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
100-41-4	Ethylbenzene	ND		87.1	82.9	95	68.4	67.1	98	21	49-132/23
87-68-3	Hexachlorobutadiene	ND		87.1	29.1	33	68.4	29.8	44	2	10-165/32
98-82-8	Isopropylbenzene	ND		87.1	73.0	84	68.4	62.8	92	15	43-141/25
99-87-6	p-Isopropyltoluene	ND		87.1	72.6	83	68.4	60.6	89	18	34-144/26
1634-04-4	Methyl Tert Butyl Ether	ND		87.1	87.0	100	68.4	71.9	105	19	58-123/23
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		348	275	79	274	250	91	10	40-140/24
74-95-3	Methylene bromide	ND		87.1	82.3	95	68.4	69.2	101	17	57-124/21
75-09-2	Methylene chloride	ND		87.1	86.9	100	68.4	68.8	101	23	57-123/23
91-20-3	Naphthalene	ND		87.1	35.4	41	68.4	38.1	56	7	22-145/30
103-65-1	n-Propylbenzene	ND		87.1	87.8	101	68.4	69.6	102	23	41-139/23
100-42-5	Styrene	ND		87.1	70.5	81	68.4	59.5	87	17	46-139/22
630-20-6	1,1,1,2-Tetrachloroethane	ND		87.1	85.8	99	68.4	71.8	105	18	53-133/22
79-34-5	1,1,2,2-Tetrachloroethane	ND		87.1	90.9	104	68.4	74.9	109	19	44-127/26
127-18-4	Tetrachloroethene	ND		87.1	79.2	91	68.4	62.8	92	23	39-154/26
108-88-3	Toluene	ND		87.1	89.2	102	68.4	69.0	101	26* [a]	54-127/22
87-61-6	1,2,3-Trichlorobenzene	ND		87.1	30.0	34	68.4	32.4	47	8	17-151/32
120-82-1	1,2,4-Trichlorobenzene	ND		87.1	33.5	38	68.4	35.1	51	5	19-153/32
71-55-6	1,1,1-Trichloroethane	ND		87.1	93.2	107	68.4	75.7	111	21	57-138/24
79-00-5	1,1,2-Trichloroethane	ND		87.1	84.2	97	68.4	68.9	101	20	53-127/22
79-01-6	Trichloroethene	ND		87.1	88.5	102	68.4	70.0	102	23	52-140/24
75-69-4	Trichlorofluoromethane	ND		87.1	85.5	98	68.4	68.2	100	23	46-142/27
96-18-4	1,2,3-Trichloropropane	ND		87.1	91.3	105	68.4	72.6	106	23* [a]	48-129/22
95-63-6	1,2,4-Trimethylbenzene	ND		87.1	79.0	91	68.4	66.0	96	18	39-142/23
108-67-8	1,3,5-Trimethylbenzene	ND		87.1	83.7	96	68.4	69.0	101	19	40-140/23
75-01-4	Vinyl chloride	ND		87.1	95.3	109	68.4	75.3	110	23	43-146/26
	m,p-Xylene	ND		174	156	90	137	127	93	20	45-137/23
95-47-6	o-Xylene	ND		87.1	76.8	88	68.4	64.0	94	18	48-135/22
1330-20-7	Xylene (total)	ND		261	232	89	205	191	93	19	46-137/23

CAS No.	Surrogate Recoveries	MS	MSD	JC88412-10	Limits
1868-53-7	Dibromofluoromethane	105%	107%	107%	75-127%
17060-07-0	1,2-Dichloroethane-D4	96%	99%	106%	75-130%
2037-26-5	Toluene-D8	110%	106%	112%	80-120%
460-00-4	4-Bromofluorobenzene	120%	115%	125%	79-127%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC88412-10MS	3C152154.D	1	05/21/19	PS	n/a	n/a	V3C6833
JC88412-10MSD	3C152155.D	1	05/21/19	PS	n/a	n/a	V3C6833
JC88412-10	3C152144.D	1	05/21/19	PS	n/a	n/a	V3C6833

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

(a) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC88637-2DUP	3C152269.D	1	05/25/19	PS	n/a	n/a	V3C6837
JC88637-2	3C152259.D	1	05/25/19	PS	n/a	n/a	V3C6837

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC88412-13

CAS No.	Compound	JC88637-2 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
67-64-1	Acetone	137		55.7		84* [a]	40
71-43-2	Benzene	ND		ND		nc	30
108-86-1	Bromobenzene	ND		ND		nc	30
74-97-5	Bromochloromethane	ND		ND		nc	30
75-27-4	Bromodichloromethane	ND		ND		nc	30
75-25-2	Bromoform	ND		ND		nc	30
74-83-9	Bromomethane	ND		ND		nc	30
78-93-3	2-Butanone (MEK)	ND		ND		nc	30
104-51-8	n-Butylbenzene	ND		ND		nc	30
135-98-8	sec-Butylbenzene	ND		ND		nc	30
98-06-6	tert-Butylbenzene	ND		ND		nc	30
56-23-5	Carbon tetrachloride	ND		ND		nc	30
108-90-7	Chlorobenzene	ND		ND		nc	30
75-00-3	Chloroethane	ND		ND		nc	30
67-66-3	Chloroform	ND		ND		nc	30
74-87-3	Chloromethane	ND		ND		nc	30
95-49-8	o-Chlorotoluene	ND		ND		nc	30
106-43-4	p-Chlorotoluene	ND		ND		nc	30
96-12-8	1,2-Dibromo-3-chloropropane	ND		ND		nc	30
124-48-1	Dibromochloromethane	ND		ND		nc	30
106-93-4	1,2-Dibromoethane	ND		ND		nc	30
95-50-1	1,2-Dichlorobenzene	ND		ND		nc	30
541-73-1	1,3-Dichlorobenzene	ND		ND		nc	30
106-46-7	1,4-Dichlorobenzene	ND		ND		nc	30
75-71-8	Dichlorodifluoromethane	ND		ND		nc	30
75-34-3	1,1-Dichloroethane	ND		ND		nc	30
107-06-2	1,2-Dichloroethane	ND		ND		nc	30
75-35-4	1,1-Dichloroethene	ND		ND		nc	30
156-59-2	cis-1,2-Dichloroethene	ND		ND		nc	30
156-60-5	trans-1,2-Dichloroethene	ND		ND		nc	30
78-87-5	1,2-Dichloropropane	ND		ND		nc	30
142-28-9	1,3-Dichloropropane	ND		ND		nc	30
594-20-7	2,2-Dichloropropane	ND		ND		nc	30
563-58-6	1,1-Dichloropropene	ND		ND		nc	30
10061-01-5	cis-1,3-Dichloropropene	ND		ND		nc	30
10061-02-6	trans-1,3-Dichloropropene	ND		ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC88637-2DUP	3C152269.D	1	05/25/19	PS	n/a	n/a	V3C6837
JC88637-2	3C152259.D	1	05/25/19	PS	n/a	n/a	V3C6837

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC88412-13

CAS No.	Compound	JC88637-2 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
100-41-4	Ethylbenzene	ND		ND		nc	30
87-68-3	Hexachlorobutadiene	ND		ND		nc	30
98-82-8	Isopropylbenzene	ND		ND		nc	30
99-87-6	p-Isopropyltoluene	ND		ND		nc	30
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	30
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		ND		nc	30
74-95-3	Methylene bromide	ND		ND		nc	30
75-09-2	Methylene chloride	1.3	J	1.6	J	21	36
91-20-3	Naphthalene	ND		ND		nc	30
103-65-1	n-Propylbenzene	ND		ND		nc	30
100-42-5	Styrene	ND		ND		nc	30
630-20-6	1,1,1,2-Tetrachloroethane	ND		ND		nc	30
79-34-5	1,1,2,2-Tetrachloroethane	ND		ND		nc	30
127-18-4	Tetrachloroethene	ND		ND		nc	30
108-88-3	Toluene	ND		ND		nc	24
87-61-6	1,2,3-Trichlorobenzene	ND		ND		nc	30
120-82-1	1,2,4-Trichlorobenzene	ND		ND		nc	30
71-55-6	1,1,1-Trichloroethane	ND		ND		nc	30
79-00-5	1,1,2-Trichloroethane	ND		ND		nc	30
79-01-6	Trichloroethene	ND		ND		nc	30
75-69-4	Trichlorofluoromethane	ND		ND		nc	30
96-18-4	1,2,3-Trichloropropane	ND		ND		nc	30
95-63-6	1,2,4-Trimethylbenzene	ND		ND		nc	30
108-67-8	1,3,5-Trimethylbenzene	ND		ND		nc	30
75-01-4	Vinyl chloride	ND		ND		nc	30
	m,p-Xylene	ND		ND		nc	32
95-47-6	o-Xylene	ND		ND		nc	30
1330-20-7	Xylene (total)	ND		ND		nc	33

CAS No.	Surrogate Recoveries	DUP	JC88637-2	Limits
1868-53-7	Dibromofluoromethane	104%	106%	75-127%
17060-07-0	1,2-Dichloroethane-D4	101%	101%	75-130%
2037-26-5	Toluene-D8	100%	100%	80-120%
460-00-4	4-Bromofluorobenzene	101%	100%	79-127%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC88637-2DUP	3C152269.D	1	05/25/19	PS	n/a	n/a	V3C6837
JC88637-2	3C152259.D	1	05/25/19	PS	n/a	n/a	V3C6837

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC88412-13

(a) Outside control limits due to sample non-homogeneity.

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample: V3C6825-BFB
Lab File ID: 3C151914.D
Instrument ID: GCMS3C
Injection Date: 05/11/19
Injection Time: 15:14

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	22904	18.4		Pass
75	30.0 - 60.0% of mass 95	62053	49.8		Pass
95	Base peak, 100% relative abundance	124498	100.0		Pass
96	5.0 - 9.0% of mass 95	8421	6.76		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	110240	88.5		Pass
175	5.0 - 9.0% of mass 174	8164	6.56	(7.41) [a]	Pass
176	95.0 - 101.0% of mass 174	106578	85.6	(96.7) [a]	Pass
177	5.0 - 9.0% of mass 176	7202	5.78	(6.76) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3C6825-IC6825	3C151915.D	05/11/19	15:41	00:27	Initial cal 0.2
V3C6825-IC6825	3C151916.D	05/11/19	16:04	00:50	Initial cal 0.5
V3C6825-IC6825	3C151917.D	05/11/19	16:27	01:13	Initial cal 1
V3C6825-IC6825	3C151918.D	05/11/19	16:50	01:36	Initial cal 2
V3C6825-IC6825	3C151919.D	05/11/19	17:14	02:00	Initial cal 4
V3C6825-IC6825	3C151920.D	05/11/19	17:37	02:23	Initial cal 8
V3C6825-IC6825	3C151921.D	05/11/19	18:00	02:46	Initial cal 20
V3C6825-ICC6825	3C151922.D	05/11/19	18:23	03:09	Initial cal 50
V3C6825-IC6825	3C151923.D	05/11/19	18:46	03:32	Initial cal 100
V3C6825-IC6825	3C151924.D	05/11/19	19:09	03:55	Initial cal 200
V3C6825-ICV6825	3C151927.D	05/11/19	20:19	05:05	Initial cal verification 50
V3C6825-ICV6825	3C151928.D	05/11/19	20:42	05:28	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample: V3C6833-BFB
Lab File ID: 3C152139.D
Instrument ID: GCMS3C
Injection Date: 05/21/19
Injection Time: 08:24

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	19616	18.1		Pass
75	30.0 - 60.0% of mass 95	49967	46.1		Pass
95	Base peak, 100% relative abundance	108456	100.0		Pass
96	5.0 - 9.0% of mass 95	7145	6.59		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	94120	86.8		Pass
175	5.0 - 9.0% of mass 174	7234	6.67	(7.69) [a]	Pass
176	95.0 - 101.0% of mass 174	93376	86.1	(99.2) [a]	Pass
177	5.0 - 9.0% of mass 176	6168	5.69	(6.61) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3C6833-CC6825	3C152139.D	05/21/19	08:24	00:00	Continuing cal 20
V3C6833-BS	3C152140.D	05/21/19	08:54	00:30	Blank Spike
ZZZZZZ	3C152142A.D	05/21/19	10:01	01:37	(unrelated sample)
V3C6833-MB	3C152142.D	05/21/19	10:01	01:37	Method Blank
JC88412-8	3C152143.D	05/21/19	10:24	02:00	SD140500
JC88412-10	3C152144.D	05/21/19	10:47	02:23	SP150100
JC88412-1	3C152145.D	05/21/19	11:10	02:46	SP130100
JC88412-2	3C152146.D	05/21/19	11:33	03:09	SP130200
JC88412-3	3C152147.D	05/21/19	11:56	03:32	SS070100
JC88412-4	3C152148.D	05/21/19	12:19	03:55	SS070200
JC88412-5	3C152149.D	05/21/19	12:42	04:18	SS070300
JC88412-6	3C152150.D	05/21/19	13:06	04:42	SS070400
JC88412-7	3C152151.D	05/21/19	13:29	05:05	SD140100
JC88412-9	3C152152.D	05/21/19	13:52	05:28	SD140600
JC88412-10MS	3C152154.D	05/21/19	14:38	06:14	Matrix Spike
JC88412-10MSD	3C152155.D	05/21/19	15:01	06:37	Matrix Spike Duplicate
ZZZZZZ	3C152157.D	05/21/19	15:47	07:23	(unrelated sample)
JC88412-11	3C152158.D	05/21/19	16:11	07:47	SP150100DUP
JC88412-12	3C152159.D	05/21/19	16:34	08:10	SP150200

Instrument Performance Check (BFB)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample: V3C6837-BFB
Lab File ID: 3C152253.D
Instrument ID: GCMS3C
Injection Date: 05/25/19
Injection Time: 09:42

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	14068	15.3		Pass
75	30.0 - 60.0% of mass 95	34842	37.9		Pass
95	Base peak, 100% relative abundance	91997	100.0		Pass
96	5.0 - 9.0% of mass 95	6113	6.64		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	83056	90.3		Pass
175	5.0 - 9.0% of mass 174	6051	6.58	(7.29) [a]	Pass
176	95.0 - 101.0% of mass 174	81243	88.3	(97.8) [a]	Pass
177	5.0 - 9.0% of mass 176	5452	5.93	(6.71) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3C6837-CC6825	3C152253.D	05/25/19	09:42	00:00	Continuing cal 50
V3C6837-BS	3C152254.D	05/25/19	10:11	00:29	Blank Spike
ZZZZZZ	3C152256A.D	05/25/19	11:06	01:24	(unrelated sample)
V3C6837-MB	3C152256.D	05/25/19	11:06	01:24	Method Blank
JC88412-13	3C152257.D	05/25/19	11:29	01:47	TB051719
JC88637-1	3C152258.D	05/25/19	11:52	02:10	(used for QC only; not part of job JC88412)
JC88637-2	3C152259.D	05/25/19	12:15	02:33	(used for QC only; not part of job JC88412)
ZZZZZZ	3C152260.D	05/25/19	12:38	02:56	(unrelated sample)
ZZZZZZ	3C152261.D	05/25/19	13:01	03:19	(unrelated sample)
ZZZZZZ	3C152262.D	05/25/19	13:24	03:42	(unrelated sample)
ZZZZZZ	3C152263.D	05/25/19	13:47	04:05	(unrelated sample)
ZZZZZZ	3C152264.D	05/25/19	14:11	04:29	(unrelated sample)
ZZZZZZ	3C152265.D	05/25/19	14:34	04:52	(unrelated sample)
JC88637-1MS	3C152267.D	05/25/19	15:20	05:38	Matrix Spike
JC88637-2DUP	3C152269.D	05/25/19	16:06	06:24	Duplicate
ZZZZZZ	3C152270.D	05/25/19	16:29	06:47	(unrelated sample)
ZZZZZZ	3C152272.D	05/25/19	17:15	07:33	(unrelated sample)
ZZZZZZ	3C152273.D	05/25/19	17:39	07:57	(unrelated sample)
ZZZZZZ	3C152274.D	05/25/19	18:02	08:20	(unrelated sample)
ZZZZZZ	3C152275.D	05/25/19	18:25	08:43	(unrelated sample)
ZZZZZZ	3C152276.D	05/25/19	18:48	09:06	(unrelated sample)
ZZZZZZ	3C152277.D	05/25/19	19:11	09:29	(unrelated sample)
ZZZZZZ	3C152278.D	05/25/19	19:34	09:52	(unrelated sample)
ZZZZZZ	3C152279.D	05/25/19	19:57	10:15	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample:	V3C6837-BFB	**Injection Date:**	05/25/19
Lab File ID:	3C152253.D	**Injection Time:**	09:42
Instrument ID:	GCMS3C		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	3C152280.D	05/25/19	20:20	10:38	(unrelated sample)

Surrogate Recovery Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Method: SW846 8260C **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JC88412-1	3C152145.D	107	107	100	105
JC88412-2	3C152146.D	105	108	102	108
JC88412-3	3C152147.D	106	106	99	101
JC88412-4	3C152148.D	107	109	100	102
JC88412-5	3C152149.D	106	107	99	102
JC88412-6	3C152150.D	107	105	99	101
JC88412-7	3C152151.D	106	105	101	102
JC88412-8	3C152143.D	105	104	101	103
JC88412-9	3C152152.D	102	101	105	110
JC88412-10	3C152144.D	107	106	112	125
JC88412-11	3C152158.D	107	107	114	123
JC88412-12	3C152159.D	106	105	108	118
JC88412-13	3C152257.D	105	107	99	100
JC88412-10MS	3C152154.D	105	96	110	120
JC88412-10MSD	3C152155.D	107	99	106	115
JC88637-1MS	3C152267.D	106	96	102	101
JC88637-2DUP	3C152269.D	104	101	100	101
V3C6833-BS	3C152140.D	106	105	99	101
V3C6833-MB	3C152142.D	104	102	99	102
V3C6837-BS	3C152254.D	106	104	100	100
V3C6837-MB	3C152256.D	104	99	99	100

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	75-127%
S2 = 1,2-Dichloroethane-D4	75-130%
S3 = Toluene-D8	80-120%
S4 = 4-Bromofluorobenzene	79-127%

MS Semi-volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (DFTPP)
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20619-MB1	5P60245.D	1	06/03/19	AR	05/30/19	OP20619	E5P2839

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	670	55	ug/kg	
95-57-8	2-Chlorophenol	ND	67	16	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	170	20	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	170	28	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	170	59	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	170	130	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	170	36	ug/kg	
95-48-7	2-Methylphenol	ND	67	21	ug/kg	
	3&4-Methylphenol	ND	67	27	ug/kg	
88-75-5	2-Nitrophenol	ND	170	22	ug/kg	
100-02-7	4-Nitrophenol	ND	330	89	ug/kg	
87-86-5	Pentachlorophenol	ND	130	31	ug/kg	
108-95-2	Phenol	ND	67	17	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	170	25	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	170	20	ug/kg	
83-32-9	Acenaphthene	ND	33	11	ug/kg	
208-96-8	Acenaphthylene	ND	33	17	ug/kg	
62-53-3	Aniline	ND	67	15	ug/kg	
120-12-7	Anthracene	ND	33	20	ug/kg	
92-87-5	Benzidine	ND	330	58	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	9.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	15	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	16	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	67	13	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	67	8.1	ug/kg	
100-51-6	Benzyl Alcohol	ND	67	12	ug/kg	
91-58-7	2-Chloronaphthalene	ND	67	7.9	ug/kg	
106-47-8	4-Chloroaniline	ND	170	12	ug/kg	
86-74-8	Carbazole	ND	67	4.8	ug/kg	
218-01-9	Chrysene	ND	33	10	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	67	7.1	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	67	14	ug/kg	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	67	12	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	67	11	ug/kg	

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20619-MB1	5P60245.D	1	06/03/19	AR	05/30/19	OP20619	E5P2839

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	67	9.6	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	67	7.6	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	67	7.1	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	67	8.1	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	33	10	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	33	17	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	67	28	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	15	ug/kg	
132-64-9	Dibenzofuran	ND	67	14	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	67	5.4	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	67	8.3	ug/kg	
84-66-2	Diethyl phthalate	ND	67	7.1	ug/kg	
131-11-3	Dimethyl phthalate	ND	67	5.9	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	67	7.8	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	15	ug/kg	
118-74-1	Hexachlorobenzene	ND	67	8.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	33	13	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	330	13	ug/kg	
67-72-1	Hexachloroethane	ND	170	16	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	16	ug/kg	
78-59-1	Isophorone	ND	67	7.1	ug/kg	
90-12-0	1-Methylnaphthalene	ND	33	6.5	ug/kg	
91-57-6	2-Methylnaphthalene	ND	33	7.5	ug/kg	
88-74-4	2-Nitroaniline	ND	170	7.9	ug/kg	
99-09-2	3-Nitroaniline	ND	170	8.3	ug/kg	
100-01-6	4-Nitroaniline	ND	170	8.6	ug/kg	
91-20-3	Naphthalene	ND	33	9.4	ug/kg	
98-95-3	Nitrobenzene	ND	67	13	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	67	12	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	67	9.6	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	170	12	ug/kg	
85-01-8	Phenanthrene	ND	33	11	ug/kg	
129-00-0	Pyrene	ND	33	11	ug/kg	
110-86-1	Pyridine	ND	67	11	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	67	8.7	ug/kg	

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20619-MB1	5P60245.D	1	06/03/19	AR	05/30/19	OP20619	E5P2839

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	66%	23-115%
4165-62-2	Phenol-d5	86%	27-114%
118-79-6	2,4,6-Tribromophenol	59%	19-152%
4165-60-0	Nitrobenzene-d5	65%	26-134%
321-60-8	2-Fluorobiphenyl	46%	39-124%
1718-51-0	Terphenyl-d14	52%	36-134%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/kg	

Blank Spike Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20619-BS1	5P60269.D	1	06/03/19	AR	05/30/19	OP20619	E5P2839

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
65-85-0	Benzoic acid	1670	1610	97	37-139
95-57-8	2-Chlorophenol	1670	1080	65	44-122
59-50-7	4-Chloro-3-methyl phenol	1670	1130	68	50-123
120-83-2	2,4-Dichlorophenol	1670	1080	65	48-122
105-67-9	2,4-Dimethylphenol	1670	1180	71	48-124
51-28-5	2,4-Dinitrophenol	3330	3210	96	34-146
534-52-1	4,6-Dinitro-o-cresol	1670	1290	77	49-140
95-48-7	2-Methylphenol	1670	1070	64	40-126
	3&4-Methylphenol	1670	1120	67	40-127
88-75-5	2-Nitrophenol	1670	1380	83	44-133
100-02-7	4-Nitrophenol	1670	1350	81	35-153
87-86-5	Pentachlorophenol	1670	1270	76	15-149
108-95-2	Phenol	1670	973	58	50-109
95-95-4	2,4,5-Trichlorophenol	1670	1190	71	45-124
88-06-2	2,4,6-Trichlorophenol	1670	1220	73	57-122
83-32-9	Acenaphthene	1670	1030	62	53-119
208-96-8	Acenaphthylene	1670	1170	70	41-125
62-53-3	Aniline	1670	951	57	10-132
120-12-7	Anthracene	1670	1110	67	51-120
92-87-5	Benzidine	3330	1260	38	10-136
56-55-3	Benzo(a)anthracene	1670	1150	69	54-118
50-32-8	Benzo(a)pyrene	1670	1230	74	55-121
205-99-2	Benzo(b)fluoranthene	1670	1160	70	57-116
191-24-2	Benzo(g,h,i)perylene	1670	1100	66	40-124
207-08-9	Benzo(k)fluoranthene	1670	1200	72	59-116
101-55-3	4-Bromophenyl phenyl ether	1670	1050	63	60-122
85-68-7	Butyl benzyl phthalate	1670	1430	86	51-134
100-51-6	Benzyl Alcohol	1670	1240	74	43-125
91-58-7	2-Chloronaphthalene	1670	1010	61	49-120
106-47-8	4-Chloroaniline	1670	925	56	10-115
86-74-8	Carbazole	1670	1150	69	52-124
218-01-9	Chrysene	1670	1110	67	51-115
111-91-1	bis(2-Chloroethoxy)methane	1670	1100	66	36-131
111-44-4	bis(2-Chloroethyl)ether	1670	1050	63	41-131
108-60-1	2,2'-Oxybis(1-chloropropane)	1670	1120	67	22-134
7005-72-3	4-Chlorophenyl phenyl ether	1670	977	59	56-118

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20619-BS1	5P60269.D	1	06/03/19	AR	05/30/19	OP20619	E5P2839

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
95-50-1	1,2-Dichlorobenzene	1670	1000	60	41-124
122-66-7	1,2-Diphenylhydrazine	1670	1260	76	46-135
541-73-1	1,3-Dichlorobenzene	1670	995	60	36-126
106-46-7	1,4-Dichlorobenzene	1670	1030	62	40-124
121-14-2	2,4-Dinitrotoluene	1670	1130	68	57-131
606-20-2	2,6-Dinitrotoluene	1670	1190	71	57-132
91-94-1	3,3'-Dichlorobenzidine	3330	2240	67	10-129
53-70-3	Dibenzo(a,h)anthracene	1670	1080	65	48-121
132-64-9	Dibenzofuran	1670	1060	64	51-119
84-74-2	Di-n-butyl phthalate	1670	1340	80	59-125
117-84-0	Di-n-octyl phthalate	1670	1540	92	47-147
84-66-2	Diethyl phthalate	1670	1180	71	57-116
131-11-3	Dimethyl phthalate	1670	1070	64	56-116
117-81-7	bis(2-Ethylhexyl)phthalate	1670	1390	83	53-133
206-44-0	Fluoranthene	1670	1040	62	58-117
86-73-7	Fluorene	1670	1090	65	56-114
118-74-1	Hexachlorobenzene	1670	953	57	50-128
87-68-3	Hexachlorobutadiene	1670	1030	62	43-129
77-47-4	Hexachlorocyclopentadiene	3330	2180	65	15-140
67-72-1	Hexachloroethane	1670	936	56	43-123
193-39-5	Indeno(1,2,3-cd)pyrene	1670	947	57	49-124
78-59-1	Isophorone	1670	1110	67	38-128
90-12-0	1-Methylnaphthalene	1670	1020	61	32-125
91-57-6	2-Methylnaphthalene	1670	1150	69	37-124
88-74-4	2-Nitroaniline	1670	1440	86	45-144
99-09-2	3-Nitroaniline	1670	1270	76	10-134
100-01-6	4-Nitroaniline	1670	1280	77	41-130
91-20-3	Naphthalene	1670	1090	65	44-116
98-95-3	Nitrobenzene	1670	1240	74	36-132
62-75-9	n-Nitrosodimethylamine	1670	1020	61	17-136
621-64-7	N-Nitroso-di-n-propylamine	1670	1040	62	38-125
86-30-6	N-Nitrosodiphenylamine	1670	1120	67	51-122
85-01-8	Phenanthrene	1670	1050	63	53-119
129-00-0	Pyrene	1670	1260	76	54-124
110-86-1	Pyridine	1670	926	56	10-125
120-82-1	1,2,4-Trichlorobenzene	1670	991	59	42-122

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20619-BS1	5P60269.D	1	06/03/19	AR	05/30/19	OP20619	E5P2839

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	62%	23-115%
4165-62-2	Phenol-d5	60%	27-114%
118-79-6	2,4,6-Tribromophenol	60%	19-152%
4165-60-0	Nitrobenzene-d5	76%	26-134%
321-60-8	2-Fluorobiphenyl	59%	39-124%
1718-51-0	Terphenyl-d14	78%	36-134%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20619-MS	5P60271.D	1	06/03/19	AR	05/30/19	OP20619	E5P2839
OP20619-MSD	5P60272.D	1	06/03/19	AR	05/30/19	OP20619	E5P2839
JC88412-10	5P60270.D	1	06/03/19	AR	05/30/19	OP20619	E5P2839

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	JC88412-10 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic acid	ND		1870	1340	72	1910	1270	67	5	10-150/50
95-57-8	2-Chlorophenol	ND		1870	766	41	1910	557	29	32	10-137/34
59-50-7	4-Chloro-3-methyl phenol	ND		1870	835	45	1910	623	33	29	11-147/35
120-83-2	2,4-Dichlorophenol	ND		1870	771	41	1910	563	29	31	15-140/34
105-67-9	2,4-Dimethylphenol	ND		1870	825	44	1910	607	32	30	10-151/34
51-28-5	2,4-Dinitrophenol	ND		3730	2660	71	3820	2270	59	16	10-148/49
534-52-1	4,6-Dinitro-o-cresol	ND		1870	1000	54	1910	778	41	25	10-150/48
95-48-7	2-Methylphenol	ND		1870	785	42	1910	586	31	29	10-138/33
	3&4-Methylphenol	ND		1870	782	42	1910	575	30	31	10-143/33
88-75-5	2-Nitrophenol	ND		1870	995	53	1910	745	39	29	10-150/39
100-02-7	4-Nitrophenol	ND		1870	960	51	1910	745	39	25	10-163/38
87-86-5	Pentachlorophenol	ND		1870	951	51	1910	745	39	24	10-148/39
108-95-2	Phenol	ND		1870	674	36	1910	506	27	28	24-114/32
95-95-4	2,4,5-Trichlorophenol	ND		1870	839	45	1910	662	35	24	10-146/36
88-06-2	2,4,6-Trichlorophenol	ND		1870	886	47	1910	676	35	27	16-148/36
83-32-9	Acenaphthene	ND		1870	847	45	1910	580	30	37* [a]	21-136/34
208-96-8	Acenaphthylene	ND		1870	979	52	1910	653	34	40* [a]	10-143/36
62-53-3	Aniline	ND		1870	419	22	1910	341	18	21	10-110/50
120-12-7	Anthracene	ND		1870	870	47	1910	608	32	35	10-147/39
92-87-5	Benzidine	ND		3730	ND	0* [a]	3820	ND	0* [a]	nc	10-149/50
56-55-3	Benzo(a)anthracene	ND		1870	940	50	1910	625	33	40	10-151/41
50-32-8	Benzo(a)pyrene	ND		1870	996	53	1910	667	35	40	10-149/40
205-99-2	Benzo(b)fluoranthene	ND		1870	962	52	1910	613	32	44* [a]	10-147/42
191-24-2	Benzo(g,h,i)perylene	ND		1870	943	51	1910	641	34	38	10-150/41
207-08-9	Benzo(k)fluoranthene	ND		1870	950	51	1910	660	35	36	12-142/41
101-55-3	4-Bromophenyl phenyl ether	ND		1870	869	47	1910	595	31	37	26-138/37
85-68-7	Butyl benzyl phthalate	ND		1870	1130	61	1910	763	40	39* [a]	24-143/36
100-51-6	Benzyl Alcohol	ND		1870	1080	58	1910	1100	58	2	13-143/33
91-58-7	2-Chloronaphthalene	ND		1870	836	45	1910	574	30	37* [a]	24-130/31
106-47-8	4-Chloroaniline	ND		1870	596	32	1910	605	32	1	10-111/52
86-74-8	Carbazole	ND		1870	938	50	1910	976	51	4	12-146/39
218-01-9	Chrysene	ND		1870	904	48	1910	602	32	40	10-151/41
111-91-1	bis(2-Chloroethoxy)methane	ND		1870	932	50	1910	607	32	42* [a]	10-144/35
111-44-4	bis(2-Chloroethyl)ether	ND		1870	856	46	1910	580	30	38* [a]	12-142/35
108-60-1	2,2'-Oxybis(1-chloropropane)	ND		1870	986	53	1910	666	35	39* [a]	10-137/33
7005-72-3	4-Chlorophenyl phenyl ether	ND		1870	832	45	1910	561	29	39* [a]	21-136/35

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20619-MS	5P60271.D	1	06/03/19	AR	05/30/19	OP20619	E5P2839
OP20619-MSD	5P60272.D	1	06/03/19	AR	05/30/19	OP20619	E5P2839
JC88412-10	5P60270.D	1	06/03/19	AR	05/30/19	OP20619	E5P2839

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	JC88412-10 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
95-50-1	1,2-Dichlorobenzene	ND		1870	841	45	1910	547	29	42* a	11-134/31
122-66-7	1,2-Diphenylhydrazine	ND		1870	1040	56	1910	717	38	37* a	20-144/34
541-73-1	1,3-Dichlorobenzene	ND		1870	818	44	1910	544	28	40* a	10-140/31
106-46-7	1,4-Dichlorobenzene	ND		1870	842	45	1910	556	29	41* a	10-139/31
121-14-2	2,4-Dinitrotoluene	ND		1870	953	51	1910	648	34	38	14-148/41
606-20-2	2,6-Dinitrotoluene	ND		1870	1010	54	1910	682	36	39	14-152/40
91-94-1	3,3'-Dichlorobenzidine	ND		3730	861	23	3820	340	9* a	87* a	10-137/47
53-70-3	Dibenzo(a,h)anthracene	ND		1870	919	49	1910	633	33	37	10-152/38
132-64-9	Dibenzofuran	ND		1870	950	51	1910	967	51	2	17-141/36
84-74-2	Di-n-butyl phthalate	ND		1870	1080	58	1910	721	38	40* a	26-137/35
117-84-0	Di-n-octyl phthalate	ND		1870	1250	67	1910	851	45	38* a	23-145/36
84-66-2	Diethyl phthalate	ND		1870	993	53	1910	665	35	40* a	25-133/35
131-11-3	Dimethyl phthalate	ND		1870	917	49	1910	597	31	42* a	21-134/36
117-81-7	bis(2-Ethylhexyl)phthalate	ND		1870	1160	62	1910	851	45	31	26-144/39
206-44-0	Fluoranthene	ND		1870	849	45	1910	564	30	40	10-151/44
86-73-7	Fluorene	ND		1870	916	49	1910	630	33	37* a	19-133/36
118-74-1	Hexachlorobenzene	ND		1870	802	43	1910	526	28	42* a	18-142/37
87-68-3	Hexachlorobutadiene	ND		1870	866	46	1910	573	30	41* a	16-137/32
77-47-4	Hexachlorocyclopentadiene	ND		3730	1710	46	3820	1090	29	44	10-150/50
67-72-1	Hexachloroethane	ND		1870	756	41	1910	481	25	44* a	10-131/38
193-39-5	Indeno(1,2,3-cd)pyrene	ND		1870	827	44	1910	576	30	36	10-148/41
78-59-1	Isophorone	ND		1870	908	49	1910	617	32	38* a	11-142/33
90-12-0	1-Methylnaphthalene	ND		1870	883	47	1910	692	36	24	10-144/35
91-57-6	2-Methylnaphthalene	ND		1870	1000	54	1910	1020	53	2	10-141/35
88-74-4	2-Nitroaniline	ND		1870	1260	68	1910	1320	69	5	14-156/38
99-09-2	3-Nitroaniline	ND		1870	913	49	1910	919	48	1	10-144/45
100-01-6	4-Nitroaniline	ND		1870	935	50	1910	889	47	5	10-156/44
91-20-3	Naphthalene	ND		1870	895	48	1910	587	31	42* a	10-136/36
98-95-3	Nitrobenzene	ND		1870	1020	55	1910	689	36	39* a	10-142/34
62-75-9	n-Nitrosodimethylamine	ND		1870	739	40	1910	562	29	27	10-139/37
621-64-7	N-Nitroso-di-n-propylamine	ND		1870	890	48	1910	594	31	40* a	10-142/31
86-30-6	N-Nitrosodiphenylamine	ND		1870	934	50	1910	630	33	39* a	10-156/37
85-01-8	Phenanthrene	ND		1870	875	47	1910	585	31	40	11-145/45
129-00-0	Pyrene	ND		1870	1010	54	1910	666	35	41	11-155/44
110-86-1	Pyridine	ND		1870	700	38	1910	639	33	9	10-110/42
120-82-1	1,2,4-Trichlorobenzene	ND		1870	810	43	1910	538	28	40* a	12-135/33

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20619-MS	5P60271.D	1	06/03/19	AR	05/30/19	OP20619	E5P2839
OP20619-MSD	5P60272.D	1	06/03/19	AR	05/30/19	OP20619	E5P2839
JC88412-10	5P60270.D	1	06/03/19	AR	05/30/19	OP20619	E5P2839

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Surrogate Recoveries	MS	MSD	JC88412-10	Limits
367-12-4	2-Fluorophenol	47%	48%	30%	23-115%
4165-62-2	Phenol-d5	47%	48%	33%	27-114%
118-79-6	2,4,6-Tribromophenol	47%	49%	36%	19-152%
4165-60-0	Nitrobenzene-d5	61%	61%	43%	26-134%
321-60-8	2-Fluorobiphenyl	48%	49%	36%* [b]	39-124%
1718-51-0	Terphenyl-d14	59%	59%	43%	36-134%

(a) Outside of in house control limits.
(b) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Instrument Performance Check (DFTPP)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample: E5P2826-DFTPP
Lab File ID: 5P59905.D
Instrument ID: GCMS5P
Injection Date: 05/22/19
Injection Time: 23:55

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	26145	30.9		Pass
68	Less than 2.0% of mass 69	220	0.26	(0.66) [a]	Pass
69	Mass 69 relative abundance	33128	39.1		Pass
70	Less than 2.0% of mass 69	133	0.16	(0.40) [a]	Pass
127	40.0 - 60.0% of mass 198	37501	44.3		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	84714	100.0		Pass
199	5.0 - 9.0% of mass 198	5645	6.66		Pass
275	10.0 - 30.0% of mass 198	21232	25.1		Pass
365	1.0 - 100.0% of mass 198	3165	3.74		Pass
441	Present, but less than mass 443	11875	14.0	(80.3) [b]	Pass
442	40.0 - 100.0% of mass 198	75066	88.6		Pass
443	17.0 - 23.0% of mass 442	14785	17.5	(19.7) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E5P2826-IC2826	5P59908.D	05/23/19	03:01	03:06	Initial cal 100
E5P2826-IC2826	5P59909.D	05/23/19	03:25	03:30	Initial cal 80
E5P2826-ICC2826	5P59910.D	05/23/19	03:50	03:55	Initial cal 50
E5P2826-IC2826	5P59911.D	05/23/19	04:15	04:20	Initial cal 25
E5P2826-IC2826	5P59912.D	05/23/19	04:39	04:44	Initial cal 10
E5P2826-IC2826	5P59913.D	05/23/19	05:04	05:09	Initial cal 5
E5P2826-IC2826	5P59914.D	05/23/19	05:29	05:34	Initial cal 2
E5P2826-IC2826	5P59915.D	05/23/19	05:53	05:58	Initial cal 1
E5P2826-ICV2826	5P59916.D	05/23/19	06:18	06:23	Initial cal verification 50
E5P2826-ICV2826	5P59917.D	05/23/19	06:42	06:47	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample: E5P2828-DFTPP
Lab File ID: 5P59929.D
Instrument ID: GCMS5P
Injection Date: 05/23/19
Injection Time: 11:19

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	31320	36.5		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	37344	43.5		Pass
70	Less than 2.0% of mass 69	112	0.13	(0.30) [a]	Pass
127	40.0 - 60.0% of mass 198	40477	47.1		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	85856	100.0		Pass
199	5.0 - 9.0% of mass 198	6080	7.08		Pass
275	10.0 - 30.0% of mass 198	21707	25.3		Pass
365	1.0 - 100.0% of mass 198	2914	3.39		Pass
441	Present, but less than mass 443	1215	1.42	(9.37) [b]	Pass
442	40.0 - 100.0% of mass 198	67344	78.4		Pass
443	17.0 - 23.0% of mass 442	12961	15.1	(19.2) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E5P2828-IC2828	5P59930.D	05/23/19	11:35	00:16	Initial cal 1
E5P2828-IC2828	5P59931.D	05/23/19	12:19	01:00	Initial cal 2
E5P2828-IC2828	5P59932.D	05/23/19	12:44	01:25	Initial cal 5
E5P2828-IC2828	5P59933.D	05/23/19	13:10	01:51	Initial cal 10
E5P2828-IC2828	5P59934.D	05/23/19	13:35	02:16	Initial cal 25
E5P2828-ICC2828	5P59935.D	05/23/19	14:00	02:41	Initial cal 50
E5P2828-IC2828	5P59936.D	05/23/19	14:24	03:05	Initial cal 80
E5P2828-IC2828	5P59937.D	05/23/19	14:50	03:31	Initial cal 100
E5P2828-ICV2828	5P59938.D	05/23/19	15:32	04:13	Initial cal verification 50
E5P2828-ICV2828	5P59939.D	05/23/19	15:57	04:38	Initial cal verification 50
E5P2828-ICV2828	5P59940.D	05/23/19	16:22	05:03	Initial cal verification 50
E5P2828-ICV2828	5P59941.D	05/23/19	16:46	05:27	Initial cal verification 50
E5P2828-ICV2828	5P59942.D	05/23/19	17:11	05:52	Initial cal verification 50
E5P2828-ICV2828	5P59943.D	05/23/19	17:36	06:17	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample: E5P2829-DFTPP
Lab File ID: 5P59949.D
Instrument ID: GCMS5P
Injection Date: 05/24/19
Injection Time: 05:00

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	50774	40.4		Pass
68	Less than 2.0% of mass 69	98	0.08	(0.18) [a]	Pass
69	Mass 69 relative abundance	54532	43.4		Pass
70	Less than 2.0% of mass 69	247	0.20	(0.45) [a]	Pass
127	40.0 - 60.0% of mass 198	58749	46.7		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	125704	100.0		Pass
199	5.0 - 9.0% of mass 198	8832	7.03		Pass
275	10.0 - 30.0% of mass 198	29406	23.4		Pass
365	1.0 - 100.0% of mass 198	4212	3.35		Pass
441	Present, but less than mass 443	13245	10.5	(87.3) [b]	Pass
442	40.0 - 100.0% of mass 198	76717	61.0		Pass
443	17.0 - 23.0% of mass 442	15177	12.1	(19.8) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E5P2829-IC2829	5P59950.D	05/24/19	05:15	00:15	Initial cal 100
E5P2829-IC2829	5P59951.D	05/24/19	05:40	00:40	Initial cal 80
E5P2829-ICC2829	5P59952.D	05/24/19	06:04	01:04	Initial cal 50
E5P2829-IC2829	5P59953.D	05/24/19	06:29	01:29	Initial cal 25
E5P2829-IC2829	5P59954.D	05/24/19	06:54	01:54	Initial cal 10
E5P2829-IC2829	5P59955.D	05/24/19	07:19	02:19	Initial cal 5
E5P2829-IC2829	5P59956.D	05/24/19	07:43	02:43	Initial cal 2
E5P2829-IC2829	5P59957.D	05/24/19	08:08	03:08	Initial cal 1
E5P2829-ICV2829	5P59958.D	05/24/19	08:33	03:33	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample:	E5P2838-DFTPP	**Injection Date:**	06/02/19
Lab File ID:	5P60210.D	**Injection Time:**	14:27
Instrument ID:	GCMS5P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	42316	43.4		Pass
68	Less than 2.0% of mass 69	556	0.57	(1.22) [a]	Pass
69	Mass 69 relative abundance	45681	46.9		Pass
70	Less than 2.0% of mass 69	377	0.39	(0.83) [a]	Pass
127	40.0 - 60.0% of mass 198	53512	54.9		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	97490	100.0		Pass
199	5.0 - 9.0% of mass 198	6714	6.89		Pass
275	10.0 - 30.0% of mass 198	22396	23.0		Pass
365	1.0 - 100.0% of mass 198	2806	2.88		Pass
441	Present, but less than mass 443	7919	8.12	(89.5) [b]	Pass
442	40.0 - 100.0% of mass 198	48490	49.7		Pass
443	17.0 - 23.0% of mass 442	8844	9.07	(18.2) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E5P2838-CC2828	5P60211.D	06/02/19	14:40	00:13	Continuing cal 50
E5P2838-CC2826	5P60212.D	06/02/19	15:05	00:38	Continuing cal 50
E5P2838-CC2829	5P60213.D	06/02/19	15:30	01:03	Continuing cal 50
ZZZZZZ	5P60216.D	06/02/19	16:43	02:16	(unrelated sample)
ZZZZZZ	5P60217.D	06/02/19	17:08	02:41	(unrelated sample)
JC88412-6	5P60218.D	06/02/19	17:33	03:06	SS070400
ZZZZZZ	5P60220.D	06/02/19	18:22	03:55	(unrelated sample)
ZZZZZZ	5P60221.D	06/02/19	18:47	04:20	(unrelated sample)
ZZZZZZ	5P60222.D	06/02/19	19:11	04:44	(unrelated sample)
ZZZZZZ	5P60223.D	06/02/19	19:36	05:09	(unrelated sample)
JC88412-4	5P60224.D	06/02/19	20:01	05:34	SS070200
JC88412-5	5P60225.D	06/02/19	20:25	05:58	SS070300
ZZZZZZ	5P60226.D	06/02/19	20:49	06:22	(unrelated sample)
ZZZZZZ	5P60227.D	06/02/19	21:14	06:47	(unrelated sample)
JC88412-3	5P60234.D	06/03/19	00:04	09:37	SS070100
ZZZZZZ	5P60238.D	06/03/19	01:41	11:14	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample: E5P2839-DFTPP
Lab File ID: 5P60239.D
Instrument ID: GCMS5P
Injection Date: 06/03/19
Injection Time: 09:08

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	36955	38.8		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	41818	43.9		Pass
70	Less than 2.0% of mass 69	156	0.16	(0.37) [a]	Pass
127	40.0 - 60.0% of mass 198	50554	53.1		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	95218	100.0		Pass
199	5.0 - 9.0% of mass 198	6554	6.88		Pass
275	10.0 - 30.0% of mass 198	21667	22.8		Pass
365	1.0 - 100.0% of mass 198	2796	2.94		Pass
441	Present, but less than mass 443	5755	6.04	(65.8) [b]	Pass
442	40.0 - 100.0% of mass 198	48906	51.4		Pass
443	17.0 - 23.0% of mass 442	8750	9.19	(17.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E5P2839-CC2828	5P60240.D	06/03/19	09:20	00:12	Continuing cal 25
E5P2839-CC2826	5P60241.D	06/03/19	09:44	00:36	Continuing cal 25
E5P2839-CC2829	5P60242.D	06/03/19	10:08	01:00	Continuing cal 25
OP20616-MB1	5P60243.D	06/03/19	10:32	01:24	Method Blank
OP20616-BS1	5P60244.D	06/03/19	10:56	01:48	Blank Spike
OP20619-MB1	5P60245.D	06/03/19	11:20	02:12	Method Blank
OP20707-MB1	5P60246.D	06/03/19	11:44	02:36	Method Blank
OP20707-BS1	5P60247.D	06/03/19	12:08	03:00	Blank Spike
ZZZZZZ	5P60248.D	06/03/19	12:32	03:24	(unrelated sample)
OP20619-BS1	5P60269.D	06/03/19	12:57	03:49	Blank Spike
JC88412-10	5P60270.D	06/03/19	13:21	04:13	SP150100
OP20619-MS	5P60271.D	06/03/19	13:45	04:37	Matrix Spike
OP20619-MSD	5P60272.D	06/03/19	14:09	05:01	Matrix Spike Duplicate
ZZZZZZ	5P60249.D	06/03/19	14:33	05:25	(unrelated sample)
OP20616-MS	5P60250.D	06/03/19	14:57	05:49	Matrix Spike
OP20616-MSD	5P60251.D	06/03/19	15:21	06:13	Matrix Spike Duplicate
JC88567-1	5P60252.D	06/03/19	15:45	06:37	(used for QC only; not part of job JC88412)
OP20707-MS	5P60253.D	06/03/19	16:10	07:02	Matrix Spike
OP20707-MSD	5P60254.D	06/03/19	16:34	07:26	Matrix Spike Duplicate

Instrument Performance Check (DFTPP)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample:	E5P2839-DFTPP	**Injection Date:**	06/03/19
Lab File ID:	5P60239.D	**Injection Time:**	09:08
Instrument ID:	GCMS5P		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	5P60255.D	06/03/19	16:58	07:50	(unrelated sample)
ZZZZZZ	5P60256.D	06/03/19	17:22	08:14	(unrelated sample)
ZZZZZZ	5P60257.D	06/03/19	17:46	08:38	(unrelated sample)
ZZZZZZ	5P60262.D	06/03/19	18:10	09:02	(unrelated sample)
ZZZZZZ	5P60263.D	06/03/19	18:34	09:26	(unrelated sample)
ZZZZZZ	5P60264.D	06/03/19	18:58	09:50	(unrelated sample)
ZZZZZZ	5P60265.D	06/03/19	19:22	10:14	(unrelated sample)
ZZZZZZ	5P60266.D	06/03/19	19:46	10:38	(unrelated sample)
ZZZZZZ	5P60267.D	06/03/19	20:10	11:02	(unrelated sample)
ZZZZZZ	5P60268.D	06/03/19	20:34	11:26	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample: E5P2841-DFTPP
Lab File ID: 5P60296.D
Instrument ID: GCMS5P
Injection Date: 06/04/19
Injection Time: 10:52

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	38591	46.9		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	42041	51.1		Pass
70	Less than 2.0% of mass 69	96	0.12	(0.23) [a]	Pass
127	40.0 - 60.0% of mass 198	46341	56.3		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	82330	100.0		Pass
199	5.0 - 9.0% of mass 198	5533	6.72		Pass
275	10.0 - 30.0% of mass 198	18605	22.6		Pass
365	1.0 - 100.0% of mass 198	2580	3.13		Pass
441	Present, but less than mass 443	3496	4.25	(59.0) [b]	Pass
442	40.0 - 100.0% of mass 198	34050	41.4		Pass
443	17.0 - 23.0% of mass 442	5930	7.20	(17.4) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E5P2841-CC2828	5P60297.D	06/04/19	11:05	00:13	Continuing cal 25
E5P2841-CC2826	5P60298.D	06/04/19	11:29	00:37	Continuing cal 25
E5P2841-CC2829	5P60299.D	06/04/19	11:53	01:01	Continuing cal 25
OP20708-MB1	5P60300.D	06/04/19	12:17	01:25	Method Blank
OP20708-BS1	5P60301.D	06/04/19	12:41	01:49	Blank Spike
OP20785-MB1	5P60302.D	06/04/19	13:05	02:13	Method Blank
OP20785-BS1	5P60303.D	06/04/19	13:29	02:37	Blank Spike
OP20785-BSD	5P60304.D	06/04/19	13:53	03:01	Blank Spike Duplicate
ZZZZZZ	5P60305.D	06/04/19	14:18	03:26	(unrelated sample)
ZZZZZZ	5P60306.D	06/04/19	14:42	03:50	(unrelated sample)
ZZZZZZ	5P60321.D	06/04/19	15:30	04:38	(unrelated sample)
ZZZZZZ	5P60322.D	06/04/19	15:54	05:02	(unrelated sample)
ZZZZZZ	5P60324.D	06/04/19	16:18	05:26	(unrelated sample)
ZZZZZZ	5P60325.D	06/04/19	16:42	05:50	(unrelated sample)
ZZZZZZ	5P60308.D	06/04/19	17:06	06:14	(unrelated sample)
ZZZZZZ	5P60309.D	06/04/19	17:30	06:38	(unrelated sample)
ZZZZZZ	5P60310.D	06/04/19	17:54	07:02	(unrelated sample)
ZZZZZZ	5P60311.D	06/04/19	18:18	07:26	(unrelated sample)
JC88412-9	5P60312.D	06/04/19	18:42	07:50	SD140600

Instrument Performance Check (DFTPP)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample:	E5P2841-DFTPP	**Injection Date:**	06/04/19
Lab File ID:	5P60296.D	**Injection Time:**	10:52
Instrument ID:	GCMS5P		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	5P60313.D	06/04/19	19:07	08:15	(unrelated sample)
ZZZZZZ	5P60314.D	06/04/19	19:31	08:39	(unrelated sample)
JC88412-1	5P60315.D	06/04/19	19:54	09:02	SP130100
JC88412-2	5P60316.D	06/04/19	20:18	09:26	SP130200
JC88412-8	5P60317.D	06/04/19	20:42	09:50	SD140500
JC88412-11	5P60318.D	06/04/19	21:06	10:14	SP150100DUP
JC88412-12	5P60319.D	06/04/19	21:30	10:38	SP150200
JC88412-7	5P60320.D	06/04/19	21:55	11:03	SD140100

Instrument Performance Check (DFTPP)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample: E5P2847-DFTPP
Lab File ID: 5P60491.D
Instrument ID: GCMS5P
Injection Date: 06/08/19
Injection Time: 01:29

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	48463	50.0		Pass
68	Less than 2.0% of mass 69	336	0.35	(0.69) [a]	Pass
69	Mass 69 relative abundance	48513	50.1		Pass
70	Less than 2.0% of mass 69	339	0.35	(0.70) [a]	Pass
127	40.0 - 60.0% of mass 198	45160	46.6		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	96861	100.0		Pass
199	5.0 - 9.0% of mass 198	6308	6.51		Pass
275	10.0 - 30.0% of mass 198	23003	23.7		Pass
365	1.0 - 100.0% of mass 198	3479	3.59		Pass
441	Present, but less than mass 443	5874	6.06	(72.7) [b]	Pass
442	40.0 - 100.0% of mass 198	39954	41.2		Pass
443	17.0 - 23.0% of mass 442	8083	8.34	(20.2) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E5P2847-CC2828	5P60492.D	06/08/19	01:55	00:26	Continuing cal 25
E5P2847-CC2826	5P60493.D	06/08/19	02:19	00:50	Continuing cal 25
E5P2847-CC2829	5P60494.D	06/08/19	02:43	01:14	Continuing cal 25
OP20901-MB1	5P60496.D	06/08/19	03:32	02:03	Method Blank
OP20901-BS1	5P60497.D	06/08/19	03:56	02:27	Blank Spike
OP20739-MB1	5P60498.D	06/08/19	04:20	02:51	Method Blank
OP20739-BS1	5P60499.D	06/08/19	04:44	03:15	Blank Spike
OP20871-MB1	5P60500.D	06/08/19	05:22	03:53	Method Blank
OP20871-LB70	5P60501.D	06/08/19	05:46	04:17	Leachate Blank
OP20871-BS1	5P60502.D	06/08/19	06:10	04:41	Blank Spike
OP20871-LS50	5P60503.D	06/08/19	06:34	05:05	Leachate Spike
OP20871-MS	5P60503.D	06/08/19	06:34	05:05	Matrix Spike
OP20871-MSD	5P60504.D	06/08/19	06:58	05:29	Matrix Spike Duplicate
JC89097-1AB	5P60505.D	06/08/19	07:22	05:53	(used for QC only; not part of job JC88412)
ZZZZZZ	5P60506.D	06/08/19	07:46	06:17	(unrelated sample)
ZZZZZZ	5P60507.D	06/08/19	08:11	06:42	(unrelated sample)
ZZZZZZ	5P60508.D	06/08/19	08:34	07:05	(unrelated sample)
OP20739-MS	5P60509.D	06/08/19	08:58	07:29	Matrix Spike
OP20739-MSD	5P60510.D	06/08/19	09:22	07:53	Matrix Spike Duplicate

Instrument Performance Check (DFTPP)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample:	E5P2847-DFTPP	**Injection Date:**	06/08/19
Lab File ID:	5P60491.D	**Injection Time:**	01:29
Instrument ID:	GCMS5P		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
JC88871-30	5P60511.D	06/08/19	09:46	08:17	(used for QC only; not part of job JC88412)
ZZZZZZ	5P60512.D	06/08/19	10:10	08:41	(unrelated sample)
ZZZZZZ	5P60513.D	06/08/19	10:34	09:05	(unrelated sample)
JC88412-12	5P60514.D	06/08/19	10:58	09:29	SP150200
JC88412-2	5P60515.D	06/08/19	11:22	09:53	SP130200
OP20901-MS	5P60516.D	06/08/19	11:46	10:17	Matrix Spike
OP20901-MSD	5P60517.D	06/08/19	12:11	10:42	Matrix Spike Duplicate
JC88641-1	5P60518.D	06/08/19	12:35	11:06	(used for QC only; not part of job JC88412)
ZZZZZZ	5P60519.D	06/08/19	12:59	11:30	(unrelated sample)
ZZZZZZ	5P60520.D	06/08/19	13:23	11:54	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample: EF7873-DFTPP
Lab File ID: F183413.D
Instrument ID: GCMSF
Injection Date: 03/25/19
Injection Time: 11:35

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	12426	55.0		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	13154	58.2		Pass
70	Less than 2.0% of mass 69	109	0.48	(0.83) [a]	Pass
127	40.0 - 60.0% of mass 198	12599	55.8		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	22587	100.0		Pass
199	5.0 - 9.0% of mass 198	1597	7.07		Pass
275	10.0 - 30.0% of mass 198	5418	24.0		Pass
365	1.0 - 100.0% of mass 198	761	3.37		Pass
441	Present, but less than mass 443	2608	11.5	(84.7) [b]	Pass
442	40.0 - 100.0% of mass 198	16385	72.5		Pass
443	17.0 - 23.0% of mass 442	3078	13.6	(18.8) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EF7873-IC7873	F183414.D	03/25/19	12:08	00:33	Initial cal 1
EF7873-IC7873	F183415.D	03/25/19	12:51	01:16	Initial cal 100
EF7873-IC7873	F183416.D	03/25/19	13:18	01:43	Initial cal 2
EF7873-IC7873	F183417.D	03/25/19	13:44	02:09	Initial cal 80
EF7873-IC7873	F183418.D	03/25/19	14:11	02:36	Initial cal 5
EF7873-ICC7873	F183419.D	03/25/19	14:38	03:03	Initial cal 50
EF7873-IC7873	F183420.D	03/25/19	15:04	03:29	Initial cal 10
EF7873-IC7873	F183422.D	03/25/19	15:58	04:23	Initial cal 25
EF7873-ICV7873	F183424.D	03/25/19	16:51	05:16	Initial cal verification 50
EF7873-ICV7873	F183428.D	03/25/19	18:38	07:03	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample:	EF7874-DFTPP	**Injection Date:**	03/25/19
Lab File ID:	F183429.D	**Injection Time:**	19:01
Instrument ID:	GCMSF		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	8291	49.7		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	8550	51.2		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	8593	51.5		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	16697	100.0		Pass
199	5.0 - 9.0% of mass 198	1093	6.55		Pass
275	10.0 - 30.0% of mass 198	4522	27.1		Pass
365	1.0 - 100.0% of mass 198	709	4.25		Pass
441	Present, but less than mass 443	1922	11.5	(78.5) [b]	Pass
442	40.0 - 100.0% of mass 198	13657	81.8		Pass
443	17.0 - 23.0% of mass 442	2448	14.7	(17.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EF7874-IC7874	F183430.D	03/25/19	19:13	00:12	Initial cal 100
EF7874-IC7874	F183431.D	03/25/19	19:40	00:39	Initial cal 80
EF7874-ICC7874	F183432.D	03/25/19	20:07	01:06	Initial cal 50
EF7874-IC7874	F183433.D	03/25/19	20:33	01:32	Initial cal 25
EF7874-IC7874	F183434.D	03/25/19	21:00	01:59	Initial cal 10
EF7874-IC7874	F183435.D	03/25/19	21:27	02:26	Initial cal 5
EF7874-IC7874	F183436.D	03/25/19	21:53	02:52	Initial cal 2
EF7874-IC7874	F183437.D	03/25/19	22:20	03:19	Initial cal 1
EF7874-ICV7874	F183438.D	03/25/19	22:46	03:45	Initial cal verification 50
EF7874-ICV7874	F183439.D	03/25/19	23:13	04:12	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample:	EF7876-DFTPP	**Injection Date:**	03/26/19
Lab File ID:	F183451.D	**Injection Time:**	16:44
Instrument ID:	GCMSF		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	9045	56.1		Pass
68	Less than 2.0% of mass 69	135	0.84	(1.50) [a]	Pass
69	Mass 69 relative abundance	8978	55.7		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	9066	56.3		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	16113	100.0		Pass
199	5.0 - 9.0% of mass 198	1102	6.84		Pass
275	10.0 - 30.0% of mass 198	4071	25.3		Pass
365	1.0 - 100.0% of mass 198	472	2.93		Pass
441	Present, but less than mass 443	1690	10.5	(87.0) [b]	Pass
442	40.0 - 100.0% of mass 198	10834	67.2		Pass
443	17.0 - 23.0% of mass 442	1942	12.1	(17.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EF7876-ICV7873	F183455.D	03/26/19	18:16	01:32	Initial cal verification 50
EF7876-ICV7873	F183456.D	03/26/19	18:42	01:58	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample:	EF7877-DFTPP	**Injection Date:**	03/27/19
Lab File ID:	F183457.D	**Injection Time:**	11:19
Instrument ID:	GCMSF		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	9207	51.5		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	9168	51.2		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	9804	54.8		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	17890	100.0		Pass
199	5.0 - 9.0% of mass 198	1356	7.58		Pass
275	10.0 - 30.0% of mass 198	4698	26.3		Pass
365	1.0 - 100.0% of mass 198	608	3.40		Pass
441	Present, but less than mass 443	1981	11.1	(83.1) [b]	Pass
442	40.0 - 100.0% of mass 198	13553	75.8		Pass
443	17.0 - 23.0% of mass 442	2385	13.3	(17.6) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EF7877-ICV7873	F183458.D	03/27/19	11:47	00:28	Initial cal verification 50
EF7877-ICV7873	F183459.D	03/27/19	12:13	00:54	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample: EF7949-DFTPP
Lab File ID: F184995.D
Instrument ID: GCMSF
Injection Date: 06/07/19
Injection Time: 02:04

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	5737	43.5		Pass
68	Less than 2.0% of mass 69	60	0.46	(0.97) [a]	Pass
69	Mass 69 relative abundance	6184	46.9		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	6956	52.8		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	13175	100.0		Pass
199	5.0 - 9.0% of mass 198	985	7.48		Pass
275	10.0 - 30.0% of mass 198	2945	22.4		Pass
365	1.0 - 100.0% of mass 198	429	3.26		Pass
441	Present, but less than mass 443	1295	9.83	(79.9) [b]	Pass
442	40.0 - 100.0% of mass 198	8711	66.1		Pass
443	17.0 - 23.0% of mass 442	1620	12.3	(18.6) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EF7949-CC7873	F184996.D	06/07/19	02:17	00:13	Continuing cal 25
EF7949-CC7874	F184997.D	06/07/19	02:44	00:40	Continuing cal 25
OP20737-MB1	F184999.D	06/07/19	03:38	01:34	Method Blank
OP20737-BS1	F185000.D	06/07/19	04:05	02:01	Blank Spike
OP20737-MS	F185001.D	06/07/19	04:32	02:28	Matrix Spike
OP20737-MSD	F185002.D	06/07/19	04:59	02:55	Matrix Spike Duplicate
JC88822-3	F185003.D	06/07/19	05:26	03:22	(used for QC only; not part of job JC88412)
ZZZZZZ	F185004.D	06/07/19	05:52	03:48	(unrelated sample)
ZZZZZZ	F185005.D	06/07/19	06:19	04:15	(unrelated sample)
ZZZZZZ	F185006.D	06/07/19	06:46	04:42	(unrelated sample)
ZZZZZZ	F185007.D	06/07/19	07:13	05:09	(unrelated sample)
ZZZZZZ	F185008.D	06/07/19	07:40	05:36	(unrelated sample)
ZZZZZZ	F185009.D	06/07/19	08:07	06:03	(unrelated sample)
ZZZZZZ	F185010.D	06/07/19	08:34	06:30	(unrelated sample)
ZZZZZZ	F185011.D	06/07/19	09:00	06:56	(unrelated sample)
ZZZZZZ	F185012.D	06/07/19	09:27	07:23	(unrelated sample)
JC88412-6	F185014.D	06/07/19	10:21	08:17	SS070400
ZZZZZZ	F185015.D	06/07/19	10:48	08:44	(unrelated sample)
ZZZZZZ	F185016.D	06/07/19	11:15	09:11	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample:	EF7949-DFTPP	**Injection Date:**	06/07/19
Lab File ID:	F184995.D	**Injection Time:**	02:04
Instrument ID:	GCMSF		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	F185017.D	06/07/19	11:43	09:39	(unrelated sample)
ZZZZZZ	F185018.D	06/07/19	12:10	10:06	(unrelated sample)
ZZZZZZ	F185019.D	06/07/19	12:37	10:33	(unrelated sample)
ZZZZZZ	F185020.D	06/07/19	13:04	11:00	(unrelated sample)
ZZZZZZ	F185021.D	06/07/19	13:31	11:27	(unrelated sample)
ZZZZZZ	F185022.D	06/07/19	13:59	11:55	(unrelated sample)

Surrogate Recovery Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Method: SW846 8270D **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
JC88412-1	5P60315.D	45	47	52	64	52	62
JC88412-2	5P60515.D	42	45	45	70	49	56
JC88412-2	5P60316.D	30	35	37	41	38* a	43
JC88412-3	5P60234.D				50	44	52
JC88412-4	5P60224.D				51	44	53
JC88412-5	5P60225.D				55	48	56
JC88412-6	F185014.D				66	72	80
JC88412-6	5P60218.D				20* a	17* a	23* a
JC88412-7	5P60320.D	54	57	57	72	62	66
JC88412-8	5P60317.D	54	57	67	78	61	72
JC88412-9	5P60312.D	54	59	53	80	60	72
JC88412-10	5P60270.D	30	33	36	43	36* b	43
JC88412-11	5P60318.D	45	47	49	60	51	56
JC88412-12	5P60514.D	19* c	22* c	15* c	26	16* c	17* c
JC88412-12	5P60319.D	25	27	28	36	30* a	32* a
OP20619-BS1	5P60269.D	62	60	60	76	59	78
OP20619-MB1	5P60245.D	66	86	59	65	46	52
OP20619-MS	5P60271.D	47	47	47	61	48	59
OP20619-MSD	5P60272.D	48	48	49	61	49	59

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	23-115%
S2 = Phenol-d5	27-114%
S3 = 2,4,6-Tribromophenol	19-152%
S4 = Nitrobenzene-d5	26-134%
S5 = 2-Fluorobiphenyl	39-124%
S6 = Terphenyl-d14	36-134%

(a) Outside in house control limits biased low. The results confirmed by re-extraction outside the holding time.
(b) Outside control limits due to matrix interference.
(c) Outside of in house control limits.

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GPF4894-MB1	PF151093.D	1	05/22/19	XPL	n/a	n/a	GPF4894

The QC reported here applies to the following samples: **Method:** SW846 8015D

JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	2.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits
98-08-8	aaa-Trifluorotoluene	91%	70-116%

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GPF4894-MB2	PF151104.D	1	05/22/19	XPL	n/a	n/a	GPF4894

The QC reported here applies to the following samples: **Method:** SW846 8015D

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	2.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits
98-08-8	aaa-Trifluorotoluene	89%	70-116%

Blank Spike Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GPF4894-BS	PF151094.D	1	05/22/19	XPL	n/a	n/a	GPF4894

The QC reported here applies to the following samples: **Method:** SW846 8015D

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	400	380	95	75-126

CAS No.	Surrogate Recoveries	BSP	Limits
98-08-8	aaa-Trifluorotoluene	99%	70-116%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC88412-10MS	PF151100.D	1	05/22/19	XPL	n/a	n/a	GPF4894
JC88412-10MSD	PF151101.D	1	05/22/19	XPL	n/a	n/a	GPF4894
JC88412-10	PF151096.D	1	05/22/19	XPL	n/a	n/a	GPF4894

The QC reported here applies to the following samples: **Method:** SW846 8015D

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	JC88412-10 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		1380	1180	85	1380	1280	92	8	68-128/11

CAS No.	Surrogate Recoveries	MS	MSD	JC88412-10	Limits
98-08-8	aaa-Trifluorotoluene	98%	97%	87%	70-116%

* = Outside of Control Limits.

Surrogate Recovery Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Method: SW846 8015D **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
JC88412-1	PF151105.D	88
JC88412-2	PF151106.D	86
JC88412-3	PF151107.D	82
JC88412-4	PF151108.D	88
JC88412-5	PF151109.D	85
JC88412-6	PF151110.D	88
JC88412-7	PF151111.D	89
JC88412-8	PF151112.D	87
JC88412-9	PF151099.D	90
JC88412-10	PF151096.D	87
JC88412-11	PF151097.D	81
JC88412-12	PF151098.D	82
GPF4894-BS	PF151094.D	99
GPF4894-MB1	PF151093.D	91
GPF4894-MB2	PF151104.D	89
JC88412-10MS	PF151100.D	98
JC88412-10MSD	PF151101.D	97

Surrogate Compounds	Recovery Limits
S1 = aaa-Trifluorotoluene	70-116%

(a) Recovery from GC signal #1

GC/LC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20581-MB1	3G123046.D	1	05/23/19	VDT	05/23/19	OP20581	G3G4311

The QC reported here applies to the following samples: **Method:** SW846 8151A

JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	17	4.2	ug/kg	
93-72-1	2,4,5-TP (Silvex)	ND	3.3	3.0	ug/kg	
93-76-5	2,4,5-T	ND	3.3	2.7	ug/kg	

CAS No.	Surrogate Recoveries		Limits
19719-28-9	2,4-DCAA	60%	10-159%
19719-28-9	2,4-DCAA	52%	10-159%

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20631-MB1	4G959616.D	1	05/30/19	CP	05/29/19	OP20631	G4G2765

The QC reported here applies to the following samples: **Method:** SW846 8081B

JC88412-7, JC88412-8, JC88412-9

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.67	0.55	ug/kg	
319-84-6	alpha-BHC	ND	0.67	0.54	ug/kg	
319-85-7	beta-BHC	ND	0.67	0.60	ug/kg	
319-86-8	delta-BHC	ND	0.67	0.64	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	0.67	0.49	ug/kg	
5103-71-9	alpha-Chlordane	ND	0.67	0.54	ug/kg	
5103-74-2	gamma-Chlordane	ND	0.67	0.30	ug/kg	
60-57-1	Dieldrin	ND	0.67	0.46	ug/kg	
72-54-8	4,4'-DDD	ND	0.67	0.61	ug/kg	
72-55-9	4,4'-DDE	ND	0.67	0.58	ug/kg	
50-29-3	4,4'-DDT	ND	0.67	0.59	ug/kg	
72-20-8	Endrin	ND	0.67	0.52	ug/kg	
1031-07-8	Endosulfan sulfate	ND	0.67	0.52	ug/kg	
7421-93-4	Endrin aldehyde	ND	0.67	0.38	ug/kg	
959-98-8	Endosulfan-I	ND	0.67	0.38	ug/kg	
33213-65-9	Endosulfan-II	ND	0.67	0.42	ug/kg	
76-44-8	Heptachlor	ND	0.67	0.57	ug/kg	
1024-57-3	Heptachlor epoxide	ND	0.67	0.47	ug/kg	
72-43-5	Methoxychlor	ND	1.3	0.53	ug/kg	
53494-70-5	Endrin ketone	ND	0.67	0.48	ug/kg	
8001-35-2	Toxaphene	ND	17	16	ug/kg	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	57%	25-135%
877-09-8	Tetrachloro-m-xylene	53%	25-135%
2051-24-3	Decachlorobiphenyl	56%	10-156%
2051-24-3	Decachlorobiphenyl	57%	10-156%

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20633-MB1	8G23731.D	1	05/31/19	MH	05/29/19	OP20633	G8G808

The QC reported here applies to the following samples: **Method:** SW846 8081B

JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.67	0.55	ug/kg	
319-84-6	alpha-BHC	ND	0.67	0.54	ug/kg	
319-85-7	beta-BHC	ND	0.67	0.60	ug/kg	
319-86-8	delta-BHC	ND	0.67	0.64	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	0.67	0.49	ug/kg	
5103-71-9	alpha-Chlordane	ND	0.67	0.54	ug/kg	
5103-74-2	gamma-Chlordane	ND	0.67	0.30	ug/kg	
60-57-1	Dieldrin	ND	0.67	0.46	ug/kg	
72-54-8	4,4'-DDD	ND	0.67	0.61	ug/kg	
72-55-9	4,4'-DDE	ND	0.67	0.58	ug/kg	
50-29-3	4,4'-DDT	ND	0.67	0.59	ug/kg	
72-20-8	Endrin	ND	0.67	0.52	ug/kg	
1031-07-8	Endosulfan sulfate	ND	0.67	0.52	ug/kg	
7421-93-4	Endrin aldehyde	ND	0.67	0.38	ug/kg	
959-98-8	Endosulfan-I	ND	0.67	0.38	ug/kg	
33213-65-9	Endosulfan-II	ND	0.67	0.42	ug/kg	
76-44-8	Heptachlor	ND	0.67	0.57	ug/kg	
1024-57-3	Heptachlor epoxide	ND	0.67	0.47	ug/kg	
72-43-5	Methoxychlor	ND	1.3	0.53	ug/kg	
53494-70-5	Endrin ketone	ND	0.67	0.48	ug/kg	
8001-35-2	Toxaphene	ND	17	16	ug/kg	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	117%	25-135%
877-09-8	Tetrachloro-m-xylene	89%	25-135%
2051-24-3	Decachlorobiphenyl	114%	10-156%
2051-24-3	Decachlorobiphenyl	94%	10-156%

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20633-MB1	4G959705.D	1	05/31/19	MH	05/29/19	OP20633	G4G2767

The QC reported here applies to the following samples: **Method:** SW846 8081B

JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.67	0.55	ug/kg	
319-84-6	alpha-BHC	ND	0.67	0.54	ug/kg	
319-85-7	beta-BHC	ND	0.67	0.60	ug/kg	
319-86-8	delta-BHC	ND	0.67	0.64	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	0.67	0.49	ug/kg	
5103-71-9	alpha-Chlordane	ND	0.67	0.54	ug/kg	
5103-74-2	gamma-Chlordane	ND	0.67	0.30	ug/kg	
60-57-1	Dieldrin	ND	0.67	0.46	ug/kg	
72-54-8	4,4'-DDD	ND	0.67	0.61	ug/kg	
72-55-9	4,4'-DDE	ND	0.67	0.58	ug/kg	
50-29-3	4,4'-DDT	ND	0.67	0.59	ug/kg	
72-20-8	Endrin	ND	0.67	0.52	ug/kg	
1031-07-8	Endosulfan sulfate	ND	0.67	0.52	ug/kg	
7421-93-4	Endrin aldehyde	ND	0.67	0.38	ug/kg	
959-98-8	Endosulfan-I	ND	0.67	0.38	ug/kg	
33213-65-9	Endosulfan-II	ND	0.67	0.42	ug/kg	
76-44-8	Heptachlor	ND	0.67	0.57	ug/kg	
1024-57-3	Heptachlor epoxide	ND	0.67	0.47	ug/kg	
72-43-5	Methoxychlor	ND	1.3	0.53	ug/kg	
53494-70-5	Endrin ketone	ND	0.67	0.48	ug/kg	
8001-35-2	Toxaphene	ND	17	16	ug/kg	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	109%	25-135%
877-09-8	Tetrachloro-m-xylene	107%	25-135%
2051-24-3	Decachlorobiphenyl	108%	10-156%
2051-24-3	Decachlorobiphenyl	109%	10-156%

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20630-MB1	2G180319.D	1	05/29/19	TR	05/29/19	OP20630	G2G4668

The QC reported here applies to the following samples: **Method:** SW846 8082A

JC88412-1, JC88412-2, JC88412-6, JC88412-7, JC88412-8, JC88412-9

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	33	16	ug/kg	
11104-28-2	Aroclor 1221	ND	33	17	ug/kg	
11141-16-5	Aroclor 1232	ND	33	26	ug/kg	
53469-21-9	Aroclor 1242	ND	33	14	ug/kg	
12672-29-6	Aroclor 1248	ND	33	30	ug/kg	
11097-69-1	Aroclor 1254	ND	33	18	ug/kg	
11096-82-5	Aroclor 1260	ND	33	14	ug/kg	
11100-14-4	Aroclor 1268	ND	33	14	ug/kg	
37324-23-5	Aroclor 1262	ND	33	22	ug/kg	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	65%	31-146%
877-09-8	Tetrachloro-m-xylene	65%	31-146%
2051-24-3	Decachlorobiphenyl	71%	17-164%
2051-24-3	Decachlorobiphenyl	63%	17-164%

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20632-MB1	2G180370.D	1	05/30/19	TR	05/29/19	OP20632	G2G4669

The QC reported here applies to the following samples: **Method:** SW846 8082A

JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	33	16	ug/kg	
11104-28-2	Aroclor 1221	ND	33	17	ug/kg	
11141-16-5	Aroclor 1232	ND	33	26	ug/kg	
53469-21-9	Aroclor 1242	ND	33	14	ug/kg	
12672-29-6	Aroclor 1248	ND	33	30	ug/kg	
11097-69-1	Aroclor 1254	ND	33	18	ug/kg	
11096-82-5	Aroclor 1260	ND	33	14	ug/kg	
11100-14-4	Aroclor 1268	ND	33	14	ug/kg	
37324-23-5	Aroclor 1262	ND	33	22	ug/kg	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	103%	31-146%
877-09-8	Tetrachloro-m-xylene	100%	31-146%
2051-24-3	Decachlorobiphenyl	110%	17-164%
2051-24-3	Decachlorobiphenyl	97%	17-164%

Method Blank Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20583-MB1	2Y97518.D	1	05/29/19	CP	05/28/19	OP20583	G2Y3706

The QC reported here applies to the following samples: **Method:** SW846 8015D

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	10	1.8	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	56%	18-132%
438-22-2	5a-Androstane	57%	22-134%

Blank Spike Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20581-BS1	3G123047.D	1	05/23/19	VDT	05/23/19	OP20581	G3G4311

The QC reported here applies to the following samples: **Method:** SW846 8151A

JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
94-75-7	2,4-D	133	117	88	39-153
93-72-1	2,4,5-TP (Silvex)	26.7	25.6	96	49-139
93-76-5	2,4,5-T	26.7	22.6	85	37-135

CAS No.	Surrogate Recoveries	BSP	Limits
19719-28-9	2,4-DCAA	83%	10-159%
19719-28-9	2,4-DCAA	66%	10-159%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20631-BS1	4G959617.D	1	05/30/19	CP	05/29/19	OP20631	G4G2765

The QC reported here applies to the following samples: **Method:** SW846 8081B

JC88412-7, JC88412-8, JC88412-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
309-00-2	Aldrin	16.7	14.6	88	46-120
319-84-6	alpha-BHC	16.7	14.1	85	45-116
319-85-7	beta-BHC	16.7	13.5	81	42-121
319-86-8	delta-BHC	16.7	12.7	76	42-121
58-89-9	gamma-BHC (Lindane)	16.7	13.9	83	46-118
5103-71-9	alpha-Chlordane	16.7	13.6	82	49-119
5103-74-2	gamma-Chlordane	16.7	14.2	85	48-121
60-57-1	Dieldrin	16.7	14.6	88	48-126
72-54-8	4,4'-DDD	16.7	13.6	82	47-120
72-55-9	4,4'-DDE	16.7	14.2	85	48-121
50-29-3	4,4'-DDT	16.7	13.0	78	45-135
72-20-8	Endrin	16.7	14.2	85	51-137
1031-07-8	Endosulfan sulfate	16.7	12.0	72	48-128
7421-93-4	Endrin aldehyde	16.7	12.3	74	46-125
959-98-8	Endosulfan-I	16.7	13.8	83	47-118
33213-65-9	Endosulfan-II	16.7	13.9	83	49-121
76-44-8	Heptachlor	16.7	13.8	83	48-120
1024-57-3	Heptachlor epoxide	16.7	13.4	80	46-122
72-43-5	Methoxychlor	16.7	12.3	74	44-136
53494-70-5	Endrin ketone	16.7	12.5	75	44-139

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	97%	25-135%
877-09-8	Tetrachloro-m-xylene	85%	25-135%
2051-24-3	Decachlorobiphenyl	84%	10-156%
2051-24-3	Decachlorobiphenyl	82%	10-156%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20633-BS1	4G959706.D	1	05/31/19	MH	05/29/19	OP20633	G4G2767

The QC reported here applies to the following samples: **Method:** SW846 8081B

JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
309-00-2	Aldrin	16.7	11.5	69	46-120
319-84-6	alpha-BHC	16.7	11.1	67	45-116
319-85-7	beta-BHC	16.7	11.3	68	42-121
319-86-8	delta-BHC	16.7	10.8	65	42-121
58-89-9	gamma-BHC (Lindane)	16.7	11.1	67	46-118
5103-71-9	alpha-Chlordane	16.7	11.6	70	49-119
5103-74-2	gamma-Chlordane	16.7	11.4	68	48-121
60-57-1	Dieldrin	16.7	11.8	71	48-126
72-54-8	4,4'-DDD	16.7	11.5	69	47-120
72-55-9	4,4'-DDE	16.7	11.4	68	48-121
50-29-3	4,4'-DDT	16.7	12.0	72	45-135
72-20-8	Endrin	16.7	12.2	73	51-137
1031-07-8	Endosulfan sulfate	16.7	10.6	64	48-128
7421-93-4	Endrin aldehyde	16.7	10.2	61	46-125
959-98-8	Endosulfan-I	16.7	11.1	67	47-118
33213-65-9	Endosulfan-II	16.7	11.5	69	49-121
76-44-8	Heptachlor	16.7	11.0	66	48-120
1024-57-3	Heptachlor epoxide	16.7	11.1	67	46-122
72-43-5	Methoxychlor	16.7	10.7	64	44-136
53494-70-5	Endrin ketone	16.7	11.4	68	44-139

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	75%	25-135%
877-09-8	Tetrachloro-m-xylene	65%	25-135%
2051-24-3	Decachlorobiphenyl	70%	10-156%
2051-24-3	Decachlorobiphenyl	66%	10-156%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20630-BS1	2G180320.D	1	05/29/19	TR	05/29/19	OP20630	G2G4668

The QC reported here applies to the following samples: **Method:** SW846 8082A

JC88412-1, JC88412-2, JC88412-6, JC88412-7, JC88412-8, JC88412-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	133	89.6	67	67-157
11104-28-2	Aroclor 1221		ND		70-130
11141-16-5	Aroclor 1232		ND		70-130
53469-21-9	Aroclor 1242		ND		70-130
12672-29-6	Aroclor 1248		ND		70-130
11097-69-1	Aroclor 1254		ND		70-130
11096-82-5	Aroclor 1260	133	86.1	65	63-155
11100-14-4	Aroclor 1268		ND		50-150 [a]
37324-23-5	Aroclor 1262		ND		50-150 [a]

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	69%	31-146%
877-09-8	Tetrachloro-m-xylene	69%	31-146%
2051-24-3	Decachlorobiphenyl	75%	17-164%
2051-24-3	Decachlorobiphenyl	66%	17-164%

(a) Advisory control limits.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20632-BS1	2G180371.D	1	05/30/19	TR	05/29/19	OP20632	G2G4669

The QC reported here applies to the following samples: **Method:** SW846 8082A

JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	133	112	84	67-157
11104-28-2	Aroclor 1221		ND		70-130
11141-16-5	Aroclor 1232		ND		70-130
53469-21-9	Aroclor 1242		ND		70-130
12672-29-6	Aroclor 1248		ND		70-130
11097-69-1	Aroclor 1254		ND		70-130
11096-82-5	Aroclor 1260	133	95.5	72	63-155
11100-14-4	Aroclor 1268		ND		50-150 [a]
37324-23-5	Aroclor 1262		ND		50-150 [a]

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	87%	31-146%
877-09-8	Tetrachloro-m-xylene	85%	31-146%
2051-24-3	Decachlorobiphenyl	95%	17-164%
2051-24-3	Decachlorobiphenyl	83%	17-164%

(a) Advisory control limits.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20583-BS1	2Y97519.D	1	05/29/19	CP	05/28/19	OP20583	G2Y3706

The QC reported here applies to the following samples: **Method:** SW846 8015D

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	100	64.0	64	44-120

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	72%	18-132%
438-22-2	5a-Androstane	69%	22-134%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20581-MS	3G123058.D	1	05/23/19	VDT	05/23/19	OP20581	G3G4311
OP20581-MSD	3G123059.D	1	05/23/19	VDT	05/23/19	OP20581	G3G4311
JC88412-10	3G123055.D	1	05/23/19	VDT	05/23/19	OP20581	G3G4311

The QC reported here applies to the following samples: **Method:** SW846 8151A

JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	JC88412-10 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
94-75-7	2,4-D	ND		149	81.3	54	138	37.9	27	73* [a]	10-164/54
93-72-1	2,4,5-TP (Silvex)	ND		29.9	23.9	80	27.7	12.5	45	63* [a]	10-159/51
93-76-5	2,4,5-T	ND		29.9	19.6	66	27.7	7.6	27	88* [a]	10-144/56

CAS No.	Surrogate Recoveries	MS	MSD	JC88412-10	Limits
19719-28-9	2,4-DCAA	74%	50%	41%	10-159%
19719-28-9	2,4-DCAA	59%	46%	37%	10-159%

(a) Analytical precision exceeds in-house control limits.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20631-MS	4G959619.D	1	05/30/19	CP	05/29/19	OP20631	G4G2765
OP20631-MSD	4G959620.D	1	05/30/19	CP	05/29/19	OP20631	G4G2765
JC88561-1	4G959618.D	1	05/30/19	CP	05/29/19	OP20631	G4G2765
JC88561-1	4G959642.D	5	05/30/19	MH	05/29/19	OP20631	G4G2766

The QC reported here applies to the following samples: **Method:** SW846 8081B

JC88412-7, JC88412-8, JC88412-9

CAS No.	Compound	JC88561-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	ND		16.4	9.3	57	17	10.3	60	10	23-143/44
319-84-6	alpha-BHC	ND		16.4	9.7	59	17	10.9	64	12	18-152/47
319-85-7	beta-BHC	ND		16.4	9.0	55	17	11.1	65	21	7-143/48
319-86-8	delta-BHC	ND		16.4	7.8	48	17	8.6	51	10	13-155/49
58-89-9	gamma-BHC (Lindane)	ND		16.4	9.5	58	17	10.5	62	10	23-138/49
5103-71-9	alpha-Chlordane	ND		16.4	8.8	54	17	9.7	57	10	16-149/46
5103-74-2	gamma-Chlordane	ND		16.4	9.3	57	17	10.3	60	10	14-152/45
60-57-1	Dieldrin	ND		16.4	9.3	57	17	10.4	61	11	14-154/46
72-54-8	4,4'-DDD	3.2		16.4	11.7	52	17	14.0	63	18	18-149/51
72-55-9	4,4'-DDE	16.4		16.4	26.3	60	17	31.9	91	19	10-154/49
50-29-3	4,4'-DDT	78.5 [b]		16.4	86.6	66	17	108	190* [a]	22	10-170/50
72-20-8	Endrin	ND		16.4	9.5	58	17	10.9	64	14	18-173/49
1031-07-8	Endosulfan sulfate	ND		16.4	8.7	53	17	8.9	52	2	19-132/50
7421-93-4	Endrin aldehyde	ND		16.4	7.2	44	17	7.6	45	5	10-160/53
959-98-8	Endosulfan-I	ND		16.4	7.9	48	17	8.8	52	11	18-143/46
33213-65-9	Endosulfan-II	ND		16.4	9.0	55	17	9.9	58	10	21-132/46
76-44-8	Heptachlor	ND		16.4	9.1	55	17	10.3	60	12	22-146/46
1024-57-3	Heptachlor epoxide	ND		16.4	8.6	52	17	9.4	55	9	21-151/45
72-43-5	Methoxychlor	ND		16.4	9.2	56	17	10	59	8	11-166/50
53494-70-5	Endrin ketone	ND		16.4	10.4	63	17	11.5	68	10	8-179/51
8001-35-2	Toxaphene	ND			ND			ND		nc	50-150/30

CAS No.	Surrogate Recoveries	MS	MSD	JC88561-1	JC88561-1	Limits
877-09-8	Tetrachloro-m-xylene	60%	64%	58%	70%	25-135%
877-09-8	Tetrachloro-m-xylene	58%	52%	58%	61%	25-135%
2051-24-3	Decachlorobiphenyl	51%	56%	54%	56%	10-156%
2051-24-3	Decachlorobiphenyl	56%	51%	58%	59%	10-156%

(a) Outside control limits due to high level in sample relative to spike amount.
(b) Result is from Run #2.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20633-MS	8G23734.D	1	05/31/19	MH	05/29/19	OP20633	G8G808
OP20633-MSD	8G23735.D	1	05/31/19	MH	05/29/19	OP20633	G8G808
JC88412-10	8G23733.D	1	05/31/19	MH	05/29/19	OP20633	G8G808

The QC reported here applies to the following samples: **Method:** SW846 8081B

JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	JC88412-10 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	ND		18.8	20.8	111	19.2	18.5	97	12	23-143/44
319-84-6	alpha-BHC	ND		18.8	20.6	110	19.2	17.1	89	19	18-152/47
319-85-7	beta-BHC	ND		18.8	20.4	109	19.2	19.1	100	7	7-143/48
319-86-8	delta-BHC	ND		18.8	18.5	99	19.2	16.9	88	9	13-155/49
58-89-9	gamma-BHC (Lindane)	ND		18.8	20.0	106	19.2	17.0	89	16	23-138/49
5103-71-9	alpha-Chlordane	ND		18.8	20.1	107	19.2	16.7	87	18	16-149/46
5103-74-2	gamma-Chlordane	ND		18.8	20.9	111	19.2	17.9	93	15	14-152/45
60-57-1	Dieldrin	ND		18.8	19.1	102	19.2	16.6	87	14	14-154/46
72-54-8	4,4'-DDD	ND		18.8	22.3	119	19.2	17.1	89	26	18-149/51
72-55-9	4,4'-DDE	ND		18.8	21.6	115	19.2	18.3	96	17	10-154/49
50-29-3	4,4'-DDT	2.0		18.8	17.6	83	19.2	12.9	57	31	10-170/50
72-20-8	Endrin	ND		18.8	21.4	114	19.2	18.5	97	15	18-173/49
1031-07-8	Endosulfan sulfate	ND		18.8	20.5	109	19.2	16.3	85	23	19-132/50
7421-93-4	Endrin aldehyde	ND		18.8	18.2	97	19.2	16.0	84	13	10-160/53
959-98-8	Endosulfan-I	ND		18.8	19.2	102	19.2	16.3	85	16	18-143/46
33213-65-9	Endosulfan-II	ND		18.8	19.0	101	19.2	15.8	82	18	21-132/46
76-44-8	Heptachlor	ND		18.8	19.9	106	19.2	17.6	92	12	22-146/46
1024-57-3	Heptachlor epoxide	ND		18.8	20.1	107	19.2	16.8	88	18	21-151/45
72-43-5	Methoxychlor	ND		18.8	17.8	95	19.2	16.9	88	5	11-166/50
53494-70-5	Endrin ketone	ND		18.8	22.5	120	19.2	19.4	101	15	8-179/51
8001-35-2	Toxaphene	ND			ND			ND		nc	50-150/30

CAS No.	Surrogate Recoveries	MS	MSD	JC88412-10	Limits
877-09-8	Tetrachloro-m-xylene	108%	87%	102%	25-135%
877-09-8	Tetrachloro-m-xylene	80%	57%	91%	25-135%
2051-24-3	Decachlorobiphenyl	108%	91%	102%	10-156%
2051-24-3	Decachlorobiphenyl	86%	67%	96%	10-156%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20630-MS	2G180322.D	1	05/29/19	TR	05/29/19	OP20630	G2G4668
OP20630-MSD	2G180323.D	1	05/29/19	TR	05/29/19	OP20630	G2G4668
JC88622-5	2G180321.D	1	05/29/19	TR	05/29/19	OP20630	G2G4668

The QC reported here applies to the following samples: **Method:** SW846 8082A

JC88412-1, JC88412-2, JC88412-6, JC88412-7, JC88412-8, JC88412-9

CAS No.	Compound	JC88622-5 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND		143	139	97	143	114	80	20	36-191/60
11104-28-2	Aroclor 1221	ND			ND			ND		nc	70-130/50
11141-16-5	Aroclor 1232	ND			ND			ND		nc	70-130/1
53469-21-9	Aroclor 1242	ND			ND			ND		nc	70-130/6
12672-29-6	Aroclor 1248	ND			ND			ND		nc	70-130/33
11097-69-1	Aroclor 1254	ND			ND			ND		nc	70-130/38
11096-82-5	Aroclor 1260	335		143	306	-20* [a]	143	354	13* [a]	15	15-200/68
11100-14-4	Aroclor 1268	ND			ND			ND		nc	-/50
37324-23-5	Aroclor 1262	ND			ND			ND		nc	-/17

CAS No.	Surrogate Recoveries	MS	MSD	JC88622-5	Limits
877-09-8	Tetrachloro-m-xylene	98%	72%	99%	31-146%
877-09-8	Tetrachloro-m-xylene	89%	64%	88%	31-146%
2051-24-3	Decachlorobiphenyl	109%	83%	113%	17-164%
2051-24-3	Decachlorobiphenyl	94%	70%	95%	17-164%

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20632-MS	2G180373.D	1	05/30/19	TR	05/29/19	OP20632	G2G4669
OP20632-MSD	2G180374.D	1	05/30/19	TR	05/29/19	OP20632	G2G4669
JC88412-10	2G180372.D	1	05/30/19	TR	05/29/19	OP20632	G2G4669

The QC reported here applies to the following samples: **Method:** SW846 8082A

JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	JC88412-10 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND		142	167	118	153	162	106	3	36-191/60
11104-28-2	Aroclor 1221	ND			ND			ND		nc	70-130/50
11141-16-5	Aroclor 1232	ND			ND			ND		nc	70-130/1
53469-21-9	Aroclor 1242	ND			ND			ND		nc	70-130/6
12672-29-6	Aroclor 1248	ND			ND			ND		nc	70-130/33
11097-69-1	Aroclor 1254	ND			ND			ND		nc	70-130/38
11096-82-5	Aroclor 1260	ND		142	133	94	153	142	93	7	15-200/68
11100-14-4	Aroclor 1268	ND			ND			ND		nc	-/50
37324-23-5	Aroclor 1262	ND			ND			ND		nc	-/17

CAS No.	Surrogate Recoveries	MS	MSD	JC88412-10	Limits
877-09-8	Tetrachloro-m-xylene	90%	91%	113%	31-146%
877-09-8	Tetrachloro-m-xylene	85%	86%	109%	31-146%
2051-24-3	Decachlorobiphenyl	95%	95%	120%	17-164%
2051-24-3	Decachlorobiphenyl	69%	71%	104%	17-164%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP20583-MS	2Y97540.D	1	05/29/19	CP	05/28/19	OP20583	G2Y3706
OP20583-MSD	2Y97541.D	1	05/29/19	CP	05/28/19	OP20583	G2Y3706
JC88412-10	2Y97539.D	1	05/29/19	CP	05/28/19	OP20583	G2Y3706

The QC reported here applies to the following samples: **Method:** SW846 8015D

JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

CAS No.	Compound	JC88412-10 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND		103	69.7	68	108	78.6	72	12	10-145/50

CAS No.	Surrogate Recoveries	MS	MSD	JC88412-10	Limits
84-15-1	o-Terphenyl	69%	72%	59%	18-132%
438-22-2	5a-Androstane	68%	69%	58%	22-134%

* = Outside of Control Limits.

Surrogate Recovery Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Method: SW846 8151A **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
JC88412-7	3G123052.D	49	42
JC88412-8	3G123053.D	41	35
JC88412-9	3G123054.D	49	42
JC88412-10	3G123055.D	41	37
JC88412-11	3G123056.D	22	23
JC88412-12	3G123057.D	36	32
OP20581-BS1	3G123047.D	83	66
OP20581-MB1	3G123046.D	60	52
OP20581-MS	3G123058.D	74	59
OP20581-MSD	3G123059.D	50	46

Surrogate Compounds	Recovery Limits
S1 = 2,4-DCAA	10-159%

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1

Surrogate Recovery Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Method: SW846 8081B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]	S2 [a]	S2 [b]
JC88412-7	4G959643.D	55	52	43	46
JC88412-8	4G959644.D	75	74	55	62
JC88412-9	4G959645.D	63	65	50	55
JC88412-10	8G23733.D	102	91	102	96
JC88412-11	8G23736.D	111	88	105	82
JC88412-12	8G23737.D	76	71	70	62
OP20631-BS1	4G959617.D	97	85	84	82
OP20631-MB1	4G959616.D	57	53	56	57
OP20631-MS	4G959619.D	60	58	51	56
OP20631-MSD	4G959620.D	64	52	56	51
OP20633-BS1	4G959706.D	75	65	70	66
OP20633-MB1	8G23731.D	117	89	114	94
OP20633-MB1	4G959705.D	109	107	108	109
OP20633-MS	8G23734.D	108	80	108	86
OP20633-MSD	8G23735.D	87	57	91	67

Surrogate Compounds	Recovery Limits
S1 = Tetrachloro-m-xylene	25-135%
S2 = Decachlorobiphenyl	10-156%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2

Surrogate Recovery Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Method: SW846 8082A **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]	S2 [a]	S2 [b]
JC88412-1	2G180354A.D	93	93	89	72
JC88412-2	2G180346.D	99	87	80	98
JC88412-6	2G180347.D	90	84	81	51
JC88412-7	2G180347A.D	67	65	65	42
JC88412-8	2G180353.D	94	90	86	62
JC88412-9	2G180354.D	75	71	72	49
JC88412-10	2G180372.D	113	109	120	104
JC88412-11	2G180375.D	111	107	118	85
JC88412-12	2G180376.D	89	83	84	61
OP20630-BS1	2G180320.D	69	69	75	66
OP20630-MB1	2G180319.D	65	65	71	63
OP20630-MS	2G180322.D	98	89	109	94
OP20630-MSD	2G180323.D	72	64	83	70
OP20632-BS1	2G180371.D	87	85	95	83
OP20632-MB1	2G180370.D	103	100	110	97
OP20632-MS	2G180373.D	90	85	95	69
OP20632-MSD	2G180374.D	91	86	95	71

Surrogate Compounds	Recovery Limits
S1 = Tetrachloro-m-xylene	31-146%
S2 = Decachlorobiphenyl	17-164%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2

Surrogate Recovery Summary

Job Number: JC88412
Account: HACTRH Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

Method: SW846 8015D **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S2 [a]
JC88412-1	2Y97520.D	63	62
JC88412-2	2Y97521.D	72	71
JC88412-3	2Y97522.D	66	65
JC88412-4	2Y97523.D	62	61
JC88412-5	2Y97528.D	82	68
JC88412-6	2Y97529.D	66	66
JC88412-7	2Y97530.D	68	65
JC88412-8	2Y97531.D	64	64
JC88412-9	2Y97532.D	59	56
JC88412-10	2Y97539.D	59	58
JC88412-11	2Y97533.D	63	61
JC88412-12	2Y97534.D	60	59
OP20583-BS1	2Y97519.D	72	69
OP20583-MB1	2Y97518.D	56	57
OP20583-MS	2Y97540.D	69	68
OP20583-MSD	2Y97541.D	72	69

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	18-132%
S2 = 5a-Androstane	22-134%

(a) Recovery from GC signal #1

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC88412
Account: HACTRH - Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

QC Batch ID: MP15219 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 05/21/19

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.033	.0023	.015	0.0	<0.033

Associated samples MP15219: JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC88412
Account: HACTRH - Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

QC Batch ID: MP15219
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 05/21/19

Metal	JC88412-10 Original	MS	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.019	0.37	0.346	101.3	80-120

Associated samples MP15219: JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC88412
Account: HACTRH - Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

QC Batch ID: MP15219 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 05/21/19

Metal	JC88412-10 Original	MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	0.019	0.36	0.344	99.1	2.7	20

Associated samples MP15219: JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC88412
Account: HACTRH - Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

QC Batch ID: MP15219
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 05/21/19

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.33	0.333	99.0	80-120

Associated samples MP15219: JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC88412
Account: HACTRH - Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

QC Batch ID: MP15223
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/21/19

Metal	RL	IDL	MDL	MB raw	final
Aluminum	49	.82	7.9	2.3	<49
Antimony	2.0	.12	.4	-0.13	<2.0
Arsenic	2.0	.16	.27	0.049	<2.0
Barium	20	.029	1.9	-0.0098	<20
Beryllium	0.20	.0098	.078	0.020	<0.20
Bismuth	2.0	.2	.51		
Boron	9.8	.2	1.4		
Cadmium	0.49	.029	.069	0.029	<0.49
Calcium	490	.4	43	4.5	<490
Chromium	0.98	.039	.36	0.059	<0.98
Cobalt	4.9	.039	.27	0.0098	<4.9
Copper	2.5	.029	.82	0.13	<2.5
Iron	49	.23	19	4.0	<49
Lead	2.0	.23	.4	0.059	<2.0
Lithium	4.9	.11	.9		
Magnesium	490	3.2	13	1.5	<490
Manganese	1.5	.0098	.4	0.059	<1.5
Molybdenum	2.0	.088	.31		
Nickel	3.9	.069	.34	0.029	<3.9
Phosphorus	20	.11	3.2		
Potassium	980	2.6	31	-12	<980
Selenium	2.0	.22	.64	0.039	<2.0
Silicon	20	.85	10		
Silver	0.49	.029	.17	0.0098	<0.49
Sodium	980	.59	76	19.7	<980
Strontium	4.9	.0098	.18		
Sulfur	9.8	.21	9.2		
Thallium	0.98	.47	.57	0.059	<0.98
Tin	20	.16	3.7		
Titanium	0.98	.049	.33		
Tungsten	4.9	.14	1.7		
Vanadium	4.9	.029	.19	-0.029	<4.9
Zinc	4.9	.029	2.3	0.40	<4.9

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC88412
Account: HACTRH - Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

QC Batch ID: MP15223
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/21/19

Metal	RL	IDL	MDL	MB raw	final
Zirconium	2.0	.029	.23		

Associated samples MP15223: JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC88412
Account: HACTRH - Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

QC Batch ID: MP15223
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/21/19

Metal	JC88412-10 Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	9960	14500	2850	159.6N(a	75-125
Antimony	0.0	137	228	60.2N(a)	75-125
Arsenic	3.8	218	228	94.1	75-125
Barium	32.0	263	228	101.5	75-125
Beryllium	0.24	215	228	94.4	75-125
Bismuth					
Boron					
Cadmium	0.070	215	228	94.4	75-125
Calcium	1740	4720	2850	104.7	75-125
Chromium	14.2	227	228	93.5	75-125
Cobalt	5.5	225	228	96.4	75-125
Copper	11.5	228	228	95.1	75-125
Iron	12800	15800	2850	105.4	75-125
Lead	10.4	249	228	104.8	75-125
Lithium					
Magnesium	2970	5830	2850	100.5	75-125
Manganese	339	578	228	105.0	75-125
Molybdenum					
Nickel	13.8	236	228	97.6	75-125
Potassium	598	3640	2850	106.9	75-125
Selenium	0.0	215	228	94.5	75-125
Silicon					
Silver	0.0	26.7	28.5	93.8	75-125
Sodium	54.8	3080	2850	106.3	75-125
Strontium					
Sulfur					
Thallium	0.0	222	228	97.5	75-125
Tin					
Titanium					
Tungsten					
Vanadium	17.5	231	228	93.8	75-125
Zinc	39.7	254	228	94.2	75-125
Zirconium					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC88412
Account: HACTRH - Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

QC Batch ID: MP15223
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/21/19

Metal	JC88412-10 Original MS	Spikelot MPSPK2	% Rec	QC Limits

Associated samples MP15223: JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC88412
Account: HACTRH - Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

QC Batch ID: MP15223
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/21/19

Metal	JC88412-10 Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum	9960	14100	2790	148.4N(a	2.8	20
Antimony	0.0	132	223	59.1N(a)	3.7	20
Arsenic	3.8	211	223	92.8	3.3	20
Barium	32.0	249	223	97.2	5.5	20
Beryllium	0.24	207	223	92.6	3.8	20
Bismuth						
Boron						
Cadmium	0.070	209	223	93.6	2.8	20
Calcium	1740	4520	2790	99.6	4.3	20
Chromium	14.2	222	223	93.1	2.2	20
Cobalt	5.5	219	223	95.7	2.7	20
Copper	11.5	223	223	94.8	2.2	20
Iron	12800	15500	2790	96.8	1.9	20
Lead	10.4	242	223	103.8	2.9	20
Lithium						
Magnesium	2970	5690	2790	97.5	2.4	20
Manganese	339	573	223	104.8	0.9	20
Molybdenum						
Nickel	13.8	230	223	96.9	2.6	20
Potassium	598	3360	2790	99.0	8.0	20
Selenium	0.0	208	223	93.2	3.3	20
Silicon						
Silver	0.0	26.0	27.9	93.2	2.7	20
Sodium	54.8	2850	2790	100.2	7.8	20
Strontium						
Sulfur						
Thallium	0.0	216	223	96.8	2.7	20
Tin						
Titanium						
Tungsten						
Vanadium	17.5	226	223	93.4	2.2	20
Zinc	39.7	247	223	92.9	2.8	20
Zirconium						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC88412
Account: HACTRH - Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

QC Batch ID: MP15223 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 05/21/19

	JC88412-10	Spikelot		MSD	QC
Metal	Original MSD	MPSPK2	% Rec	RPD	Limit

Associated samples MP15223: JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC88412
Account: HACTRH - Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

QC Batch ID: MP15223
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/21/19

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	2380	2380	100.0	80-120
Antimony	184	190	96.6	80-120
Arsenic	182	190	95.6	80-120
Barium	192	190	100.8	80-120
Beryllium	184	190	96.6	80-120
Bismuth				
Boron				
Cadmium	182	190	95.6	80-120
Calcium	2280	2380	95.8	80-120
Chromium	181	190	95.0	80-120
Cobalt	186	190	97.7	80-120
Copper	180	190	94.5	80-120
Iron	2250	2380	94.5	80-120
Lead	204	190	107.1	80-120
Lithium				
Magnesium	2220	2380	93.2	80-120
Manganese	186	190	97.7	80-120
Molybdenum				
Nickel	189	190	99.2	80-120
Phosphorus				
Potassium	2360	2380	99.1	80-120
Selenium	182	190	95.6	80-120
Silicon				
Silver	22.4	23.8	94.1	80-120
Sodium	2520	2380	105.8	80-120
Strontium				
Sulfur				
Thallium	191	190	100.3	80-120
Tin				
Titanium				
Tungsten				
Vanadium	180	190	94.5	80-120
Zinc	187	190	98.2	80-120

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC88412
Account: HACTRH - Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

QC Batch ID: MP15223
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/21/19

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Zirconium				

Associated samples MP15223: JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC88412
Account: HACTRH - Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

QC Batch ID: MP15223
Matrix Type: SOLID

Methods: SW846 6010D
Units: ug/l

Prep Date: 05/21/19

Metal	JC88412-10 Original	SDL 1:5	%DIF	QC Limits
Aluminum	85800	87000	1.4	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic	32.9	31.3	4.9	0-10
Barium	276	277	0.5	0-10
Beryllium	2.10	2.30	9.5	0-10
Bismuth				
Boron				
Cadmium	0.600	0.00	100.0(a)	0-10
Calcium	15000	15500	3.1	0-10
Chromium	122	127	3.9	0-10
Cobalt	47.3	48.0	1.5	0-10
Copper	99.3	101	1.3	0-10
Iron	110000	115000	4.2	0-10
Lead	89.4	93.6	4.7	0-10
Lithium				
Magnesium	25600	26200	2.3	0-10
Manganese	2920	3040	4.3	0-10
Molybdenum				
Nickel	119	120	0.8	0-10
Phosphorus				
Potassium	5150	4210	18.3*(b)	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium	472	624	32.3*(b)	0-10
Strontium				
Sulfur				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				
Vanadium	151	153	1.7	0-10
Zinc	342	351	2.8	0-10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC88412
Account: HACTRH - Haley & Aldrich, Inc.
Project: VT Yankee Nuclear Power Station, Governor Hunt Road, Vernon, VT

QC Batch ID: MP15223 Methods: SW846 6010D
Matrix Type: SOLID Units: ug/l

Prep Date: 05/21/19

	JC88412-10		QC
Metal	Original SDL 1:5	%DIF	Limits
Zirconium			

Associated samples MP15223: JC88412-1, JC88412-2, JC88412-3, JC88412-4, JC88412-5, JC88412-6, JC88412-7, JC88412-8, JC88412-9, JC88412-10, JC88412-11, JC88412-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.