Perkins Eastman

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February 8, 2017

Ms. Katie Loeffler
Capital Program Manager
Massachusetts School Building Authority
40 Broad Street
Boston, MA 02109

Re: Town of Ipswich, Winthrop School Preferred Schematic Report

Dear Katie,

Please find attached our response to the review comments from the preferred schematic report submission. Please let us know if you have any questions.

Regards,

Daniel T. Colli, AIA, LEED AP
Associate Principal

CC: Robert Bell, Paul Queeney, Kevin Nigro, Robin Crosbie, Kevin Murphey, Carl Nylen

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Response to Preliminary Schematic Report Review Comments
February 8, 2017

3.3.1 Preferred Schematic Report Introduction

The District's Preferred Option is indicated as Option W2A.4 a new PK-5 Elementary School for a total of 775 students in grades K-5 on the existing Winthrop Elementary School site. The submittal indicates the preferred solution comes with concerns for parking and traffic issues and additional traffic, parking studies, and community concerns will be further explored. Please provide a schedule associated with performing these items and keep the MSBA informed of developments resulting from additional work associated with these concerns.

The district engaged VHB to perform an extensive traffic study for the Winthrop site based on the concerns of the community leaders, site abutters and the general public. VHB has completed the field work associated with the study. PE and VHB met with the Ipswich Police and Fire Chiefs on 2/2/17, the result of this meeting was a general agreement of the recommendations being made for site circulation and improvements to Central Street in regards to site entry and exit. Parking continues to be studied, the goal during SD is for the design team to provide the minimum parking on site required by the towns zoning requirements.

3.3.2 Preferred Schematic Report Evaluation of Existing Conditions

The submittal indicates further geo-environmental analysis and testing began 12/29/2016. However, the geo-technical report included with the PSR submittal is dated 12/6/2016. Please submit an updated geo-technical report to the MSBA as part of the Schematic Design submission.

The additional geo-technical information was provided in the original Preferred Schematic Report Submission, the design team had also contracted for additional Geo-Environmental review of the site, that report is attached as appendix to this response.

3.3.3 Preferred Schematic Report Final Evaluation of Alternatives

Bus and parent pick-up and drop-off areas were illustrated but not labeled for the preferred option (W2A.4). Please provide updated and labeled site plans indicating proper site limitations, parking areas, bus and parent drop-off areas, and site access. Please provide a labeled site plan for the February 1, 2017 FAS meeting and include as part of the Districts response to MSBA's PSR review comments.

The labeled site plan is included as appendix to this response letter as requested.

Please ensure that further detail is provided in the subsequent schematic design documents that clearly describes and illustrates bus and parent drop-off, safety provisions, and possible construction laydown areas that will be applied during construction on the occupied site. Please include as part of the District's response to MSBA's PSR review comments.

The labeled site plan is included as appendix to this response letter as requested. Phasing and specifics of the construction of the project are issues that the design team will be focusing on during Schematic Design.

The submittal indicates the following potential variance/relief that may be requested:

- *Section VII-B of the Zoning By-law, parking to be calculated accordingly based on per classroom and additional support staff. Community has been vocal about providing parking at the proposed facility. In addition, potential off-site parking being considered is the existing Doyon site.*

  The goal for the design team during SD is to provide the minimum number or parking spots on site as required by the towns zoning by-laws. The SD submission will include a write up indicating how the district intends to accommodate the total number of parking spaces requested to support the school.

- *The MSBA understands the District is involved with the appropriate parties with respect to review, approval, and agreement associated with the proposed use of existing parkland with State and local commissions. In order for the MSBA to better understand the requirements and associated timeline to gain all State and local approvals, please provide a description and work plan that clearly outlines the work involved in satisfying all requirements including any impact to land disposition per Article 97 of the Article of Amendment to the Constitution of the Commonwealth of Massachusetts.*

  As stated in previous submissions, no land under consideration (Doyon, Winthrop, or Bialek Park) require any disposition under Article 97, therefore there is no timeline associated.

<u>3.3.4 Preferred Schematic Report Preferred Solution</u>

Please provide an interior circulation diagram that describes how students will transition into the school from the drop off areas, from the classrooms to the cafeteria, and exit the school at time of dismissal. In addition, provide the same information for an individual that is physically challenged. The intent is to understand how students will be traveling through the building on a daily basis. Please provide as part of the District's response to MSBA's PSR review comments.

A labeled circulation diagram is included as appendix to this response letter as requested.

Please provide updated and labeled site plans indicating proper site limitations, parking areas, bus and parent drop-off areas, and site access. Please include as part of the District's response to MSBA's PSR review comments.

The labeled site plan is included as appendix to this response letter as requested.

Please refer to comment listed in section 3.3.1 item 5 regarding Parking and Paving.

The labeled site plan is included as appendix to this response letter as requested.

Please provide updated and labeled site plan indicating proper zoning setbacks and limitations. Please include as part of the District's response to MSBA's PSR review comments.

The labeled site plan is included as appendix to this response letter as requested.

Please provide updated and labeled site plan indicating proper easements and buffers. Please include as part of the District's response to MSBA's PSR review comments.

The labeled site plan is included as appendix to this response letter as requested.

Emergency vehicle access has not been specifically indicated on the site plan. Please provide as part of the District's response to MSBA's PSR review comments.

The labeled site plan is included as appendix to this response letter as requested.

Safety and security features have not been specifically indicated on the site plan. The Designer has confirmed that both the Police and Fire departments have been engaged in the process thus far in order to continue the development of the proposed project. Please provide an updated site plan as part of the District's response to MSBA's PSR review comments.

The labeled site plan is included as appendix to this response letter as requested, both the Police Chief and Fire Chief have reviewed the circulation diagrams and site features and are in agreement with the direction of the project thus far.

Please provide an updated site plan with labels indicating athletic fields and or outdoor educational spaces. Please include as part of the District's response to MSBA's PSR review comments.

The labeled site plan is included as appendix to this response letter as requested.

Please provide the District's estimated funding capacity as part of the District's response to MSBA's PSR review comments.

The Town Finance Director has prepared a Capital Projects Tax Impact Spreadsheet. The projects and anticipated borrowings are listed in the chart below.

9 years of Projected Debt Service peak in 2025 and the Tax Impact Chart reflecting that is below the project listing.

Last is the graph of the tax impact of all the debt service, by fiscal year and project type through FY46.

Please provide a list of other municipal projects currently planned or in progress as part of the District's response to MSBA's PSR review comments.

As evidenced in the tax impact section the town has the following projects under consideration:

- **Public Safety Building**
- **Improvements to High Street**
- **Various Parking Improvement Projects**
- **Public Restroom Improvements**
- **Middle School / High School Renovation / Repairs**

Please provide the District's not-to-exceed Total Project Budget as part of the District's response to MSBA's PSR review comments.

The district and SBC have set a preliminary NTE budget of $62 million dollars for the project with a town share of +/- $36 million dollars.

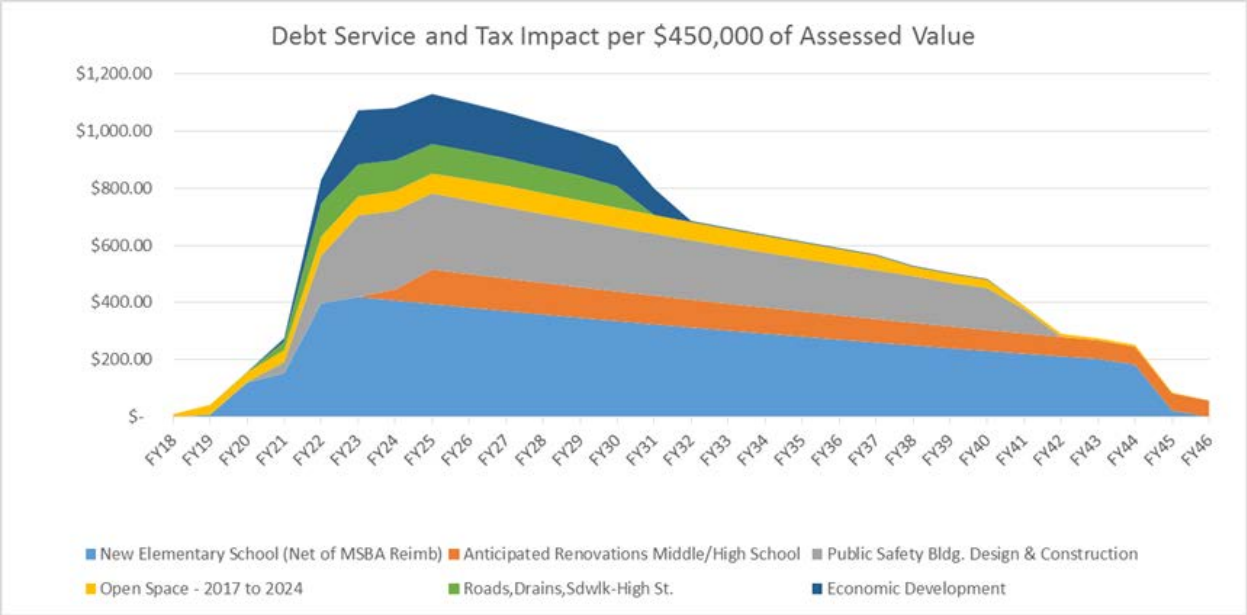
Please provide additional details that further describes the District's local process for authorization and funding of the proposed project and include as part of the District's response to MSBA's PSR review comments.

A borrowing article will be placed on the fall town meeting, to be followed by a debt exclusion referendum in early November.

Please provide a narrative describing the District's estimated impact to local property tax as part of the District's response to MSBA's PSR review comments.

EXEMPT DEBT	AMOUNT Borrowed	Borrowing TERM	Estimated Interest	PURPOSE
School EXEMPT Future Projects				
Town Meeting Fall 2017 STM				
Option 1:New Elementary School (Net of MSBA)	2,000,000	25	3.75%	1: New Elementary School (Net of MSBA Reimb)
Option 1:New Elementary - 2nd borrowing	28,000,000	25	3.75%	1: New Elementary - 2nd borrowing
Option 1:New Elementary - 3rd borrowing	4,000,000	25	3.75%	1: New Elementary - 3rd borrowing
Future:				
Middle/High School Reno Fall 2022 STM-MSBA	10,000,000	25	3.75%	Anticipated Renovations Middle/High School
Sub-Total School EXEMPT Future Projects	**44,000,000**			
Town EXEMPT Future Projects				
Public Safety Bldg - Feasibility-5/18 ATM	$ 500,000	20	3.75%	Public Safety Bldg - Feasibility
Public Safety Bldg. Design & Constr'n-5/19ATM	$ 8,000,000	20	3.75%	Public Safety Bldg. Design & Construction-1
Public Safety Bldg. Design & Constr'n-5/19ATM	$ 12,000,000	20	3.75%	Public Safety Bldg. Design & Construction-2
Open Space - Belossofsky ($1.375M OS 4/00)	$ 2,000,000	20	3.75%	Open Space - Belossofsky Fall STM 2019
Open Space - Fields Fall 2016 STM	$ 2,377,000	20	3.75%	Open Space - Fields Winter STM 2017
Open Space - Other Fall 2019 STM	$ 500,000	20	3.75%	Open Space - Other Fall 2019 STM
Open Space - Other 2021 ATM	$ 500,000	20	3.75%	Open Space - Other 2021 ATM
Open Space - Other 2023 ATM	$ 500,000	20	3.75%	Open Space - Other 2023 ATM
Open Space - Other Fall 2024 STM	$ 500,000	20	3.75%	Open Space - Other Fall 2024 STM
Roads,Drains,Sdwlk - High Street	$ 500,000	10	3.75%	Roads,Drains,Sdwlk-High St. Fall 2018 STM
Roads,Drains,Sdwlk - High Street	$ 4,500,000	10	3.75%	Roads,Drains,Sdwlk-High St. Fall 2019 STM
Public Restrooms	$ 350,000	20	3.75%	Public Restrooms 2020 ATM
Hammatt Parking - Grant?	$ 2,500,000	10	3.75%	Hammatt Parking - Grant? 2020 ATM
EBSCO Train Parking Improv. Grant?	$ 5,000,000	10	3.75%	EBSCO Train Parking Improv.Grant? 2021 ATM
Sub-Total Town EXEMPT Future Projects	**$ 40,227,000**			
Total EXEMPT Municipal Future Projects	**$ 84,227,000**			

Tax Impacts per project	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26
New Elementary School (Net of MSBA Reimb)		$ 8.09	$ 120.13	$ 152.56	$ 396.65	$ 419.93	$ 407.24	$ 394.76	$ 382.49
Anticipated Renovations Middle/High School							$ 38.48	$ 120.65	$ 117.10
Public Safety Bldg. Design & Construction			$ 2.00	$ 39.10	$ 167.47	$ 284.70	$ 275.65	$ 266.75	$ 257.99
Open Space - 2017 to 2024	$ 9.71	$ 34.66	$ 33.57	$ 42.40	$ 66.81	$ 66.60	$ 69.47	$ 69.07	$ 73.58
Roads, Drains, Sdwlk-High St.			$ 2.00	$ 29.63	$ 116.35	$ 111.96	$ 107.64	$ 103.40	$ 99.23
Economic Development				$ 11.30	$ 82.92	$ 189.10	$ 181.96	$ 174.94	$ 168.05
Total Tax Impact per $450K of Assesed Value	$ 9.71	$ 42.75	$ 157.70	$ 274.98	$ 830.20	$ 1,072.29	$ 1,080.44	$ 1,129.57	$ 1,098.44
Proof from 5 year Tax Impact	$ 9.71	$ 42.75	$ 157.70	$ 274.98	$ 830.20				
		with 3.5M override		$ 830.05	$ 1,393.51				



Please include the targeted substantial completion date into the project schedule as part of the District's response to MSBA's PSR review comments.

A Substantial Completion date of 6/26/2020 is indicated on page 2 of the schedule. A copy is attached for reference.

<u>3.3.5 Preferred Schematic Report Local Actions and Approvals</u>

Grade Re-districting Certificate - Not provided. Please submit.

Included as part of this response.

Please confirm that there are no additional votes or approvals required to reconfigure/redistrict the elementary schools as part of the Schematic Design submission.

The SBC Chair has confirmed that no additional votes are required.

Superintendent Certification - Not provided. Please submit.

Included as part of this response.

CDW CONSULTANTS, INC.

CIVIL & ENVIRONMENTAL ENGINEERS

PHASE II - LIMITED SUBSURFACE INVESTIGATION

Winthrop School
65 Central Street
Ipswich, Massachusetts

Prepared for

Daniel T. Colli, AIA, LEED AP BD&C
Perkins Eastman Architects DPC
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Boston, Massachusetts 02108

February 2017

CDW Project # 1505.00

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1.0 INTRODUCTION

CDW Consultants, Inc. (CDW), on behalf of our client, Perkins Eastman Architects DPC, has conducted a Phase II - Limited Subsurface Investigation (Phase II) of a portion of the Winthrop School, located at 65 Central Street, Ispwich, MA (Figure 1). The investigation consisted of the advancement of borings, the installation on monitoring wells, and soil and groundwater sampling and analysis. The Phase II investigation was conducted in January, 2017.

The investigation was conducted to determine the presence or likely presence of hazardous substances or petroleum products on the property in areas of concern identified in CDW's Phase I Environmental Site Assessment report from February 2016.

1.1 Purpose

The purpose of the investigation was to evaluate subsurface conditions at the Site in specific areas that will be undergoing Site and/or building demolition and new construction that may have been impacted by identified potential sources of contamination at the Site. This investigation was performed in accordance with Massachusetts General Law (MGL) Chapter 21E.

1.2 Site Description

The Winthrop School includes 8.08 acres of land including roadways, parking lots, front lawn, rear play areas and landscaped areas. According the Town of Ipswich Assessors' office, the Fire Station is also included on the subject parcel. This Phase II only applies to the School and land directly adjacent to including front lawn, school parking and rear play areas. The Site contains one 41,000 square foot building including additions utilized as an elementary (K-5) school constructed in 1956.

The Site is defined as the land and improvements associated with the School building and associated parking. The Site excludes the fire station. The Site building is connected to municipal water and sewer. The Site building is heated with natural gas piped in from Central Avenue. The Site is bound by Central Street to the south, residential properties to the north, east and west. The fire station is located on the same 8-acre parcel to the southeast.

The Site is located on the Ipswich United States Geological Survey (USGS) 2012 Quadrangle Map at the following approximate location and elevation:

Universal Transverse Mercator (UTM) Zone 19 Coordinates	
4726984.5	UTM Y (Meters)
349256.6	UTM X (Meters)
Latitude/Longitude	
42.6825000 - 42° 40’ 57.00’’	Latitude (North)
70.8399000 - 70° 50’ 23.64’’	Longitude (West)
Elevation	
34	Feet above sea level

Only portions of the school property identified in the Phase I Environmental Site Assessment as potential sources of subsurface contamination were subject to this investigation.

2.0 PREVIOUS SITE STUDIES

CDW completed a Phase I Environmental Site Assessment (ESA) in February 2016. The Phase I report included a Site reconnaissance, document research of the Site and surrounding area, an environmental database review, and review of documents obtained from the Town of Ipswich.

The Site contains one 41,000 square foot building including additions utilized as an elementary (K-5) school constructed in 1956. The Site building consists of a two-story school building. The building currently houses students from preschool to grade five. In 1984, a portable classroom was added to the Winthrop School. In 1992/1993, an addition was added to the original structure providing a library and seven classrooms.

The Site is serviced by municipal water and sewer. The Site building is heated with natural gas piped in from Central Avenue. Natural gas supplies the building for the kitchen and heating. No underground storage tanks (USTs) or ASTs are located at the Site. In November 1987, a steel 10,000 gallon #4 heating oil UST was removed from the Site. According to Sean Cronin of Fire Prevention, there is no information on the condition or location of the UST, however in can be inferred to have been near the boiler room.

No evidence of inappropriate dumping or suspect waste disposal pits were observed during the Site inspection. Additionally, there were no areas of disturbed soil or distressed vegetation. No

visible evidence of oil or hazardous material releases were seen at the Site.

No Historical Recognized Environmental Condition (HRECs) or Controlled Recognized Environmental Condition (CRECs) were identified during the assessment.

Recognized Environmental Concerns (RECs) were identified during the assessment. They were:

- Potential contamination from the former 10,000-gallon fuel oil underground storage tank.
- Unknown incinerator ash burial site.

3.0 PHASE II SUBSURFACE INVESTIGATION

Based upon the results of the Phase I ESA, CDW conducted a limited subsurface investigation of the Site. The investigation consisted of the advancement of seven (7) soil borings, installation of three (3) monitoring wells, and soil and groundwater sampling and analysis. Figures EX2 and EX3 depict the locations of the soil borings and monitoring wells installed by CDW. Soil boring logs are included in Appendix A.

3.1 Topography and Hydrogeologic Features

The Site is located 34 feet above sea level, and the topography is generally flat. The bedrock at the Site consists of diorite and gabbro with intrusive granite (Proterzoic Z) (Zen et. al. 1983). There are no bedrock outcrops at the Site.

Surface soils at the Site consist of urban land according to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) (USDA 2014).

The nearest established wetland resource areas are the Ipswich River, located approximately 1/2-mile east of the Site.

The Site is serviced by municipal water and sewer. Drinking water is supplied to the town from five groundwater wells and two reservoirs. Water from the wells is treated on-site prior to being pumped directly into the distribution system. The original cast iron water piping system dates to 1894. Raw (untreated) water from the Dow Brook and Bull Brook reservoirs are treated at the Water Treatment Plant located at 274 High Street prior to its introduction into the distribution

system. The water main located in Central Street supplies the Winthrop School. The Town of Ipswich is required to regulate and manage stormwater in accordance with the National Pollutant Discharge Elimination System (NPDES). Stormwater is discharged into the Ipswich River. There are no designated drinking water resource areas within a half-mile of the site.

Soils at the Site during drilling were observed to be sand and clay. The Site is located within the FEMA Flood Zone X, an area of minimal flood hazard higher than the elevation of the 0.2-percent-annual-chance flood.

Groundwater is located approximately 5-7 feet below ground surface.

3.2 Soil Borings and Monitoring Well Installation

In December of 2016, CDW conducted a limited subsurface investigation of the Site. The investigation consisted of the advancement of soil borings, installation of groundwater monitoring wells, and soil and groundwater sampling and analysis. The soil borings were advanced by a hollow stem auger drill rig. For the hollow stem auger drill rig, soil samples were obtained at two foot intervals, and classified on-site. CDW's subcontractor, Technical Drilling Services, Inc. of Sterling, Massachusetts completed the advancement of the soil borings. CDW's subcontractor, Spectrum Analytical, Inc. of Agawam, Massachusetts, completed the laboratory sample analyses.

On December 30, 2016, CDW advanced seven (7) soil borings at the Site. The selection of the locations of the borings was based upon the potential source of contamination due to possible on-site presence of contaminants from USTs and drains, substandard fill, and other historic activities that may have impacted the site, which may be encountered during construction. Boring CDW-B1/MW was installed in the lawn across the road from the southeast entrance to the school. Boring CDW-B2/MW was installed in the parking lot to the east of the school. Borings CDW-B3/MW, CDW-B4, and CDW-B5 were all installed behind the school. Borings CDW-B6 and CDW-B7 were installed in the front lawn towards Central Street, approximately 150 - 200 feet from the school building. Figures EX2 and EX3 depicts the locations of CDW’s borings and monitoring wells. Boring logs are included in Appendix A.

Soils encountered during drilling were generally sand and clay, with occasional trace gravel. No boulders or bedrock were encountered during drilling. Groundwater during drilling was observed at depths ranging from approximately 5 to 7 feet below surface grade.

3.3 Soil Screening and Laboratory Samples

Soil samples were collected continuously from samples from each boring and field-screened with a photoionization detector (PID) using the headspace method. The soil headspace screening results are provided on the boring logs in Appendix A. The PID is an instrument used to quantify total organic volatiles (TOVs) that ionized at or below 10.6 electron volts (a range which includes gasoline and some fuel oil organics). The detection limit for the instrument is 1 parts per million (ppm).

The sampling plan was developed to investigate the types of compounds that may have been released from current or previous site uses and activities. One soil sample from each of 7 borings was selected and submitted for laboratory analysis for extractable petroleum hydrocarbons (EPH), volatile organic chemicals (VOC), volatile petroleum hydrocarbons (VPH) and total priority pollutant metals (PP13). The samples submitted for laboratory analysis were collected from depths between 5 and 7 feet below the ground surface. The samples were preserved by ice, refrigeration and methanol, as appropriate, prior to laboratory analysis, and delivered to the laboratory accompanied by an appropriate chain of custody record.

3.4 Groundwater Sampling

All newly installed monitoring wells were sampled as part of the Phase II investigation. On January 5, 2017, CDW personnel collected groundwater samples from all three (3) of the monitoring wells. At least three well volumes of water were removed from each well prior to sampling, which was performed with dedicated bailers. The samples were submitted to Spectrum Analytical for analysis for EPH including VOCs, VPH, and PP13 metals. The groundwater gauging data are included in Table 1.

4.0 NATURE AND EXTENT OF CONTAMINATION

CDW evaluated the results of the field observations, soil and groundwater sampling, and laboratory analysis conducted for this subsurface investigation. In addition, the laboratory analysis results were compared with applicable Massachusetts Contingency Plan (MCP), 310 CMR 40.0000, Reportable Concentrations.

4.1 Soil and Groundwater Classifications

The selection of a soil classification of RCS-1, as defined in the MCP, 310 CMR 40.0361(1) (a), for the comparison of Reportable Concentrations, is applicable to the Site because all of the soil sample locations are located within the boundaries of a school. There are no groundwater resource areas within 0.5 miles of the Site. There are no Zone 2 Approved Wellhead Protection Areas or Interim Wellhead Protection Areas (IWPA) within 0.5-miles of the Site. Also, there are no residential private wells within 500 feet of the Site.

The selection of a groundwater classification of RCGW-2, as defined in the MCP, 310 CMR 40.0362, for the purpose of identifying MCP Reportable Concentrations, was based upon the following criteria:

- Groundwater at the Site is not located in a current or potential drinking water source area.

The results of the laboratory analytical testing of soil and groundwater samples were evaluated and compared with current Reportable Concentrations. Copies of the laboratory reports are included in Appendix B and C.

Soil Sample Analysis Results

Soil samples were analyzed for EPH, VPH, target VOCs compounds, and PP13 metals. One soil sample per boring was collected during drilling and screened with a PID using the headspace method. All samples were below the instrument detection limits, or non-detect. The results of the headspace screening for CDW's investigation are summarized in the boring logs in Appendix A.

The laboratory analysis results of soil samples collected during CDW's subsurface investigation contained detectable concentrations of several metals in all seven samples. None of the metals identified exceeded the applicable MCP Reportable Concentrations. The presence of metals on-site is consistent with naturally occurring minerals due to geologic or ecologic processes; furthermore, the concentrations do not appear to have been mobilized, placed, or transferred to the environment as a result of a release at the Site.

The analytical test results for one of the borings contained several detectable concentrations of EPH compounds, and CDW-B7 exceeded the MCP RCS-1 standard for benzo(a)pyrene of 2.0 mg/kg with a result of 2.28 mg/kg. CDW-B7 is located within the buried foundation of the original school, and the soil contains glass, brick and a little ash indicative of fill material. This concentration of benzo (a) pyrene meets the Definition of Background (310 CMR 40.0006). Background means those levels of oil and hazardous material that would exist in the absence of the disposal site of concern which are either: (a) ubiquitous and consistently present in the environment at and in the vicinity of the disposal site of concern; and attributable to geologic or ecological conditions, or atmospheric deposition of industrial process or engine emissions; (b) attributable to coal ash or wood ash associated with fill material; (c) releases to groundwater from a public water supply system; or (d) petroleum residues that are incidental to the normal operation of motor vehicles. The sample from CDW-B7 was collected from within the former foundation of the original school, and contains fill materials including ash, therefore meets the criteria of "Background." The "Background" level of benzo(a)pyrene is 7 mg/kg. Therefore, the concentration of Benzo(a)pyrene is not reportable.

None of the soil samples contained detectable concentrations of target VOC compounds. It is important to note that the laboratory detection limits for several of the target VOC compounds were above the MCP RCS-1 standard. The following target VOC compounds were affected: dibromochloromethane, cis-1,3-dichloropropene, trans-1,3-dichloropropene, 1,1,2,2 tetrachloroethane, and 1,4-dioxane. The reporting limit (RL) for an individual compound using WSC-CAM-II A is dependent on the concentration of the lowest non-zero standard in the initial calibration, analyzed under identical conditions as the sample, with adjustments made for the sample size, extraction concentration factor, percent solids, dilution factors, etc., as required. The CAM RLs for WSC-CAM-II target analytes are 100-200 µg/kg (wet weight) for high-level soil/sediment samples. Therefore, the above listed compounds RLs are below the target RL. Since no other Chlorinated Volatile Organic Compounds (CVOCs) were detected in soil and

groundwater, there is no source on property, it is reasonable to assume that these compounds are not likely to be present. Furthermore, there were no PID readings, or olfactory-visual indication of contamination. Analytical test results from all other compounds were below their respective laboratory detection limits. None of these results exceeded the applicable MCP Reportable Concentrations. The results of all soil analyses are summarized in Table 2.

Groundwater Sample Analysis Results

Groundwater samples were analyzed for EPH, VPH, target VOCs compounds, and PP13 metals. The metals arsenic, chromium, copper, nickel and zinc were detected in two of the groundwater samples. The detected concentration was below the applicable Reportable Concentration for GW-2 classified groundwater. All three groundwater samples contained detectable concentrations of VOC compounds, which included: Bromodichloromethane, Chloroform, and Dibromochloromethane. None of these results exceeded the applicable MCP Reportable Concentrations. No EPH, or VPH compounds were detected in groundwater. The results of groundwater analyses are included in Table 3.

5.0 CONCLUSIONS & RECOMMENDATIONS

Based upon our research, subsurface testing, and site observations, CDW is presenting our conclusions and a summary of the key observations upon which these conclusions are based. From this study, CDW has made the following observations:

- The Site study area for this Phase II Investigation consists of a portion of the Winthrop School in Ispwich, Massachusetts that was identified as having one or more potential areas of soil or groundwater contamination. This investigation focused on subsurface testing in areas of the school property that are proposed for demolition and new construction.

- Soil boring advancement was completed on December 30, 2016. A total of seven (7) soil borings were advanced. The borings were advanced to depths of between 12 and 17 feet below grade. Soils on site were generally sand and clay, with occasional trace gravel. Groundwater was encountered at depths between 5 to 7 feet. Groundwater monitoring wells were installed in three (3) of the borings.

- Soil sample headspace screening indicated non-detect concentrations of VOCs in the soil samples. Metals were detected in several of the samples analyzed at concentrations consistent with those found in natural soils. The analytical test results for two of the borings contained several detectable concentrations of EPH compounds, and CDW-B7 exceeded the MA RCS-1 standard for benzo(a)pryrene of 2.0 mg/kg with a result of 2.28 mg/kg, however, the level is below the "Background" concentration of 7 mg/kg. No VPH or VOC compounds were detected in any soil samples.

- A low concentration of metals (arsenic, chromium, copper, nickel, zinc) was detected in multiple groundwater monitoring wells, below applicable Reportable Concentrations. The groundwater samples contained detectable concentrations of the following VOC compounds: Bromodichloromethane, Chloroform, and Dibromochloromethane. All analytical results were below applicable Reportable Concentrations. No EPH or VPH compounds were detected in any groundwater samples.

Based on the results of the subsurface investigation, CDW has the following recommendations:

- The soils on the site contain certain metals below the MCP Reportable Concentrations. These soils are therefore not regulated by the MCP, and are not considered a remediation waste once excavated. The soils may be re-used on-site without restriction. Although the presence of the metals are consistent with natural background levels, reuse of these soils off-site needs to be evaluated such that the quality of the exported Site soils is acceptable to the destination site pursuant to MassDEP regulations and policies.

- The sampling and analytical program was specific to one or more areas of the Site where potential contamination could or occur. As such, contingency plans should be in place to manage any potentially contaminated soil that may be encountered during building demolition or new construction. CDW recommends that a contingency be factored into soil excavation planning to allow for evaluation, testing and disposal of any impacted soils discovered during construction that were not discovered during these limited investigation activities.

- In addition, historical research does not guarantee that all former Site use, storage and disposal practices have been properly recorded and/or are presently known. If evidence of a release to soil and/or groundwater is encountered, measures must be conducted to properly manage those conditions.

6.0 LIMITATIONS

The findings are limited to the information available at the time of the investigation and the scope of services as defined. The results of the subsurface investigation performed on this Site form the basis for the findings and are representative of conditions at the time of the investigation. Where access to certain portions of the Site or the ability to perform subsurface testing was impeded, no conclusions or opinions can be made. No other conclusions, interpretations or recommendations are contained or implied in this report other than those expressed. Also, CDW makes no warranty, expressed or implied, on the accuracy of the work and information completed by others and upon which CDW has relied to prepare this report. No other use of this report is warranted without the written consent of CDW Consultants, Inc.

FIGURES

CDW CONSULTANTS, INC.

WINTHROP SCHOOL
65 CENTRAL STREET
IPSWICH, MA 01938

Figure 1 - Locus Map

SOURCE: MASSGIS

SCALE: 1 inch = 2,083 feet

NOTES

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UTILITY INFORMATION STATEMENT

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2. THE LOCATIONS OF UNDERGROUND PIPES, CONDUITS, AND STRUCTURES HAVE BEEN DETERMINED FROM SAID INFORMATION, AND ARE APPROXIMATE ONLY. COMPILED LOCATIONS OF ANY UNDERGROUND STRUCTURES, NOT VISIBLY OBSERVED AND LOCATED, CAN VARY FROM THEIR ACTUAL LOCATIONS.

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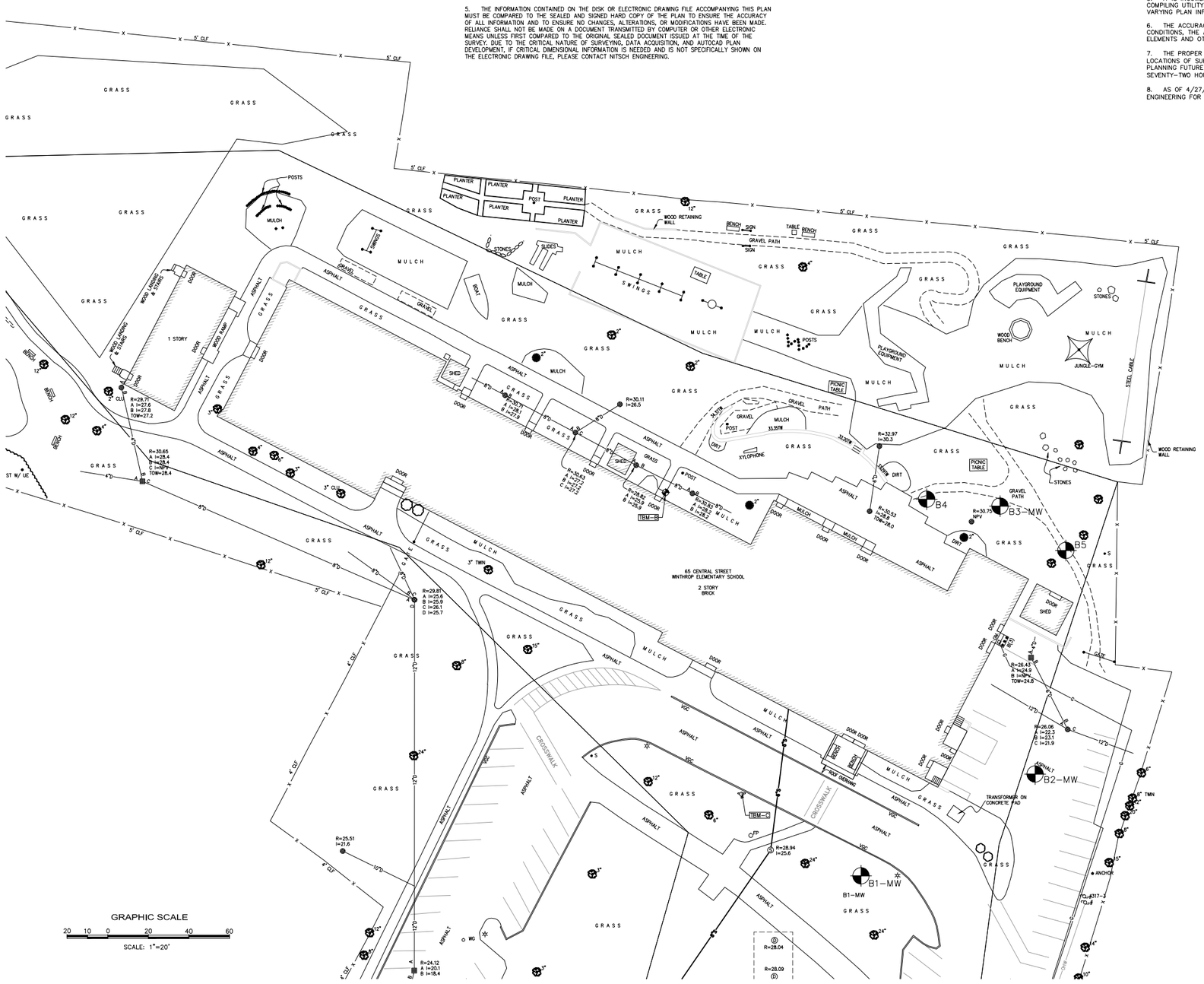
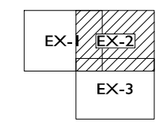
8. AS OF 4/27/2016 RECORD INFORMATION HAS NOT BEEN RECEIVED BY NITSCH ENGINEERING FOR THE FOLLOWING UTILITIES: IPSWICH UTILITIES (WATER, SEWER, ELECTRIC)



SHEET KEY



LEGEND

	CATCH BASIN
	DRAIN MANHOLE
	ELECTRIC MANHOLE
	MISCELLANEOUS MANHOLE
	SEWER MANHOLE
	TELEPHONE MANHOLE
	WATER MANHOLE
GSO	GAS SHUT-OFF
WSO	WATER SHUT-OFF
GG	GAS GATE
WG	WATER GATE
	FIRE HYDRANT
DS	DOWN SPOUT
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12"	DECIDUOUS TREE WITH TRUNK DIAMETER
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	HANDICAP PARKING
601+43	SPOT ELEVATION
CLF	CHAIN LINK FENCE
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	BENCH MARK

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TOPOGRAPHIC AND UTILITY SURVEY PLAN

WINTHROP ELEMENTARY SCHOOL
IPSWICH, MASSACHUSETTS

PREPARED FOR:
THE DESIGN PARTNERSHIP OF CAMBRIDGE
500 RUTHERFORD AVENUE, CHARLESTOWN, MA 02129

REV.	COMMENTS	DATE
A	ADDED UNDERGROUND TELEPHONE	5/25/2016

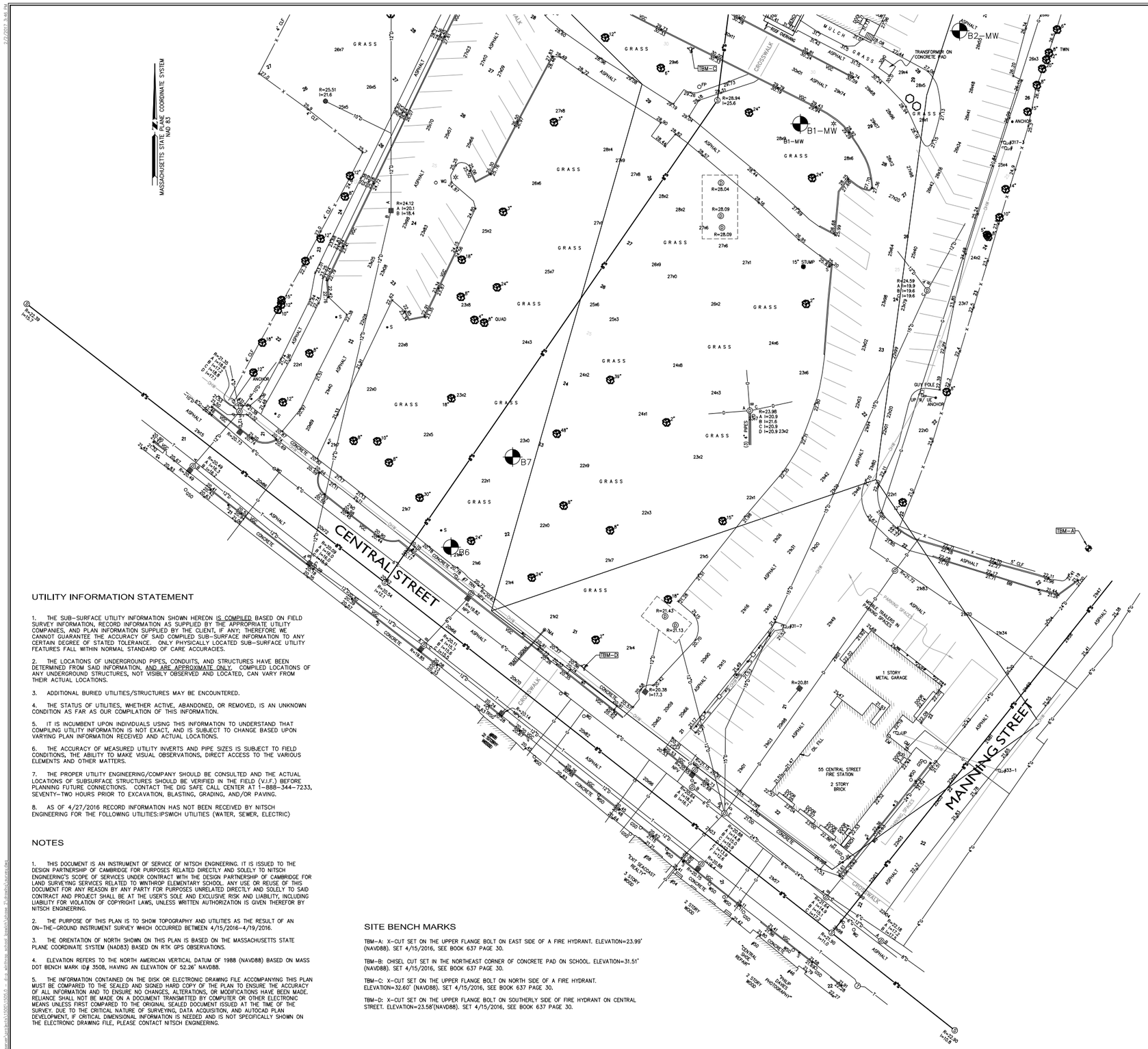
REVISIONS

PROJECT #	11251
FILE:	Survey.dwg
SCALE:	1"=20'
DATE:	4/27/2016
DES./COMP:	DRS
FIELD BOOK:	637
DRAFTED BY:	JCC
CHECKED BY:	

SHEET:

EX-2

OF 3 REV. A



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W	UNDERGROUND WATER LINE
OHW	OVERHEAD WIRES
X	CHAIN LINK FENCE LINE
	WOOD FENCE LINE
	GUARDRAIL
	BENCH MARK

SHEET KEY

EX-1 EX-2
EX-3

GRAPHIC SCALE

20 10 0 20 40 60

SCALE: 1"=20'

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REV.	COMMENTS	DATE
A	ADDED UNDERGROUND TELEPHONE	5/25/2016

REVISIONS

PROJECT #	11251
FILE:	Survey.dwg
SCALE:	1"=20'
DATE:	4/27/2016
DES./COMP:	DRS
FIELD BOOK:	637
DRAFTED BY:	JCC
CHECKED BY:	

SHEET:

EX-3

OF 3 REV. A

TABLES

TABLE 1
Groundwater Gauging Data
Winthrop School
Ispwich, MA

Well	Date	Depth to Water (ft TOC)	Depth to Bottom of Well (ft TOC)	Purge Volume (gallons)
CDW-B1MW	1/5/2017	5.51	15.00	5
CDW-B2MW	1/5/2017	3.40	11.60	4
CDW-B3MW	1/5/2017	6.27	15.00	4

1. Depth values are reported in feet below the top of the well casing.

TABLE 2
Soil Analytical Results
Winthrop School
Ispwich, MA

	CDW-B1	CDW-B2	CDW-B3	CDW-B4	CDW-B5	CDW-B6	CDW-B7	RCS-1
Date	**12/30/2016**	**12/30/2016**	**12/30/2016**	**12/30/2016**	**12/30/2016**	**12/30/2016**	**12/30/2016**	
Time	**9:15**	**10:20**	**11:30**	**1:15**	**2:05**	**3:20**	**4:00**	
Depth	**5-7'**	**5-7'**	**5-7'**	**5-7'**	**5-7'**	**5-7'**	**5-7'**	
MADEP EPH 5/2004 R (mg/kg)								
C9-C18 Aliphatic Hydrocarbons	*< 12.1*	*< 12.4*	*< 11.8*	*< 12.2*	*< 11.5*	*< 10.8*	*< 11.9*	1000
C19-C36 Aliphatic Hydrocarbons	*< 12.1*	*< 12.4*	*< 11.8*	*< 12.2*	*< 11.5*	*< 10.8*	*< 11.9*	3000
C11-C22 Aromatic Hydrocarbons	*< 12.1*	*< 12.4*	*< 11.8*	*< 12.2*	*< 11.5*	*< 10.8*	32.5	1000
Unadjusted C11-C22 Aromatics	*< 12.1*	*< 12.4*	*< 11.8*	*< 12.2*	*< 11.5*	*< 10.8*	59.4	NA
Naphthalene	*< 0.402*	*< 0.415*	*< 0.393*	*< 0.407*	*< 0.382*	*< 0.358*	*< 0.395*	4
2-Methylnaphthalene	*< 0.402*	*< 0.415*	*< 0.393*	*< 0.407*	*< 0.382*	*< 0.358*	*< 0.395*	0.7
Acenaphthylene	*< 0.402*	*< 0.415*	*< 0.393*	*< 0.407*	*< 0.382*	*< 0.358*	*< 0.395*	1
Acenaphthene	*< 0.402*	*< 0.415*	*< 0.393*	*< 0.407*	*< 0.382*	*< 0.358*	*< 0.395*	4
Fluorene	*< 0.402*	*< 0.415*	*< 0.393*	*< 0.407*	*< 0.382*	*< 0.358*	*< 0.395*	1000
Phenanthrene	*< 0.402*	*< 0.415*	*< 0.393*	*< 0.407*	*< 0.382*	*< 0.358*	2.43	10
Anthracene	*< 0.402*	*< 0.415*	*< 0.393*	*< 0.407*	*< 0.382*	*< 0.358*	0.574	1000
Fluoranthene	*< 0.402*	0.574	*< 0.393*	*< 0.407*	*< 0.382*	*< 0.358*	5.76	1000
Pyrene	*< 0.402*	0.553	*< 0.393*	*< 0.407*	*< 0.382*	*< 0.358*	4.46	1000
Benzo (a) anthracene	*< 0.402*	*< 0.415*	*< 0.393*	*< 0.407*	*< 0.382*	*< 0.358*	2.5	7
Chrysene	*< 0.402*	*< 0.415*	*< 0.393*	*< 0.407*	*< 0.382*	*< 0.358*	2.35	70
Benzo (b) fluoranthene	*< 0.402*	*< 0.415*	*< 0.393*	*< 0.407*	*< 0.382*	*< 0.358*	1.47	7
Benzo (k) fluoranthene	*< 0.402*	*< 0.415*	*< 0.393*	*< 0.407*	*< 0.382*	*< 0.358*	2.12	70
Benzo (a) pyrene	*< 0.402*	*< 0.415*	*< 0.393*	*< 0.407*	*< 0.382*	*< 0.358*	**2.28**	2
Indeno (1,2,3-cd) pyrene	*< 0.402*	*< 0.415*	*< 0.393*	*< 0.407*	*< 0.382*	*< 0.358*	1.12	7
Benzo (g,h,i) perylene	*< 0.402*	*< 0.415*	*< 0.393*	*< 0.407*	*< 0.382*	*< 0.358*	1.06	1000
MADEP VPH 5/2004 Rev. 1.1 (mg/kg dry)								
C5-C8 Aliphatic Hydrocarbons	*< 1.04*	*< 1.07*	*< 0.943*	*< 0.965*	*< 0.907*	*< 0.726*	*< 0.956*	100
C9-C12 Aliphatic Hydrocarbons	*< 0.346*	*< 0.357*	*< 0.314*	*< 0.322*	*< 0.302*	*< 0.242*	*< 0.319*	1000
C9-C10 Aromatic Hydrocarbons	*< 0.346*	*< 0.357*	*< 0.314*	*< 0.322*	*< 0.302*	*< 0.242*	*< 0.319*	100
Unadjusted C5-C8 Aliphatics	*< 1.04*	*< 1.07*	*< 0.943*	*< 0.965*	*< 0.907*	*< 0.726*	*< 0.956*	NA
Unadjusted C9-C12 Aliphatics	*< 0.346*	*< 0.357*	*< 0.314*	*< 0.322*	*< 0.302*	*< 0.242*	*< 0.319*	NA
Benzene	*< 0.0692*	*< 0.0714*	*< 0.0629*	*< 0.0643*	*< 0.0604*	*< 0.0484*	*< 0.0637*	2
Ethylbenzene	*< 0.0692*	*< 0.0714*	*< 0.0629*	*< 0.0643*	*< 0.0604*	*< 0.0484*	*< 0.0637*	40
Methyl tert-butyl ether	*< 0.0692*	*< 0.0714*	*< 0.0629*	*< 0.0643*	*< 0.0604*	*< 0.0484*	*< 0.0637*	0.1
Naphthalene	*< 0.0692*	*< 0.0714*	*< 0.0629*	*< 0.0643*	*< 0.0604*	*< 0.0484*	*< 0.0637*	4
Toluene	*< 0.0692*	*< 0.0714*	*< 0.0629*	*< 0.0643*	*< 0.0604*	*< 0.0484*	*< 0.0637*	30
m,p-Xylene	*< 0.138*	*< 0.143*	*< 0.126*	*< 0.129*	*< 0.121*	*< 0.0968*	*< 0.127*	300
o-Xylene	*< 0.0692*	*< 0.0714*	*< 0.0629*	*< 0.0643*	*< 0.0604*	*< 0.0484*	*< 0.0637*	500
SM2540 G Mod.								
% Solids	80.6	79.3	84.1	81.1	85.2	92.9	81.2	NA

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Ispwich, MA

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SW846 6010C (mg/kg)								
Antimony	*< 5.92*	*< 5.93*	*< 5.85*	*< 6.13*	*< 5.58*	*< 5.12*	*< 5.89*	20
Arsenic	3.3	6.67	6.64	3.65	7.86	8.06	5.72	20
Beryllium	*< 0.592*	*< 0.593*	*< 0.585*	*< 0.613*	*< 0.558*	*< 0.512*	*< 0.589*	90
Cadmium	*< 0.592*	*< 0.593*	*< 0.585*	*< 0.613*	*< 0.558*	*< 0.512*	*< 0.589*	70
Chromium	6.67	9.13	6.77	6.48	5.7	6.27	10.6	100
Copper	3.68	6.82	6.92	4.69	5.77	6.1	16.8	1000
Lead	3.85	5.2	3.07	5.2	2.66	2.89	154	200
Nickel	5.46	8.57	8.88	5.78	6.52	7.52	7.16	600
Selenium	*< 1.78*	*< 1.78*	*< 1.76*	*< 1.84*	*< 1.68*	*< 1.53*	*< 1.77*	400
Silver	*< 1.78*	*< 1.78*	*< 1.76*	*< 1.84*	*< 1.68*	*< 1.53*	*< 1.77*	100
Thallium	*< 3.55*	*< 3.56*	*< 3.51*	*< 3.68*	*< 3.35*	*< 3.07*	*< 3.54*	8
Zinc	10.9	15.5	14.2	12.1	9.31	12.2	72.8	1000
SW846 7471B (mg/kg)								
Mercury	*< 0.0328*	*< 0.0332*	*< 0.0356*	*< 0.0360*	*< 0.0321*	*< 0.0314*	0.342	20
SW846 8260C (µg/kg dry)								
1,1,2-Trichlorotrifluoroethane (Freon	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	NA
Acetone	*< 686*	*< 679*	*< 604*	*< 665*	*< 566*	*< 501*	*< 649*	6000
Acrylonitrile	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	100000
Benzene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	2000
Bromobenzene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	100000
Bromochloromethane	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	NA
Bromodichloromethane	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	100
Bromoform	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	100
Bromomethane	*< 137*	*< 136*	*< 121*	*< 133*	*< 113*	*< 100*	*< 130*	500
2-Butanone (MEK)	*< 137*	*< 136*	*< 121*	*< 133*	*< 113*	*< 100*	*< 130*	4000
n-Butylbenzene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	NA
sec-Butylbenzene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	NA
tert-Butylbenzene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	100000
Carbon disulfide	*< 137*	*< 136*	*< 121*	*< 133*	*< 113*	*< 100*	*< 130*	100000
Carbon tetrachloride	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	5000
Chlorobenzene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	1000
Chloroethane	*< 137*	*< 136*	*< 121*	*< 133*	*< 113*	*< 100*	*< 130*	100000
Chloroform	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	200
Chloromethane	*< 137*	*< 136*	*< 121*	*< 133*	*< 113*	*< 100*	*< 130*	100000
2-Chlorotoluene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	100000
4-Chlorotoluene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	NA
1,2-Dibromo-3-chloropropane	*< 137*	*< 136*	*< 121*	*< 133*	*< 113*	*< 100*	*< 130*	10000
Dibromochloromethane	*<67.9*	*<67.9*	*<60.4*	*<66.5*	*<56.6*	*<50.1*	*<64.9*	5
1,2-Dibromoethane (EDB)	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	100

TABLE 2
Soil Analytical Results
Winthrop School
Ispwich, MA

	CDW-B1	CDW-B2	CDW-B3	CDW-B4	CDW-B5	CDW-B6	CDW-B7	RCS-1
Date	**12/30/2016**	**12/30/2016**	**12/30/2016**	**12/30/2016**	**12/30/2016**	**12/30/2016**	**12/30/2016**	
Time	**9:15**	**10:20**	**11:30**	**1:15**	**2:05**	**3:20**	**4:00**	
Depth	**5-7'**	**5-7'**	**5-7'**	**5-7'**	**5-7'**	**5-7'**	**5-7'**	
Dibromomethane	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	500000
1,2-Dichlorobenzene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	9000
1,3-Dichlorobenzene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	3000
1,4-Dichlorobenzene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	700
Dichlorodifluoromethane (Freon12)	*< 137*	*< 136*	*< 121*	*< 133*	*< 113*	*< 100*	*< 130*	1000000
1,1-Dichloroethane	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	400
1,2-Dichloroethane	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	100
1,1-Dichloroethene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	3000
cis-1,2-Dichloroethene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	300
trans-1,2-Dichloroethene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	1000
1,2-Dichloropropane	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	100
1,3-Dichloropropane	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	500000
2,2-Dichloropropane	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	NA
1,1-Dichloropropene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	NA
cis-1,3-Dichloropropene	*<68.6*	*<67.9*	*<60.4*	*<66.5*	*<56.6*	*<50.1*	*<64.9*	10
trans-1,3-Dichloropropene	*<68.6*	*<67.9*	*<60.4*	*<66.5*	*<56.6*	*<50.1*	*<64.9*	10
Ethylbenzene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	40000
Hexachlorobutadiene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	30000
2-Hexanone (MBK)	*< 137*	*< 136*	*< 121*	*< 133*	*< 113*	*< 100*	*< 130*	100000
Isopropylbenzene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	1000000
4-Isopropyltoluene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	100000
Methyl tert-butyl ether	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	100
4-Methyl-2-pentanone (MIBK)	*< 137*	*< 136*	*< 121*	*< 133*	*< 113*	*< 100*	*< 130*	400
Methylene chloride	*< 30.5*	*< 30.2*	*< 26.9*	*< 29.6*	*< 25.2*	*< 22.2*	*< 28.9*	100
Naphthalene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	4000
n-Propylbenzene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	100000
Styrene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	3000
1,1,1,2-Tetrachloroethane	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	100
1,1,2,2-Tetrachloroethane	*<68.6*	*<67.9*	*<60.4*	*<66.5*	*<56.6*	*<50.1*	*< 64.9*	5
Tetrachloroethene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	1000
Toluene	*< 68.6*	*< 67.9*	23.6	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	30000
1,2,3-Trichlorobenzene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	NA
1,2,4-Trichlorobenzene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	2000
1,1,1-Trichloroethane	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	30000
1,3,5-Trichlorobenzene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	NA
1,1,2-Trichloroethane	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	100
Trichloroethene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	300
Trichlorofluoromethane (Freon 11)	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	1000000

TABLE 2
Soil Analytical Results
Winthrop School
Ispwich, MA

	CDW-B1	CDW-B2	CDW-B3	CDW-B4	CDW-B5	CDW-B6	CDW-B7	RCS-1
Date	**12/30/2016**	**12/30/2016**	**12/30/2016**	**12/30/2016**	**12/30/2016**	**12/30/2016**	**12/30/2016**	
Time	**9:15**	**10:20**	**11:30**	**1:15**	**2:05**	**3:20**	**4:00**	
Depth	**5-7'**	**5-7'**	**5-7'**	**5-7'**	**5-7'**	**5-7'**	**5-7'**	
1,2,3-Trichloropropane	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	100000
1,2,4-Trimethylbenzene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	1000000
1,3,5-Trimethylbenzene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	10000
Vinyl chloride	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	700
m,p-Xylene	*< 137*	*< 136*	*< 121*	*< 133*	*< 113*	*< 100*	*< 130*	300000
o-Xylene	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	500000
Tetrahydrofuran	*< 137*	*< 136*	*< 121*	*< 133*	*< 113*	*< 100*	*< 130*	500000
Ethyl ether	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	100000
Tert-amyl methyl ether	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	NA
Ethyl tert-butyl ether	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	NA
Di-isopropyl ether	*< 68.6*	*< 67.9*	*< 60.4*	*< 66.5*	*< 56.6*	*< 50.1*	*< 64.9*	100000
Tert-Butanol / butyl alcohol	*< 686*	*< 679*	*< 604*	*< 665*	*< 566*	*< 501*	*< 649*	100000
trans-1,4-Dichloro-2-butene	*< 343*	*< 339*	*< 302*	*< 333*	*< 283*	*< 250*	*< 325*	10000
1,4-Dioxane	*<1370*	*<1360*	*<1210*	*<1330*	*<1130*	*<1000*	*< 1300*	200
Ethanol	*< 13700*	*< 13600*	*< 12100*	*< 13300*	*< 11300*	*< 10000*	*< 13000*	100000

Notes:
1. *Italicized* values are below laboratory method detection limits.
2. Blue values have analytical results above the RCS-1 standard.
3. RCS-1 is the reportable concentration for S-1 soils.
4. µg/kg =micrograms per kiliogram
5. mg/kg = milligrams per kilogram

TABLE 3
Groundwater Analytical Results
Winthrop School
Ispwich, MA

	CDW-B1MW	CDW-B2MW	CDW-B3MW	MA RCGW-2
Date Sampled	1/5/2017	1/5/2017	1/5/2017	
Time Sampled	9:00	10:35	1:10	
EPA 245.1/7470A (mg/l)				
Mercury	*< 0.00020*	*< 0.00020*	*< 0.00020*	0.02
MADEP EPH (µg/L)				
C9-C18 Aliphatic Hydrocarbons	*< 110*	*< 103*	*< 102*	5000
C19-C36 Aliphatic Hydrocarbons	*< 110*	*< 103*	*< 102*	50000
C11-C22 Aromatic Hydrocarbons	*< 110*	*< 103*	*< 102*	5000
Unadjusted C11-C22 Aromatic Hydrocarbo	*< 110*	*< 103*	*< 102*	NA
Naphthalene	*< 5.49*	*< 5.15*	*< 5.10*	700
2-Methylnaphthalene	*< 5.49*	*< 5.15*	*< 5.10*	2000
Acenaphthylene	*< 5.49*	*< 5.15*	*< 5.10*	40
Acenaphthene	*< 5.49*	*< 5.15*	*< 5.10*	6000
Fluorene	*< 5.49*	*< 5.15*	*< 5.10*	40
Phenanthrene	*< 5.49*	*< 5.15*	*< 5.10*	10000
Anthracene	*< 5.49*	*< 5.15*	*< 5.10*	30
Fluoranthene	*< 5.49*	*< 5.15*	*< 5.10*	200
Pyrene	*< 5.49*	*< 5.15*	*< 5.10*	20
Benzo (a) anthracene	*< 5.49*	*< 5.15*	*< 5.10*	1000
Chrysene	*< 5.49*	*< 5.15*	*< 5.10*	70
Benzo (b) fluoranthene	*< 5.49*	*< 5.15*	*< 5.10*	400
Benzo (k) fluoranthene	*< 5.49*	*< 5.15*	*< 5.10*	100
Benzo (a) pyrene	*< 5.49*	*< 5.15*	*< 5.10*	500
Indeno (1,2,3-cd) pyrene	*< 5.49*	*< 5.15*	*< 5.10*	100
Dibenzo (a,h) anthracene	*< 5.49*	*< 5.15*	*< 5.10*	40
Benzo (g,h,i) perylene	*< 5.49*	*< 5.15*	*< 5.10*	20
MADEP VPH (µg/L)				
C5-C8 Aliphatic Hydrocarbons	*< 75.0*	*< 75.0*	*< 75.0*	3000
C9-C12 Aliphatic Hydrocarbons	*< 25.0*	*< 25.0*	*< 25.0*	5000
C9-C10 Aromatic Hydrocarbons	*< 25.0*	*< 25.0*	*< 25.0*	4000
Unadjusted C5-C8 Aliphatic Hydrocarbons	*< 75.0*	*< 75.0*	*< 75.0*	NA
Unadjusted C9-C12 Aliphatic Hydrocarbon	*< 25.0*	*< 25.0*	*< 25.0*	NA
Benzene	*< 5.00*	*< 5.00*	*< 5.00*	1000
Ethylbenzene	*< 5.00*	*< 5.00*	*< 5.00*	5000

TABLE 3
Groundwater Analytical Results
Winthrop School
Ispwich, MA

	CDW-B1MW	CDW-B2MW	CDW-B3MW	MA RCGW-2
Date Sampled	1/5/2017	1/5/2017	1/5/2017	
Time Sampled	9:00	10:35	1:10	
Methyl tert-butyl ether	*< 5.00*	*< 5.00*	*< 5.00*	5000
Naphthalene	*< 5.00*	*< 5.00*	*< 5.00*	700
Toluene	*< 5.00*	*< 5.00*	*< 5.00*	40000
m,p-Xylene	*< 10.0*	*< 10.0*	*< 10.0*	5000
o-Xylene	*< 5.00*	*< 5.00*	*< 5.00*	6000
SW846 6010C (mg/l)				
Antimony	*< 0.0060*	*< 0.0060*	*< 0.0060*	8
Arsenic	*< 0.0040*	0.0142	*< 0.0040*	0.9
Beryllium	*< 0.0020*	*< 0.0020*	*< 0.0020*	0.2
Cadmium	*< 0.0025*	*< 0.0025*	*< 0.0025*	0.004
Chromium	*< 0.0050*	0.0106	*< 0.0050*	0.3
Copper	*< 0.0050*	0.0082	*< 0.0050*	100
Lead	*< 0.0075*	*< 0.0075*	*< 0.0075*	0.01
Nickel	*< 0.0050*	0.0066	*< 0.0050*	0.2
Selenium	*< 0.0150*	*< 0.0150*	*< 0.0150*	0.1
Silver	*< 0.0050*	*< 0.0050*	*< 0.0050*	0.007
Thallium	*< 0.0050*	*< 0.0050*	*< 0.0050*	3
Zinc	*< 0.0050*	0.0167	0.0052	0.9
SW846 8260C (µg/l)				
1,1,2-Trichlorotrifluoroethane (Freon 113)	*< 1.00*	*< 1.00*	*< 1.00*	NA
Acetone	*< 10.0*	*< 10.0*	*< 10.0*	50000
Acrylonitrile	*< 0.50*	*< 0.50*	*< 0.50*	10000
Benzene	*< 1.00*	*< 1.00*	*< 1.00*	1000
Bromobenzene	*< 1.00*	*< 1.00*	*< 1.00*	10000
Bromochloromethane	*< 1.00*	*< 1.00*	*< 1.00*	NA
Bromodichloromethane	*< 0.50*	0.9	0.71	6
Bromoform	*< 1.00*	*< 1.00*	*< 1.00*	700
Bromomethane	*< 2.00*	*< 2.00*	*< 2.00*	7
2-Butanone (MEK)	*< 2.00*	*< 2.00*	*< 2.00*	50000
n-Butylbenzene	*< 1.00*	*< 1.00*	*< 1.00*	NA
sec-Butylbenzene	*< 1.00*	*< 1.00*	*< 1.00*	NA
tert-Butylbenzene	*< 1.00*	*< 1.00*	*< 1.00*	10000

TABLE 3
Groundwater Analytical Results
Winthrop School
Ispwich, MA

	CDW-B1MW	CDW-B2MW	CDW-B3MW	MA RCGW-2
Date Sampled	1/5/2017	1/5/2017	1/5/2017	
Time Sampled	9:00	10:35	1:10	
Carbon disulfide	*< 2.00*	*< 2.00*	*< 2.00*	10000
Carbon tetrachloride	*< 1.00*	*< 1.00*	*< 1.00*	2
Chlorobenzene	*< 1.00*	*< 1.00*	*< 1.00*	200
Chloroethane	*< 2.00*	*< 2.00*	*< 2.00*	10000
Chloroform	1	1.2	*< 1.00*	50
Chloromethane	*< 2.00*	*< 2.00*	*< 2.00*	10000
2-Chlorotoluene	*< 1.00*	*< 1.00*	*< 1.00*	10000
4-Chlorotoluene	*< 1.00*	*< 1.00*	*< 1.00*	NA
1,2-Dibromo-3-chloropropane	*< 2.00*	*< 2.00*	*< 2.00*	1000
Dibromochloromethane	0.56	1.08	0.75	20
1,2-Dibromoethane (EDB)	*< 0.50*	*< 0.50*	*< 0.50*	2
Dibromomethane	*< 1.00*	*< 1.00*	*< 1.00*	50000
1,2-Dichlorobenzene	*< 1.00*	*< 1.00*	*< 1.00*	2000
1,3-Dichlorobenzene	*< 1.00*	*< 1.00*	*< 1.00*	6000
1,4-Dichlorobenzene	*< 1.00*	*< 1.00*	*< 1.00*	60
Dichlorodifluoromethane (Freon12)	*< 2.00*	*< 2.00*	*< 2.00*	100000
1,1-Dichloroethane	*< 1.00*	*< 1.00*	*< 1.00*	2000
1,2-Dichloroethane	*< 1.00*	*< 1.00*	*< 1.00*	5
1,1-Dichloroethene	*< 1.00*	*< 1.00*	*< 1.00*	80
cis-1,2-Dichloroethene	*< 1.00*	*< 1.00*	*< 1.00*	20
trans-1,2-Dichloroethene	*< 1.00*	*< 1.00*	*< 1.00*	80
1,2-Dichloropropane	*< 1.00*	*< 1.00*	*< 1.00*	3
1,3-Dichloropropane	*< 1.00*	*< 1.00*	*< 1.00*	50000
2,2-Dichloropropane	*< 1.00*	*< 1.00*	*< 1.00*	NA
1,1-Dichloropropene	*< 1.00*	*< 1.00*	*< 1.00*	NA
cis-1,3-Dichloropropene	*< 0.50*	*< 0.50*	*< 0.50*	5
trans-1,3-Dichloropropene	*< 0.50*	*< 0.50*	*< 0.50*	5
Ethylbenzene	*< 1.00*	*< 1.00*	*< 1.00*	5000
Hexachlorobutadiene	*< 0.50*	*< 0.50*	*< 0.50*	50
2-Hexanone (MBK)	*< 2.00*	*< 2.00*	*< 2.00*	10000
Isopropylbenzene	*< 1.00*	*< 1.00*	*< 1.00*	100000
4-Isopropyltoluene	*< 1.00*	*< 1.00*	*< 1.00*	10000
Methyl tert-butyl ether	*< 1.00*	*< 1.00*	*< 1.00*	5000

TABLE 3
Groundwater Analytical Results
Winthrop School
Ispwich, MA

	CDW-B1MW	CDW-B2MW	CDW-B3MW	MA RCGW-2
Date Sampled	1/5/2017	1/5/2017	1/5/2017	
Time Sampled	9:00	10:35	1:10	
4-Methyl-2-pentanone (MIBK)	*< 2.00*	*< 2.00*	*< 2.00*	50000
Methylene chloride	*< 2.00*	*< 2.00*	*< 2.00*	2000
Naphthalene	*< 1.00*	*< 1.00*	*< 1.00*	700
n-Propylbenzene	*< 1.00*	*< 1.00*	*< 1.00*	10000
Styrene	*< 1.00*	*< 1.00*	*< 1.00*	100
1,1,1,2-Tetrachloroethane	*< 1.00*	*< 1.00*	*< 1.00*	10
1,1,2,2-Tetrachloroethane	*< 0.50*	*< 0.50*	*< 0.50*	9
Tetrachloroethene	*< 1.00*	*< 1.00*	*< 1.00*	50
Toluene	*< 1.00*	*< 1.00*	*< 1.00*	40000
1,2,3-Trichlorobenzene	*< 1.00*	*< 1.00*	*< 1.00*	NA
1,2,4-Trichlorobenzene	*< 1.00*	*< 1.00*	*< 1.00*	200
1,1,1-Trichloroethane	*< 1.00*	*< 1.00*	*< 1.00*	4000
1,3,5-Trichlorobenzene	*< 1.00*	*< 1.00*	*< 1.00*	NA
1,1,2-Trichloroethane	*< 1.00*	*< 1.00*	*< 1.00*	900
Trichloroethene	*< 1.00*	*< 1.00*	*< 1.00*	5
Trichlorofluoromethane (Freon 11)	*< 1.00*	*< 1.00*	*< 1.00*	100000
1,2,3-Trichloropropane	*< 1.00*	*< 1.00*	*< 1.00*	10000
1,2,4-Trimethylbenzene	*< 1.00*	*< 1.00*	*< 1.00*	100000
1,3,5-Trimethylbenzene	*< 1.00*	*< 1.00*	*< 1.00*	1000
Vinyl chloride	*< 1.00*	*< 1.00*	*< 1.00*	2
m,p-Xylene	*< 2.00*	*< 2.00*	*< 2.00*	5000
o-Xylene	*< 1.00*	*< 1.00*	*< 1.00*	6000
Tetrahydrofuran	*< 2.00*	*< 2.00*	*< 2.00*	50000
Ethyl ether	*< 1.00*	*< 1.00*	*< 1.00*	10000
Tert-amyl methyl ether	*< 1.00*	*< 1.00*	*< 1.00*	NA
Ethyl tert-butyl ether	*< 1.00*	*< 1.00*	*< 1.00*	NA
Di-isopropyl ether	*< 1.00*	*< 1.00*	*< 1.00*	10000
Tert-Butanol / butyl alcohol	*< 10.0*	*< 10.0*	*< 10.0*	10000
trans-1,4-Dichloro-2-butene	*< 5.00*	*< 5.00*	*< 5.00*	1000
Ethanol	*< 200*	*< 200*	*< 200*	10000
1,4-Dioxane	*< 20.0*	*< 20.0*	*< 20.0*	6000

Notes:

TABLE 3
Groundwater Analytical Results
Winthrop School
Ispwich, MA

	CDW-B1MW	CDW-B2MW	CDW-B3MW	MA RCGW-2
Date Sampled	1/5/2017	1/5/2017	1/5/2017	
Time Sampled	9:00	10:35	1:10	

1. µg/L = Micrograms per liter
2. mg/L = Milligrams per liter
3. *Italicized* values are below laboratory method detection limits.
4. RCGW-2 is the reportable concentration for GW-2 groundwater.
5. NA = Not Analyed.

APPENDIX A

TEST BORING LOG

CDW Consultants, Inc.

Project No.:	1505.2	Client:	Perkins Eastman	BORING ID:	**CDW-B1MW**
Total Depth:	17 ft	Location:	65 Central St, Ipswich	Logged By:	AMS
Date Started:	12/30/2016	Completed:	12/30/2016	Contractor:	TDS
Casing ID:		Ground El.		Sheet #:	1
Remarks:	CME Mobile-55				

Depth (Feet)	Sample Type & Num.	Blows per 6 Inches	Depth Range	Recovery	PID Hdspace (ppmv)	Sample Description	Well Diagram
0	S1	4	0'	18"	0	Loamy soil (8")	
		5					
-1		6				Medium dense brown silty fine SAND; dry	
		8	2'				
-2							
-3						See above based on auger cuttings	
-4							
-5	S2	4	5'	24"	0		
		4					
-6		5				Medium dense tan silty fine SAND, moist to wet	
		5	7'				
-7							
-8						See above based on auger cuttings	
-9							
-10	S3	3	10'	20"	0	Medium dense tan silty fine SAND; wet	
		6					
-11		5				Medium stiff gray silty CLAY; moist to wet	
		4	12'				
-12							
-13						See above based on auger cutting	
-14							
-15	S4	4	15'	18"	0	Medium stiff gray silty CLAY; wet	
		5					
-16		6					
		6	17'				
-17						**End of Boring at 17' , No Refusal**	
-18							
-19							
-20							

Groundwater Measurements				Summary	
Date	Time	Depth to Groundwater	Measuring Point	Overburden:	SAND, CLAY
				Rock:	NA
				Well Depth:	15'
				Boring:	17'

TEST BORING LOG

CDW Consultants, Inc.

Project No.:	1505.2	Client:	Perkins Eastman	BORING ID:	**CDW-B2MW**
Total Depth:	12 ft	Location:	65 Central St, Ipswich	Logged By:	AMS
Date Started:	12/30/2016	Completed:	12/30/2016	Contractor:	TDS
Casing ID:		Ground El.		Sheet #:	1
Remarks:	CME Mobile-55				

Depth (Feet)	Sample Type & Num.	Blows per 6 Inches	Depth Range	Recovery	PID Hdspace (ppmv)	Sample Description	Well Diagram
0	S1	8	0'	12"	0	Asphalt	
		6					
-1		6				medium dense brown silty fine SAND; dry	
		5	2'				
-2							
-3						See above based on auger cuttings	
-4							
-5	S2	3	5'	18"	0		
		3					
-6		2				medium dense tan silty fine SAND; with orange sand seams; moist to wet	
		5	7'				
-7							
-8						See above based on auger cuttings	
-9							
-10	S3	6	10'	20"	0	medium dense tan silty fine SAND, trace pebbles; wet	
		6					
-11		8					
		9	12'				
-12						**End of Boring at 12', No Refusal**	
-13							
-14							
-15							
-16							
-17							
-18							
-19							
-20							

Groundwater Measurements				**Summary**	
Date	Time	Depth to Groundwater	Measuring Point	Overburden:	SAND
				Rock:	NA
				Well Depth:	12'
				Boring:	12'

TEST BORING LOG

CDW Consultants, Inc.

Project No.:	1505.2	Client:	Perkins Eastman	BORING ID:	**CDW-B3MW**
Total Depth:	17 ft	Location:	65 Central St, Ipswich	Logged By:	AMS
Date Started:	12/30/2016	Completed:	12/30/2016	Contractor:	TDS
Casing ID:		Ground El.		Sheet #:	1
Remarks:	CME Mobile-55				

Depth (Feet)	Sample Type & Num.	Blows per 6 Inches	Depth Range	Recovery	PID Hdspace (ppmv)	Sample Description	Well Diagram
0	S1	3	0'	20"	0	Loamy soil (6")	
		3				Medium dense tan fine SAND, trace gravel; dry	
-1		5				Medium dense brown silty fine SAND; dry	
		6	2'				
-2							
-3						See above based on auger cuttings	
-4							
-5	S2	3	5'	20"	0		
		2					
-6		4				Medium dense tan silty fine SAND, moist to wet	
		5	7'				
-7							
-8						See above based on auger cuttings	
-9							
-10	S3	3	10'	24"	0	Medium dense tan silty fine SAND; wet	
		3					
-11		4				Medium dense fine SAND, little medium sand,	
		3	12'			trace coarse sand	
-12							
-13							
-14							
-15	S4	3	15'	24"	0	medium stiff gray silty CLAY; wet	
		4					
-16		6					
		6	17'				
-17						**End of Boring at 17' , No Refusal**	
-18							
-19							
-20							

Groundwater Measurements				**Summary**	
Date	Time	Depth to Groundwater	Measuring Point	Overburden:	SAND, CLAY
				Rock:	NA
				Well Depth:	15'
				Boring:	17'

TEST BORING LOG

CDW Consultants, Inc.

Project No.:	1505.2	Client:	Perkins Eastman	BORING ID:	**CDW-B4**
Total Depth:	17 ft	Location:	65 Central St, Ipswich	Logged By:	AMS
Date Started:	12/30/2016	Completed:	12/30/2016	Contractor:	TDS
Casing ID:		Ground El.		Sheet #:	1
Remarks:	CME Mobile-55				

Depth (Feet)	Sample Type & Num.	Blows per 6 Inches	Depth Range	Recovery	PID Hdspace (ppmv)	Sample Description	Well Diagram
0	S1	2	0'	12"	0	Loamy soil (8")	
		3					
-1		3				Medium dense brown silty fine SAND; dry	
		6	2'				
-2							
-3						See above based on auger cuttings	
-4							
-5	S2	4	5'	18"	0		
		5					
-6		4				Medium dense tan silty fine SAND, moist to wet	
		6	7'				
-7							
-8						See above based on auger cuttings	
-9							
-10	S3	3	10'	20"	0	Medium dense tan silty fine SAND; wet	
		3					
-11		7					
		5	12'				
-12							
-13						See above based on auger cutting	
-14							
-15	S4	6	15'	24"	0	Medium stiff gray silty CLAY; wet	
		5					
-16		5					
		4	17'				
-17						**End of Boring at 17' , No Refusal**	
-18							
-19							
-20							

Groundwater Measurements				Summary	
Date	Time	Depth to Groundwater	Measuring Point	Overburden:	SAND, CLAY
				Rock:	NA
				Well Depth:	NA
				Boring:	17'

TEST BORING LOG

CDW Consultants, Inc.

Project No.:	1505.2	Client:	Perkins Eastman	BORING ID:	**CDW-B5**
Total Depth:	17 ft	Location:	65 Central St, Ipswich	Logged By:	AMS
Date Started:	12/30/2016	Completed:	12/30/2016	Contractor:	TDS
Casing ID:		Ground El.		Sheet #:	1
Remarks:	CME Mobile-55				

Depth (Feet)	Sample Type & Num.	Blows per 6 Inches	Depth Range	Recovery	PID Hdspace (ppmv)	Sample Description	Well Diagram
0	S1	4	0'	12"	0	Loamy soil (8")	
		5					
-1		4				Medium dense brown silty fine SAND; dry	
		6	2'				
-2							
-3						See above based on auger cuttings	
-4							
-5	S2	3	5'	18"	0		
		3					
-6		7				Medium dense tan silty fine SAND, moist to wet	
		6	7'				
-7							
-8						See above based on auger cuttings	
-9							
-10	S3	3	10'	18"	0	Medium dense tan silty fine SAND; wet	
		4					
-11		6					
		6	12'				
-12							
-13						See above based on auger cutting	
-14							
-15	S4	7	15'	24"	0	Medium dense tan silty SAND; wet	
		7					
-16		6				Medium stiff gray silty CLAY; moist	
		7	17'				
-17						**End of Boring at 17' , No Refusal**	
-18							
-19							
-20							

Groundwater Measurements				Summary	
Date	Time	Depth to Groundwater	Measuring Point	Overburden:	SAND, CLAY
				Rock:	NA
				Well Depth:	NA
				Boring:	17'

TEST BORING LOG

CDW Consultants, Inc.

Project No.:	1505.2	Client:	Perkins Eastman	BORING ID:	**CDW-B6**
Total Depth:	12 ft	Location:	65 Central St, Ipswich	Logged By:	AMS
Date Started:	12/30/2016	Completed:	12/30/2016	Contractor:	TDS
Casing ID:		Ground El.		Sheet #:	1
Remarks:	CME Mobile-55				

Depth (Feet)	Sample				PID Hdspace (ppmv)	Sample Description	Well Diagram
	Type & Num.	Blows per 6 Inches	Depth Range	Recovery			
0	S1	2	0'	18"	0	Loamy soil (8")	
		3					
-1		3				Medium dense brown silty fine SAND; dry	
		4	2'				
-2							
-3						See above based on auger cuttings	
-4							
-5	S2	3	5'	20"	0		
		3					
-6		2				Medium dense tan silty fine SAND, moist to wet	
		3	7'				
-7							
-8							
-9							
-10	S3	3	10'	24"	0	Medium stiff gray silty CLAY	
		4					
-11		5					
		5	12'				
-12						**End of Boring at 12 feet, No Refusal**	
-13							
-14							
-15							
-16							
-17							
-18							
-19							
-20							

Groundwater Measurements				Summary	
Date	Time	Depth to Groundwater	Measuring Point	Overburden:	SAND, CLAY
				Rock:	NA
				Well Depth:	NA
				Boring:	12'

TEST BORING LOG

CDW Consultants, Inc.

Project No.:	1505.2	Client:	Perkins Eastman	BORING ID:	**CDW-B7**
Total Depth:	12 ft	Location:	65 Central St, Ipswich	Logged By:	AMS
Date Started:	12/30/2016	Completed:	12/30/2016	Contractor:	TDS
Casing ID:		Ground El.		Sheet #:	1
Remarks:	CME Mobile-55				

Depth (Feet)	Sample				PID Hdspace (ppmv)	Sample Description	Well Diagram
	Type & Num.	Blows per 6 Inches	Depth Range	Recovery			
0	S1	10	0'	12"	0	Loamy soil (6")	
		9					
-1		8				Medium dense brown fine SAND, with gravel and concrete	
		8	2'				
-2							
-3						See above based on auger cuttings	
-4							
-5	S2	9	5'	18"	0		
		8				Medium dense brown medium to fine SAND, brick,	
-6		11				glass, concrete, wood, ash; wet (FILL)	
		12	7'				
-7							
-8						See above based on auger cuttings	
-9							
-10	S3	10	10'	18"	0		
		8				Medium dense medium to fine SAND,	
-11		8				with gravel, glass, ash; wet (FILL)	
		9	12'				
-12						**End of Boring at 12 feet, No Refusal**	
-13							
-14							
-15							
-16							
-17							
-18							
-19							
-20							

Groundwater Measurements				**Summary**	
Date	Time	Depth to Groundwater	Measuring Point	Overburden:	FILL
				Rock:	NA
				Well Depth:	NA
				Boring:	12'

APPENDIX B

eurofins | Spectrum Analytical

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

Report Date:
11-Jan-17 15:55

Laboratory Report

CDW Consultants, Inc.
40 Speen Street; Suite 301
Framingham, MA 01701
Attn: Susan Cahalan-Roach

Project: Winthrop Elementary - Ipswich, MA
Project #: 1505.20

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC30176-01	CDW-B1 (5-7')	Soil	30-Dec-16 09:15	03-Jan-17 17:40
SC30176-02	CDW-B2 (5-7')	Soil	30-Dec-16 10:20	03-Jan-17 17:40
SC30176-03	CDW-B3 (5-7')	Soil	30-Dec-16 11:30	03-Jan-17 17:40
SC30176-04	CDW-B4 (5-7')	Soil	30-Dec-16 13:15	03-Jan-17 17:40
SC30176-05	CDW-B5 (5-7')	Soil	30-Dec-16 14:05	03-Jan-17 17:40
SC30176-06	CDW-B6 (5-7')	Soil	30-Dec-16 15:20	03-Jan-17 17:40
SC30176-07	CDW-B7 (5-7')	Soil	30-Dec-16 16:00	03-Jan-17 17:40

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

June O'Connor
Laboratory Director

Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 58 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

The following outlines the condition of all VPH samples contained within this report upon laboratory receipt.

Matrices	Soil			
Containers	✓ Satisfactory			
Sample Preservative	**Aqueous** (acid preserved)	✓ N/A pH≤2 pH>2		
	Soil or Sediment	N/A Samples not received in Methanol		ml Methanol/g soil ✓ 1:1 +/-25% Other
		✓ Samples received in Methanol:	✓ covering soil/sediment not covering soil/sediment	
		Samples received in air-tight container		
Temperature	Received on ice	✓ Received at 4 ± 2 ºC		

Were all QA/QC procedures followed as required by the VPH method? *Yes*
Were any significant modifications made to the VPH method as specified in section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

Matrices	Soil			
Containers	✓ Satisfactory			
Aqueous Preservative	✓ N/A	pH≤2	pH>2	pH adjusted to <2 in lab
Temperature	Received on ice	✓ Received at 4 ± 2 ºC		

Were all QA/QC procedures followed as required by the EPH method? *Yes*
Were any significant modifications made to the EPH method as specified in Section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

I attest that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Authorized by:

June O'Connor
Laboratory Director

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.	**Project #:** 1505.20
Project Location: Winthrop Elementary - Ipswich, MA	**RTN:**
This form provides certifications for the following data set:	SC30176-01 through SC30176-07
Matrices: Soil	

CAM Protocol

✓ 8260 VOC CAM II A	✓ 7470/7471 Hg CAM III B	✓ MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	✓ MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B

Affirmative responses to questions A through F are required for Presumptive Certainty'status

A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	✓ Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?	✓ Yes No

Responses to questions G, H and I below are required for Presumptive Certainty'status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	Yes ✓ No

Data User Note: ***Data that achieve Presumptive Certainty'status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	✓ Yes No

All negative responses are addressed in a case narrative on the cover page of this report.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

June O'Connor
Laboratory Director
Date: 1/11/2017

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 2.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

All VOC soils samples submitted and analyzed in methanol will have a minimum dilution factor of 50. This is the minimum amount of solvent allowed on the instrumentation without causing interference. Soils are run on a manual load instrument. 100ug of sample (MEOH) is spiked into 5ml DI water along with the surrogate and added directly onto the instrument. Additional dilution factors may be required to keep analyte concentration within instrument calibration range.

Method SW846 5035A is designed to use on samples containing low levels of VOCs, ranging from 0.5 to 200 ug/Kg. Target analytes that are less responsive to purge and trap may be present at concentrations over 200ug/Kg but may not be reportable in the methanol preserved vial (SW846 5030). This is the result of the inherent dilution factor required for the methanol preservation.

J-flagged detections found within the carbon ranges are estimated values and represent baseline noise due to integrating an entire range, rather than an individual peak. These values should be interpreted as estimates only and no bias is associated with the samples.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

MADEP EPH 5/2004 R

Calibration:

1612059

Analyte quantified by quadratic equation type calibration.

Benzo (a) anthracene

This affected the following samples:

S610861-ICV2

MADEP VPH 5/2004 Rev. 1.1

Spikes:

1700291-MS1 *Source: SC30176-03*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

C5-C8 Aliphatic Hydrocarbons

SW846 8260C

Calibration:

1701013

Analyte quantified by quadratic equation type calibration.

1,1,1,2-Tetrachloroethane
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dibromo-3-chloropropane
1,3,5-Trimethylbenzene
1,4-Dioxane
4-Chlorotoluene
4-Isopropyltoluene
Bromodichloromethane
Bromoform
Carbon tetrachloride
cis-1,3-Dichloropropene
Dibromochloromethane
Naphthalene
n-Propylbenzene
tert-Butylbenzene
trans-1,3-Dichloropropene
trans-1,4-Dichloro-2-butene

This affected the following samples:

S701362-ICV1

Sample Acceptance Check Form

Client:	CDW Consultants, Inc.
Project:	Winthrop Elementary - Ipswich, MA / 1505.20
Work Order:	SC30176
Sample(s) received on:	1/3/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples refrigerated upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC30176-01 **Client ID:** CDW-B1 (5-7')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	3.30		1.78	mg/kg	SW846 6010C
Chromium	6.67		1.16	mg/kg	SW846 6010C
Copper	3.68		1.18	mg/kg	SW846 6010C
Lead	3.85		1.78	mg/kg	SW846 6010C
Nickel	5.46		1.18	mg/kg	SW846 6010C
Zinc	10.9		1.18	mg/kg	SW846 6010C

Lab ID: SC30176-02 **Client ID:** CDW-B2 (5-7')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Fluoranthene	0.574		0.415	mg/kg	MADEP EPH 5/2004 R
Pyrene	0.553		0.415	mg/kg	MADEP EPH 5/2004 R
Arsenic	6.67		1.78	mg/kg	SW846 6010C
Chromium	9.13		1.15	mg/kg	SW846 6010C
Copper	6.82		1.19	mg/kg	SW846 6010C
Lead	5.20		1.78	mg/kg	SW846 6010C
Nickel	8.57		1.19	mg/kg	SW846 6010C
Zinc	15.5		1.19	mg/kg	SW846 6010C

Lab ID: SC30176-03 **Client ID:** CDW-B3 (5-7')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	6.64		1.76	mg/kg	SW846 6010C
Chromium	6.77		1.10	mg/kg	SW846 6010C
Copper	6.92		1.17	mg/kg	SW846 6010C
Lead	3.07		1.76	mg/kg	SW846 6010C
Nickel	8.88		1.17	mg/kg	SW846 6010C
Zinc	14.2		1.17	mg/kg	SW846 6010C

Lab ID: SC30176-04 **Client ID:** CDW-B4 (5-7')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	3.65		1.84	mg/kg	SW846 6010C
Chromium	6.48		1.16	mg/kg	SW846 6010C
Copper	4.69		1.23	mg/kg	SW846 6010C
Lead	5.20		1.84	mg/kg	SW846 6010C
Nickel	5.78		1.23	mg/kg	SW846 6010C
Zinc	12.1		1.23	mg/kg	SW846 6010C

Lab ID: SC30176-05 **Client ID:** CDW-B5 (5-7')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	7.86		1.68	mg/kg	SW846 6010C
Chromium	5.70		1.07	mg/kg	SW846 6010C
Copper	5.77		1.12	mg/kg	SW846 6010C
Lead	2.66		1.68	mg/kg	SW846 6010C
Nickel	6.52		1.12	mg/kg	SW846 6010C
Zinc	9.31		1.12	mg/kg	SW846 6010C

Lab ID: SC30176-06 **Client ID:** CDW-B6 (5-7')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	8.06		1.53	mg/kg	SW846 6010C
Chromium	6.27		1.07	mg/kg	SW846 6010C
Copper	6.10		1.02	mg/kg	SW846 6010C
Lead	2.89		1.53	mg/kg	SW846 6010C
Nickel	7.52		1.02	mg/kg	SW846 6010C
Zinc	12.2		1.02	mg/kg	SW846 6010C

Lab ID: SC30176-07 **Client ID:** CDW-B7 (5-7')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Anthracene	0.574		0.395	mg/kg	MADEP EPH 5/2004 R
Benzo (a) anthracene	2.50		0.395	mg/kg	MADEP EPH 5/2004 R
Benzo (a) pyrene	2.28		0.395	mg/kg	MADEP EPH 5/2004 R
Benzo (b) fluoranthene	1.47		0.395	mg/kg	MADEP EPH 5/2004 R
Benzo (g,h,i) perylene	1.06		0.395	mg/kg	MADEP EPH 5/2004 R
Benzo (k) fluoranthene	2.12		0.395	mg/kg	MADEP EPH 5/2004 R
C11-C22 Aromatic Hydrocarbons	32.5		11.9	mg/kg	MADEP EPH 5/2004 R
Chrysene	2.35		0.395	mg/kg	MADEP EPH 5/2004 R
Dibenzo (a,h) anthracene	0.421		0.395	mg/kg	MADEP EPH 5/2004 R
Fluoranthene	5.76		0.395	mg/kg	MADEP EPH 5/2004 R
Indeno (1,2,3-cd) pyrene	1.12		0.395	mg/kg	MADEP EPH 5/2004 R
Phenanthrene	2.43		0.395	mg/kg	MADEP EPH 5/2004 R
Pyrene	4.46		0.395	mg/kg	MADEP EPH 5/2004 R
Unadjusted C11-C22 Aromatic Hydrocarbons	59.4		11.9	mg/kg	MADEP EPH 5/2004 R
Arsenic	5.72		1.77	mg/kg	SW846 6010C
Chromium	10.6		1.19	mg/kg	SW846 6010C
Copper	16.8		1.18	mg/kg	SW846 6010C
Lead	154		1.77	mg/kg	SW846 6010C
Nickel	7.16		1.18	mg/kg	SW846 6010C
Zinc	72.8		1.18	mg/kg	SW846 6010C
Mercury	0.342		0.0353	mg/kg	SW846 7471B

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B1 (5-7')	1505.20	Soil	30-Dec-16 09:15	03-Jan-17
SC30176-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Prepared by method Volatiles													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			EEM	1700094	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (high level)						Initial weight: 16.45 g							
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 68.6	D	µg/kg dry	68.6	20.2	50	SW846 8260C	05-Jan-17	06-Jan-17	GMA	1700192	
67-64-1	Acetone	< 686	D	µg/kg dry	686	292	50	"	"	"	"	"	
107-13-1	Acrylonitrile	< 68.6	D	µg/kg dry	68.6	65.9	50	"	"	"	"	"	
71-43-2	Benzene	< 68.6	D	µg/kg dry	68.6	18.2	50	"	"	"	"	"	
108-86-1	Bromobenzene	< 68.6	D	µg/kg dry	68.6	18.3	50	"	"	"	"	"	
74-97-5	Bromochloromethane	< 68.6	D	µg/kg dry	68.6	34.6	50	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 68.6	D	µg/kg dry	68.6	45.7	50	"	"	"	"	"	
75-25-2	Bromoform	< 68.6	D	µg/kg dry	68.6	65.4	50	"	"	"	"	"	
74-83-9	Bromomethane	< 137	D	µg/kg dry	137	61.9	50	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 137	D	µg/kg dry	137	123	50	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 68.6	D	µg/kg dry	68.6	19.6	50	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 68.6	D	µg/kg dry	68.6	12.8	50	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 68.6	D	µg/kg dry	68.6	15.2	50	"	"	"	"	"	
75-15-0	Carbon disulfide	< 137	D	µg/kg dry	137	43.9	50	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 68.6	D	µg/kg dry	68.6	56.1	50	"	"	"	"	"	
108-90-7	Chlorobenzene	< 68.6	D	µg/kg dry	68.6	10.8	50	"	"	"	"	"	
75-00-3	Chloroethane	< 137	D	µg/kg dry	137	38.1	50	"	"	"	"	"	
67-66-3	Chloroform	< 68.6	D	µg/kg dry	68.6	36.8	50	"	"	"	"	"	
74-87-3	Chloromethane	< 137	D	µg/kg dry	137	45.1	50	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 68.6	D	µg/kg dry	68.6	16.0	50	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 68.6	D	µg/kg dry	68.6	16.1	50	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 137	D	µg/kg dry	137	99.1	50	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 68.6	D	µg/kg dry	68.6	46.5	50	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 68.6	D	µg/kg dry	68.6	46.0	50	"	"	"	"	"	
74-95-3	Dibromomethane	< 68.6	D	µg/kg dry	68.6	35.7	50	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 68.6	D	µg/kg dry	68.6	17.8	50	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 68.6	D	µg/kg dry	68.6	13.9	50	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 68.6	D	µg/kg dry	68.6	30.0	50	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 137	D	µg/kg dry	137	26.0	50	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 68.6	D	µg/kg dry	68.6	15.5	50	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 68.6	D	µg/kg dry	68.6	23.0	50	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 68.6	D	µg/kg dry	68.6	35.9	50	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 68.6	D	µg/kg dry	68.6	25.4	50	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 68.6	D	µg/kg dry	68.6	36.3	50	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 68.6	D	µg/kg dry	68.6	35.9	50	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 68.6	D	µg/kg dry	68.6	35.5	50	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 68.6	D	µg/kg dry	68.6	32.4	50	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 68.6	D	µg/kg dry	68.6	18.8	50	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 68.6	D	µg/kg dry	68.6	41.3	50	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 68.6	D	µg/kg dry	68.6	36.0	50	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B1 (5-7')	1505.20	Soil	30-Dec-16 09:15	03-Jan-17
SC30176-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
						Initial weight: 16.45 g							
100-41-4	Ethylbenzene	< 68.6	D	µg/kg dry	68.6	10.8	50	SW846 8260C	05-Jan-17	06-Jan-17	GMA	1700192	
87-68-3	Hexachlorobutadiene	< 68.6	D	µg/kg dry	68.6	34.4	50	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 137	D	µg/kg dry	137	109	50	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 68.6	D	µg/kg dry	68.6	13.5	50	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 68.6	D	µg/kg dry	68.6	14.1	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 68.6	D	µg/kg dry	68.6	25.2	50	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 137	D	µg/kg dry	137	57.6	50	"	"	"	"	"	
75-09-2	Methylene chloride	< 137	D	µg/kg dry	137	30.5	50	"	"	"	"	"	
91-20-3	Naphthalene	< 68.6	D	µg/kg dry	68.6	40.8	50	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 68.6	D	µg/kg dry	68.6	9.32	50	"	"	"	"	"	
100-42-5	Styrene	< 68.6	D	µg/kg dry	68.6	13.8	50	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 68.6	D	µg/kg dry	68.6	58.3	50	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 68.6	D	µg/kg dry	68.6	58.0	50	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 68.6	D	µg/kg dry	68.6	23.4	50	"	"	"	"	"	
108-88-3	Toluene	< 68.6	D	µg/kg dry	68.6	22.2	50	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 68.6	D	µg/kg dry	68.6	25.6	50	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 68.6	D	µg/kg dry	68.6	50.5	50	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 68.6	D	µg/kg dry	68.6	21.5	50	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 68.6	D	µg/kg dry	68.6	21.4	50	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 68.6	D	µg/kg dry	68.6	49.7	50	"	"	"	"	"	
79-01-6	Trichloroethene	< 68.6	D	µg/kg dry	68.6	18.7	50	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 68.6	D	µg/kg dry	68.6	37.0	50	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 68.6	D	µg/kg dry	68.6	51.4	50	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 68.6	D	µg/kg dry	68.6	16.7	50	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 68.6	D	µg/kg dry	68.6	11.3	50	"	"	"	"	"	
75-01-4	Vinyl chloride	< 68.6	D	µg/kg dry	68.6	23.2	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 137	D	µg/kg dry	137	13.8	50	"	"	"	"	"	
95-47-6	o-Xylene	< 68.6	D	µg/kg dry	68.6	19.2	50	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 137	D	µg/kg dry	137	78.6	50	"	"	"	"	"	
60-29-7	Ethyl ether	< 68.6	D	µg/kg dry	68.6	62.1	50	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 68.6	D	µg/kg dry	68.6	22.9	50	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 68.6	D	µg/kg dry	68.6	37.0	50	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 68.6	D	µg/kg dry	68.6	12.8	50	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 686	D	µg/kg dry	686	449	50	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 1370	D	µg/kg dry	1370	1190	50	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 343	D	µg/kg dry	343	156	50	"	"	"	"	"	
64-17-5	Ethanol	< 13700	D	µg/kg dry	13700	2560	50	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*95*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*99*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*90*			*70-130 %*			"	"	"	"	"	

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B1 (5-7')	1505.20	Soil	30-Dec-16 09:15	03-Jan-17
SC30176-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH													
Prepared by method VPH - EPA 5035A Soil						Initial weight: 16.28 g							
	C5-C8 Aliphatic Hydrocarbons	< 1.04	D	mg/kg dry	1.04	0.123	50	MADEP VPH 5/2004 Rev. 1.1	06-Jan-17	07-Jan-17	MP	1700291	
	C9-C12 Aliphatic Hydrocarbons	< 0.346	D	mg/kg dry	0.346	0.0499	50	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	< 0.346	D	mg/kg dry	0.346	0.0189	50	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 1.04	D	mg/kg dry	1.04	0.0864	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.346	D	mg/kg dry	0.346	0.0472	50	"	"	"	"	"	
71-43-2	Benzene	< 0.0692	D	mg/kg dry	0.0692	0.0140	50	"	"	"	"	"	
100-41-4	Ethylbenzene	< 0.0692	D	mg/kg dry	0.0692	0.0183	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 0.0692	D	mg/kg dry	0.0692	0.0121	50	"	"	"	"	"	
91-20-3	Naphthalene	< 0.0692	D	mg/kg dry	0.0692	0.0155	50	"	"	"	"	"	
108-88-3	Toluene	< 0.0692	D	mg/kg dry	0.0692	0.0147	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 0.138	D	mg/kg dry	0.138	0.0172	50	"	"	"	"	"	
95-47-6	o-Xylene	< 0.0692	D	mg/kg dry	0.0692	0.0118	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*106*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*109*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH													
Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 12.1		mg/kg dry	12.1	2.34	1	MADEP EPH 5/2004 R	06-Jan-17	10-Jan-17	NAA	1700327	
	C19-C36 Aliphatic Hydrocarbons	< 12.1		mg/kg dry	12.1	1.70	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 12.1		mg/kg dry	12.1	5.76	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 12.1		mg/kg dry	12.1	5.76	1	"	"	"	"	"	
91-20-3	Naphthalene	< 0.402		mg/kg dry	0.402	0.358	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 0.402		mg/kg dry	0.402	0.347	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 0.402		mg/kg dry	0.402	0.159	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 0.402		mg/kg dry	0.402	0.400	1	"	"	"	"	"	
86-73-7	Fluorene	< 0.402		mg/kg dry	0.402	0.361	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 0.402		mg/kg dry	0.402	0.349	1	"	"	"	"	"	
120-12-7	Anthracene	< 0.402		mg/kg dry	0.402	0.345	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 0.402		mg/kg dry	0.402	0.149	1	"	"	"	"	"	
129-00-0	Pyrene	< 0.402		mg/kg dry	0.402	0.149	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 0.402		mg/kg dry	0.402	0.382	1	"	"	"	"	"	
218-01-9	Chrysene	< 0.402		mg/kg dry	0.402	0.380	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 0.402		mg/kg dry	0.402	0.332	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 0.402		mg/kg dry	0.402	0.152	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 0.402		mg/kg dry	0.402	0.361	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 0.402		mg/kg dry	0.402	0.269	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 0.402		mg/kg dry	0.402	0.245	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 0.402		mg/kg dry	0.402	0.263	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B1 (5-7')	1505.20	Soil	30-Dec-16 09:15	03-Jan-17
SC30176-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Extractable Petroleum Hydrocarbons													
MADEP EPH													
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*118*			*40-140 %*			MADEP EPH 5/2004 R	06-Jan-17	10-Jan-17	NAA	1700327	
84-15-1	*Ortho-Terphenyl*	*76*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*45*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3050B													
7440-22-4	Silver	< 1.78		mg/kg dry	1.78	0.186	1	SW846 6010C	06-Jan-17	10-Jan-17	edt	1700260	
7440-38-2	Arsenic	**3.30**		mg/kg dry	1.78	0.471	1	"	"	"	"	"	
7440-41-7	Beryllium	< 0.592		mg/kg dry	0.592	0.0355	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.592		mg/kg dry	0.592	0.0298	1	"	"	"	"	"	
Prepared by method SW846 3051A													
7440-47-3	Chromium	**6.67**		mg/kg dry	1.16	0.149	1	"	10-Jan-17	11-Jan-17	"	1700564	
Prepared by method SW846 3050B													
7440-50-8	Copper	**3.68**		mg/kg dry	1.18	0.219	1	"	06-Jan-17	10-Jan-17	"	1700260	
7439-97-6	Mercury	< 0.0328		mg/kg dry	0.0328	0.0103	1	SW846 7471B	"	09-Jan-17	JLC	1700261	
Prepared by method SW846 3050B													
7440-02-0	Nickel	**5.46**		mg/kg dry	1.18	0.218	1	SW846 6010C	"	10-Jan-17	edt	1700260	
7439-92-1	Lead	**3.85**		mg/kg dry	1.78	0.547	1	"	"	"	"	"	
7440-36-0	Antimony	< 5.92		mg/kg dry	5.92	0.480	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.78		mg/kg dry	1.78	0.472	1	"	"	"	"	"	
7440-28-0	Thallium	< 3.55		mg/kg dry	3.55	0.800	1	"	"	"	"	"	
7440-66-6	Zinc	**10.9**		mg/kg dry	1.18	1.08	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**80.6**		%			1	SM2540 G (11) Mod.	04-Jan-17	04-Jan-17	EEM	1700104	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B2 (5-7')	1505.20	Soil	30-Dec-16 10:20	03-Jan-17
SC30176-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Prepared by method Volatiles													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			EEM	1700094	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (high level)						Initial weight: 17.24 g							
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 67.9	D	µg/kg dry	67.9	20.0	50	SW846 8260C	05-Jan-17	06-Jan-17	GMA	1700192	
67-64-1	Acetone	< 679	D	µg/kg dry	679	289	50	"	"	"	"	"	
107-13-1	Acrylonitrile	< 67.9	D	µg/kg dry	67.9	65.2	50	"	"	"	"	"	
71-43-2	Benzene	< 67.9	D	µg/kg dry	67.9	18.0	50	"	"	"	"	"	
108-86-1	Bromobenzene	< 67.9	D	µg/kg dry	67.9	18.1	50	"	"	"	"	"	
74-97-5	Bromochloromethane	< 67.9	D	µg/kg dry	67.9	34.3	50	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 67.9	D	µg/kg dry	67.9	45.3	50	"	"	"	"	"	
75-25-2	Bromoform	< 67.9	D	µg/kg dry	67.9	64.8	50	"	"	"	"	"	
74-83-9	Bromomethane	< 136	D	µg/kg dry	136	61.3	50	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 136	D	µg/kg dry	136	121	50	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 67.9	D	µg/kg dry	67.9	19.4	50	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 67.9	D	µg/kg dry	67.9	12.7	50	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 67.9	D	µg/kg dry	67.9	15.0	50	"	"	"	"	"	
75-15-0	Carbon disulfide	< 136	D	µg/kg dry	136	43.4	50	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 67.9	D	µg/kg dry	67.9	55.5	50	"	"	"	"	"	
108-90-7	Chlorobenzene	< 67.9	D	µg/kg dry	67.9	10.7	50	"	"	"	"	"	
75-00-3	Chloroethane	< 136	D	µg/kg dry	136	37.7	50	"	"	"	"	"	
67-66-3	Chloroform	< 67.9	D	µg/kg dry	67.9	36.4	50	"	"	"	"	"	
74-87-3	Chloromethane	< 136	D	µg/kg dry	136	44.7	50	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 67.9	D	µg/kg dry	67.9	15.8	50	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 67.9	D	µg/kg dry	67.9	16.0	50	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 136	D	µg/kg dry	136	98.1	50	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 67.9	D	µg/kg dry	67.9	46.0	50	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 67.9	D	µg/kg dry	67.9	45.5	50	"	"	"	"	"	
74-95-3	Dibromomethane	< 67.9	D	µg/kg dry	67.9	35.3	50	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 67.9	D	µg/kg dry	67.9	17.6	50	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 67.9	D	µg/kg dry	67.9	13.8	50	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 67.9	D	µg/kg dry	67.9	29.7	50	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 136	D	µg/kg dry	136	25.7	50	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 67.9	D	µg/kg dry	67.9	15.3	50	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 67.9	D	µg/kg dry	67.9	22.8	50	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 67.9	D	µg/kg dry	67.9	35.5	50	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 67.9	D	µg/kg dry	67.9	25.2	50	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 67.9	D	µg/kg dry	67.9	36.0	50	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 67.9	D	µg/kg dry	67.9	35.6	50	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 67.9	D	µg/kg dry	67.9	35.2	50	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 67.9	D	µg/kg dry	67.9	32.0	50	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 67.9	D	µg/kg dry	67.9	18.6	50	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 67.9	D	µg/kg dry	67.9	40.9	50	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 67.9	D	µg/kg dry	67.9	35.6	50	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B2 (5-7')	1505.20	Soil	30-Dec-16 10:20	03-Jan-17
SC30176-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
						Initial weight: 17.24 g							
100-41-4	Ethylbenzene	< 67.9	D	µg/kg dry	67.9	10.7	50	SW846 8260C	05-Jan-17	06-Jan-17	GMA	1700192	
87-68-3	Hexachlorobutadiene	< 67.9	D	µg/kg dry	67.9	34.1	50	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 136	D	µg/kg dry	136	108	50	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 67.9	D	µg/kg dry	67.9	13.4	50	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 67.9	D	µg/kg dry	67.9	14.0	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 67.9	D	µg/kg dry	67.9	25.0	50	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 136	D	µg/kg dry	136	57.0	50	"	"	"	"	"	
75-09-2	Methylene chloride	< 136	D	µg/kg dry	136	30.2	50	"	"	"	"	"	
91-20-3	Naphthalene	< 67.9	D	µg/kg dry	67.9	40.4	50	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 67.9	D	µg/kg dry	67.9	9.23	50	"	"	"	"	"	
100-42-5	Styrene	< 67.9	D	µg/kg dry	67.9	13.6	50	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 67.9	D	µg/kg dry	67.9	57.7	50	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 67.9	D	µg/kg dry	67.9	57.4	50	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 67.9	D	µg/kg dry	67.9	23.2	50	"	"	"	"	"	
108-88-3	Toluene	< 67.9	D	µg/kg dry	67.9	22.0	50	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 67.9	D	µg/kg dry	67.9	25.4	50	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 67.9	D	µg/kg dry	67.9	50.0	50	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 67.9	D	µg/kg dry	67.9	21.3	50	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 67.9	D	µg/kg dry	67.9	21.2	50	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 67.9	D	µg/kg dry	67.9	49.2	50	"	"	"	"	"	
79-01-6	Trichloroethene	< 67.9	D	µg/kg dry	67.9	18.5	50	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 67.9	D	µg/kg dry	67.9	36.6	50	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 67.9	D	µg/kg dry	67.9	50.9	50	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 67.9	D	µg/kg dry	67.9	16.5	50	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 67.9	D	µg/kg dry	67.9	11.2	50	"	"	"	"	"	
75-01-4	Vinyl chloride	< 67.9	D	µg/kg dry	67.9	22.9	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 136	D	µg/kg dry	136	13.6	50	"	"	"	"	"	
95-47-6	o-Xylene	< 67.9	D	µg/kg dry	67.9	19.0	50	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 136	D	µg/kg dry	136	77.9	50	"	"	"	"	"	
60-29-7	Ethyl ether	< 67.9	D	µg/kg dry	67.9	61.5	50	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 67.9	D	µg/kg dry	67.9	22.7	50	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 67.9	D	µg/kg dry	67.9	36.6	50	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 67.9	D	µg/kg dry	67.9	12.6	50	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 679	D	µg/kg dry	679	444	50	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 1360	D	µg/kg dry	1360	1180	50	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 339	D	µg/kg dry	339	155	50	"	"	"	"	"	
64-17-5	Ethanol	< 13600	D	µg/kg dry	13600	2530	50	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*96*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*92*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B2 (5-7')	1505.20	Soil	30-Dec-16 10:20	03-Jan-17
SC30176-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH													
Prepared by method VPH - EPA 5035A Soil						Initial weight: 16.2 g							
	C5-C8 Aliphatic Hydrocarbons	< 1.07	D	mg/kg dry	1.07	0.127	50	MADEP VPH 5/2004 Rev. 1.1	06-Jan-17	07-Jan-17	MP	1700291	
	C9-C12 Aliphatic Hydrocarbons	< 0.357	D	mg/kg dry	0.357	0.0515	50	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	< 0.357	D	mg/kg dry	0.357	0.0195	50	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 1.07	D	mg/kg dry	1.07	0.0892	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.357	D	mg/kg dry	0.357	0.0488	50	"	"	"	"	"	
71-43-2	Benzene	< 0.0714	D	mg/kg dry	0.0714	0.0144	50	"	"	"	"	"	
100-41-4	Ethylbenzene	< 0.0714	D	mg/kg dry	0.0714	0.0189	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 0.0714	D	mg/kg dry	0.0714	0.0125	50	"	"	"	"	"	
91-20-3	Naphthalene	< 0.0714	D	mg/kg dry	0.0714	0.0160	50	"	"	"	"	"	
108-88-3	Toluene	< 0.0714	D	mg/kg dry	0.0714	0.0152	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 0.143	D	mg/kg dry	0.143	0.0178	50	"	"	"	"	"	
95-47-6	o-Xylene	< 0.0714	D	mg/kg dry	0.0714	0.0122	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*102*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*104*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH													
Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 12.4		mg/kg dry	12.4	2.41	1	MADEP EPH 5/2004 R	06-Jan-17	10-Jan-17	NAA	1700327	
	C19-C36 Aliphatic Hydrocarbons	< 12.4		mg/kg dry	12.4	1.76	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 12.4		mg/kg dry	12.4	5.93	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 12.4		mg/kg dry	12.4	5.93	1	"	"	"	"	"	
91-20-3	Naphthalene	< 0.415		mg/kg dry	0.415	0.368	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 0.415		mg/kg dry	0.415	0.357	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 0.415		mg/kg dry	0.415	0.164	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 0.415		mg/kg dry	0.415	0.412	1	"	"	"	"	"	
86-73-7	Fluorene	< 0.415		mg/kg dry	0.415	0.372	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 0.415		mg/kg dry	0.415	0.360	1	"	"	"	"	"	
120-12-7	Anthracene	< 0.415		mg/kg dry	0.415	0.356	1	"	"	"	"	"	
206-44-0	Fluoranthene	**0.574**		mg/kg dry	0.415	0.153	1	"	"	"	"	"	
129-00-0	Pyrene	**0.553**		mg/kg dry	0.415	0.153	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 0.415		mg/kg dry	0.415	0.393	1	"	"	"	"	"	
218-01-9	Chrysene	< 0.415		mg/kg dry	0.415	0.392	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 0.415		mg/kg dry	0.415	0.342	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 0.415		mg/kg dry	0.415	0.157	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 0.415		mg/kg dry	0.415	0.372	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 0.415		mg/kg dry	0.415	0.278	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 0.415		mg/kg dry	0.415	0.253	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 0.415		mg/kg dry	0.415	0.271	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B2 (5-7')	1505.20	Soil	30-Dec-16 10:20	03-Jan-17
SC30176-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Extractable Petroleum Hydrocarbons													
MADEP EPH													
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*45*			*40-140 %*			MADEP EPH 5/2004 R	06-Jan-17	10-Jan-17	NAA	1700327	
84-15-1	*Ortho-Terphenyl*	*110*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*69*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3050B													
7440-22-4	Silver	< 1.78		mg/kg dry	1.78	0.186	1	SW846 6010C	06-Jan-17	10-Jan-17	edt	1700260	
7440-38-2	Arsenic	**6.67**		mg/kg dry	1.78	0.472	1	"	"	"	"	"	
7440-41-7	Beryllium	< 0.593		mg/kg dry	0.593	0.0356	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.593		mg/kg dry	0.593	0.0299	1	"	"	"	"	"	
Prepared by method SW846 3051A													
7440-47-3	Chromium	**9.13**		mg/kg dry	1.15	0.149	1	"	10-Jan-17	11-Jan-17	"	1700564	
Prepared by method SW846 3050B													
7440-50-8	Copper	**6.82**		mg/kg dry	1.19	0.220	1	"	06-Jan-17	10-Jan-17	"	1700260	
7439-97-6	Mercury	< 0.0332		mg/kg dry	0.0332	0.0104	1	SW846 7471B	"	09-Jan-17	JLC	1700261	
Prepared by method SW846 3050B													
7440-02-0	Nickel	**8.57**		mg/kg dry	1.19	0.218	1	SW846 6010C	"	10-Jan-17	edt	1700260	
7439-92-1	Lead	**5.20**		mg/kg dry	1.78	0.548	1	"	"	"	"	"	
7440-36-0	Antimony	< 5.93		mg/kg dry	5.93	0.481	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.78		mg/kg dry	1.78	0.473	1	"	"	"	"	"	
7440-28-0	Thallium	< 3.56		mg/kg dry	3.56	0.802	1	"	"	"	"	"	
7440-66-6	Zinc	**15.5**		mg/kg dry	1.19	1.09	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**79.3**		%			1	SM2540 G (11) Mod.	04-Jan-17	04-Jan-17	EEM	1700104	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B3 (5-7')	1505.20	Soil	30-Dec-16 11:30	03-Jan-17
SC30176-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Prepared by method Volatiles													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			EEM	1700094	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (high level)						Initial weight: 17.51 g							
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 60.4	D	µg/kg dry	60.4	17.8	50	SW846 8260C	05-Jan-17	06-Jan-17	GMA	1700192	
67-64-1	Acetone	< 604	D	µg/kg dry	604	258	50	"	"	"	"	"	
107-13-1	Acrylonitrile	< 60.4	D	µg/kg dry	60.4	58.1	50	"	"	"	"	"	
71-43-2	Benzene	< 60.4	D	µg/kg dry	60.4	16.0	50	"	"	"	"	"	
108-86-1	Bromobenzene	< 60.4	D	µg/kg dry	60.4	16.1	50	"	"	"	"	"	
74-97-5	Bromochloromethane	< 60.4	D	µg/kg dry	60.4	30.5	50	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 60.4	D	µg/kg dry	60.4	40.3	50	"	"	"	"	"	
75-25-2	Bromoform	< 60.4	D	µg/kg dry	60.4	57.7	50	"	"	"	"	"	
74-83-9	Bromomethane	< 121	D	µg/kg dry	121	54.6	50	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 121	D	µg/kg dry	121	108	50	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 60.4	D	µg/kg dry	60.4	17.3	50	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 60.4	D	µg/kg dry	60.4	11.3	50	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 60.4	D	µg/kg dry	60.4	13.4	50	"	"	"	"	"	
75-15-0	Carbon disulfide	< 121	D	µg/kg dry	121	38.7	50	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 60.4	D	µg/kg dry	60.4	49.4	50	"	"	"	"	"	
108-90-7	Chlorobenzene	< 60.4	D	µg/kg dry	60.4	9.49	50	"	"	"	"	"	
75-00-3	Chloroethane	< 121	D	µg/kg dry	121	33.5	50	"	"	"	"	"	
67-66-3	Chloroform	< 60.4	D	µg/kg dry	60.4	32.5	50	"	"	"	"	"	
74-87-3	Chloromethane	< 121	D	µg/kg dry	121	39.8	50	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 60.4	D	µg/kg dry	60.4	14.1	50	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 60.4	D	µg/kg dry	60.4	14.2	50	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 121	D	µg/kg dry	121	87.3	50	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 60.4	D	µg/kg dry	60.4	41.0	50	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 60.4	D	µg/kg dry	60.4	40.6	50	"	"	"	"	"	
74-95-3	Dibromomethane	< 60.4	D	µg/kg dry	60.4	31.4	50	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 60.4	D	µg/kg dry	60.4	15.7	50	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 60.4	D	µg/kg dry	60.4	12.3	50	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 60.4	D	µg/kg dry	60.4	26.4	50	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 121	D	µg/kg dry	121	22.9	50	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 60.4	D	µg/kg dry	60.4	13.7	50	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 60.4	D	µg/kg dry	60.4	20.3	50	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 60.4	D	µg/kg dry	60.4	31.6	50	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 60.4	D	µg/kg dry	60.4	22.4	50	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 60.4	D	µg/kg dry	60.4	32.0	50	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 60.4	D	µg/kg dry	60.4	31.7	50	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 60.4	D	µg/kg dry	60.4	31.3	50	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 60.4	D	µg/kg dry	60.4	28.5	50	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 60.4	D	µg/kg dry	60.4	16.6	50	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 60.4	D	µg/kg dry	60.4	36.5	50	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 60.4	D	µg/kg dry	60.4	31.7	50	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B3 (5-7')	1505.20	Soil	30-Dec-16 11:30	03-Jan-17
SC30176-03				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
						Initial weight: 17.51 g							
100-41-4	Ethylbenzene	< 60.4	D	µg/kg dry	60.4	9.49	50	SW846 8260C	05-Jan-17	06-Jan-17	GMA	1700192	
87-68-3	Hexachlorobutadiene	< 60.4	D	µg/kg dry	60.4	30.3	50	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 121	D	µg/kg dry	121	96.1	50	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 60.4	D	µg/kg dry	60.4	11.9	50	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 60.4	D	µg/kg dry	60.4	12.5	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 60.4	D	µg/kg dry	60.4	22.2	50	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 121	D	µg/kg dry	121	50.8	50	"	"	"	"	"	
75-09-2	Methylene chloride	< 121	D	µg/kg dry	121	26.9	50	"	"	"	"	"	
91-20-3	Naphthalene	< 60.4	D	µg/kg dry	60.4	36.0	50	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 60.4	D	µg/kg dry	60.4	8.22	50	"	"	"	"	"	
100-42-5	Styrene	< 60.4	D	µg/kg dry	60.4	12.2	50	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 60.4	D	µg/kg dry	60.4	51.4	50	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 60.4	D	µg/kg dry	60.4	51.1	50	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 60.4	D	µg/kg dry	60.4	20.7	50	"	"	"	"	"	
108-88-3	Toluene	< 60.4	D	µg/kg dry	60.4	19.6	50	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 60.4	D	µg/kg dry	60.4	22.6	50	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 60.4	D	µg/kg dry	60.4	44.6	50	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 60.4	D	µg/kg dry	60.4	19.0	50	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 60.4	D	µg/kg dry	60.4	18.9	50	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 60.4	D	µg/kg dry	60.4	43.8	50	"	"	"	"	"	
79-01-6	Trichloroethene	< 60.4	D	µg/kg dry	60.4	16.5	50	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 60.4	D	µg/kg dry	60.4	32.6	50	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 60.4	D	µg/kg dry	60.4	45.3	50	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 60.4	D	µg/kg dry	60.4	14.7	50	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 60.4	D	µg/kg dry	60.4	9.97	50	"	"	"	"	"	
75-01-4	Vinyl chloride	< 60.4	D	µg/kg dry	60.4	20.4	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 121	D	µg/kg dry	121	12.2	50	"	"	"	"	"	
95-47-6	o-Xylene	< 60.4	D	µg/kg dry	60.4	16.9	50	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 121	D	µg/kg dry	121	69.3	50	"	"	"	"	"	
60-29-7	Ethyl ether	< 60.4	D	µg/kg dry	60.4	54.8	50	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 60.4	D	µg/kg dry	60.4	20.2	50	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 60.4	D	µg/kg dry	60.4	32.6	50	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 60.4	D	µg/kg dry	60.4	11.2	50	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 604	D	µg/kg dry	604	396	50	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 1210	D	µg/kg dry	1210	1050	50	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 302	D	µg/kg dry	302	138	50	"	"	"	"	"	
64-17-5	Ethanol	< 12100	D	µg/kg dry	12100	2250	50	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*97*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*101*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*94*			*70-130 %*			"	"	"	"	"	

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B3 (5-7')	1505.20	Soil	30-Dec-16 11:30	03-Jan-17
SC30176-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH													
Prepared by method VPH - EPA 5035A Soil						Initial weight: 16.72 g							
	C5-C8 Aliphatic Hydrocarbons	< 0.943	D	mg/kg dry	0.943	0.112	50	MADEP VPH 5/2004 Rev. 1.1	06-Jan-17	07-Jan-17	MP	1700291	
	C9-C12 Aliphatic Hydrocarbons	< 0.314	D	mg/kg dry	0.314	0.0453	50	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	< 0.314	D	mg/kg dry	0.314	0.0172	50	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.943	D	mg/kg dry	0.943	0.0786	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.314	D	mg/kg dry	0.314	0.0429	50	"	"	"	"	"	
71-43-2	Benzene	< 0.0629	D	mg/kg dry	0.0629	0.0127	50	"	"	"	"	"	
100-41-4	Ethylbenzene	< 0.0629	D	mg/kg dry	0.0629	0.0167	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 0.0629	D	mg/kg dry	0.0629	0.0110	50	"	"	"	"	"	
91-20-3	Naphthalene	< 0.0629	D	mg/kg dry	0.0629	0.0141	50	"	"	"	"	"	
108-88-3	Toluene	< 0.0629	D	mg/kg dry	0.0629	0.0134	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 0.126	D	mg/kg dry	0.126	0.0157	50	"	"	"	"	"	
95-47-6	o-Xylene	< 0.0629	D	mg/kg dry	0.0629	0.0107	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*96*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*98*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH													
Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 11.8		mg/kg dry	11.8	2.29	1	MADEP EPH 5/2004 R	06-Jan-17	10-Jan-17	NAA	1700327	
	C19-C36 Aliphatic Hydrocarbons	< 11.8		mg/kg dry	11.8	1.67	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 11.8		mg/kg dry	11.8	5.63	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 11.8		mg/kg dry	11.8	5.63	1	"	"	"	"	"	
91-20-3	Naphthalene	< 0.393		mg/kg dry	0.393	0.350	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 0.393		mg/kg dry	0.393	0.339	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 0.393		mg/kg dry	0.393	0.156	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 0.393		mg/kg dry	0.393	0.391	1	"	"	"	"	"	
86-73-7	Fluorene	< 0.393		mg/kg dry	0.393	0.353	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 0.393		mg/kg dry	0.393	0.341	1	"	"	"	"	"	
120-12-7	Anthracene	< 0.393		mg/kg dry	0.393	0.338	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 0.393		mg/kg dry	0.393	0.145	1	"	"	"	"	"	
129-00-0	Pyrene	< 0.393		mg/kg dry	0.393	0.145	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 0.393		mg/kg dry	0.393	0.373	1	"	"	"	"	"	
218-01-9	Chrysene	< 0.393		mg/kg dry	0.393	0.372	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 0.393		mg/kg dry	0.393	0.325	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 0.393		mg/kg dry	0.393	0.149	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 0.393		mg/kg dry	0.393	0.353	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 0.393		mg/kg dry	0.393	0.263	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 0.393		mg/kg dry	0.393	0.240	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 0.393		mg/kg dry	0.393	0.257	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B3 (5-7')	1505.20	Soil	30-Dec-16 11:30	03-Jan-17
SC30176-03				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Extractable Petroleum Hydrocarbons													
MADEP EPH													
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*47*			*40-140 %*			MADEP EPH 5/2004 R	06-Jan-17	10-Jan-17	NAA	1700327	
84-15-1	*Ortho-Terphenyl*	*117*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*63*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3050B													
7440-22-4	Silver	< 1.76		mg/kg dry	1.76	0.184	1	SW846 6010C	06-Jan-17	10-Jan-17	edt	1700260	
7440-38-2	Arsenic	**6.64**		mg/kg dry	1.76	0.466	1	"	"	"	"	"	
7440-41-7	Beryllium	< 0.585		mg/kg dry	0.585	0.0351	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.585		mg/kg dry	0.585	0.0295	1	"	"	"	"	"	
Prepared by method SW846 3051A													
7440-47-3	Chromium	**6.77**		mg/kg dry	1.10	0.142	1	"	10-Jan-17	11-Jan-17	"	1700564	
Prepared by method SW846 3050B													
7440-50-8	Copper	**6.92**		mg/kg dry	1.17	0.217	1	"	06-Jan-17	10-Jan-17	"	1700260	
7439-97-6	Mercury	< 0.0356		mg/kg dry	0.0356	0.0112	1	SW846 7471B	"	09-Jan-17	JLC	1700261	
Prepared by method SW846 3050B													
7440-02-0	Nickel	**8.88**		mg/kg dry	1.17	0.215	1	SW846 6010C	"	10-Jan-17	edt	1700260	
7439-92-1	Lead	**3.07**		mg/kg dry	1.76	0.541	1	"	"	"	"	"	
7440-36-0	Antimony	< 5.85		mg/kg dry	5.85	0.474	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.76		mg/kg dry	1.76	0.467	1	"	"	"	"	"	
7440-28-0	Thallium	< 3.51		mg/kg dry	3.51	0.791	1	"	"	"	"	"	
7440-66-6	Zinc	**14.2**		mg/kg dry	1.17	1.07	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**84.1**		%			1	SM2540 G (11) Mod.	04-Jan-17	04-Jan-17	EEM	1700104	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B4 (5-7')	1505.20	Soil	30-Dec-16 13:15	03-Jan-17
SC30176-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Prepared by method Volatiles													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			EEM	1700094	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (high level)						Initial weight: 16.85 g							
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 66.5	D	µg/kg dry	66.5	19.6	50	SW846 8260C	05-Jan-17	06-Jan-17	GMA	1700192	
67-64-1	Acetone	< 665	D	µg/kg dry	665	284	50	"	"	"	"	"	
107-13-1	Acrylonitrile	< 66.5	D	µg/kg dry	66.5	63.9	50	"	"	"	"	"	
71-43-2	Benzene	< 66.5	D	µg/kg dry	66.5	17.6	50	"	"	"	"	"	
108-86-1	Bromobenzene	< 66.5	D	µg/kg dry	66.5	17.8	50	"	"	"	"	"	
74-97-5	Bromochloromethane	< 66.5	D	µg/kg dry	66.5	33.6	50	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 66.5	D	µg/kg dry	66.5	44.4	50	"	"	"	"	"	
75-25-2	Bromoform	< 66.5	D	µg/kg dry	66.5	63.5	50	"	"	"	"	"	
74-83-9	Bromomethane	< 133	D	µg/kg dry	133	60.1	50	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 133	D	µg/kg dry	133	119	50	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 66.5	D	µg/kg dry	66.5	19.0	50	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 66.5	D	µg/kg dry	66.5	12.4	50	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 66.5	D	µg/kg dry	66.5	14.7	50	"	"	"	"	"	
75-15-0	Carbon disulfide	< 133	D	µg/kg dry	133	42.6	50	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 66.5	D	µg/kg dry	66.5	54.4	50	"	"	"	"	"	
108-90-7	Chlorobenzene	< 66.5	D	µg/kg dry	66.5	10.4	50	"	"	"	"	"	
75-00-3	Chloroethane	< 133	D	µg/kg dry	133	36.9	50	"	"	"	"	"	
67-66-3	Chloroform	< 66.5	D	µg/kg dry	66.5	35.7	50	"	"	"	"	"	
74-87-3	Chloromethane	< 133	D	µg/kg dry	133	43.8	50	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 66.5	D	µg/kg dry	66.5	15.5	50	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 66.5	D	µg/kg dry	66.5	15.6	50	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 133	D	µg/kg dry	133	96.1	50	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 66.5	D	µg/kg dry	66.5	45.1	50	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 66.5	D	µg/kg dry	66.5	44.6	50	"	"	"	"	"	
74-95-3	Dibromomethane	< 66.5	D	µg/kg dry	66.5	34.6	50	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 66.5	D	µg/kg dry	66.5	17.3	50	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 66.5	D	µg/kg dry	66.5	13.5	50	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 66.5	D	µg/kg dry	66.5	29.1	50	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 133	D	µg/kg dry	133	25.2	50	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 66.5	D	µg/kg dry	66.5	15.0	50	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 66.5	D	µg/kg dry	66.5	22.4	50	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 66.5	D	µg/kg dry	66.5	34.8	50	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 66.5	D	µg/kg dry	66.5	24.7	50	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 66.5	D	µg/kg dry	66.5	35.3	50	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 66.5	D	µg/kg dry	66.5	34.9	50	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 66.5	D	µg/kg dry	66.5	34.5	50	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 66.5	D	µg/kg dry	66.5	31.4	50	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 66.5	D	µg/kg dry	66.5	18.2	50	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 66.5	D	µg/kg dry	66.5	40.1	50	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 66.5	D	µg/kg dry	66.5	34.9	50	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B4 (5-7')	1505.20	Soil	30-Dec-16 13:15	03-Jan-17
SC30176-04				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
						Initial weight: 16.85 g							
100-41-4	Ethylbenzene	< 66.5	D	µg/kg dry	66.5	10.4	50	SW846 8260C	05-Jan-17	06-Jan-17	GMA	1700192	
87-68-3	Hexachlorobutadiene	< 66.5	D	µg/kg dry	66.5	33.4	50	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 133	D	µg/kg dry	133	106	50	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 66.5	D	µg/kg dry	66.5	13.1	50	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 66.5	D	µg/kg dry	66.5	13.7	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 66.5	D	µg/kg dry	66.5	24.5	50	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 133	D	µg/kg dry	133	55.9	50	"	"	"	"	"	
75-09-2	Methylene chloride	< 133	D	µg/kg dry	133	29.6	50	"	"	"	"	"	
91-20-3	Naphthalene	< 66.5	D	µg/kg dry	66.5	39.6	50	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 66.5	D	µg/kg dry	66.5	9.05	50	"	"	"	"	"	
100-42-5	Styrene	< 66.5	D	µg/kg dry	66.5	13.4	50	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 66.5	D	µg/kg dry	66.5	56.5	50	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 66.5	D	µg/kg dry	66.5	56.3	50	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 66.5	D	µg/kg dry	66.5	22.8	50	"	"	"	"	"	
108-88-3	Toluene	< 66.5	D	µg/kg dry	66.5	21.6	50	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 66.5	D	µg/kg dry	66.5	24.9	50	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 66.5	D	µg/kg dry	66.5	49.0	50	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 66.5	D	µg/kg dry	66.5	20.9	50	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 66.5	D	µg/kg dry	66.5	20.8	50	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 66.5	D	µg/kg dry	66.5	48.2	50	"	"	"	"	"	
79-01-6	Trichloroethene	< 66.5	D	µg/kg dry	66.5	18.2	50	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 66.5	D	µg/kg dry	66.5	35.9	50	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 66.5	D	µg/kg dry	66.5	49.9	50	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 66.5	D	µg/kg dry	66.5	16.2	50	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 66.5	D	µg/kg dry	66.5	11.0	50	"	"	"	"	"	
75-01-4	Vinyl chloride	< 66.5	D	µg/kg dry	66.5	22.5	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 133	D	µg/kg dry	133	13.4	50	"	"	"	"	"	
95-47-6	o-Xylene	< 66.5	D	µg/kg dry	66.5	18.6	50	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 133	D	µg/kg dry	133	76.3	50	"	"	"	"	"	
60-29-7	Ethyl ether	< 66.5	D	µg/kg dry	66.5	60.3	50	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 66.5	D	µg/kg dry	66.5	22.2	50	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 66.5	D	µg/kg dry	66.5	35.9	50	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 66.5	D	µg/kg dry	66.5	12.4	50	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 665	D	µg/kg dry	665	435	50	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 1330	D	µg/kg dry	1330	1160	50	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 333	D	µg/kg dry	333	152	50	"	"	"	"	"	
64-17-5	Ethanol	< 13300	D	µg/kg dry	13300	2480	50	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*96*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*108*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*94*			*70-130 %*			"	"	"	"	"	

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B4 (5-7')	1505.20	Soil	30-Dec-16 13:15	03-Jan-17
SC30176-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH													
Prepared by method VPH - EPA 5035A Soil						Initial weight: 17.55 g							
	C5-C8 Aliphatic Hydrocarbons	< 0.965	D	mg/kg dry	0.965	0.115	50	MADEP VPH 5/2004 Rev. 1.1	09-Jan-17	09-Jan-17	MP	1700397	
	C9-C12 Aliphatic Hydrocarbons	< 0.322	D	mg/kg dry	0.322	0.0464	50	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	< 0.322	D	mg/kg dry	0.322	0.0176	50	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.965	D	mg/kg dry	0.965	0.0804	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.322	D	mg/kg dry	0.322	0.0439	50	"	"	"	"	"	
71-43-2	Benzene	< 0.0643	D	mg/kg dry	0.0643	0.0130	50	"	"	"	"	"	
100-41-4	Ethylbenzene	< 0.0643	D	mg/kg dry	0.0643	0.0170	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 0.0643	D	mg/kg dry	0.0643	0.0113	50	"	"	"	"	"	
91-20-3	Naphthalene	< 0.0643	D	mg/kg dry	0.0643	0.0144	50	"	"	"	"	"	
108-88-3	Toluene	< 0.0643	D	mg/kg dry	0.0643	0.0137	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 0.129	D	mg/kg dry	0.129	0.0160	50	"	"	"	"	"	
95-47-6	o-Xylene	< 0.0643	D	mg/kg dry	0.0643	0.0110	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*97*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*99*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH													
Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 12.2		mg/kg dry	12.2	2.37	1	MADEP EPH 5/2004 R	06-Jan-17	10-Jan-17	NAA	1700327	
	C19-C36 Aliphatic Hydrocarbons	< 12.2		mg/kg dry	12.2	1.73	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 12.2		mg/kg dry	12.2	5.83	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 12.2		mg/kg dry	12.2	5.83	1	"	"	"	"	"	
91-20-3	Naphthalene	< 0.407		mg/kg dry	0.407	0.362	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 0.407		mg/kg dry	0.407	0.351	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 0.407		mg/kg dry	0.407	0.161	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 0.407		mg/kg dry	0.407	0.405	1	"	"	"	"	"	
86-73-7	Fluorene	< 0.407		mg/kg dry	0.407	0.366	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 0.407		mg/kg dry	0.407	0.354	1	"	"	"	"	"	
120-12-7	Anthracene	< 0.407		mg/kg dry	0.407	0.350	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 0.407		mg/kg dry	0.407	0.150	1	"	"	"	"	"	
129-00-0	Pyrene	< 0.407		mg/kg dry	0.407	0.150	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 0.407		mg/kg dry	0.407	0.387	1	"	"	"	"	"	
218-01-9	Chrysene	< 0.407		mg/kg dry	0.407	0.385	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 0.407		mg/kg dry	0.407	0.336	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 0.407		mg/kg dry	0.407	0.154	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 0.407		mg/kg dry	0.407	0.366	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 0.407		mg/kg dry	0.407	0.273	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 0.407		mg/kg dry	0.407	0.248	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 0.407		mg/kg dry	0.407	0.267	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B4 (5-7')	1505.20	Soil	30-Dec-16 13:15	03-Jan-17
SC30176-04				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Extractable Petroleum Hydrocarbons													
MADEP EPH													
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*43*			*40-140 %*			MADEP EPH 5/2004 R	06-Jan-17	10-Jan-17	NAA	1700327	
84-15-1	*Ortho-Terphenyl*	*110*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*61*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3050B													
7440-22-4	Silver	< 1.84		mg/kg dry	1.84	0.192	1	SW846 6010C	06-Jan-17	10-Jan-17	edt	1700260	
7440-38-2	Arsenic	**3.65**		mg/kg dry	1.84	0.488	1	"	"	"	"	"	
7440-41-7	Beryllium	< 0.613		mg/kg dry	0.613	0.0368	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.613		mg/kg dry	0.613	0.0309	1	"	"	"	"	"	
Prepared by method SW846 3051A													
7440-47-3	Chromium	**6.48**		mg/kg dry	1.16	0.149	1	"	10-Jan-17	11-Jan-17	"	1700564	
Prepared by method SW846 3050B													
7440-50-8	Copper	**4.69**		mg/kg dry	1.23	0.227	1	"	06-Jan-17	10-Jan-17	"	1700260	
7439-97-6	Mercury	< 0.0360		mg/kg dry	0.0360	0.0113	1	SW846 7471B	"	09-Jan-17	JLC	1700261	
Prepared by method SW846 3050B													
7440-02-0	Nickel	**5.78**		mg/kg dry	1.23	0.225	1	SW846 6010C	"	10-Jan-17	edt	1700260	
7439-92-1	Lead	**5.20**		mg/kg dry	1.84	0.566	1	"	"	"	"	"	
7440-36-0	Antimony	< 6.13		mg/kg dry	6.13	0.496	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.84		mg/kg dry	1.84	0.489	1	"	"	"	"	"	
7440-28-0	Thallium	< 3.68		mg/kg dry	3.68	0.828	1	"	"	"	"	"	
7440-66-6	Zinc	**12.1**		mg/kg dry	1.23	1.12	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**81.1**		%			1	SM2540 G (11) Mod.	04-Jan-17	04-Jan-17	EEM	1700104	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B5 (5-7')	1505.20	Soil	30-Dec-16 14:05	03-Jan-17
SC30176-05				

Volatile Organic Compounds

Prepared by method Volatiles

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			EEM	1700094	

Volatile Organic Compounds by SW846 8260

Prepared by method SW846 5035A Soil (high level) — Initial weight: 18.36 g

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 56.6	D	µg/kg dry	56.6	16.7	50	SW846 8260C	05-Jan-17	06-Jan-17	GMA	1700192	
67-64-1	Acetone	< 566	D	µg/kg dry	566	241	50	"	"	"	"	"	
107-13-1	Acrylonitrile	< 56.6	D	µg/kg dry	56.6	54.4	50	"	"	"	"	"	
71-43-2	Benzene	< 56.6	D	µg/kg dry	56.6	15.0	50	"	"	"	"	"	
108-86-1	Bromobenzene	< 56.6	D	µg/kg dry	56.6	15.1	50	"	"	"	"	"	
74-97-5	Bromochloromethane	< 56.6	D	µg/kg dry	56.6	28.6	50	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 56.6	D	µg/kg dry	56.6	37.8	50	"	"	"	"	"	
75-25-2	Bromoform	< 56.6	D	µg/kg dry	56.6	54.0	50	"	"	"	"	"	
74-83-9	Bromomethane	< 113	D	µg/kg dry	113	51.1	50	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 113	D	µg/kg dry	113	101	50	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 56.6	D	µg/kg dry	56.6	16.2	50	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 56.6	D	µg/kg dry	56.6	10.6	50	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 56.6	D	µg/kg dry	56.6	12.5	50	"	"	"	"	"	
75-15-0	Carbon disulfide	< 113	D	µg/kg dry	113	36.2	50	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 56.6	D	µg/kg dry	56.6	46.3	50	"	"	"	"	"	
108-90-7	Chlorobenzene	< 56.6	D	µg/kg dry	56.6	8.89	50	"	"	"	"	"	
75-00-3	Chloroethane	< 113	D	µg/kg dry	113	31.4	50	"	"	"	"	"	
67-66-3	Chloroform	< 56.6	D	µg/kg dry	56.6	30.4	50	"	"	"	"	"	
74-87-3	Chloromethane	< 113	D	µg/kg dry	113	37.3	50	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 56.6	D	µg/kg dry	56.6	13.2	50	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 56.6	D	µg/kg dry	56.6	13.3	50	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 113	D	µg/kg dry	113	81.8	50	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 56.6	D	µg/kg dry	56.6	38.4	50	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 56.6	D	µg/kg dry	56.6	38.0	50	"	"	"	"	"	
74-95-3	Dibromomethane	< 56.6	D	µg/kg dry	56.6	29.4	50	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 56.6	D	µg/kg dry	56.6	14.7	50	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 56.6	D	µg/kg dry	56.6	11.5	50	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 56.6	D	µg/kg dry	56.6	24.7	50	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 113	D	µg/kg dry	113	21.5	50	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 56.6	D	µg/kg dry	56.6	12.8	50	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 56.6	D	µg/kg dry	56.6	19.0	50	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 56.6	D	µg/kg dry	56.6	29.6	50	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 56.6	D	µg/kg dry	56.6	21.0	50	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 56.6	D	µg/kg dry	56.6	30.0	50	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 56.6	D	µg/kg dry	56.6	29.7	50	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 56.6	D	µg/kg dry	56.6	29.3	50	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 56.6	D	µg/kg dry	56.6	26.7	50	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 56.6	D	µg/kg dry	56.6	15.5	50	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 56.6	D	µg/kg dry	56.6	34.2	50	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 56.6	D	µg/kg dry	56.6	29.7	50	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B5 (5-7')	1505.20	Soil	30-Dec-16 14:05	03-Jan-17
SC30176-05				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
						Initial weight: 18.36 g							
100-41-4	Ethylbenzene	< 56.6	D	µg/kg dry	56.6	8.89	50	SW846 8260C	05-Jan-17	06-Jan-17	GMA	1700192	
87-68-3	Hexachlorobutadiene	< 56.6	D	µg/kg dry	56.6	28.4	50	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 113	D	µg/kg dry	113	90.0	50	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 56.6	D	µg/kg dry	56.6	11.2	50	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 56.6	D	µg/kg dry	56.6	11.7	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 56.6	D	µg/kg dry	56.6	20.8	50	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 113	D	µg/kg dry	113	47.6	50	"	"	"	"	"	
75-09-2	Methylene chloride	< 113	D	µg/kg dry	113	25.2	50	"	"	"	"	"	
91-20-3	Naphthalene	< 56.6	D	µg/kg dry	56.6	33.7	50	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 56.6	D	µg/kg dry	56.6	7.70	50	"	"	"	"	"	
100-42-5	Styrene	< 56.6	D	µg/kg dry	56.6	11.4	50	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 56.6	D	µg/kg dry	56.6	48.1	50	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 56.6	D	µg/kg dry	56.6	47.9	50	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 56.6	D	µg/kg dry	56.6	19.4	50	"	"	"	"	"	
108-88-3	Toluene	< 56.6	D	µg/kg dry	56.6	18.3	50	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 56.6	D	µg/kg dry	56.6	21.2	50	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 56.6	D	µg/kg dry	56.6	41.7	50	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 56.6	D	µg/kg dry	56.6	17.8	50	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 56.6	D	µg/kg dry	56.6	17.7	50	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 56.6	D	µg/kg dry	56.6	41.1	50	"	"	"	"	"	
79-01-6	Trichloroethene	< 56.6	D	µg/kg dry	56.6	15.5	50	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 56.6	D	µg/kg dry	56.6	30.5	50	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 56.6	D	µg/kg dry	56.6	42.5	50	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 56.6	D	µg/kg dry	56.6	13.8	50	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 56.6	D	µg/kg dry	56.6	9.34	50	"	"	"	"	"	
75-01-4	Vinyl chloride	< 56.6	D	µg/kg dry	56.6	19.1	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 113	D	µg/kg dry	113	11.4	50	"	"	"	"	"	
95-47-6	o-Xylene	< 56.6	D	µg/kg dry	56.6	15.9	50	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 113	D	µg/kg dry	113	65.0	50	"	"	"	"	"	
60-29-7	Ethyl ether	< 56.6	D	µg/kg dry	56.6	51.3	50	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 56.6	D	µg/kg dry	56.6	18.9	50	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 56.6	D	µg/kg dry	56.6	30.5	50	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 56.6	D	µg/kg dry	56.6	10.5	50	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 566	D	µg/kg dry	566	371	50	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 1130	D	µg/kg dry	1130	984	50	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 283	D	µg/kg dry	283	129	50	"	"	"	"	"	
64-17-5	Ethanol	< 11300	D	µg/kg dry	11300	2110	50	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*96*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*99*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*106*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*95*			*70-130 %*			"	"	"	"	"	

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B5 (5-7')	1505.20	Soil	30-Dec-16 14:05	03-Jan-17
SC30176-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH													
Prepared by method VPH - EPA 5035A Soil						Initial weight: 17.01 g							
	C5-C8 Aliphatic Hydrocarbons	< 0.907	D	mg/kg dry	0.907	0.108	50	MADEP VPH 5/2004 Rev. 1.1	09-Jan-17	10-Jan-17	MP	1700397	
	C9-C12 Aliphatic Hydrocarbons	< 0.302	D	mg/kg dry	0.302	0.0436	50	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	< 0.302	D	mg/kg dry	0.302	0.0165	50	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.907	D	mg/kg dry	0.907	0.0755	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.302	D	mg/kg dry	0.302	0.0413	50	"	"	"	"	"	
71-43-2	Benzene	< 0.0604	D	mg/kg dry	0.0604	0.0122	50	"	"	"	"	"	
100-41-4	Ethylbenzene	< 0.0604	D	mg/kg dry	0.0604	0.0160	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 0.0604	D	mg/kg dry	0.0604	0.0106	50	"	"	"	"	"	
91-20-3	Naphthalene	< 0.0604	D	mg/kg dry	0.0604	0.0135	50	"	"	"	"	"	
108-88-3	Toluene	< 0.0604	D	mg/kg dry	0.0604	0.0129	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 0.121	D	mg/kg dry	0.121	0.0150	50	"	"	"	"	"	
95-47-6	o-Xylene	< 0.0604	D	mg/kg dry	0.0604	0.0103	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*98*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*101*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH													
Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 11.5		mg/kg dry	11.5	2.22	1	MADEP EPH 5/2004 R	06-Jan-17	10-Jan-17	NAA	1700327	
	C19-C36 Aliphatic Hydrocarbons	< 11.5		mg/kg dry	11.5	1.62	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 11.5		mg/kg dry	11.5	5.47	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 11.5		mg/kg dry	11.5	5.47	1	"	"	"	"	"	
91-20-3	Naphthalene	< 0.382		mg/kg dry	0.382	0.340	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 0.382		mg/kg dry	0.382	0.329	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 0.382		mg/kg dry	0.382	0.151	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 0.382		mg/kg dry	0.382	0.380	1	"	"	"	"	"	
86-73-7	Fluorene	< 0.382		mg/kg dry	0.382	0.343	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 0.382		mg/kg dry	0.382	0.332	1	"	"	"	"	"	
120-12-7	Anthracene	< 0.382		mg/kg dry	0.382	0.328	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 0.382		mg/kg dry	0.382	0.141	1	"	"	"	"	"	
129-00-0	Pyrene	< 0.382		mg/kg dry	0.382	0.141	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 0.382		mg/kg dry	0.382	0.363	1	"	"	"	"	"	
218-01-9	Chrysene	< 0.382		mg/kg dry	0.382	0.361	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 0.382		mg/kg dry	0.382	0.316	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 0.382		mg/kg dry	0.382	0.145	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 0.382		mg/kg dry	0.382	0.343	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 0.382		mg/kg dry	0.382	0.256	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 0.382		mg/kg dry	0.382	0.233	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 0.382		mg/kg dry	0.382	0.250	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B5 (5-7')	1505.20	Soil	30-Dec-16 14:05	03-Jan-17
SC30176-05				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Extractable Petroleum Hydrocarbons													
MADEP EPH													
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*47*			*40-140 %*			MADEP EPH 5/2004 R	06-Jan-17	10-Jan-17	NAA	1700327	
84-15-1	*Ortho-Terphenyl*	*126*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*84*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3050B													
7440-22-4	Silver	< 1.68		mg/kg dry	1.68	0.175	1	SW846 6010C	06-Jan-17	10-Jan-17	edt	1700260	
7440-38-2	Arsenic	**7.86**		mg/kg dry	1.68	0.444	1	"	"	"	"	"	
7440-41-7	Beryllium	< 0.558		mg/kg dry	0.558	0.0335	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.558		mg/kg dry	0.558	0.0281	1	"	"	"	"	"	
Prepared by method SW846 3051A													
7440-47-3	Chromium	**5.70**		mg/kg dry	1.07	0.138	1	"	10-Jan-17	11-Jan-17	"	1700564	
Prepared by method SW846 3050B													
7440-50-8	Copper	**5.77**		mg/kg dry	1.12	0.207	1	"	06-Jan-17	10-Jan-17	"	1700260	
7439-97-6	Mercury	< 0.0321		mg/kg dry	0.0321	0.0101	1	SW846 7471B	"	09-Jan-17	JLC	1700261	
Prepared by method SW846 3050B													
7440-02-0	Nickel	**6.52**		mg/kg dry	1.12	0.205	1	SW846 6010C	"	10-Jan-17	edt	1700260	
7439-92-1	Lead	**2.66**		mg/kg dry	1.68	0.516	1	"	"	"	"	"	
7440-36-0	Antimony	< 5.58		mg/kg dry	5.58	0.452	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.68		mg/kg dry	1.68	0.446	1	"	"	"	"	"	
7440-28-0	Thallium	< 3.35		mg/kg dry	3.35	0.755	1	"	"	"	"	"	
7440-66-6	Zinc	**9.31**		mg/kg dry	1.12	1.02	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**85.2**		%			1	SM2540 G (11) Mod.	04-Jan-17	04-Jan-17	EEM	1700104	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B6 (5-7')	1505.20	Soil	30-Dec-16 15:20	03-Jan-17
SC30176-06				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Prepared by method Volatiles													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			EEM	1700094	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (high level)						Initial weight: 17.48 g							
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 50.1	D	µg/kg dry	50.1	14.7	50	SW846 8260C	05-Jan-17	06-Jan-17	GMA	1700192	
67-64-1	Acetone	< 501	D	µg/kg dry	501	213	50	"	"	"	"	"	
107-13-1	Acrylonitrile	< 50.1	D	µg/kg dry	50.1	48.1	50	"	"	"	"	"	
71-43-2	Benzene	< 50.1	D	µg/kg dry	50.1	13.3	50	"	"	"	"	"	
108-86-1	Bromobenzene	< 50.1	D	µg/kg dry	50.1	13.4	50	"	"	"	"	"	
74-97-5	Bromochloromethane	< 50.1	D	µg/kg dry	50.1	25.3	50	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 50.1	D	µg/kg dry	50.1	33.4	50	"	"	"	"	"	
75-25-2	Bromoform	< 50.1	D	µg/kg dry	50.1	47.8	50	"	"	"	"	"	
74-83-9	Bromomethane	< 100	D	µg/kg dry	100	45.2	50	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 100	D	µg/kg dry	100	89.5	50	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 50.1	D	µg/kg dry	50.1	14.3	50	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 50.1	D	µg/kg dry	50.1	9.36	50	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 50.1	D	µg/kg dry	50.1	11.1	50	"	"	"	"	"	
75-15-0	Carbon disulfide	< 100	D	µg/kg dry	100	32.0	50	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 50.1	D	µg/kg dry	50.1	40.9	50	"	"	"	"	"	
108-90-7	Chlorobenzene	< 50.1	D	µg/kg dry	50.1	7.86	50	"	"	"	"	"	
75-00-3	Chloroethane	< 100	D	µg/kg dry	100	27.8	50	"	"	"	"	"	
67-66-3	Chloroform	< 50.1	D	µg/kg dry	50.1	26.9	50	"	"	"	"	"	
74-87-3	Chloromethane	< 100	D	µg/kg dry	100	32.9	50	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 50.1	D	µg/kg dry	50.1	11.7	50	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 50.1	D	µg/kg dry	50.1	11.8	50	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 100	D	µg/kg dry	100	72.3	50	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 50.1	D	µg/kg dry	50.1	33.9	50	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 50.1	D	µg/kg dry	50.1	33.6	50	"	"	"	"	"	
74-95-3	Dibromomethane	< 50.1	D	µg/kg dry	50.1	26.0	50	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 50.1	D	µg/kg dry	50.1	13.0	50	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 50.1	D	µg/kg dry	50.1	10.2	50	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 50.1	D	µg/kg dry	50.1	21.9	50	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 100	D	µg/kg dry	100	19.0	50	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 50.1	D	µg/kg dry	50.1	11.3	50	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 50.1	D	µg/kg dry	50.1	16.8	50	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 50.1	D	µg/kg dry	50.1	26.2	50	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 50.1	D	µg/kg dry	50.1	18.6	50	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 50.1	D	µg/kg dry	50.1	26.5	50	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 50.1	D	µg/kg dry	50.1	26.2	50	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 50.1	D	µg/kg dry	50.1	25.9	50	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 50.1	D	µg/kg dry	50.1	23.6	50	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 50.1	D	µg/kg dry	50.1	13.7	50	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 50.1	D	µg/kg dry	50.1	30.2	50	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 50.1	D	µg/kg dry	50.1	26.3	50	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B6 (5-7')	1505.20	Soil	30-Dec-16 15:20	03-Jan-17
SC30176-06				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
						Initial weight: 17.48 g							
100-41-4	Ethylbenzene	< 50.1	D	µg/kg dry	50.1	7.86	50	SW846 8260C	05-Jan-17	06-Jan-17	GMA	1700192	
87-68-3	Hexachlorobutadiene	< 50.1	D	µg/kg dry	50.1	25.1	50	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 100	D	µg/kg dry	100	79.6	50	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 50.1	D	µg/kg dry	50.1	9.86	50	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 50.1	D	µg/kg dry	50.1	10.3	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 50.1	D	µg/kg dry	50.1	18.4	50	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 100	D	µg/kg dry	100	42.0	50	"	"	"	"	"	
75-09-2	Methylene chloride	< 100	D	µg/kg dry	100	22.3	50	"	"	"	"	"	
91-20-3	Naphthalene	< 50.1	D	µg/kg dry	50.1	29.8	50	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 50.1	D	µg/kg dry	50.1	6.81	50	"	"	"	"	"	
100-42-5	Styrene	< 50.1	D	µg/kg dry	50.1	10.1	50	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 50.1	D	µg/kg dry	50.1	42.5	50	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 50.1	D	µg/kg dry	50.1	42.3	50	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 50.1	D	µg/kg dry	50.1	17.1	50	"	"	"	"	"	
108-88-3	Toluene	< 50.1	D	µg/kg dry	50.1	16.2	50	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 50.1	D	µg/kg dry	50.1	18.7	50	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 50.1	D	µg/kg dry	50.1	36.9	50	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 50.1	D	µg/kg dry	50.1	15.7	50	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 50.1	D	µg/kg dry	50.1	15.6	50	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 50.1	D	µg/kg dry	50.1	36.3	50	"	"	"	"	"	
79-01-6	Trichloroethene	< 50.1	D	µg/kg dry	50.1	13.7	50	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 50.1	D	µg/kg dry	50.1	27.0	50	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 50.1	D	µg/kg dry	50.1	37.5	50	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 50.1	D	µg/kg dry	50.1	12.2	50	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 50.1	D	µg/kg dry	50.1	8.26	50	"	"	"	"	"	
75-01-4	Vinyl chloride	< 50.1	D	µg/kg dry	50.1	16.9	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 100	D	µg/kg dry	100	10.1	50	"	"	"	"	"	
95-47-6	o-Xylene	< 50.1	D	µg/kg dry	50.1	14.0	50	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 100	D	µg/kg dry	100	57.4	50	"	"	"	"	"	
60-29-7	Ethyl ether	< 50.1	D	µg/kg dry	50.1	45.4	50	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 50.1	D	µg/kg dry	50.1	16.7	50	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 50.1	D	µg/kg dry	50.1	27.0	50	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 50.1	D	µg/kg dry	50.1	9.31	50	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 501	D	µg/kg dry	501	328	50	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 1000	D	µg/kg dry	1000	869	50	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 250	D	µg/kg dry	250	114	50	"	"	"	"	"	
64-17-5	Ethanol	< 10000	D	µg/kg dry	10000	1870	50	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*96*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*104*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*92*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B6 (5-7')	1505.20	Soil	30-Dec-16 15:20	03-Jan-17
SC30176-06				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH													
Prepared by method VPH - EPA 5035A Soil						Initial weight: 18.14 g							
	C5-C8 Aliphatic Hydrocarbons	< 0.726	D	mg/kg dry	0.726	0.0861	50	MADEP VPH 5/2004 Rev. 1.1	09-Jan-17	10-Jan-17	MP	1700397	
	C9-C12 Aliphatic Hydrocarbons	< 0.242	D	mg/kg dry	0.242	0.0349	50	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	< 0.242	D	mg/kg dry	0.242	0.0132	50	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.726	D	mg/kg dry	0.726	0.0605	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.242	D	mg/kg dry	0.242	0.0330	50	"	"	"	"	"	
71-43-2	Benzene	< 0.0484	D	mg/kg dry	0.0484	0.00977	50	"	"	"	"	"	
100-41-4	Ethylbenzene	< 0.0484	D	mg/kg dry	0.0484	0.0128	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 0.0484	D	mg/kg dry	0.0484	0.00847	50	"	"	"	"	"	
91-20-3	Naphthalene	< 0.0484	D	mg/kg dry	0.0484	0.0108	50	"	"	"	"	"	
108-88-3	Toluene	< 0.0484	D	mg/kg dry	0.0484	0.0103	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 0.0968	D	mg/kg dry	0.0968	0.0120	50	"	"	"	"	"	
95-47-6	o-Xylene	< 0.0484	D	mg/kg dry	0.0484	0.00827	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*90*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*93*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH													
Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 10.8		mg/kg dry	10.8	2.08	1	MADEP EPH 5/2004 R	06-Jan-17	10-Jan-17	NAA	1700327	
	C19-C36 Aliphatic Hydrocarbons	< 10.8		mg/kg dry	10.8	1.52	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 10.8		mg/kg dry	10.8	5.12	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 10.8		mg/kg dry	10.8	5.12	1	"	"	"	"	"	
91-20-3	Naphthalene	< 0.358		mg/kg dry	0.358	0.318	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 0.358		mg/kg dry	0.358	0.309	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 0.358		mg/kg dry	0.358	0.142	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 0.358		mg/kg dry	0.358	0.356	1	"	"	"	"	"	
86-73-7	Fluorene	< 0.358		mg/kg dry	0.358	0.321	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 0.358		mg/kg dry	0.358	0.311	1	"	"	"	"	"	
120-12-7	Anthracene	< 0.358		mg/kg dry	0.358	0.308	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 0.358		mg/kg dry	0.358	0.132	1	"	"	"	"	"	
129-00-0	Pyrene	< 0.358		mg/kg dry	0.358	0.132	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 0.358		mg/kg dry	0.358	0.340	1	"	"	"	"	"	
218-01-9	Chrysene	< 0.358		mg/kg dry	0.358	0.339	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 0.358		mg/kg dry	0.358	0.296	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 0.358		mg/kg dry	0.358	0.135	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 0.358		mg/kg dry	0.358	0.321	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 0.358		mg/kg dry	0.358	0.240	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 0.358		mg/kg dry	0.358	0.218	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 0.358		mg/kg dry	0.358	0.234	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B6 (5-7')	1505.20	Soil	30-Dec-16 15:20	03-Jan-17
SC30176-06				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Extractable Petroleum Hydrocarbons													
MADEP EPH													
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*87*			*40-140 %*			MADEP EPH 5/2004 R	06-Jan-17	10-Jan-17	NAA	1700327	
84-15-1	*Ortho-Terphenyl*	*127*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*79*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3050B													
7440-22-4	Silver	< 1.53		mg/kg dry	1.53	0.161	1	SW846 6010C	06-Jan-17	10-Jan-17	edt	1700260	
7440-38-2	Arsenic	**8.06**		mg/kg dry	1.53	0.407	1	"	"	"	"	"	
7440-41-7	Beryllium	< 0.512		mg/kg dry	0.512	0.0307	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.512		mg/kg dry	0.512	0.0258	1	"	"	"	"	"	
Prepared by method SW846 3051A													
7440-47-3	Chromium	**6.27**		mg/kg dry	1.07	0.138	1	"	10-Jan-17	11-Jan-17	"	1700564	
Prepared by method SW846 3050B													
7440-50-8	Copper	**6.10**		mg/kg dry	1.02	0.189	1	"	06-Jan-17	10-Jan-17	"	1700260	
7439-97-6	Mercury	< 0.0314		mg/kg dry	0.0314	0.0099	1	SW846 7471B	"	09-Jan-17	JLC	1700261	
Prepared by method SW846 3050B													
7440-02-0	Nickel	**7.52**		mg/kg dry	1.02	0.188	1	SW846 6010C	"	10-Jan-17	edt	1700260	
7439-92-1	Lead	**2.89**		mg/kg dry	1.53	0.473	1	"	"	"	"	"	
7440-36-0	Antimony	< 5.12		mg/kg dry	5.12	0.414	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.53		mg/kg dry	1.53	0.408	1	"	"	"	"	"	
7440-28-0	Thallium	< 3.07		mg/kg dry	3.07	0.692	1	"	"	"	"	"	
7440-66-6	Zinc	**12.2**		mg/kg dry	1.02	0.937	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**92.9**		%			1	SM2540 G (11) Mod.	04-Jan-17	04-Jan-17	EEM	1700107	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B7 (5-7')	1505.20	Soil	30-Dec-16 16:00	03-Jan-17
SC30176-07				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Prepared by method Volatiles													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			EEM	1700094	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (high level)						Initial weight: 17.3 g							
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 64.9	D	µg/kg dry	64.9	19.1	50	SW846 8260C	05-Jan-17	06-Jan-17	GMA	1700192	
67-64-1	Acetone	< 649	D	µg/kg dry	649	277	50	"	"	"	"	"	
107-13-1	Acrylonitrile	< 64.9	D	µg/kg dry	64.9	62.4	50	"	"	"	"	"	
71-43-2	Benzene	< 64.9	D	µg/kg dry	64.9	17.2	50	"	"	"	"	"	
108-86-1	Bromobenzene	< 64.9	D	µg/kg dry	64.9	17.3	50	"	"	"	"	"	
74-97-5	Bromochloromethane	< 64.9	D	µg/kg dry	64.9	32.8	50	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 64.9	D	µg/kg dry	64.9	43.3	50	"	"	"	"	"	
75-25-2	Bromoform	< 64.9	D	µg/kg dry	64.9	61.9	50	"	"	"	"	"	
74-83-9	Bromomethane	< 130	D	µg/kg dry	130	58.6	50	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 130	D	µg/kg dry	130	116	50	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 64.9	D	µg/kg dry	64.9	18.6	50	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 64.9	D	µg/kg dry	64.9	12.1	50	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 64.9	D	µg/kg dry	64.9	14.4	50	"	"	"	"	"	
75-15-0	Carbon disulfide	< 130	D	µg/kg dry	130	41.6	50	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 64.9	D	µg/kg dry	64.9	53.1	50	"	"	"	"	"	
108-90-7	Chlorobenzene	< 64.9	D	µg/kg dry	64.9	10.2	50	"	"	"	"	"	
75-00-3	Chloroethane	< 130	D	µg/kg dry	130	36.0	50	"	"	"	"	"	
67-66-3	Chloroform	< 64.9	D	µg/kg dry	64.9	34.9	50	"	"	"	"	"	
74-87-3	Chloromethane	< 130	D	µg/kg dry	130	42.7	50	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 64.9	D	µg/kg dry	64.9	15.1	50	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 64.9	D	µg/kg dry	64.9	15.3	50	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 130	D	µg/kg dry	130	93.8	50	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 64.9	D	µg/kg dry	64.9	44.0	50	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 64.9	D	µg/kg dry	64.9	43.6	50	"	"	"	"	"	
74-95-3	Dibromomethane	< 64.9	D	µg/kg dry	64.9	33.8	50	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 64.9	D	µg/kg dry	64.9	16.9	50	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 64.9	D	µg/kg dry	64.9	13.2	50	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 64.9	D	µg/kg dry	64.9	28.4	50	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 130	D	µg/kg dry	130	24.6	50	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 64.9	D	µg/kg dry	64.9	14.7	50	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 64.9	D	µg/kg dry	64.9	21.8	50	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 64.9	D	µg/kg dry	64.9	34.0	50	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 64.9	D	µg/kg dry	64.9	24.1	50	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 64.9	D	µg/kg dry	64.9	34.4	50	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 64.9	D	µg/kg dry	64.9	34.0	50	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 64.9	D	µg/kg dry	64.9	33.6	50	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 64.9	D	µg/kg dry	64.9	30.6	50	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 64.9	D	µg/kg dry	64.9	17.8	50	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 64.9	D	µg/kg dry	64.9	39.2	50	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 64.9	D	µg/kg dry	64.9	34.1	50	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B7 (5-7')	1505.20	Soil	30-Dec-16 16:00	03-Jan-17
SC30176-07				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
						Initial weight: 17.3 g							
100-41-4	Ethylbenzene	< 64.9	D	µg/kg dry	64.9	10.2	50	SW846 8260C	05-Jan-17	06-Jan-17	GMA	1700192	
87-68-3	Hexachlorobutadiene	< 64.9	D	µg/kg dry	64.9	32.6	50	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 130	D	µg/kg dry	130	103	50	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 64.9	D	µg/kg dry	64.9	12.8	50	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 64.9	D	µg/kg dry	64.9	13.4	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 64.9	D	µg/kg dry	64.9	23.9	50	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 130	D	µg/kg dry	130	54.5	50	"	"	"	"	"	
75-09-2	Methylene chloride	< 130	D	µg/kg dry	130	28.9	50	"	"	"	"	"	
91-20-3	Naphthalene	< 64.9	D	µg/kg dry	64.9	38.6	50	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 64.9	D	µg/kg dry	64.9	8.83	50	"	"	"	"	"	
100-42-5	Styrene	< 64.9	D	µg/kg dry	64.9	13.1	50	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 64.9	D	µg/kg dry	64.9	55.2	50	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 64.9	D	µg/kg dry	64.9	54.9	50	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 64.9	D	µg/kg dry	64.9	22.2	50	"	"	"	"	"	
108-88-3	Toluene	< 64.9	D	µg/kg dry	64.9	21.0	50	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 64.9	D	µg/kg dry	64.9	24.3	50	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 64.9	D	µg/kg dry	64.9	47.9	50	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 64.9	D	µg/kg dry	64.9	20.4	50	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 64.9	D	µg/kg dry	64.9	20.3	50	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 64.9	D	µg/kg dry	64.9	47.1	50	"	"	"	"	"	
79-01-6	Trichloroethene	< 64.9	D	µg/kg dry	64.9	17.7	50	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 64.9	D	µg/kg dry	64.9	35.0	50	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 64.9	D	µg/kg dry	64.9	48.7	50	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 64.9	D	µg/kg dry	64.9	15.8	50	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 64.9	D	µg/kg dry	64.9	10.7	50	"	"	"	"	"	
75-01-4	Vinyl chloride	< 64.9	D	µg/kg dry	64.9	21.9	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 130	D	µg/kg dry	130	13.1	50	"	"	"	"	"	
95-47-6	o-Xylene	< 64.9	D	µg/kg dry	64.9	18.2	50	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 130	D	µg/kg dry	130	74.5	50	"	"	"	"	"	
60-29-7	Ethyl ether	< 64.9	D	µg/kg dry	64.9	58.8	50	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 64.9	D	µg/kg dry	64.9	21.7	50	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 64.9	D	µg/kg dry	64.9	35.0	50	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 64.9	D	µg/kg dry	64.9	12.1	50	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 649	D	µg/kg dry	649	425	50	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 1300	D	µg/kg dry	1300	1130	50	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 325	D	µg/kg dry	325	148	50	"	"	"	"	"	
64-17-5	Ethanol	< 13000	D	µg/kg dry	13000	2420	50	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*97*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*103*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*92*			*70-130 %*			"	"	"	"	"	

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B7 (5-7')	1505.20	Soil	30-Dec-16 16:00	03-Jan-17
SC30176-07				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH													
Prepared by method VPH - EPA 5035A Soil						Initial weight: 17.7 g							
	C5-C8 Aliphatic Hydrocarbons	< 0.956	D	mg/kg dry	0.956	0.113	50	MADEP VPH 5/2004 Rev. 1.1	09-Jan-17	10-Jan-17	MP	1700397	
	C9-C12 Aliphatic Hydrocarbons	< 0.319	D	mg/kg dry	0.319	0.0459	50	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	< 0.319	D	mg/kg dry	0.319	0.0174	50	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.956	D	mg/kg dry	0.956	0.0797	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.319	D	mg/kg dry	0.319	0.0435	50	"	"	"	"	"	
71-43-2	Benzene	< 0.0637	D	mg/kg dry	0.0637	0.0129	50	"	"	"	"	"	
100-41-4	Ethylbenzene	< 0.0637	D	mg/kg dry	0.0637	0.0169	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 0.0637	D	mg/kg dry	0.0637	0.0112	50	"	"	"	"	"	
91-20-3	Naphthalene	< 0.0637	D	mg/kg dry	0.0637	0.0143	50	"	"	"	"	"	
108-88-3	Toluene	< 0.0637	D	mg/kg dry	0.0637	0.0136	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 0.127	D	mg/kg dry	0.127	0.0159	50	"	"	"	"	"	
95-47-6	o-Xylene	< 0.0637	D	mg/kg dry	0.0637	0.0109	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*94*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*96*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH													
Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 11.9		mg/kg dry	11.9	2.30	1	MADEP EPH 5/2004 R	06-Jan-17	10-Jan-17	NAA	1700327	
	C19-C36 Aliphatic Hydrocarbons	< 11.9		mg/kg dry	11.9	1.67	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	**32.5**		mg/kg dry	11.9	5.66	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	**59.4**		mg/kg dry	11.9	5.66	1	"	"	"	"	"	
91-20-3	Naphthalene	< 0.395		mg/kg dry	0.395	0.351	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 0.395		mg/kg dry	0.395	0.341	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 0.395		mg/kg dry	0.395	0.157	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 0.395		mg/kg dry	0.395	0.393	1	"	"	"	"	"	
86-73-7	Fluorene	< 0.395		mg/kg dry	0.395	0.355	1	"	"	"	"	"	
85-01-8	Phenanthrene	**2.43**		mg/kg dry	0.395	0.343	1	"	"	"	"	"	
120-12-7	Anthracene	**0.574**		mg/kg dry	0.395	0.339	1	"	"	"	"	"	
206-44-0	Fluoranthene	**5.76**		mg/kg dry	0.395	0.146	1	"	"	"	"	"	
129-00-0	Pyrene	**4.46**		mg/kg dry	0.395	0.146	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	**2.50**		mg/kg dry	0.395	0.375	1	"	"	"	"	"	
218-01-9	Chrysene	**2.35**		mg/kg dry	0.395	0.374	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	**1.47**		mg/kg dry	0.395	0.326	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	**2.12**		mg/kg dry	0.395	0.150	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	**2.28**		mg/kg dry	0.395	0.355	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	**1.12**		mg/kg dry	0.395	0.265	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	**0.421**		mg/kg dry	0.395	0.241	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	**1.06**		mg/kg dry	0.395	0.259	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B7 (5-7')	1505.20	Soil	30-Dec-16 16:00	03-Jan-17
SC30176-07				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Extractable Petroleum Hydrocarbons													
MADEP EPH													
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*52*			*40-140 %*			MADEP EPH 5/2004 R	06-Jan-17	10-Jan-17	NAA	1700327	
84-15-1	*Ortho-Terphenyl*	*126*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*74*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3050B													
7440-22-4	Silver	< 1.77		mg/kg dry	1.77	0.185	1	SW846 6010C	06-Jan-17	10-Jan-17	edt	1700260	
7440-38-2	Arsenic	**5.72**		mg/kg dry	1.77	0.469	1	"	"	"	"	"	
7440-41-7	Beryllium	< 0.589		mg/kg dry	0.589	0.0354	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.589		mg/kg dry	0.589	0.0297	1	"	"	"	"	"	
Prepared by method SW846 3051A													
7440-47-3	Chromium	**10.6**		mg/kg dry	1.19	0.154	1	"	10-Jan-17	11-Jan-17	"	1700564	
Prepared by method SW846 3050B													
7440-50-8	Copper	**16.8**		mg/kg dry	1.18	0.218	1	"	06-Jan-17	10-Jan-17	"	1700260	
7439-97-6	Mercury	**0.342**		mg/kg dry	0.0353	0.0111	1	SW846 7471B	"	09-Jan-17	JLC	1700261	
Prepared by method SW846 3050B													
7440-02-0	Nickel	**7.16**		mg/kg dry	1.18	0.217	1	SW846 6010C	"	10-Jan-17	edt	1700260	
7439-92-1	Lead	**154**		mg/kg dry	1.77	0.545	1	"	"	"	"	"	
7440-36-0	Antimony	< 5.89		mg/kg dry	5.89	0.477	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.77		mg/kg dry	1.77	0.470	1	"	"	"	"	"	
7440-28-0	Thallium	< 3.54		mg/kg dry	3.54	0.797	1	"	"	"	"	"	
7440-66-6	Zinc	**72.8**		mg/kg dry	1.18	1.08	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**81.2**		%			1	SM2540 G (11) Mod.	04-Jan-17	04-Jan-17	EEM	1700107	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700192 - SW846 5035A Soil (high level)										
Blank (1700192-BLK1)					Prepared & Analyzed: 05-Jan-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 50.0	D	µg/kg wet	50.0						
Acetone	< 500	D	µg/kg wet	500						
Acrylonitrile	< 50.0	D	µg/kg wet	50.0						
Benzene	< 50.0	D	µg/kg wet	50.0						
Bromobenzene	< 50.0	D	µg/kg wet	50.0						
Bromochloromethane	< 50.0	D	µg/kg wet	50.0						
Bromodichloromethane	< 50.0	D	µg/kg wet	50.0						
Bromoform	< 50.0	D	µg/kg wet	50.0						
Bromomethane	< 100	D	µg/kg wet	100						
2-Butanone (MEK)	< 100	D	µg/kg wet	100						
n-Butylbenzene	< 50.0	D	µg/kg wet	50.0						
sec-Butylbenzene	< 50.0	D	µg/kg wet	50.0						
tert-Butylbenzene	< 50.0	D	µg/kg wet	50.0						
Carbon disulfide	< 100	D	µg/kg wet	100						
Carbon tetrachloride	< 50.0	D	µg/kg wet	50.0						
Chlorobenzene	< 50.0	D	µg/kg wet	50.0						
Chloroethane	< 100	D	µg/kg wet	100						
Chloroform	< 50.0	D	µg/kg wet	50.0						
Chloromethane	< 100	D	µg/kg wet	100						
2-Chlorotoluene	< 50.0	D	µg/kg wet	50.0						
4-Chlorotoluene	< 50.0	D	µg/kg wet	50.0						
1,2-Dibromo-3-chloropropane	< 100	D	µg/kg wet	100						
Dibromochloromethane	< 50.0	D	µg/kg wet	50.0						
1,2-Dibromoethane (EDB)	< 50.0	D	µg/kg wet	50.0						
Dibromomethane	< 50.0	D	µg/kg wet	50.0						
1,2-Dichlorobenzene	< 50.0	D	µg/kg wet	50.0						
1,3-Dichlorobenzene	< 50.0	D	µg/kg wet	50.0						
1,4-Dichlorobenzene	< 50.0	D	µg/kg wet	50.0						
Dichlorodifluoromethane (Freon12)	< 100	D	µg/kg wet	100						
1,1-Dichloroethane	< 50.0	D	µg/kg wet	50.0						
1,2-Dichloroethane	< 50.0	D	µg/kg wet	50.0						
1,1-Dichloroethene	< 50.0	D	µg/kg wet	50.0						
cis-1,2-Dichloroethene	< 50.0	D	µg/kg wet	50.0						
trans-1,2-Dichloroethene	< 50.0	D	µg/kg wet	50.0						
1,2-Dichloropropane	< 50.0	D	µg/kg wet	50.0						
1,3-Dichloropropane	< 50.0	D	µg/kg wet	50.0						
2,2-Dichloropropane	< 50.0	D	µg/kg wet	50.0						
1,1-Dichloropropene	< 50.0	D	µg/kg wet	50.0						
cis-1,3-Dichloropropene	< 50.0	D	µg/kg wet	50.0						
trans-1,3-Dichloropropene	< 50.0	D	µg/kg wet	50.0						
Ethylbenzene	< 50.0	D	µg/kg wet	50.0						
Hexachlorobutadiene	< 50.0	D	µg/kg wet	50.0						
2-Hexanone (MBK)	< 100	D	µg/kg wet	100						
Isopropylbenzene	< 50.0	D	µg/kg wet	50.0						
4-Isopropyltoluene	< 50.0	D	µg/kg wet	50.0						
Methyl tert-butyl ether	< 50.0	D	µg/kg wet	50.0						
4-Methyl-2-pentanone (MIBK)	< 100	D	µg/kg wet	100						
Methylene chloride	< 100	D	µg/kg wet	100						
Naphthalene	< 50.0	D	µg/kg wet	50.0						
n-Propylbenzene	< 50.0	D	µg/kg wet	50.0						
Styrene	< 50.0	D	µg/kg wet	50.0						
1,1,1,2-Tetrachloroethane	< 50.0	D	µg/kg wet	50.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700192 - SW846 5035A Soil (high level)										
Blank (1700192-BLK1)					Prepared & Analyzed: 05-Jan-17					
1,1,2,2-Tetrachloroethane	< 50.0	D	µg/kg wet	50.0						
Tetrachloroethene	< 50.0	D	µg/kg wet	50.0						
Toluene	< 50.0	D	µg/kg wet	50.0						
1,2,3-Trichlorobenzene	< 50.0	D	µg/kg wet	50.0						
1,2,4-Trichlorobenzene	< 50.0	D	µg/kg wet	50.0						
1,3,5-Trichlorobenzene	< 50.0	D	µg/kg wet	50.0						
1,1,1-Trichloroethane	< 50.0	D	µg/kg wet	50.0						
1,1,2-Trichloroethane	< 50.0	D	µg/kg wet	50.0						
Trichloroethene	< 50.0	D	µg/kg wet	50.0						
Trichlorofluoromethane (Freon 11)	< 50.0	D	µg/kg wet	50.0						
1,2,3-Trichloropropane	< 50.0	D	µg/kg wet	50.0						
1,2,4-Trimethylbenzene	< 50.0	D	µg/kg wet	50.0						
1,3,5-Trimethylbenzene	< 50.0	D	µg/kg wet	50.0						
Vinyl chloride	< 50.0	D	µg/kg wet	50.0						
m,p-Xylene	< 100	D	µg/kg wet	100						
o-Xylene	< 50.0	D	µg/kg wet	50.0						
Tetrahydrofuran	< 100	D	µg/kg wet	100						
Ethyl ether	< 50.0	D	µg/kg wet	50.0						
Tert-amyl methyl ether	< 50.0	D	µg/kg wet	50.0						
Ethyl tert-butyl ether	< 50.0	D	µg/kg wet	50.0						
Di-isopropyl ether	< 50.0	D	µg/kg wet	50.0						
Tert-Butanol / butyl alcohol	< 500	D	µg/kg wet	500						
1,4-Dioxane	< 1000	D	µg/kg wet	1000						
trans-1,4-Dichloro-2-butene	< 250	D	µg/kg wet	250						
Ethanol	< 10000	D	µg/kg wet	10000						
Surrogate: 4-Bromofluorobenzene	*48.7*		µg/kg		*50.0*		*97*	*70-130*		
Surrogate: Toluene-d8	*49.8*		µg/kg		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.9*		µg/kg		*50.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*45.3*		µg/kg		*50.0*		*91*	*70-130*		
LCS (1700192-BS1)					Prepared & Analyzed: 05-Jan-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**19.6**	D	µg/kg		20.0		98	70-130		
Acetone	**17.5**	D	µg/kg		20.0		87	70-130		
Acrylonitrile	**20.8**	D	µg/kg		20.0		104	70-130		
Benzene	**20.7**	D	µg/kg		20.0		103	70-130		
Bromobenzene	**20.7**	D	µg/kg		20.0		103	70-130		
Bromochloromethane	**20.5**	D	µg/kg		20.0		103	70-130		
Bromodichloromethane	**20.0**	D	µg/kg		20.0		100	70-130		
Bromoform	**18.3**	D	µg/kg		20.0		92	70-130		
Bromomethane	**19.0**	D	µg/kg		20.0		95	70-130		
2-Butanone (MEK)	**19.6**	D	µg/kg		20.0		98	70-130		
n-Butylbenzene	**21.4**	D	µg/kg		20.0		107	70-130		
sec-Butylbenzene	**21.9**	D	µg/kg		20.0		110	70-130		
tert-Butylbenzene	**20.0**	D	µg/kg		20.0		100	70-130		
Carbon disulfide	**18.9**	D	µg/kg		20.0		95	70-130		
Carbon tetrachloride	**19.0**	D	µg/kg		20.0		95	70-130		
Chlorobenzene	**20.2**	D	µg/kg		20.0		101	70-130		
Chloroethane	**18.3**	D	µg/kg		20.0		91	70-130		
Chloroform	**21.0**	D	µg/kg		20.0		105	70-130		
Chloromethane	**18.5**	D	µg/kg		20.0		92	70-130		
2-Chlorotoluene	**21.6**	D	µg/kg		20.0		108	70-130		
4-Chlorotoluene	**20.4**	D	µg/kg		20.0		102	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700192 - SW846 5035A Soil (high level)										
LCS (1700192-BS1)					Prepared & Analyzed: 05-Jan-17					
1,2-Dibromo-3-chloropropane	**19.0**	D	µg/kg		20.0		95	70-130		
Dibromochloromethane	**19.8**	D	µg/kg		20.0		99	70-130		
1,2-Dibromoethane (EDB)	**19.8**	D	µg/kg		20.0		99	70-130		
Dibromomethane	**20.8**	D	µg/kg		20.0		104	70-130		
1,2-Dichlorobenzene	**20.9**	D	µg/kg		20.0		104	70-130		
1,3-Dichlorobenzene	**20.4**	D	µg/kg		20.0		102	70-130		
1,4-Dichlorobenzene	**19.5**	D	µg/kg		20.0		98	70-130		
Dichlorodifluoromethane (Freon12)	**17.8**	D	µg/kg		20.0		89	70-130		
1,1-Dichloroethane	**20.7**	D	µg/kg		20.0		104	70-130		
1,2-Dichloroethane	**20.7**	D	µg/kg		20.0		104	70-130		
1,1-Dichloroethene	**19.4**	D	µg/kg		20.0		97	70-130		
cis-1,2-Dichloroethene	**22.7**	D	µg/kg		20.0		113	70-130		
trans-1,2-Dichloroethene	**19.8**	D	µg/kg		20.0		99	70-130		
1,2-Dichloropropane	**21.0**	D	µg/kg		20.0		105	70-130		
1,3-Dichloropropane	**21.1**	D	µg/kg		20.0		105	70-130		
2,2-Dichloropropane	**18.8**	D	µg/kg		20.0		94	70-130		
1,1-Dichloropropene	**20.1**	D	µg/kg		20.0		100	70-130		
cis-1,3-Dichloropropene	**19.7**	D	µg/kg		20.0		98	70-130		
trans-1,3-Dichloropropene	**19.9**	D	µg/kg		20.0		100	70-130		
Ethylbenzene	**21.3**	D	µg/kg		20.0		106	70-130		
Hexachlorobutadiene	**19.6**	D	µg/kg		20.0		98	70-130		
2-Hexanone (MBK)	**19.1**	D	µg/kg		20.0		95	70-130		
Isopropylbenzene	**21.1**	D	µg/kg		20.0		105	70-130		
4-Isopropyltoluene	**20.0**	D	µg/kg		20.0		100	70-130		
Methyl tert-butyl ether	**20.4**	D	µg/kg		20.0		102	70-130		
4-Methyl-2-pentanone (MIBK)	**21.2**	D	µg/kg		20.0		106	70-130		
Methylene chloride	**20.1**	D	µg/kg		20.0		100	70-130		
Naphthalene	**20.1**	D	µg/kg		20.0		100	70-130		
n-Propylbenzene	**19.9**	D	µg/kg		20.0		100	70-130		
Styrene	**19.8**	D	µg/kg		20.0		99	70-130		
1,1,1,2-Tetrachloroethane	**19.7**	D	µg/kg		20.0		98	70-130		
1,1,2,2-Tetrachloroethane	**17.8**	D	µg/kg		20.0		89	70-130		
Tetrachloroethene	**19.6**	D	µg/kg		20.0		98	70-130		
Toluene	**20.4**	D	µg/kg		20.0		102	70-130		
1,2,3-Trichlorobenzene	**20.5**	D	µg/kg		20.0		103	70-130		
1,2,4-Trichlorobenzene	**19.6**	D	µg/kg		20.0		98	70-130		
1,3,5-Trichlorobenzene	**20.6**	D	µg/kg		20.0		103	70-130		
1,1,1-Trichloroethane	**18.5**	D	µg/kg		20.0		92	70-130		
1,1,2-Trichloroethane	**21.1**	D	µg/kg		20.0		105	70-130		
Trichloroethene	**20.7**	D	µg/kg		20.0		104	70-130		
Trichlorofluoromethane (Freon 11)	**18.6**	D	µg/kg		20.0		93	70-130		
1,2,3-Trichloropropane	**20.8**	D	µg/kg		20.0		104	70-130		
1,2,4-Trimethylbenzene	**20.1**	D	µg/kg		20.0		101	70-130		
1,3,5-Trimethylbenzene	**20.2**	D	µg/kg		20.0		101	70-130		
Vinyl chloride	**18.6**	D	µg/kg		20.0		93	70-130		
m,p-Xylene	**20.4**	D	µg/kg		20.0		102	70-130		
o-Xylene	**21.4**	D	µg/kg		20.0		107	70-130		
Tetrahydrofuran	**19.6**	D	µg/kg		20.0		98	70-130		
Ethyl ether	**20.4**	D	µg/kg		20.0		102	70-130		
Tert-amyl methyl ether	**22.1**	D	µg/kg		20.0		110	70-130		
Ethyl tert-butyl ether	**20.4**	D	µg/kg		20.0		102	70-130		
Di-isopropyl ether	**23.0**	D	µg/kg		20.0		115	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700192 - SW846 5035A Soil (high level)										
LCS (1700192-BS1)					Prepared & Analyzed: 05-Jan-17					
Tert-Butanol / butyl alcohol	**173**	D	µg/kg		200		86	70-130		
1,4-Dioxane	**198**	D	µg/kg		200		99	70-130		
trans-1,4-Dichloro-2-butene	**17.9**	D	µg/kg		20.0		90	70-130		
Ethanol	**354**	D	µg/kg		400		88	70-130		
Surrogate: 4-Bromofluorobenzene	*50.5*		µg/kg		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*50.2*		µg/kg		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.2*		µg/kg		*50.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*51.3*		µg/kg		*50.0*		*103*	*70-130*		
LCS Dup (1700192-BSD1)					Prepared & Analyzed: 05-Jan-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**19.1**	D	µg/kg		20.0		96	70-130	2	30
Acetone	**17.3**	D	µg/kg		20.0		87	70-130	1	30
Acrylonitrile	**18.4**	D	µg/kg		20.0		92	70-130	12	30
Benzene	**19.8**	D	µg/kg		20.0		99	70-130	4	30
Bromobenzene	**20.6**	D	µg/kg		20.0		103	70-130	0.3	30
Bromochloromethane	**18.8**	D	µg/kg		20.0		94	70-130	9	30
Bromodichloromethane	**19.1**	D	µg/kg		20.0		95	70-130	5	30
Bromoform	**18.6**	D	µg/kg		20.0		93	70-130	1	30
Bromomethane	**17.9**	D	µg/kg		20.0		90	70-130	6	30
2-Butanone (MEK)	**16.9**	D	µg/kg		20.0		85	70-130	15	30
n-Butylbenzene	**20.0**	D	µg/kg		20.0		100	70-130	7	30
sec-Butylbenzene	**21.8**	D	µg/kg		20.0		109	70-130	0.3	30
tert-Butylbenzene	**19.6**	D	µg/kg		20.0		98	70-130	2	30
Carbon disulfide	**19.1**	D	µg/kg		20.0		96	70-130	1	30
Carbon tetrachloride	**17.9**	D	µg/kg		20.0		90	70-130	5	30
Chlorobenzene	**20.0**	D	µg/kg		20.0		100	70-130	1	30
Chloroethane	**17.0**	D	µg/kg		20.0		85	70-130	8	30
Chloroform	**19.2**	D	µg/kg		20.0		96	70-130	9	30
Chloromethane	**17.3**	D	µg/kg		20.0		86	70-130	7	30
2-Chlorotoluene	**21.0**	D	µg/kg		20.0		105	70-130	3	30
4-Chlorotoluene	**20.1**	D	µg/kg		20.0		101	70-130	1	30
1,2-Dibromo-3-chloropropane	**17.6**	D	µg/kg		20.0		88	70-130	7	30
Dibromochloromethane	**19.4**	D	µg/kg		20.0		97	70-130	2	30
1,2-Dibromoethane (EDB)	**19.4**	D	µg/kg		20.0		97	70-130	2	30
Dibromomethane	**19.8**	D	µg/kg		20.0		99	70-130	5	30
1,2-Dichlorobenzene	**20.2**	D	µg/kg		20.0		101	70-130	3	30
1,3-Dichlorobenzene	**20.5**	D	µg/kg		20.0		102	70-130	0.4	30
1,4-Dichlorobenzene	**19.0**	D	µg/kg		20.0		95	70-130	3	30
Dichlorodifluoromethane (Freon12)	**16.8**	D	µg/kg		20.0		84	70-130	6	30
1,1-Dichloroethane	**19.9**	D	µg/kg		20.0		100	70-130	4	30
1,2-Dichloroethane	**19.8**	D	µg/kg		20.0		99	70-130	4	30
1,1-Dichloroethene	**19.1**	D	µg/kg		20.0		95	70-130	1	30
cis-1,2-Dichloroethene	**20.4**	D	µg/kg		20.0		102	70-130	11	30
trans-1,2-Dichloroethene	**19.8**	D	µg/kg		20.0		99	70-130	0.2	30
1,2-Dichloropropane	**20.0**	D	µg/kg		20.0		100	70-130	5	30
1,3-Dichloropropane	**20.3**	D	µg/kg		20.0		101	70-130	4	30
2,2-Dichloropropane	**18.2**	D	µg/kg		20.0		91	70-130	3	30
1,1-Dichloropropene	**19.3**	D	µg/kg		20.0		97	70-130	4	30
cis-1,3-Dichloropropene	**18.7**	D	µg/kg		20.0		94	70-130	5	30
trans-1,3-Dichloropropene	**19.2**	D	µg/kg		20.0		96	70-130	4	30
Ethylbenzene	**20.9**	D	µg/kg		20.0		105	70-130	2	30
Hexachlorobutadiene	**19.6**	D	µg/kg		20.0		98	70-130	0	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700192 - SW846 5035A Soil (high level)										
LCS Dup (1700192-BSD1)					Prepared & Analyzed: 05-Jan-17					
2-Hexanone (MBK)	**18.5**	D	µg/kg		20.0		92	70-130	3	30
Isopropylbenzene	**20.8**	D	µg/kg		20.0		104	70-130	1	30
4-Isopropyltoluene	**19.4**	D	µg/kg		20.0		97	70-130	3	30
Methyl tert-butyl ether	**19.9**	D	µg/kg		20.0		100	70-130	2	30
4-Methyl-2-pentanone (MIBK)	**20.2**	D	µg/kg		20.0		101	70-130	5	30
Methylene chloride	**19.6**	D	µg/kg		20.0		98	70-130	3	30
Naphthalene	**19.7**	D	µg/kg		20.0		99	70-130	2	30
n-Propylbenzene	**19.6**	D	µg/kg		20.0		98	70-130	2	30
Styrene	**19.6**	D	µg/kg		20.0		98	70-130	1	30
1,1,1,2-Tetrachloroethane	**19.1**	D	µg/kg		20.0		96	70-130	3	30
1,1,2,2-Tetrachloroethane	**18.6**	D	µg/kg		20.0		93	70-130	4	30
Tetrachloroethene	**19.4**	D	µg/kg		20.0		97	70-130	1	30
Toluene	**19.8**	D	µg/kg		20.0		99	70-130	3	30
1,2,3-Trichlorobenzene	**20.1**	D	µg/kg		20.0		100	70-130	2	30
1,2,4-Trichlorobenzene	**19.4**	D	µg/kg		20.0		97	70-130	0.8	30
1,3,5-Trichlorobenzene	**20.3**	D	µg/kg		20.0		101	70-130	2	30
1,1,1-Trichloroethane	**17.3**	D	µg/kg		20.0		86	70-130	7	30
1,1,2-Trichloroethane	**20.5**	D	µg/kg		20.0		102	70-130	3	30
Trichloroethene	**19.2**	D	µg/kg		20.0		96	70-130	8	30
Trichlorofluoromethane (Freon 11)	**18.3**	D	µg/kg		20.0		92	70-130	1	30
1,2,3-Trichloropropane	**20.2**	D	µg/kg		20.0		101	70-130	3	30
1,2,4-Trimethylbenzene	**19.7**	D	µg/kg		20.0		99	70-130	2	30
1,3,5-Trimethylbenzene	**19.8**	D	µg/kg		20.0		99	70-130	1	30
Vinyl chloride	**17.9**	D	µg/kg		20.0		90	70-130	3	30
m,p-Xylene	**20.1**	D	µg/kg		20.0		100	70-130	1	30
o-Xylene	**21.2**	D	µg/kg		20.0		106	70-130	1	30
Tetrahydrofuran	**18.0**	D	µg/kg		20.0		90	70-130	9	30
Ethyl ether	**19.9**	D	µg/kg		20.0		100	70-130	2	30
Tert-amyl methyl ether	**20.8**	D	µg/kg		20.0		104	70-130	6	30
Ethyl tert-butyl ether	**18.8**	D	µg/kg		20.0		94	70-130	8	30
Di-isopropyl ether	**19.6**	D	µg/kg		20.0		98	70-130	15	30
Tert-Butanol / butyl alcohol	**155**	D	µg/kg		200		77	70-130	11	30
1,4-Dioxane	**175**	D	µg/kg		200		87	70-130	13	30
trans-1,4-Dichloro-2-butene	**18.0**	D	µg/kg		20.0		90	70-130	0.3	30
Ethanol	**334**	D	µg/kg		400		84	70-130	6	30
Surrogate: 4-Bromofluorobenzene	*50.9*		µg/kg		*50.0*		*102*	*70-130*		
Surrogate: Toluene-d8	*49.7*		µg/kg		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.8*		µg/kg		*50.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*50.0*		µg/kg		*50.0*		*100*	*70-130*		
Batch 1700291 - VPH - EPA 5035A Soil										
Blank (1700291-BLK1)					Prepared & Analyzed: 06-Jan-17					
C5-C8 Aliphatic Hydrocarbons	< 0.750	D	mg/kg wet	0.750						
C9-C12 Aliphatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
C9-C10 Aromatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.750	D	mg/kg wet	0.750						
Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
Benzene	< 0.0500	D	mg/kg wet	0.0500						
Ethylbenzene	< 0.0500	D	mg/kg wet	0.0500						
Methyl tert-butyl ether	< 0.0500	D	mg/kg wet	0.0500						
Naphthalene	< 0.0500	D	mg/kg wet	0.0500						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700291 - VPH - EPA 5035A Soil										
Blank (1700291-BLK1)					Prepared & Analyzed: 06-Jan-17					
Toluene	< 0.0500	D	mg/kg wet	0.0500						
m,p-Xylene	< 0.100	D	mg/kg wet	0.100						
o-Xylene	< 0.0500	D	mg/kg wet	0.0500						
2-Methylpentane	< 0.0500	D	mg/kg wet	0.0500						
n-Nonane	< 0.100	D	mg/kg wet	0.100						
n-Pentane	< 0.100	D	mg/kg wet	0.100						
1,2,4-Trimethylbenzene	< 0.0500	D	mg/kg wet	0.0500						
2,2,4-Trimethylpentane	< 0.0500	D	mg/kg wet	0.0500						
n-Butylcyclohexane	< 0.0500	D	mg/kg wet	0.0500						
n-Decane	< 0.0500	D	mg/kg wet	0.0500						
Surrogate: 2,5-Dibromotoluene (FID)	*49.4*		µg/kg		*50.0*		*99*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*50.0*		µg/kg		*50.0*		*100*	*70-130*		
LCS (1700291-BS1)					Prepared & Analyzed: 06-Jan-17					
C5-C8 Aliphatic Hydrocarbons	**59.8**	D	µg/kg		60.0		100	70-130		
C9-C12 Aliphatic Hydrocarbons	**62.5**	D	µg/kg		60.0		104	70-130		
C9-C10 Aromatic Hydrocarbons	**23.0**	D	µg/kg		20.0		115	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**214**	D	µg/kg		200		107	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**85.5**	D	µg/kg		80.0		107	70-130		
Benzene	**21.5**	D	µg/kg		20.0		107	70-130		
Ethylbenzene	**22.6**	D	µg/kg		20.0		113	70-130		
Methyl tert-butyl ether	**20.2**	D	µg/kg		20.0		101	70-130		
Naphthalene	**20.3**	D	µg/kg		20.0		101	70-130		
Toluene	**22.1**	D	µg/kg		20.0		110	70-130		
m,p-Xylene	**45.2**	D	µg/kg		40.0		113	70-130		
o-Xylene	**22.8**	D	µg/kg		20.0		114	70-130		
2-Methylpentane	**21.8**	D	µg/kg		20.0		109	70-130		
n-Nonane	**20.1**	D	µg/kg		20.0		101	70-130		
n-Pentane	**22.1**	D	µg/kg		20.0		110	70-130		
1,2,4-Trimethylbenzene	**23.2**	D	µg/kg		20.0		116	70-130		
2,2,4-Trimethylpentane	**22.4**	D	µg/kg		20.0		112	70-130		
n-Butylcyclohexane	**21.0**	D	µg/kg		20.0		105	70-130		
n-Decane	**17.5**	D	µg/kg		20.0		88	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*51.8*		µg/kg		*50.0*		*104*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*53.2*		µg/kg		*50.0*		*106*	*70-130*		
LCS Dup (1700291-BSD1)					Prepared & Analyzed: 06-Jan-17					
C5-C8 Aliphatic Hydrocarbons	**60.2**	D	µg/kg		60.0		100	70-130	0.7	25
C9-C12 Aliphatic Hydrocarbons	**63.8**	D	µg/kg		60.0		106	70-130	2	25
C9-C10 Aromatic Hydrocarbons	**22.7**	D	µg/kg		20.0		114	70-130	1	25
Unadjusted C5-C8 Aliphatic Hydrocarbons	**214**	D	µg/kg		200		107	70-130	0.3	25
Unadjusted C9-C12 Aliphatic Hydrocarbons	**86.5**	D	µg/kg		80.0		108	70-130	1	25
Benzene	**21.6**	D	µg/kg		20.0		108	70-130	0.6	25
Ethylbenzene	**22.2**	D	µg/kg		20.0		111	70-130	2	25
Methyl tert-butyl ether	**21.1**	D	µg/kg		20.0		106	70-130	4	25
Naphthalene	**20.2**	D	µg/kg		20.0		101	70-130	0.5	25
Toluene	**22.0**	D	µg/kg		20.0		110	70-130	0.2	25
m,p-Xylene	**44.0**	D	µg/kg		40.0		110	70-130	3	25
o-Xylene	**22.4**	D	µg/kg		20.0		112	70-130	2	25
2-Methylpentane	**19.8**	D	µg/kg		20.0		99	70-130	10	25
n-Nonane	**21.1**	D	µg/kg		20.0		106	70-130	5	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700291 - VPH - EPA 5035A Soil										
LCS Dup (1700291-BSD1)					Prepared & Analyzed: 06-Jan-17					
n-Pentane	**20.2**	D	µg/kg		20.0		101	70-130	9	25
1,2,4-Trimethylbenzene	**22.5**	D	µg/kg		20.0		113	70-130	3	25
2,2,4-Trimethylpentane	**20.0**	D	µg/kg		20.0		100	70-130	11	25
n-Butylcyclohexane	**21.2**	D	µg/kg		20.0		106	70-130	0.8	25
n-Decane	**23.2**	QR2, D	µg/kg		20.0		116	70-130	28	25
Surrogate: 2,5-Dibromotoluene (FID)	*48.2*		µg/kg		*50.0*		*96*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*49.5*		µg/kg		*50.0*		*99*	*70-130*		
Duplicate (1700291-DUP1)			**Source: SC30176-03**		Prepared: 06-Jan-17 Analyzed: 07-Jan-17					
C5-C8 Aliphatic Hydrocarbons	**0.527**	J,D	mg/kg dry	0.943		0.461			13	50
C9-C12 Aliphatic Hydrocarbons	**0.145**	J,D	mg/kg dry	0.314		0.126			14	50
C9-C10 Aromatic Hydrocarbons	**0.137**	J,D	mg/kg dry	0.314		0.128			7	50
Unadjusted C5-C8 Aliphatic Hydrocarbons	**0.531**	J,D	mg/kg dry	0.943		0.464			13	50
Unadjusted C9-C12 Aliphatic Hydrocarbons	**0.282**	J,D	mg/kg dry	0.314		0.253			11	50
Benzene	< 0.0629	D	mg/kg dry	0.0629		BRL				50
Ethylbenzene	< 0.0629	D	mg/kg dry	0.0629		BRL				50
Methyl tert-butyl ether	< 0.0629	D	mg/kg dry	0.0629		BRL				50
Naphthalene	< 0.0629	D	mg/kg dry	0.0629		BRL				50
Toluene	< 0.0629	D	mg/kg dry	0.0629		BRL				50
m,p-Xylene	< 0.126	D	mg/kg dry	0.126		BRL				50
o-Xylene	< 0.0629	D	mg/kg dry	0.0629		BRL				50
Surrogate: 2,5-Dibromotoluene (FID)	*48.7*		µg/kg		*50.0*		*97*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*49.6*		µg/kg		*50.0*		*99*	*70-130*		
Matrix Spike (1700291-MS1)			**Source: SC30176-03**		Prepared: 06-Jan-17 Analyzed: 07-Jan-17					
C5-C8 Aliphatic Hydrocarbons	**103**	QM7, D	µg/kg		60.0	8.61	158	70-130		
C9-C12 Aliphatic Hydrocarbons	**67.0**	D	µg/kg		60.0	2.35	108	70-130		
C9-C10 Aromatic Hydrocarbons	**20.4**	D	µg/kg		20.0	2.38	90	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**246**	D	µg/kg		200	8.67	118	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**87.4**	D	µg/kg		80.0	4.73	103	70-130		
Benzene	**23.1**	D	µg/kg		20.0	0.00587	116	70-130		
Ethylbenzene	**19.0**	D	µg/kg		20.0	0.00822	95	70-130		
Methyl tert-butyl ether	**22.1**	D	µg/kg		20.0	0.0223	111	70-130		
Naphthalene	**17.1**	D	µg/kg		20.0	BRL	86	70-130		
Toluene	**20.6**	D	µg/kg		20.0	BRL	103	70-130		
m,p-Xylene	**38.3**	D	µg/kg		40.0	0.0117	96	70-130		
o-Xylene	**19.1**	D	µg/kg		20.0	0.00939	96	70-130		
2-Methylpentane	**25.4**	D	µg/kg		20.0	BRL	127	70-130		
n-Nonane	**19.6**	D	µg/kg		20.0	0.0352	98	70-130		
n-Pentane	**25.1**	D	µg/kg		20.0	BRL	126	70-130		
1,2,4-Trimethylbenzene	**20.3**	D	µg/kg		20.0	0.0493	101	70-130		
2,2,4-Trimethylpentane	**23.9**	D	µg/kg		20.0	0.0176	119	70-130		
n-Butylcyclohexane	**17.5**	D	µg/kg		20.0	0.0293	87	70-130		
n-Decane	**20.5**	D	µg/kg		20.0	0.0599	102	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*44.3*		µg/kg		*50.0*		*89*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*45.5*		µg/kg		*50.0*		*91*	*70-130*		
Batch 1700397 - VPH - EPA 5035A Soil										
Blank (1700397-BLK1)					Prepared & Analyzed: 09-Jan-17					
C5-C8 Aliphatic Hydrocarbons	< 0.750	D	mg/kg wet	0.750						
C9-C12 Aliphatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
C9-C10 Aromatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700397 - VPH - EPA 5035A Soil										
Blank (1700397-BLK1)					Prepared & Analyzed: 09-Jan-17					
Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.750	D	mg/kg wet	0.750						
Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
Benzene	< 0.0500	D	mg/kg wet	0.0500						
Ethylbenzene	< 0.0500	D	mg/kg wet	0.0500						
Methyl tert-butyl ether	< 0.0500	D	mg/kg wet	0.0500						
Naphthalene	< 0.0500	D	mg/kg wet	0.0500						
Toluene	< 0.0500	D	mg/kg wet	0.0500						
m,p-Xylene	< 0.100	D	mg/kg wet	0.100						
o-Xylene	< 0.0500	D	mg/kg wet	0.0500						
2-Methylpentane	< 0.0500	D	mg/kg wet	0.0500						
n-Nonane	< 0.100	D	mg/kg wet	0.100						
n-Pentane	< 0.100	D	mg/kg wet	0.100						
1,2,4-Trimethylbenzene	< 0.0500	D	mg/kg wet	0.0500						
2,2,4-Trimethylpentane	< 0.0500	D	mg/kg wet	0.0500						
n-Butylcyclohexane	< 0.0500	D	mg/kg wet	0.0500						
n-Decane	< 0.0500	D	mg/kg wet	0.0500						
Surrogate: 2,5-Dibromotoluene (FID)	*42.9*		µg/kg		*50.0*		*86*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*43.8*		µg/kg		*50.0*		*88*	*70-130*		
LCS (1700397-BS1)					Prepared & Analyzed: 09-Jan-17					
C5-C8 Aliphatic Hydrocarbons	**54.1**	D	µg/kg		60.0		90	70-130		
C9-C12 Aliphatic Hydrocarbons	**59.4**	D	µg/kg		60.0		99	70-130		
C9-C10 Aromatic Hydrocarbons	**19.2**	D	µg/kg		20.0		96	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**184**	D	µg/kg		200		92	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**78.5**	D	µg/kg		80.0		98	70-130		
Benzene	**18.2**	D	µg/kg		20.0		91	70-130		
Ethylbenzene	**18.6**	D	µg/kg		20.0		93	70-130		
Methyl tert-butyl ether	**18.6**	D	µg/kg		20.0		93	70-130		
Naphthalene	**17.8**	D	µg/kg		20.0		89	70-130		
Toluene	**18.3**	D	µg/kg		20.0		92	70-130		
m,p-Xylene	**37.0**	D	µg/kg		40.0		92	70-130		
o-Xylene	**18.9**	D	µg/kg		20.0		95	70-130		
2-Methylpentane	**17.3**	D	µg/kg		20.0		87	70-130		
n-Nonane	**17.0**	D	µg/kg		20.0		85	70-130		
n-Pentane	**17.1**	D	µg/kg		20.0		85	70-130		
1,2,4-Trimethylbenzene	**19.0**	D	µg/kg		20.0		95	70-130		
2,2,4-Trimethylpentane	**17.8**	D	µg/kg		20.0		89	70-130		
n-Butylcyclohexane	**16.9**	D	µg/kg		20.0		85	70-130		
n-Decane	**17.5**	D	µg/kg		20.0		87	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*49.9*		µg/kg		*50.0*		*100*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*51.2*		µg/kg		*50.0*		*102*	*70-130*		
LCS Dup (1700397-BSD1)					Prepared & Analyzed: 09-Jan-17					
C5-C8 Aliphatic Hydrocarbons	**52.3**	D	µg/kg		60.0		87	70-130	3	25
C9-C12 Aliphatic Hydrocarbons	**62.8**	D	µg/kg		60.0		105	70-130	6	25
C9-C10 Aromatic Hydrocarbons	**21.5**	D	µg/kg		20.0		108	70-130	11	25
Unadjusted C5-C8 Aliphatic Hydrocarbons	**196**	D	µg/kg		200		98	70-130	7	25
Unadjusted C9-C12 Aliphatic Hydrocarbons	**84.3**	D	µg/kg		80.0		105	70-130	7	25
Benzene	**20.0**	D	µg/kg		20.0		100	70-130	9	25
Ethylbenzene	**20.8**	D	µg/kg		20.0		104	70-130	11	25
Methyl tert-butyl ether	**19.9**	D	µg/kg		20.0		99	70-130	6	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700397 - VPH - EPA 5035A Soil										
LCS Dup (1700397-BSD1)					Prepared & Analyzed: 09-Jan-17					
Naphthalene	**19.0**	D	µg/kg		20.0		95	70-130	7	25
Toluene	**20.6**	D	µg/kg		20.0		103	70-130	11	25
m,p-Xylene	**41.6**	D	µg/kg		40.0		104	70-130	12	25
o-Xylene	**21.0**	D	µg/kg		20.0		105	70-130	11	25
2-Methylpentane	**17.3**	D	µg/kg		20.0		86	70-130	0.3	25
n-Nonane	**19.3**	D	µg/kg		20.0		97	70-130	12	25
n-Pentane	**17.7**	D	µg/kg		20.0		88	70-130	3	25
1,2,4-Trimethylbenzene	**21.3**	D	µg/kg		20.0		107	70-130	11	25
2,2,4-Trimethylpentane	**17.8**	D	µg/kg		20.0		89	70-130	0.2	25
n-Butylcyclohexane	**19.7**	D	µg/kg		20.0		99	70-130	15	25
n-Decane	**22.7**	QR2, D	µg/kg		20.0		113	70-130	26	25
Surrogate: 2,5-Dibromotoluene (FID)	*50.2*		µg/kg		*50.0*		*100*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*51.4*		µg/kg		*50.0*		*103*	*70-130*		
Duplicate (1700397-DUP1)			**Source: SC30176-07**			Prepared: 09-Jan-17 Analyzed: 10-Jan-17				
C5-C8 Aliphatic Hydrocarbons	**0.692**	J,D	mg/kg dry	0.956		0.680			2	50
C9-C12 Aliphatic Hydrocarbons	**0.0544**	J,D	mg/kg dry	0.319		BRL				50
C9-C10 Aromatic Hydrocarbons	**0.247**	J,D	mg/kg dry	0.319		0.249			0.8	50
Unadjusted C5-C8 Aliphatic Hydrocarbons	**0.696**	J,D	mg/kg dry	0.956		0.685			2	50
Unadjusted C9-C12 Aliphatic Hydrocarbons	**0.301**	J,D	mg/kg dry	0.319		0.287			5	50
Benzene	< 0.0637	D	mg/kg dry	0.0637		BRL				50
Ethylbenzene	< 0.0637	D	mg/kg dry	0.0637		BRL				50
Methyl tert-butyl ether	< 0.0637	D	mg/kg dry	0.0637		BRL				50
Naphthalene	< 0.0637	D	mg/kg dry	0.0637		BRL				50
Toluene	< 0.0637	D	mg/kg dry	0.0637		BRL				50
m,p-Xylene	< 0.127	D	mg/kg dry	0.127		BRL				50
o-Xylene	< 0.0637	D	mg/kg dry	0.0637		BRL				50
Surrogate: 2,5-Dibromotoluene (FID)	*45.0*		µg/kg		*50.0*		*90*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*47.2*		µg/kg		*50.0*		*94*	*70-130*		
Matrix Spike (1700397-MS1)			**Source: SC30176-07**			Prepared: 09-Jan-17 Analyzed: 10-Jan-17				
C5-C8 Aliphatic Hydrocarbons	**81.6**	D	µg/kg		60.0	13.0	114	70-130		
C9-C12 Aliphatic Hydrocarbons	**65.9**	D	µg/kg		60.0	0.731	109	70-130		
C9-C10 Aromatic Hydrocarbons	**21.2**	D	µg/kg		20.0	4.75	82	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**228**	D	µg/kg		200	13.1	107	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**87.1**	D	µg/kg		80.0	5.48	102	70-130		
Benzene	**23.6**	D	µg/kg		20.0	0.0122	118	70-130		
Ethylbenzene	**19.9**	D	µg/kg		20.0	0.0146	99	70-130		
Methyl tert-butyl ether	**21.6**	D	µg/kg		20.0	BRL	108	70-130		
Naphthalene	**17.3**	D	µg/kg		20.0	BRL	87	70-130		
Toluene	**21.3**	D	µg/kg		20.0	0.00851	106	70-130		
m,p-Xylene	**39.9**	D	µg/kg		40.0	0.0195	100	70-130		
o-Xylene	**19.6**	D	µg/kg		20.0	0.0389	98	70-130		
2-Methylpentane	**23.4**	D	µg/kg		20.0	BRL	117	70-130		
n-Nonane	**20.8**	D	µg/kg		20.0	0.0462	104	70-130		
n-Pentane	**22.7**	D	µg/kg		20.0	BRL	114	70-130		
1,2,4-Trimethylbenzene	**21.1**	D	µg/kg		20.0	0.0231	105	70-130		
2,2,4-Trimethylpentane	**22.4**	D	µg/kg		20.0	0.0328	112	70-130		
n-Butylcyclohexane	**20.2**	D	µg/kg		20.0	0.0499	101	70-130		
n-Decane	**25.5**	D	µg/kg		20.0	0.0462	127	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*52.7*		µg/kg		*50.0*		*105*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700397 - VPH - EPA 5035A Soil										
Matrix Spike (1700397-MS1)			**Source: SC30176-07**		Prepared: 09-Jan-17 Analyzed: 10-Jan-17					
Surrogate: 2,5-Dibromotoluene (PID)	*55.2*		µg/kg		*50.0*		*110*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700327 - SW846 3546										
Blank (1700327-BLK1)					Prepared: 06-Jan-17 Analyzed: 10-Jan-17					
C9-C18 Aliphatic Hydrocarbons	< 9.78		mg/kg wet	9.78						
C19-C36 Aliphatic Hydrocarbons	< 9.78		mg/kg wet	9.78						
C11-C22 Aromatic Hydrocarbons	< 9.78		mg/kg wet	9.78						
Unadjusted C11-C22 Aromatic Hydrocarbons	< 9.78		mg/kg wet	9.78						
Total Petroleum Hydrocarbons	< 29.3		mg/kg wet	29.3						
Unadjusted Total Petroleum Hydrocarbons	< 29.3		mg/kg wet	29.3						
Naphthalene	< 0.326		mg/kg wet	0.326						
2-Methylnaphthalene	< 0.326		mg/kg wet	0.326						
Acenaphthylene	< 0.326		mg/kg wet	0.326						
Acenaphthene	< 0.326		mg/kg wet	0.326						
Fluorene	< 0.326		mg/kg wet	0.326						
Phenanthrene	< 0.326		mg/kg wet	0.326						
Anthracene	< 0.326		mg/kg wet	0.326						
Fluoranthene	< 0.326		mg/kg wet	0.326						
Pyrene	< 0.326		mg/kg wet	0.326						
Benzo (a) anthracene	< 0.326		mg/kg wet	0.326						
Chrysene	< 0.326		mg/kg wet	0.326						
Benzo (b) fluoranthene	< 0.326		mg/kg wet	0.326						
Benzo (k) fluoranthene	< 0.326		mg/kg wet	0.326						
Benzo (a) pyrene	< 0.326		mg/kg wet	0.326						
Indeno (1,2,3-cd) pyrene	< 0.326		mg/kg wet	0.326						
Dibenzo (a,h) anthracene	< 0.326		mg/kg wet	0.326						
Benzo (g,h,i) perylene	< 0.326		mg/kg wet	0.326						
n-Nonane (C9)	< 0.326		mg/kg wet	0.326						
n-Decane	< 0.326		mg/kg wet	0.326						
n-Dodecane	< 0.326		mg/kg wet	0.326						
n-Tetradecane	< 0.326		mg/kg wet	0.326						
n-Hexadecane	< 0.326		mg/kg wet	0.326						
n-Octadecane	< 0.326		mg/kg wet	0.326						
n-Nonadecane	< 0.326		mg/kg wet	0.326						
n-Eicosane	< 0.326		mg/kg wet	0.326						
n-Docosane	< 0.326		mg/kg wet	0.326						
n-Tetracosane	< 0.326		mg/kg wet	0.326						
n-Hexacosane	< 0.326		mg/kg wet	0.326						
n-Octacosane	< 0.326		mg/kg wet	0.326						
n-Triacontane	< 0.326		mg/kg wet	0.326						
n-Hexatriacontane	< 0.326		mg/kg wet	0.326						
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet							
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet							
Surrogate: 1-Chlorooctadecane	*0.786*		mg/kg wet		*1.63*		*48*	*40-140*		
Surrogate: Ortho-Terphenyl	*1.99*		mg/kg wet		*1.63*		*122*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*1.91*		mg/kg wet		*2.61*		*73*	*40-140*		
LCS (1700327-BS1)					Prepared: 06-Jan-17 Analyzed: 10-Jan-17					
C9-C18 Aliphatic Hydrocarbons	**40.1**		mg/kg wet	9.97	39.9		101	40-140		
C19-C36 Aliphatic Hydrocarbons	**27.5**		mg/kg wet	9.97	53.2		52	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**29.2**		mg/kg wet	9.97	45.2		65	40-140		
Naphthalene	**1.74**		mg/kg wet	0.332	2.66		66	40-140		
2-Methylnaphthalene	**1.77**		mg/kg wet	0.332	2.66		67	40-140		
Acenaphthylene	**2.06**		mg/kg wet	0.332	2.66		77	40-140		
Acenaphthene	**2.02**		mg/kg wet	0.332	2.66		76	40-140		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700327 - SW846 3546										
LCS (1700327-BS1)					Prepared: 06-Jan-17 Analyzed: 10-Jan-17					
Fluorene	**2.16**		mg/kg wet	0.332	2.66		81	40-140		
Phenanthrene	**2.36**		mg/kg wet	0.332	2.66		89	40-140		
Anthracene	**2.16**		mg/kg wet	0.332	2.66		81	40-140		
Fluoranthene	**2.31**		mg/kg wet	0.332	2.66		87	40-140		
Pyrene	**2.13**		mg/kg wet	0.332	2.66		80	40-140		
Benzo (a) anthracene	**2.06**		mg/kg wet	0.332	2.66		78	40-140		
Chrysene	**1.96**		mg/kg wet	0.332	2.66		74	40-140		
Benzo (b) fluoranthene	**1.98**		mg/kg wet	0.332	2.66		74	40-140		
Benzo (k) fluoranthene	**1.94**		mg/kg wet	0.332	2.66		73	40-140		
Benzo (a) pyrene	**1.84**		mg/kg wet	0.332	2.66		69	40-140		
Indeno (1,2,3-cd) pyrene	**1.80**		mg/kg wet	0.332	2.66		68	40-140		
Dibenzo (a,h) anthracene	**1.73**		mg/kg wet	0.332	2.66		65	40-140		
Benzo (g,h,i) perylene	**1.68**		mg/kg wet	0.332	2.66		63	40-140		
n-Nonane (C9)	**4.85**		mg/kg wet	0.332	6.65		73	30-140		
n-Decane	**6.05**		mg/kg wet	0.332	6.65		91	40-140		
n-Dodecane	**5.62**		mg/kg wet	0.332	6.65		85	40-140		
n-Tetradecane	**5.16**		mg/kg wet	0.332	6.65		78	40-140		
n-Hexadecane	**4.50**		mg/kg wet	0.332	6.65		68	40-140		
n-Octadecane	**4.05**		mg/kg wet	0.332	6.65		61	40-140		
n-Nonadecane	**3.75**		mg/kg wet	0.332	6.65		56	40-140		
n-Eicosane	**3.83**		mg/kg wet	0.332	6.65		58	40-140		
n-Docosane	**3.77**		mg/kg wet	0.332	6.65		57	40-140		
n-Tetracosane	**3.71**		mg/kg wet	0.332	6.65		56	40-140		
n-Hexacosane	**3.73**		mg/kg wet	0.332	6.65		56	40-140		
n-Octacosane	**3.75**		mg/kg wet	0.332	6.65		56	40-140		
n-Triacontane	**3.66**		mg/kg wet	0.332	6.65		55	40-140		
n-Hexatriacontane	**3.54**		mg/kg wet	0.332	6.65		53	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.66			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.66			0-200		
Surrogate: 1-Chlorooctadecane	*2.72*		mg/kg wet		*3.32*		*82*	*40-140*		
Surrogate: Ortho-Terphenyl	*2.19*		mg/kg wet		*3.32*		*66*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.22*		mg/kg wet		*2.66*		*84*	*40-140*		
LCS Dup (1700327-BSD1)					Prepared: 06-Jan-17 Analyzed: 10-Jan-17					
C9-C18 Aliphatic Hydrocarbons	**36.9**		mg/kg wet	9.93	39.7		93	40-140	8	25
C19-C36 Aliphatic Hydrocarbons	**32.8**		mg/kg wet	9.93	53.0		62	40-140	18	25
Unadjusted C11-C22 Aromatic Hydrocarbons	**24.2**		mg/kg wet	9.93	45.0		54	40-140	19	25
Naphthalene	**1.83**		mg/kg wet	0.331	2.65		69	40-140	5	25
2-Methylnaphthalene	**1.89**		mg/kg wet	0.331	2.65		71	40-140	6	25
Acenaphthylene	**2.08**		mg/kg wet	0.331	2.65		79	40-140	1	25
Acenaphthene	**2.10**		mg/kg wet	0.331	2.65		79	40-140	4	25
Fluorene	**2.25**		mg/kg wet	0.331	2.65		85	40-140	4	25
Phenanthrene	**2.52**		mg/kg wet	0.331	2.65		95	40-140	7	25
Anthracene	**2.24**		mg/kg wet	0.331	2.65		84	40-140	4	25
Fluoranthene	**2.38**		mg/kg wet	0.331	2.65		90	40-140	3	25
Pyrene	**2.21**		mg/kg wet	0.331	2.65		83	40-140	4	25
Benzo (a) anthracene	**2.15**		mg/kg wet	0.331	2.65		81	40-140	4	25
Chrysene	**2.09**		mg/kg wet	0.331	2.65		79	40-140	6	25
Benzo (b) fluoranthene	**1.93**		mg/kg wet	0.331	2.65		73	40-140	3	25
Benzo (k) fluoranthene	**2.13**		mg/kg wet	0.331	2.65		81	40-140	9	25
Benzo (a) pyrene	**2.10**		mg/kg wet	0.331	2.65		79	40-140	13	25
Indeno (1,2,3-cd) pyrene	**1.96**		mg/kg wet	0.331	2.65		74	40-140	8	25

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700327 - SW846 3546										
LCS Dup (1700327-BSD1)					Prepared: 06-Jan-17 Analyzed: 10-Jan-17					
Dibenzo (a,h) anthracene	**1.91**		mg/kg wet	0.331	2.65		72	40-140	10	25
Benzo (g,h,i) perylene	**2.03**		mg/kg wet	0.331	2.65		77	40-140	19	25
n-Nonane (C9)	**3.35**	QR2	mg/kg wet	0.331	6.62		51	30-140	37	25
n-Decane	**4.08**	QR2	mg/kg wet	0.331	6.62		62	40-140	39	25
n-Dodecane	**3.88**	QR2	mg/kg wet	0.331	6.62		59	40-140	37	25
n-Tetradecane	**3.84**	QR2	mg/kg wet	0.331	6.62		58	40-140	29	25
n-Hexadecane	**3.91**		mg/kg wet	0.331	6.62		59	40-140	14	25
n-Octadecane	**3.87**		mg/kg wet	0.331	6.62		59	40-140	4	25
n-Nonadecane	**3.61**		mg/kg wet	0.331	6.62		55	40-140	4	25
n-Eicosane	**3.74**		mg/kg wet	0.331	6.62		56	40-140	3	25
n-Docosane	**3.66**		mg/kg wet	0.331	6.62		55	40-140	3	25
n-Tetracosane	**3.57**		mg/kg wet	0.331	6.62		54	40-140	4	25
n-Hexacosane	**3.64**		mg/kg wet	0.331	6.62		55	40-140	2	25
n-Octacosane	**3.69**		mg/kg wet	0.331	6.62		56	40-140	2	25
n-Triacontane	**3.63**		mg/kg wet	0.331	6.62		55	40-140	0.8	25
n-Hexatriacontane	**3.50**		mg/kg wet	0.331	6.62		53	40-140	1	25
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.65			0-200		200
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.65			0-200		200
Surrogate: 1-Chlorooctadecane	*2.86*		mg/kg wet		*3.31*		*86*	*40-140*		
Surrogate: Ortho-Terphenyl	*2.30*		mg/kg wet		*3.31*		*70*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*1.80*		mg/kg wet		*2.65*		*68*	*40-140*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700260 - SW846 3050B										
Blank (1700260-BLK1)					Prepared: 06-Jan-17 Analyzed: 10-Jan-17					
Arsenic	< 1.48		mg/kg wet	1.48						
Lead	< 1.48		mg/kg wet	1.48						
Zinc	< 0.986		mg/kg wet	0.986						
Thallium	< 2.96		mg/kg wet	2.96						
Selenium	< 1.48		mg/kg wet	1.48						
Antimony	< 4.93		mg/kg wet	4.93						
Nickel	< 0.986		mg/kg wet	0.986						
Copper	< 0.986		mg/kg wet	0.986						
Beryllium	< 0.493		mg/kg wet	0.493						
Silver	< 1.48		mg/kg wet	1.48						
Cadmium	< 0.493		mg/kg wet	0.493						
Reference (1700260-SRM1)					Prepared: 06-Jan-17 Analyzed: 10-Jan-17					
Nickel	**60.0**		mg/kg wet	1.00	66.2		91	82.9-117.1		
Silver	**13.5**		mg/kg wet	1.50	16.1		84	75.1-124.9		
Selenium	**81.9**		mg/kg wet	1.50	91.3		90	78.7-121.3		
Thallium	**73.0**		mg/kg wet	3.00	72.3		101	79.4-121.3		
Antimony	**26.4**		mg/kg wet	5.00	63.1		42	25-175		
Zinc	**85.2**		mg/kg wet	1.00	99.5		86	82-118		
Lead	**64.8**		mg/kg wet	1.50	74.9		86	81.5-118.5		
Cadmium	**38.6**		mg/kg wet	0.500	44.9		86	82.6-117.6		
Arsenic	**65.2**		mg/kg wet	1.50	74.4		88	79.3-121.4		
Beryllium	**48.6**		mg/kg wet	0.500	49.9		97	82.6-117.2		
Copper	**87.4**		mg/kg wet	1.00	88.8		98	81.5-117.9		
Reference (1700260-SRM2)					Prepared: 06-Jan-17 Analyzed: 10-Jan-17					
Copper	**89.8**		mg/kg wet	1.00	88.4		102	81.5-117.9		
Zinc	**86.6**		mg/kg wet	1.00	99.2		87	82-118		
Thallium	**75.0**		mg/kg wet	3.00	72.1		104	79.4-121.3		
Selenium	**83.4**		mg/kg wet	1.50	91.0		92	78.7-121.3		
Antimony	**25.7**		mg/kg wet	5.00	62.9		41	25-175		
Nickel	**61.0**		mg/kg wet	1.00	65.9		93	82.9-117.1		
Cadmium	**40.5**		mg/kg wet	0.500	44.8		91	82.6-117.6		
Beryllium	**49.9**		mg/kg wet	0.500	49.7		100	82.6-117.2		
Arsenic	**65.0**		mg/kg wet	1.50	74.1		88	79.3-121.4		
Silver	**13.9**		mg/kg wet	1.50	16.0		87	75.1-124.9		
Lead	**65.4**		mg/kg wet	1.50	74.6		88	81.5-118.5		
Batch 1700261 - EPA200/SW7000 Series										
Blank (1700261-BLK1)					Prepared: 06-Jan-17 Analyzed: 09-Jan-17					
Mercury	< 0.0282		mg/kg wet	0.0282						
Reference (1700261-SRM1)					Prepared: 06-Jan-17 Analyzed: 10-Jan-17					

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700261 - EPA200/SW7000 Series										
Reference (1700261-SRM1)						Prepared: 06-Jan-17	Analyzed: 10-Jan-17			
Mercury	**5.30**	D	mg/kg wet	0.600	4.38		121	71.5-128.5		
Batch 1700564 - SW846 3051A										
Blank (1700564-BLK1)						Prepared: 10-Jan-17	Analyzed: 11-Jan-17			
Chromium	< 0.920		mg/kg wet	0.920						
Reference (1700564-SRM1)						Prepared: 10-Jan-17	Analyzed: 11-Jan-17			
Chromium	**60.7**		mg/kg wet	1.00	73.4		83	79.7-119.6		
Reference (1700564-SRM2)						Prepared: 10-Jan-17	Analyzed: 11-Jan-17			
Chromium	**62.2**		mg/kg wet	1.00	72.6		86	79.7-119.6		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700104 - General Preparation										
Duplicate (1700104-DUP1)			**Source: SC30176-01**			Prepared & Analyzed: 04-Jan-17				
% Solids	**81.9**		%			80.6			2	5
Duplicate (1700104-DUP2)			**Source: SC30176-02**			Prepared & Analyzed: 04-Jan-17				
% Solids	**78.9**		%			79.3			0.6	5

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S701468				
Calibration Check (S701468-CCV1)				
C9-C18 Aliphatic Hydrocarbons	290997.9	153796.4	21.9	25
C19-C36 Aliphatic Hydrocarbons	460824.1	152602.6	-12.3	25
Unadjusted C11-C22 Aromatic Hydrocarbons	46.14639	21.5614	-0.1	20
Naphthalene	5.587719	5.185454	-7.2	20
2-Methylnaphthalene	3.8984	3.559195	-8.7	20
Acenaphthylene	5.66465	5.671493	0.1	20
Acenaphthene	3.667913	3.661471	-0.2	20
Fluorene	3.903613	4.138861	6.0	20
Phenanthrene	4.844286	5.631049	16.2	20
Anthracene	5.889702	5.749097	-2.4	20
Fluoranthene	5.456579	5.911801	8.3	20
Pyrene	6.022209	6.243956	3.7	20
Benzo (a) anthracene	4.440637	5.177232	3.0	20
Chrysene	5.629838	5.224736	-7.2	20
Benzo (b) fluoranthene	5.113603	5.23307	-4.5	20
Benzo (k) fluoranthene	5.465338	5.37045	-1.7	20
Benzo (a) pyrene	4.830086	4.579946	-5.2	20
Indeno (1,2,3-cd) pyrene	5.286077	5.095837	-3.6	20
Dibenzo (a,h) anthracene	4.610506	4.222277	-8.4	20
Benzo (g,h,i) perylene	4.505722	4.135584	-8.2	20
n-Nonane (C9)	98119.67	105909.9	7.9	25
n-Decane	98623.52	116294.8	17.9	25
n-Dodecane	94966.25	103869.9	9.4	25
n-Tetradecane	95015.86	106414.5	12.0	25
n-Hexadecane	92957.53	111023.5	19.4	25
n-Octadecane	91483.12	109385	19.6	25
n-Nonadecane	90346.97	103295.6	14.3	25
n-Eicosane	90446.47	108439	19.9	25
n-Docosane	89348.52	107107.7	19.9	25
n-Tetracosane	89049.34	106566.6	19.7	25
n-Hexacosane	88173.29	105104.5	19.2	25
n-Octacosane	87384.89	103389.3	18.3	25
n-Triacontane	87699.35	102852.4	17.3	25
n-Hexatriacontane	84253.59	100577.4	19.4	25
Naphthalene (aliphatic fraction)	96619.47			
2-Methylnaphthalene (aliphatic fraction)	100901.8			
Calibration Check (S701468-CCV2)				
C9-C18 Aliphatic Hydrocarbons	290997.9	153796.4	21.9	25
C19-C36 Aliphatic Hydrocarbons	460824.1	152602.6	-12.3	25
Unadjusted C11-C22 Aromatic Hydrocarbons	46.14639	21.5614	-0.1	20
Naphthalene	5.587719	5.185454	-7.2	20
2-Methylnaphthalene	3.8984	3.559195	-8.7	20
Acenaphthylene	5.66465	5.671493	0.1	20
Acenaphthene	3.667913	3.661471	-0.2	20
Fluorene	3.903613	4.138861	6.0	20
Phenanthrene	4.844286	5.631049	16.2	20
Anthracene	5.889702	5.749097	-2.4	20
Fluoranthene	5.456579	5.911801	8.3	20
Pyrene	6.022209	6.243956	3.7	20
Benzo (a) anthracene	4.440637	5.177232	3.0	20
Chrysene	5.629838	5.224736	-7.2	20

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S701468				
Calibration Check (S701468-CCV2)				
Benzo (b) fluoranthene	5.113603	5.23307	-4.5	20
Benzo (k) fluoranthene	5.465338	5.37045	-1.7	20
Benzo (a) pyrene	4.830086	4.579946	-5.2	20
Indeno (1,2,3-cd) pyrene	5.286077	5.095837	-3.6	20
Dibenzo (a,h) anthracene	4.610506	4.222277	-8.4	20
Benzo (g,h,i) perylene	4.505722	4.135584	-8.2	20
n-Nonane (C9)	98119.67	105909.9	7.9	25
n-Decane	98623.52	116294.8	17.9	25
n-Dodecane	94966.25	103869.9	9.4	25
n-Tetradecane	95015.86	106414.5	12.0	25
n-Hexadecane	92957.53	111023.5	19.4	25
n-Octadecane	91483.12	109385	19.6	25
n-Nonadecane	90346.97	103295.6	14.3	25
n-Eicosane	90446.47	108439	19.9	25
n-Docosane	89348.52	107107.7	19.9	25
n-Tetracosane	89049.34	106566.6	19.7	25
n-Hexacosane	88173.29	105104.5	19.2	25
n-Octacosane	87384.89	103389.3	18.3	25
n-Triacontane	87699.35	102852.4	17.3	25
n-Hexatriacontane	84253.59	100577.4	19.4	25
Naphthalene (aliphatic fraction)	96619.47			
2-Methylnaphthalene (aliphatic fraction)	100901.8			

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S701351				
Calibration Check (S701351-CCV1)				
Benzene	107348.1	107478.4	0.1	25
Ethylbenzene	71259.98	77711.54	9.1	25
Methyl tert-butyl ether	53774.04	50378.26	-6.3	25
Naphthalene	62030.39	64085.34	3.3	25
Toluene	88916.75	93846.42	5.5	25
m,p-Xylene	78059.58	85262.09	9.2	25
o-Xylene	64767.17	72518.02	12.0	25
2-Methylpentane	39203.45	30212.72	-22.9	25
n-Nonane	34394.02	32142.1	-6.5	30
n-Pentane	32338.61	24647.88	-23.8	25
1,2,4-Trimethylbenzene	60921.76	69846.7	14.6	25
2,2,4-Trimethylpentane	44316.89	39740.16	-10.3	25
n-Butylcyclohexane	32419.79	29589.88	-8.7	25
n-Decane	23734.82	22206.06	-6.4	25
Calibration Check (S701351-CCV2)				
Benzene	107348.1	99519.66	-7.3	25
Ethylbenzene	71259.98	71118.16	-0.2	25
Methyl tert-butyl ether	53774.04	48991.22	-8.9	25
Naphthalene	62030.39	61932.2	-0.2	25
Toluene	88916.75	85625.44	-3.7	25
m,p-Xylene	78059.58	77793.99	-0.3	25
o-Xylene	64767.17	67298.02	3.9	25
2-Methylpentane	39203.45	30035.72	-23.4	25
n-Nonane	34394.02	32468.62	-5.6	30
n-Pentane	32338.61	24507.44	-24.2	25
1,2,4-Trimethylbenzene	60921.76	64901.44	6.5	25
2,2,4-Trimethylpentane	44316.89	37334.28	-15.8	25
n-Butylcyclohexane	32419.79	31154.52	-3.9	25
n-Decane	23734.82	23839.7	0.4	25
Batch S701401				
Calibration Check (S701401-CCV1)				
Benzene	107348.1	109137.3	1.7	25
Ethylbenzene	71259.98	79235.46	11.2	25
Methyl tert-butyl ether	53774.04	50077.28	-6.9	25
Naphthalene	62030.39	63443.74	2.3	25
Toluene	88916.75	95287.84	7.2	25
m,p-Xylene	78059.58	86420.79	10.7	25
o-Xylene	64767.17	72849.48	12.5	25
2-Methylpentane	39203.45	33524.44	-14.5	25
n-Nonane	34394.02	36590.18	6.4	30
n-Pentane	32338.61	24672.32	-23.7	25
1,2,4-Trimethylbenzene	60921.76	70352.6	15.5	25
2,2,4-Trimethylpentane	44316.89	44052.44	-0.6	25
n-Butylcyclohexane	32419.79	34093.8	5.2	25
n-Decane	23734.82	26784.08	12.8	25
Calibration Check (S701401-CCV2)				
Benzene	107348.1	107221.2	-0.1	25
Ethylbenzene	71259.98	79000.04	10.9	25
Methyl tert-butyl ether	53774.04	49164.72	-8.6	25
Naphthalene	62030.39	61776.44	-0.4	25
Toluene	88916.75	94042.14	5.8	25

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S701401				
Calibration Check (S701401-CCV2)				
m,p-Xylene	78059.58	86466.51	10.8	25
o-Xylene	64767.17	72947.78	12.6	25
2-Methylpentane	39203.45	33168.34	-15.4	25
n-Nonane	34394.02	39187.66	13.9	30
n-Pentane	32338.61	24759.5	-23.4	25
1,2,4-Trimethylbenzene	60921.76	70325.4	15.4	25
2,2,4-Trimethylpentane	44316.89	44492.26	0.4	25
n-Butylcyclohexane	32419.79	37340.64	15.2	25
n-Decane	23734.82	29177.32	22.9	25

The following list indicates the date and time low-level VOC soil/sediment samples were placed in the freezer at the lab:

SC30176-01	*CDW-B1 (5-7')*	1/3/2017 5:40 PM
SC30176-02	*CDW-B2 (5-7')*	1/3/2017 5:40 PM
SC30176-03	*CDW-B3 (5-7')*	1/3/2017 5:40 PM
SC30176-04	*CDW-B4 (5-7')*	1/3/2017 5:40 PM
SC30176-05	*CDW-B5 (5-7')*	1/3/2017 5:40 PM
SC30176-06	*CDW-B6 (5-7')*	1/3/2017 5:40 PM
SC30176-07	*CDW-B7 (5-7')*	1/3/2017 5:40 PM

Notes and Definitions

D	Data reported from a dilution
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QR2	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC30176 OCH

eurofins | Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

☐ Standard TAT - 7 to 10 business days

☒ Rush TAT - Date Needed: 5 DAY

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 60 days unless otherwise instructed.

Report To: CDW CONSULTANTS, INC.
40 SPEEN ST
FRAMINGHAM, MA

Telephone #: 508-875-2657
Project Mgr: SUE CAHALAN

Invoice To: See above

P.O No.: Quote #:

Project No: 1505.20
Site Name: WINTHROP ELEMENTARY
Location: IPSWICH State: MA
Sampler(s): A. SUNDQUIST

F=Field Filtered 1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= 12=

List Preservative Code below:

DW=Dinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= X2= X3=

G= Grab C=Compsite

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☒ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC
☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other:
State-specific reporting standards:

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	MA DEP VPH	MA DEP EPH	VOC's 8260	TOTAL PRIORITY POLLUTANT METALS (CPP13)	Dry weight	Check if chlorinated
SC30176-01	CDW-B1 (5'-7')	12/30/16	9:15	G	SO	3	2			X	X	X	X	X	☐
02	CDW-B2 (5'-7')		10:20							X	X	X	X	X	☐
03	CDW-B3 (5'-7')		11:30							X	X	X	X	X	☐
04	CDW-B4 (5'-7')		13:15							X	X	X	X	X	☐
05	CDW-B5 (5'-7')		14:05							X	X	X	X	X	☐
06	CDW-B6 (5'-7')		15:20							X	X	X	X	X	☐
07	CDW-B7 (5'-7')		16:00							X	X	X	X	X	☐
															☐
	TRIP BLANK	1/3/17	08:00												☐
															☐

NOTE: EPH TO INCLUDE TARGET PAH'S

Relinquished by:	Received by:	Date:	Time:
[signature]	[signature]	1/3/17	11:00
[signature]	[signature]	1/3/17	1740

Temp °C: Observed 2.3; Correction Factor 0; Corrected 2.3; IR ID # 02

☐ EDD format:
☐ E-mail to:

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☐ Iced ☒ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

APPENDIX C

eurofins | Spectrum Analytical

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

Report Date:
13-Jan-17 14:32

Laboratory Report

CDW Consultants, Inc.
40 Speen Street; Suite 301
Framingham, MA 01701
Attn: Susan Cahalan-Roach

Project: Winthrop Elementary - Ipswich, MA
Project #: 1505.2

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC30325-01	CDW-B1MW	Ground Water	05-Jan-17 09:00	06-Jan-17 15:05
SC30325-02	CDW-B2MW	Ground Water	05-Jan-17 10:35	06-Jan-17 15:05
SC30325-03	CDW-B3MW	Ground Water	05-Jan-17 13:10	06-Jan-17 15:05
SC30325-04	Trip Blank	Aqueous	05-Jan-17 00:00	06-Jan-17 15:05

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

June O'Connor
Laboratory Director

Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 35 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

The following outlines the condition of all VPH samples contained within this report upon laboratory receipt.

Matrices	Ground Water			
Containers	✓ Satisfactory			
Sample Preservative	**Aqueous** (acid preserved)	N/A ✓ pH≤2 pH>2		
	Soil or Sediment	✓ N/A Samples not received in Methanol		ml Methanol/g soil 1:1 +/-25% Other
		Samples received in Methanol:	covering soil/sediment not covering soil/sediment	
		Samples received in air-tight container		
Temperature	Received on ice ✓ Received at 4 ± 2 ºC			

Were all QA/QC procedures followed as required by the VPH method? *Yes*
Were any significant modifications made to the VPH method as specified in section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

Matrices	Ground Water			
Containers	✓ Satisfactory			
Aqueous Preservative	N/A	✓ pH≤2	pH>2	pH adjusted to <2 in lab
Temperature	Received on ice	✓ Received at 4 ± 2 ºC		

Were all QA/QC procedures followed as required by the EPH method? *Yes*
Were any significant modifications made to the EPH method as specified in Section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

I attest that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Authorized by:

June O'Connor
Laboratory Director

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 2.1 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

J-flagged detections found within the carbon ranges are estimated values and represent baseline noise due to integrating an entire range, rather than an individual peak. These values should be interpreted as estimates only and no bias is associated with the samples.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

MADEP EPH 5/2004 R

Calibration:

1612059

Analyte quantified by quadratic equation type calibration.

Benzo (a) anthracene

This affected the following samples:

1700460-BLK1
1700460-BS1
1700460-BS2
1700460-BSD1
CDW-B1MW
CDW-B2MW
CDW-B3MW
S610861-ICV2
S701509-CCV2
S701509-CCV4
S701521-CCV1
S701532-CCV2
S701532-CCV4

Laboratory Control Samples:

1700460 BSD

Unadjusted C11-C22 Aromatic Hydrocarbons RPD 32% (25%) is outside individual acceptance criteria.

SW846 8260C

Calibration:

1612082

Analyte quantified by quadratic equation type calibration.

Carbon tetrachloride
Vinyl chloride

SW846 8260C

Calibration:

1612082

This affected the following samples:

1700480-BLK1
1700480-BS1
1700480-BSD1
CDW-B1MW
CDW-B2MW
CDW-B3MW
S611084-ICV1
S701461-CCV1
Trip Blank

S611084-ICV1

Analyte percent recovery is outside individual acceptance criteria (80-120).

1,1-Dichloroethene (130%)

This affected the following samples:

1700480-BLK1
1700480-BS1
1700480-BSD1
CDW-B1MW
CDW-B2MW
CDW-B3MW
S701461-CCV1
Trip Blank

Samples:

S701461-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

Bromoform (-27.3%)
Bromomethane (-26.5%)

This affected the following samples:

1700480-BLK1
1700480-BS1
1700480-BSD1
CDW-B1MW
CDW-B2MW
CDW-B3MW
Trip Blank

Sample Acceptance Check Form

Client:	CDW Consultants, Inc.
Project:	Winthrop Elementary - Ipswich, MA / 1505.2
Work Order:	SC30325
Sample(s) received on:	1/6/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples refrigerated upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☐	☑	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC30325-01 **Client ID:** CDW-B1MW

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Chloroform	1.00		1.00	µg/l	SW846 8260C
Dibromochloromethane	0.56		0.50	µg/l	SW846 8260C

Lab ID: SC30325-02 **Client ID:** CDW-B2MW

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	0.0142		0.0040	mg/l	SW846 6010C
Chromium	0.0106		0.0050	mg/l	SW846 6010C
Copper	0.0082		0.0050	mg/l	SW846 6010C
Nickel	0.0066		0.0050	mg/l	SW846 6010C
Zinc	0.0167		0.0050	mg/l	SW846 6010C
Bromodichloromethane	0.90		0.50	µg/l	SW846 8260C
Chloroform	1.20		1.00	µg/l	SW846 8260C
Dibromochloromethane	1.08		0.50	µg/l	SW846 8260C

Lab ID: SC30325-03 **Client ID:** CDW-B3MW

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Zinc	0.0052		0.0050	mg/l	SW846 6010C
Bromodichloromethane	0.71		0.50	µg/l	SW846 8260C
Dibromochloromethane	0.75		0.50	µg/l	SW846 8260C

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B1MW	1505.2	Ground Water	05-Jan-17 09:00	06-Jan-17
SC30325-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.89	1	SW846 8260C	10-Jan-17	10-Jan-17	GMA	1700480	
67-64-1	Acetone	< 10.0		µg/l	10.0	3.44	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	
71-43-2	Benzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.21	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.53	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.36	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.00		µg/l	2.00	0.90	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 2.00		µg/l	2.00	1.20	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 1.00		µg/l	1.00	0.34	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.30	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	0.41	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.60	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.22	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.00		µg/l	2.00	0.59	1	"	"	"	"	"	
67-66-3	Chloroform	**1.00**		µg/l	1.00	0.41	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.00		µg/l	2.00	0.40	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.26	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	0.86	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	**0.56**		µg/l	0.50	0.22	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.19	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.25	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.21	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.25	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00	0.83	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.29	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.26	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.31	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.22	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.48	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.30	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.43	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 2.00		µg/l	2.00	1.22	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B1MW	1505.2	Ground Water	05-Jan-17 09:00	06-Jan-17
SC30325-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.36	1	SW846 8260C	10-Jan-17	10-Jan-17	GMA	1700480	
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.41	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00		µg/l	2.00	0.87	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.79	1	"	"	"	"	"	
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.35	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
100-42-5	Styrene	< 1.00		µg/l	1.00	0.40	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.59	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.31	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.57	1	"	"	"	"	"	
108-88-3	Toluene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00	0.45	1	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.48	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.36	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.61	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.26	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00	0.27	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00	0.26	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.51	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	0.38	1	"	"	"	"	"	
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.47	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.06	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.43	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.24	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.24	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	5.98	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	12.7	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.00		µg/l	5.00	3.11	1	"	"	"	"	"	
64-17-5	Ethanol	< 200		µg/l	200	23.6	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*105*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*103*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*97*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*97*			*70-130 %*			"	"	"	"	"	
MADEP VPH													
Prepared by method VPH - EPA 5030C Water													
	C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0	12.7	1	MADEP VPH 5/2004 Rev. 1.1	11-Jan-17	11-Jan-17	MP	1700620	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B1MW	1505.2	Ground Water	05-Jan-17 09:00	06-Jan-17
SC30325-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
MADEP VPH													
	C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	3.84	1	MADEP VPH 5/2004 Rev. 1.1	11-Jan-17	11-Jan-17	MP	1700620	
	C9-C10 Aromatic Hydrocarbons	< 25.0		µg/l	25.0	1.41	1	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0	15.2	1	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	4.48	1	"	"	"	"	"	
71-43-2	Benzene	< 5.00		µg/l	5.00	1.92	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.00		µg/l	5.00	1.74	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 5.00		µg/l	5.00	2.29	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.00		µg/l	5.00	3.06	1	"	"	"	"	"	
108-88-3	Toluene	< 5.00		µg/l	5.00	1.54	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.0		µg/l	10.0	3.40	1	"	"	"	"	"	
95-47-6	o-Xylene	< 5.00		µg/l	5.00	1.64	1	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*99*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*100*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Prepared by method SW846 3510C													
	C9-C18 Aliphatic Hydrocarbons	< 110		µg/l	110	27.0	1	MADEP EPH 5/2004 R	10-Jan-17	11-Jan-17	NAA	1700460	
	C19-C36 Aliphatic Hydrocarbons	< 110		µg/l	110	19.1	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 110		µg/l	110	21.3	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 110		µg/l	110	21.3	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.49		µg/l	5.49	1.00	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 5.49		µg/l	5.49	0.846	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 5.49		µg/l	5.49	1.69	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 5.49		µg/l	5.49	1.62	1	"	"	"	"	"	
86-73-7	Fluorene	< 5.49		µg/l	5.49	1.34	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 5.49		µg/l	5.49	1.05	1	"	"	"	"	"	
120-12-7	Anthracene	< 5.49		µg/l	5.49	1.41	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 5.49		µg/l	5.49	1.12	1	"	"	"	"	"	
129-00-0	Pyrene	< 5.49		µg/l	5.49	1.85	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 5.49		µg/l	5.49	1.67	1	"	"	"	"	"	
218-01-9	Chrysene	< 5.49		µg/l	5.49	1.57	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 5.49		µg/l	5.49	1.34	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 5.49		µg/l	5.49	1.30	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 5.49		µg/l	5.49	1.69	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 5.49		µg/l	5.49	1.23	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 5.49		µg/l	5.49	1.14	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 5.49		µg/l	5.49	1.78	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*42*			*40-140 %*			"	"	"	"	"	

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B1MW	1505.2	Ground Water	05-Jan-17 09:00	06-Jan-17
SC30325-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Extractable Petroleum Hydrocarbons													
MADEP EPH													
84-15-1	*Ortho-Terphenyl*	*93*			*40-140 %*			MADEP EPH 5/2004 R	10-Jan-17	11-Jan-17	NAA	1700460	
321-60-8	*2-Fluorobiphenyl*	*57*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 200/6000 Series Methods													
Prepared by method General Prep-Metal													
	Preservation	**Field Preserved; pH<2 confirmed**		N/A			1	EPA 200/6000 methods	10-Jan-17		BK	1700516	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3005A													
7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0008	1	SW846 6010C	11-Jan-17	12-Jan-17	edt	1700510	
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0016	1	"	"	"	"	"	
7440-41-7	Beryllium	< 0.0020		mg/l	0.0020	0.0002	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.0025		mg/l	0.0025	0.0002	1	"	"	"	"	"	
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0007	1	"	"	"	"	"	
7440-50-8	Copper	< 0.0050		mg/l	0.0050	0.0012	1	"	"	"	"	"	
7440-02-0	Nickel	< 0.0050		mg/l	0.0050	0.0021	1	"	"	"	"	"	
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0022	1	"	"	"	"	"	
7440-36-0	Antimony	< 0.0060		mg/l	0.0060	0.0011	1	"	"	13-Jan-17	"	"	
7782-49-2	Selenium	< 0.0150		mg/l	0.0150	0.0036	1	"	"	12-Jan-17	"	"	
7440-28-0	Thallium	< 0.0050		mg/l	0.0050	0.0021	1	"	"	"	"	"	
7440-66-6	Zinc	< 0.0050		mg/l	0.0050	0.0024	1	"	"	13-Jan-17	"	"	
Total Metals by EPA 200 Series Methods													
7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00009	1	EPA 245.1/7470A	11-Jan-17	11-Jan-17	JLC	1700511	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B2MW	1505.2	Ground Water	05-Jan-17 10:35	06-Jan-17
SC30325-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.89	1	SW846 8260C	10-Jan-17	10-Jan-17	GMA	1700480	
67-64-1	Acetone	< 10.0		µg/l	10.0	3.44	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	
71-43-2	Benzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.21	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.53	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	**0.90**		µg/l	0.50	0.27	1	"	"	"	"	"	
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.36	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.00		µg/l	2.00	0.90	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 2.00		µg/l	2.00	1.20	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 1.00		µg/l	1.00	0.34	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.30	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	0.41	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.60	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.22	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.00		µg/l	2.00	0.59	1	"	"	"	"	"	
67-66-3	Chloroform	**1.20**		µg/l	1.00	0.41	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.00		µg/l	2.00	0.40	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.26	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	0.86	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	**1.08**		µg/l	0.50	0.22	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.19	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.25	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.21	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.25	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00	0.83	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.29	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.26	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.31	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.22	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.48	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.30	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.43	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 2.00		µg/l	2.00	1.22	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B2MW	1505.2	Ground Water	05-Jan-17 10:35	06-Jan-17
SC30325-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.36	1	SW846 8260C	10-Jan-17	10-Jan-17	GMA	1700480	
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.41	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00		µg/l	2.00	0.87	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.79	1	"	"	"	"	"	
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.35	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
100-42-5	Styrene	< 1.00		µg/l	1.00	0.40	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.59	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.31	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.57	1	"	"	"	"	"	
108-88-3	Toluene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00	0.45	1	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.48	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.36	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.61	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.26	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00	0.27	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00	0.26	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.51	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	0.38	1	"	"	"	"	"	
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.47	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.06	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.43	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.24	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.24	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	5.98	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	12.7	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.00		µg/l	5.00	3.11	1	"	"	"	"	"	
64-17-5	Ethanol	< 200		µg/l	200	23.6	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*105*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*103*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*101*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*			*70-130 %*			"	"	"	"	"	
MADEP VPH													
Prepared by method VPH - EPA 5030C Water													
	C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0	12.7	1	MADEP VPH 5/2004 Rev. 1.1	11-Jan-17	11-Jan-17	MP	1700620	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B2MW	1505.2	Ground Water	05-Jan-17 10:35	06-Jan-17
SC30325-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
MADEP VPH													
	C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	3.84	1	MADEP VPH 5/2004 Rev. 1.1	11-Jan-17	11-Jan-17	MP	1700620	
	C9-C10 Aromatic Hydrocarbons	< 25.0		µg/l	25.0	1.41	1	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0	15.2	1	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	4.48	1	"	"	"	"	"	
71-43-2	Benzene	< 5.00		µg/l	5.00	1.92	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.00		µg/l	5.00	1.74	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 5.00		µg/l	5.00	2.29	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.00		µg/l	5.00	3.06	1	"	"	"	"	"	
108-88-3	Toluene	< 5.00		µg/l	5.00	1.54	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.0		µg/l	10.0	3.40	1	"	"	"	"	"	
95-47-6	o-Xylene	< 5.00		µg/l	5.00	1.64	1	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*95*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*96*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Prepared by method SW846 3510C													
	C9-C18 Aliphatic Hydrocarbons	< 103		µg/l	103	25.3	1	MADEP EPH 5/2004 R	10-Jan-17	12-Jan-17	NAA	1700460	
	C19-C36 Aliphatic Hydrocarbons	< 103		µg/l	103	18.0	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 103		µg/l	103	19.9	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 103		µg/l	103	19.9	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.15		µg/l	5.15	0.938	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 5.15		µg/l	5.15	0.794	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 5.15		µg/l	5.15	1.59	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 5.15		µg/l	5.15	1.52	1	"	"	"	"	"	
86-73-7	Fluorene	< 5.15		µg/l	5.15	1.26	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 5.15		µg/l	5.15	0.990	1	"	"	"	"	"	
120-12-7	Anthracene	< 5.15		µg/l	5.15	1.32	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 5.15		µg/l	5.15	1.05	1	"	"	"	"	"	
129-00-0	Pyrene	< 5.15		µg/l	5.15	1.73	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 5.15		µg/l	5.15	1.57	1	"	"	"	"	"	
218-01-9	Chrysene	< 5.15		µg/l	5.15	1.47	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 5.15		µg/l	5.15	1.26	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 5.15		µg/l	5.15	1.22	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 5.15		µg/l	5.15	1.59	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 5.15		µg/l	5.15	1.15	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 5.15		µg/l	5.15	1.07	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 5.15		µg/l	5.15	1.67	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*46*			*40-140 %*			"	"	"	"	"	

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B2MW	1505.2	Ground Water	05-Jan-17 10:35	06-Jan-17
SC30325-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Extractable Petroleum Hydrocarbons													
MADEP EPH													
84-15-1	*Ortho-Terphenyl*	*90*			*40-140 %*			MADEP EPH 5/2004 R	10-Jan-17	12-Jan-17	NAA	1700460	
321-60-8	*2-Fluorobiphenyl*	*62*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 200/6000 Series Methods													
Prepared by method General Prep-Metal													
	Preservation	**Field Preserved; pH<2 confirmed**		N/A			1	EPA 200/6000 methods	10-Jan-17		BK	1700516	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3005A													
7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0008	1	SW846 6010C	11-Jan-17	12-Jan-17	edt	1700510	
7440-38-2	Arsenic	**0.0142**		mg/l	0.0040	0.0016	1	"	"	"	"	"	
7440-41-7	Beryllium	< 0.0020		mg/l	0.0020	0.0002	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.0025		mg/l	0.0025	0.0002	1	"	"	"	"	"	
7440-47-3	Chromium	**0.0106**		mg/l	0.0050	0.0007	1	"	"	"	"	"	
7440-50-8	Copper	**0.0082**		mg/l	0.0050	0.0012	1	"	"	"	"	"	
7440-02-0	Nickel	**0.0066**		mg/l	0.0050	0.0021	1	"	"	"	"	"	
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0022	1	"	"	"	"	"	
7440-36-0	Antimony	< 0.0060		mg/l	0.0060	0.0011	1	"	"	13-Jan-17	"	"	
7782-49-2	Selenium	< 0.0150		mg/l	0.0150	0.0036	1	"	"	12-Jan-17	"	"	
7440-28-0	Thallium	< 0.0050		mg/l	0.0050	0.0021	1	"	"	"	"	"	
7440-66-6	Zinc	**0.0167**		mg/l	0.0050	0.0024	1	"	"	13-Jan-17	"	"	
Total Metals by EPA 200 Series Methods													
7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00009	1	EPA 245.1/7470A	11-Jan-17	11-Jan-17	JLC	1700511	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B3MW	1505.2	Ground Water	05-Jan-17 13:10	06-Jan-17
SC30325-03				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.89	1	SW846 8260C	10-Jan-17	10-Jan-17	GMA	1700480	
67-64-1	Acetone	< 10.0		µg/l	10.0	3.44	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	
71-43-2	Benzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.21	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.53	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	**0.71**		µg/l	0.50	0.27	1	"	"	"	"	"	
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.36	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.00		µg/l	2.00	0.90	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 2.00		µg/l	2.00	1.20	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 1.00		µg/l	1.00	0.34	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.30	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	0.41	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.60	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.22	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.00		µg/l	2.00	0.59	1	"	"	"	"	"	
67-66-3	Chloroform	< 1.00		µg/l	1.00	0.41	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.00		µg/l	2.00	0.40	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.26	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	0.86	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	**0.75**		µg/l	0.50	0.22	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.19	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.25	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.21	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.25	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00	0.83	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.29	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.26	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.31	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.22	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.48	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.30	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.43	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 2.00		µg/l	2.00	1.22	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B3MW	1505.2	Ground Water	05-Jan-17 13:10	06-Jan-17
SC30325-03				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.36	1	SW846 8260C	10-Jan-17	10-Jan-17	GMA	1700480	
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.41	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00		µg/l	2.00	0.87	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.79	1	"	"	"	"	"	
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.35	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
100-42-5	Styrene	< 1.00		µg/l	1.00	0.40	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.59	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.31	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.57	1	"	"	"	"	"	
108-88-3	Toluene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00	0.45	1	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.48	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.36	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.61	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.26	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00	0.27	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00	0.26	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.51	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	0.38	1	"	"	"	"	"	
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.47	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.06	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.43	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.24	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.24	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	5.98	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	12.7	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.00		µg/l	5.00	3.11	1	"	"	"	"	"	
64-17-5	Ethanol	< 200		µg/l	200	23.6	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*106*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*103*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*100*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*101*			*70-130 %*			"	"	"	"	"	
MADEP VPH													
Prepared by method VPH - EPA 5030C Water													
	C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0	12.7	1	MADEP VPH 5/2004 Rev. 1.1	11-Jan-17	11-Jan-17	MP	1700620	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B3MW	1505.2	Ground Water	05-Jan-17 13:10	06-Jan-17
SC30325-03				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
MADEP VPH													
	C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	3.84	1	MADEP VPH 5/2004 Rev. 1.1	11-Jan-17	11-Jan-17	MP	1700620	
	C9-C10 Aromatic Hydrocarbons	< 25.0		µg/l	25.0	1.41	1	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0	15.2	1	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	4.48	1	"	"	"	"	"	
71-43-2	Benzene	< 5.00		µg/l	5.00	1.92	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.00		µg/l	5.00	1.74	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 5.00		µg/l	5.00	2.29	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.00		µg/l	5.00	3.06	1	"	"	"	"	"	
108-88-3	Toluene	< 5.00		µg/l	5.00	1.54	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.0		µg/l	10.0	3.40	1	"	"	"	"	"	
95-47-6	o-Xylene	< 5.00		µg/l	5.00	1.64	1	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*96*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*96*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Prepared by method SW846 3510C													
	C9-C18 Aliphatic Hydrocarbons	< 102		µg/l	102	25.1	1	MADEP EPH 5/2004 R	10-Jan-17	12-Jan-17	NAA	1700460	
	C19-C36 Aliphatic Hydrocarbons	< 102		µg/l	102	17.8	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 102		µg/l	102	19.7	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 102		µg/l	102	19.7	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.10		µg/l	5.10	0.929	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 5.10		µg/l	5.10	0.786	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 5.10		µg/l	5.10	1.57	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 5.10		µg/l	5.10	1.50	1	"	"	"	"	"	
86-73-7	Fluorene	< 5.10		µg/l	5.10	1.24	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 5.10		µg/l	5.10	0.980	1	"	"	"	"	"	
120-12-7	Anthracene	< 5.10		µg/l	5.10	1.31	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 5.10		µg/l	5.10	1.04	1	"	"	"	"	"	
129-00-0	Pyrene	< 5.10		µg/l	5.10	1.71	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 5.10		µg/l	5.10	1.55	1	"	"	"	"	"	
218-01-9	Chrysene	< 5.10		µg/l	5.10	1.46	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 5.10		µg/l	5.10	1.24	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 5.10		µg/l	5.10	1.20	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 5.10		µg/l	5.10	1.57	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 5.10		µg/l	5.10	1.14	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 5.10		µg/l	5.10	1.06	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 5.10		µg/l	5.10	1.65	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*43*			*40-140 %*			"	"	"	"	"	

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CDW-B3MW	1505.2	Ground Water	05-Jan-17 13:10	06-Jan-17
SC30325-03				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Extractable Petroleum Hydrocarbons													
MADEP EPH													
84-15-1	*Ortho-Terphenyl*	*93*			*40-140 %*			MADEP EPH 5/2004 R	10-Jan-17	12-Jan-17	NAA	1700460	
321-60-8	*2-Fluorobiphenyl*	*45*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 200/6000 Series Methods													
Prepared by method General Prep-Metal													
	Preservation	**Field Preserved; pH<2 confirmed**		N/A			1	EPA 200/6000 methods	10-Jan-17		BK	1700516	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3005A													
7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0008	1	SW846 6010C	11-Jan-17	12-Jan-17	edt	1700510	
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0016	1	"	"	"	"	"	
7440-41-7	Beryllium	< 0.0020		mg/l	0.0020	0.0002	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.0025		mg/l	0.0025	0.0002	1	"	"	"	"	"	
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0007	1	"	"	"	"	"	
7440-50-8	Copper	< 0.0050		mg/l	0.0050	0.0012	1	"	"	"	"	"	
7440-02-0	Nickel	< 0.0050		mg/l	0.0050	0.0021	1	"	"	"	"	"	
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0022	1	"	"	"	"	"	
7440-36-0	Antimony	< 0.0060		mg/l	0.0060	0.0011	1	"	"	13-Jan-17	"	"	
7782-49-2	Selenium	< 0.0150		mg/l	0.0150	0.0036	1	"	"	12-Jan-17	"	"	
7440-28-0	Thallium	< 0.0050		mg/l	0.0050	0.0021	1	"	"	"	"	"	
7440-66-6	Zinc	**0.0052**		mg/l	0.0050	0.0024	1	"	"	13-Jan-17	"	"	
Total Metals by EPA 200 Series Methods													
7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00009	1	EPA 245.1/7470A	11-Jan-17	11-Jan-17	JLC	1700511	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip Blank	1505.2	Aqueous	05-Jan-17 00:00	06-Jan-17
SC30325-04				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.89	1	SW846 8260C	10-Jan-17	10-Jan-17	GMA	1700480	
67-64-1	Acetone	< 10.0		µg/l	10.0	3.44	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	
71-43-2	Benzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.21	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.53	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.36	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.00		µg/l	2.00	0.90	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 2.00		µg/l	2.00	1.20	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 1.00		µg/l	1.00	0.34	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.30	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	0.41	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.60	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.22	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.00		µg/l	2.00	0.59	1	"	"	"	"	"	
67-66-3	Chloroform	< 1.00		µg/l	1.00	0.41	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.00		µg/l	2.00	0.40	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.26	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	0.86	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.19	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.25	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.21	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.25	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00	0.83	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.29	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.26	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.31	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.22	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.48	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.30	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.43	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 2.00		µg/l	2.00	1.22	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip Blank	1505.2	Aqueous	05-Jan-17 00:00	06-Jan-17
SC30325-04				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.36	1	SW846 8260C	10-Jan-17	10-Jan-17	GMA	1700480	
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.41	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00		µg/l	2.00	0.87	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.79	1	"	"	"	"	"	
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.35	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
100-42-5	Styrene	< 1.00		µg/l	1.00	0.40	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.59	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.31	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.57	1	"	"	"	"	"	
108-88-3	Toluene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00	0.45	1	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.48	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.36	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.61	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.26	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00	0.27	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00	0.26	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.51	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	0.38	1	"	"	"	"	"	
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.47	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.06	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.43	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.24	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.24	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	5.98	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	12.7	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.00		µg/l	5.00	3.11	1	"	"	"	"	"	
64-17-5	Ethanol	< 200		µg/l	200	23.6	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*104*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*101*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*100*			*70-130 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700480 - SW846 5030 Water MS										
Blank (1700480-BLK1)					Prepared & Analyzed: 10-Jan-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00						
Acetone	< 10.0		µg/l	10.0						
Acrylonitrile	< 0.50		µg/l	0.50						
Benzene	< 1.00		µg/l	1.00						
Bromobenzene	< 1.00		µg/l	1.00						
Bromochloromethane	< 1.00		µg/l	1.00						
Bromodichloromethane	< 0.50		µg/l	0.50						
Bromoform	< 1.00		µg/l	1.00						
Bromomethane	< 2.00		µg/l	2.00						
2-Butanone (MEK)	< 2.00		µg/l	2.00						
n-Butylbenzene	< 1.00		µg/l	1.00						
sec-Butylbenzene	< 1.00		µg/l	1.00						
tert-Butylbenzene	< 1.00		µg/l	1.00						
Carbon disulfide	< 2.00		µg/l	2.00						
Carbon tetrachloride	< 1.00		µg/l	1.00						
Chlorobenzene	< 1.00		µg/l	1.00						
Chloroethane	< 2.00		µg/l	2.00						
Chloroform	< 1.00		µg/l	1.00						
Chloromethane	< 2.00		µg/l	2.00						
2-Chlorotoluene	< 1.00		µg/l	1.00						
4-Chlorotoluene	< 1.00		µg/l	1.00						
1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00						
Dibromochloromethane	< 0.50		µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50						
Dibromomethane	< 1.00		µg/l	1.00						
1,2-Dichlorobenzene	< 1.00		µg/l	1.00						
1,3-Dichlorobenzene	< 1.00		µg/l	1.00						
1,4-Dichlorobenzene	< 1.00		µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00						
1,1-Dichloroethane	< 1.00		µg/l	1.00						
1,2-Dichloroethane	< 1.00		µg/l	1.00						
1,1-Dichloroethene	< 1.00		µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00		µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00		µg/l	1.00						
1,2-Dichloropropane	< 1.00		µg/l	1.00						
1,3-Dichloropropane	< 1.00		µg/l	1.00						
2,2-Dichloropropane	< 1.00		µg/l	1.00						
1,1-Dichloropropene	< 1.00		µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50		µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50		µg/l	0.50						
Ethylbenzene	< 1.00		µg/l	1.00						
Hexachlorobutadiene	< 0.50		µg/l	0.50						
2-Hexanone (MBK)	< 2.00		µg/l	2.00						
Isopropylbenzene	< 1.00		µg/l	1.00						
4-Isopropyltoluene	< 1.00		µg/l	1.00						
Methyl tert-butyl ether	< 1.00		µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 2.00		µg/l	2.00						
Methylene chloride	< 2.00		µg/l	2.00						
Naphthalene	< 1.00		µg/l	1.00						
n-Propylbenzene	< 1.00		µg/l	1.00						
Styrene	< 1.00		µg/l	1.00						
1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700480 - SW846 5030 Water MS										
Blank (1700480-BLK1)					Prepared & Analyzed: 10-Jan-17					
1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50						
Tetrachloroethene	< 1.00		µg/l	1.00						
Toluene	< 1.00		µg/l	1.00						
1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00						
1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00						
1,1,1-Trichloroethane	< 1.00		µg/l	1.00						
1,1,2-Trichloroethane	< 1.00		µg/l	1.00						
Trichloroethene	< 1.00		µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00						
1,2,3-Trichloropropane	< 1.00		µg/l	1.00						
1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00						
1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00						
Vinyl chloride	< 1.00		µg/l	1.00						
m,p-Xylene	< 2.00		µg/l	2.00						
o-Xylene	< 1.00		µg/l	1.00						
Tetrahydrofuran	< 2.00		µg/l	2.00						
Ethyl ether	< 1.00		µg/l	1.00						
Tert-amyl methyl ether	< 1.00		µg/l	1.00						
Ethyl tert-butyl ether	< 1.00		µg/l	1.00						
Di-isopropyl ether	< 1.00		µg/l	1.00						
Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0						
1,4-Dioxane	< 20.0		µg/l	20.0						
trans-1,4-Dichloro-2-butene	< 5.00		µg/l	5.00						
Ethanol	< 200		µg/l	200						
Surrogate: 4-Bromofluorobenzene	*52.1*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*50.2*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.6*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*49.9*		µg/l		*50.0*		*100*	*70-130*		
LCS (1700480-BS1)					Prepared & Analyzed: 10-Jan-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**22.2**		µg/l		20.0		111	70-130		
Acetone	**22.7**		µg/l		20.0		113	70-130		
Acrylonitrile	**19.3**		µg/l		20.0		96	70-130		
Benzene	**19.9**		µg/l		20.0		100	70-130		
Bromobenzene	**18.6**		µg/l		20.0		93	70-130		
Bromochloromethane	**19.3**		µg/l		20.0		97	70-130		
Bromodichloromethane	**18.6**		µg/l		20.0		93	70-130		
Bromoform	**14.8**		µg/l		20.0		74	70-130		
Bromomethane	**14.9**		µg/l		20.0		74	70-130		
2-Butanone (MEK)	**16.4**		µg/l		20.0		82	70-130		
n-Butylbenzene	**19.3**		µg/l		20.0		97	70-130		
sec-Butylbenzene	**19.9**		µg/l		20.0		99	70-130		
tert-Butylbenzene	**19.7**		µg/l		20.0		99	70-130		
Carbon disulfide	**19.6**		µg/l		20.0		98	70-130		
Carbon tetrachloride	**17.6**		µg/l		20.0		88	70-130		
Chlorobenzene	**19.1**		µg/l		20.0		96	70-130		
Chloroethane	**18.5**		µg/l		20.0		92	70-130		
Chloroform	**20.3**		µg/l		20.0		101	70-130		
Chloromethane	**18.2**		µg/l		20.0		91	70-130		
2-Chlorotoluene	**18.9**		µg/l		20.0		94	70-130		
4-Chlorotoluene	**18.9**		µg/l		20.0		95	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700480 - SW846 5030 Water MS										
LCS (1700480-BS1)					Prepared & Analyzed: 10-Jan-17					
1,2-Dibromo-3-chloropropane	**17.2**		µg/l		20.0		86	70-130		
Dibromochloromethane	**17.4**		µg/l		20.0		87	70-130		
1,2-Dibromoethane (EDB)	**20.1**		µg/l		20.0		101	70-130		
Dibromomethane	**20.1**		µg/l		20.0		101	70-130		
1,2-Dichlorobenzene	**19.0**		µg/l		20.0		95	70-130		
1,3-Dichlorobenzene	**18.4**		µg/l		20.0		92	70-130		
1,4-Dichlorobenzene	**18.1**		µg/l		20.0		90	70-130		
Dichlorodifluoromethane (Freon12)	**20.5**		µg/l		20.0		103	70-130		
1,1-Dichloroethane	**19.9**		µg/l		20.0		100	70-130		
1,2-Dichloroethane	**20.7**		µg/l		20.0		104	70-130		
1,1-Dichloroethene	**21.4**		µg/l		20.0		107	70-130		
cis-1,2-Dichloroethene	**19.9**		µg/l		20.0		99	70-130		
trans-1,2-Dichloroethene	**16.0**		µg/l		20.0		80	70-130		
1,2-Dichloropropane	**19.8**		µg/l		20.0		99	70-130		
1,3-Dichloropropane	**20.8**		µg/l		20.0		104	70-130		
2,2-Dichloropropane	**18.9**		µg/l		20.0		94	70-130		
1,1-Dichloropropene	**21.2**		µg/l		20.0		106	70-130		
cis-1,3-Dichloropropene	**18.2**		µg/l		20.0		91	70-130		
trans-1,3-Dichloropropene	**18.1**		µg/l		20.0		91	70-130		
Ethylbenzene	**19.4**		µg/l		20.0		97	70-130		
Hexachlorobutadiene	**17.5**		µg/l		20.0		88	70-130		
2-Hexanone (MBK)	**21.1**		µg/l		20.0		105	70-130		
Isopropylbenzene	**20.0**		µg/l		20.0		100	70-130		
4-Isopropyltoluene	**19.8**		µg/l		20.0		99	70-130		
Methyl tert-butyl ether	**19.5**		µg/l		20.0		98	70-130		
4-Methyl-2-pentanone (MIBK)	**20.9**		µg/l		20.0		104	70-130		
Methylene chloride	**19.2**		µg/l		20.0		96	70-130		
Naphthalene	**19.9**		µg/l		20.0		100	70-130		
n-Propylbenzene	**19.9**		µg/l		20.0		100	70-130		
Styrene	**19.3**		µg/l		20.0		96	70-130		
1,1,1,2-Tetrachloroethane	**16.7**		µg/l		20.0		83	70-130		
1,1,2,2-Tetrachloroethane	**19.8**		µg/l		20.0		99	70-130		
Tetrachloroethene	**20.5**		µg/l		20.0		102	70-130		
Toluene	**20.0**		µg/l		20.0		100	70-130		
1,2,3-Trichlorobenzene	**19.1**		µg/l		20.0		95	70-130		
1,2,4-Trichlorobenzene	**18.2**		µg/l		20.0		91	70-130		
1,3,5-Trichlorobenzene	**18.3**		µg/l		20.0		91	70-130		
1,1,1-Trichloroethane	**20.5**		µg/l		20.0		102	70-130		
1,1,2-Trichloroethane	**20.5**		µg/l		20.0		103	70-130		
Trichloroethene	**20.9**		µg/l		20.0		105	70-130		
Trichlorofluoromethane (Freon 11)	**22.2**		µg/l		20.0		111	70-130		
1,2,3-Trichloropropane	**19.7**		µg/l		20.0		98	70-130		
1,2,4-Trimethylbenzene	**19.2**		µg/l		20.0		96	70-130		
1,3,5-Trimethylbenzene	**19.7**		µg/l		20.0		98	70-130		
Vinyl chloride	**19.1**		µg/l		20.0		96	70-130		
m,p-Xylene	**19.1**		µg/l		20.0		95	70-130		
o-Xylene	**19.8**		µg/l		20.0		99	70-130		
Tetrahydrofuran	**19.7**		µg/l		20.0		98	70-130		
Ethyl ether	**19.5**		µg/l		20.0		98	70-130		
Tert-amyl methyl ether	**19.2**		µg/l		20.0		96	70-130		
Ethyl tert-butyl ether	**19.8**		µg/l		20.0		99	70-130		
Di-isopropyl ether	**19.7**		µg/l		20.0		99	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700480 - SW846 5030 Water MS										
LCS (1700480-BS1)					Prepared & Analyzed: 10-Jan-17					
Tert-Butanol / butyl alcohol	**195**		µg/l		200		97	70-130		
1,4-Dioxane	**214**		µg/l		200		107	70-130		
trans-1,4-Dichloro-2-butene	**17.4**		µg/l		20.0		87	70-130		
Ethanol	**426**		µg/l		400		106	70-130		
Surrogate: 4-Bromofluorobenzene	*51.6*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*51.6*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.6*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*51.6*		µg/l		*50.0*		*103*	*70-130*		
LCS Dup (1700480-BSD1)					Prepared & Analyzed: 10-Jan-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.6**		µg/l		20.0		103	70-130	7	20
Acetone	**22.4**		µg/l		20.0		112	70-130	1	20
Acrylonitrile	**19.8**		µg/l		20.0		99	70-130	2	20
Benzene	**18.8**		µg/l		20.0		94	70-130	6	20
Bromobenzene	**18.2**		µg/l		20.0		91	70-130	2	20
Bromochloromethane	**19.7**		µg/l		20.0		99	70-130	2	20
Bromodichloromethane	**18.0**		µg/l		20.0		90	70-130	3	20
Bromoform	**14.8**		µg/l		20.0		74	70-130	0.2	20
Bromomethane	**14.1**		µg/l		20.0		70	70-130	6	20
2-Butanone (MEK)	**16.9**		µg/l		20.0		84	70-130	3	20
n-Butylbenzene	**17.8**		µg/l		20.0		89	70-130	8	20
sec-Butylbenzene	**18.5**		µg/l		20.0		93	70-130	7	20
tert-Butylbenzene	**18.6**		µg/l		20.0		93	70-130	6	20
Carbon disulfide	**17.9**		µg/l		20.0		90	70-130	9	20
Carbon tetrachloride	**16.3**		µg/l		20.0		81	70-130	8	20
Chlorobenzene	**18.2**		µg/l		20.0		91	70-130	5	20
Chloroethane	**17.8**		µg/l		20.0		89	70-130	4	20
Chloroform	**19.3**		µg/l		20.0		96	70-130	5	20
Chloromethane	**16.7**		µg/l		20.0		84	70-130	8	20
2-Chlorotoluene	**18.0**		µg/l		20.0		90	70-130	5	20
4-Chlorotoluene	**18.0**		µg/l		20.0		90	70-130	5	20
1,2-Dibromo-3-chloropropane	**17.6**		µg/l		20.0		88	70-130	2	20
Dibromochloromethane	**17.4**		µg/l		20.0		87	70-130	0.06	20
1,2-Dibromoethane (EDB)	**20.0**		µg/l		20.0		100	70-130	0.3	20
Dibromomethane	**20.0**		µg/l		20.0		100	70-130	0.5	20
1,2-Dichlorobenzene	**17.8**		µg/l		20.0		89	70-130	6	20
1,3-Dichlorobenzene	**17.8**		µg/l		20.0		89	70-130	4	20
1,4-Dichlorobenzene	**17.0**		µg/l		20.0		85	70-130	6	20
Dichlorodifluoromethane (Freon12)	**19.6**		µg/l		20.0		98	70-130	5	20
1,1-Dichloroethane	**19.2**		µg/l		20.0		96	70-130	4	20
1,2-Dichloroethane	**19.8**		µg/l		20.0		99	70-130	4	20
1,1-Dichloroethene	**20.2**		µg/l		20.0		101	70-130	6	20
cis-1,2-Dichloroethene	**19.1**		µg/l		20.0		96	70-130	4	20
trans-1,2-Dichloroethene	**15.0**		µg/l		20.0		75	70-130	6	20
1,2-Dichloropropane	**20.3**		µg/l		20.0		101	70-130	2	20
1,3-Dichloropropane	**20.6**		µg/l		20.0		103	70-130	0.7	20
2,2-Dichloropropane	**18.1**		µg/l		20.0		91	70-130	4	20
1,1-Dichloropropene	**19.8**		µg/l		20.0		99	70-130	7	20
cis-1,3-Dichloropropene	**17.5**		µg/l		20.0		88	70-130	4	20
trans-1,3-Dichloropropene	**17.5**		µg/l		20.0		87	70-130	4	20
Ethylbenzene	**18.4**		µg/l		20.0		92	70-130	5	20
Hexachlorobutadiene	**15.7**		µg/l		20.0		79	70-130	11	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700480 - SW846 5030 Water MS										
LCS Dup (1700480-BSD1)					Prepared & Analyzed: 10-Jan-17					
2-Hexanone (MBK)	**20.8**		µg/l		20.0		104	70-130	1	20
Isopropylbenzene	**18.9**		µg/l		20.0		94	70-130	6	20
4-Isopropyltoluene	**18.3**		µg/l		20.0		91	70-130	8	20
Methyl tert-butyl ether	**19.5**		µg/l		20.0		98	70-130	0.1	20
4-Methyl-2-pentanone (MIBK)	**20.8**		µg/l		20.0		104	70-130	0.1	20
Methylene chloride	**17.7**		µg/l		20.0		89	70-130	8	20
Naphthalene	**19.1**		µg/l		20.0		95	70-130	4	20
n-Propylbenzene	**18.6**		µg/l		20.0		93	70-130	7	20
Styrene	**17.6**		µg/l		20.0		88	70-130	9	20
1,1,1,2-Tetrachloroethane	**16.0**		µg/l		20.0		80	70-130	4	20
1,1,2,2-Tetrachloroethane	**20.1**		µg/l		20.0		101	70-130	2	20
Tetrachloroethene	**19.7**		µg/l		20.0		98	70-130	4	20
Toluene	**19.6**		µg/l		20.0		98	70-130	2	20
1,2,3-Trichlorobenzene	**18.2**		µg/l		20.0		91	70-130	5	20
1,2,4-Trichlorobenzene	**17.2**		µg/l		20.0		86	70-130	6	20
1,3,5-Trichlorobenzene	**17.0**		µg/l		20.0		85	70-130	7	20
1,1,1-Trichloroethane	**19.4**		µg/l		20.0		97	70-130	6	20
1,1,2-Trichloroethane	**20.7**		µg/l		20.0		104	70-130	0.8	20
Trichloroethene	**19.6**		µg/l		20.0		98	70-130	7	20
Trichlorofluoromethane (Freon 11)	**21.1**		µg/l		20.0		105	70-130	5	20
1,2,3-Trichloropropane	**19.7**		µg/l		20.0		99	70-130	0.3	20
1,2,4-Trimethylbenzene	**17.5**		µg/l		20.0		88	70-130	9	20
1,3,5-Trimethylbenzene	**17.5**		µg/l		20.0		87	70-130	12	20
Vinyl chloride	**18.4**		µg/l		20.0		92	70-130	4	20
m,p-Xylene	**18.0**		µg/l		20.0		90	70-130	6	20
o-Xylene	**18.6**		µg/l		20.0		93	70-130	6	20
Tetrahydrofuran	**20.2**		µg/l		20.0		101	70-130	3	20
Ethyl ether	**18.4**		µg/l		20.0		92	70-130	6	20
Tert-amyl methyl ether	**18.8**		µg/l		20.0		94	70-130	2	20
Ethyl tert-butyl ether	**19.8**		µg/l		20.0		99	70-130	0.4	20
Di-isopropyl ether	**19.4**		µg/l		20.0		97	70-130	2	20
Tert-Butanol / butyl alcohol	**197**		µg/l		200		99	70-130	1	20
1,4-Dioxane	**215**		µg/l		200		107	70-130	0.4	20
trans-1,4-Dichloro-2-butene	**16.0**		µg/l		20.0		80	70-130	8	20
Ethanol	**425**		µg/l		400		106	70-130	0.2	20
Surrogate: 4-Bromofluorobenzene	*49.8*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*51.5*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*51.2*		µg/l		*50.0*		*102*	*70-130*		
Batch 1700620 - VPH - EPA 5030C Water										
Blank (1700620-BLK1)					Prepared & Analyzed: 11-Jan-17					
C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0						
C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0						
C9-C10 Aromatic Hydrocarbons	< 25.0		µg/l	25.0						
Unadjusted C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0						
Unadjusted C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0						
Benzene	< 5.00		µg/l	5.00						
Ethylbenzene	< 5.00		µg/l	5.00						
Methyl tert-butyl ether	< 5.00		µg/l	5.00						
Naphthalene	< 5.00		µg/l	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700620 - VPH - EPA 5030C Water										
Blank (1700620-BLK1)					Prepared & Analyzed: 11-Jan-17					
Toluene	< 5.00		µg/l	5.00						
m,p-Xylene	< 10.0		µg/l	10.0						
o-Xylene	< 5.00		µg/l	5.00						
2-Methylpentane	< 5.00		µg/l	5.00						
n-Nonane	< 10.0		µg/l	10.0						
n-Pentane	< 10.0		µg/l	10.0						
1,2,4-Trimethylbenzene	< 5.00		µg/l	5.00						
2,2,4-Trimethylpentane	< 5.00		µg/l	5.00						
n-Butylcyclohexane	< 5.00		µg/l	5.00						
n-Decane	< 5.00		µg/l	5.00						
Surrogate: 2,5-Dibromotoluene (FID)	*49.3*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*50.4*		µg/l		*50.0*		*101*	*70-130*		
LCS (1700620-BS1)					Prepared & Analyzed: 11-Jan-17					
C5-C8 Aliphatic Hydrocarbons	**61.9**		µg/l		60.0		103	70-130		
C9-C12 Aliphatic Hydrocarbons	**57.4**		µg/l		60.0		96	70-130		
C9-C10 Aromatic Hydrocarbons	**22.4**		µg/l		20.0		112	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**210**		µg/l		200		105	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**79.8**		µg/l		80.0		100	70-130		
Benzene	**20.7**		µg/l		20.0		103	70-130		
Ethylbenzene	**21.6**		µg/l		20.0		108	70-130		
Methyl tert-butyl ether	**19.4**		µg/l		20.0		97	70-130		
Naphthalene	**19.3**		µg/l		20.0		97	70-130		
Toluene	**21.2**		µg/l		20.0		106	70-130		
m,p-Xylene	**43.1**		µg/l		40.0		108	70-130		
o-Xylene	**21.8**		µg/l		20.0		109	70-130		
2-Methylpentane	**20.3**		µg/l		20.0		101	70-130		
n-Nonane	**18.4**		µg/l		20.0		92	70-130		
n-Pentane	**20.7**		µg/l		20.0		103	70-130		
1,2,4-Trimethylbenzene	**22.2**		µg/l		20.0		111	70-130		
2,2,4-Trimethylpentane	**20.5**		µg/l		20.0		103	70-130		
n-Butylcyclohexane	**18.9**		µg/l		20.0		94	70-130		
n-Decane	**16.3**		µg/l		20.0		82	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*54.5*		µg/l		*50.0*		*109*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*55.8*		µg/l		*50.0*		*112*	*70-130*		
LCS Dup (1700620-BSD1)					Prepared & Analyzed: 11-Jan-17					
C9-C12 Aliphatic Hydrocarbons	**60.1**		µg/l		60.0		100	70-130	5	25
C5-C8 Aliphatic Hydrocarbons	**56.8**		µg/l		60.0		95	70-130	9	25
C9-C10 Aromatic Hydrocarbons	**22.6**		µg/l		20.0		113	70-130	0.8	25
Unadjusted C5-C8 Aliphatic Hydrocarbons	**212**		µg/l		200		106	70-130	1	25
Unadjusted C9-C12 Aliphatic Hydrocarbons	**82.7**		µg/l		80.0		103	70-130	4	25
Benzene	**21.7**		µg/l		20.0		109	70-130	5	25
Ethylbenzene	**22.6**		µg/l		20.0		113	70-130	4	25
Methyl tert-butyl ether	**20.7**		µg/l		20.0		104	70-130	7	25
Naphthalene	**19.8**		µg/l		20.0		99	70-130	2	25
Toluene	**22.3**		µg/l		20.0		111	70-130	5	25
m,p-Xylene	**45.2**		µg/l		40.0		113	70-130	5	25
o-Xylene	**22.7**		µg/l		20.0		114	70-130	4	25
2-Methylpentane	**19.7**		µg/l		20.0		98	70-130	3	25
n-Nonane	**19.2**		µg/l		20.0		96	70-130	4	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700620 - VPH - EPA 5030C Water										
LCS Dup (1700620-BSD1)					Prepared & Analyzed: 11-Jan-17					
n-Pentane	**20.0**		µg/l		20.0		100	70-130	3	25
1,2,4-Trimethylbenzene	**23.2**		µg/l		20.0		116	70-130	4	25
2,2,4-Trimethylpentane	**19.9**		µg/l		20.0		99	70-130	3	25
n-Butylcyclohexane	**20.0**		µg/l		20.0		100	70-130	6	25
n-Decane	**20.5**		µg/l		20.0		103	70-130	23	25
Surrogate: 2,5-Dibromotoluene (FID)	*51.3*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*52.1*		µg/l		*50.0*		*104*	*70-130*		
MRL Check (1700620-MRL1)					Prepared & Analyzed: 11-Jan-17					
C5-C8 Aliphatic Hydrocarbons	**2.00**		µg/l		3.00		67	0-200		
C9-C12 Aliphatic Hydrocarbons	**3.27**		µg/l		3.00		109	0-200		
C9-C10 Aromatic Hydrocarbons	**1.12**		µg/l		1.00		112	0-200		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**9.48**		µg/l		10.0		95	0-200		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**4.39**		µg/l		4.00		110	0-200		
Benzene	**1.07**		µg/l		1.00		107	0-200		
Ethylbenzene	**1.09**		µg/l		1.00		109	0-200		
Methyl tert-butyl ether	**1.16**		µg/l		1.00		116	0-200		
Naphthalene	**0.967**		µg/l		1.00		97	0-200		
Toluene	**1.01**		µg/l		1.00		101	0-200		
m,p-Xylene	**2.13**		µg/l		2.00		107	0-200		
o-Xylene	**1.02**		µg/l		1.00		102	0-200		
2-Methylpentane	**0.893**		µg/l		1.00		89	0-200		
n-Nonane	**0.851**		µg/l		1.00		85	0-200		
n-Pentane	**0.967**		µg/l		1.00		97	0-200		
1,2,4-Trimethylbenzene	**1.11**		µg/l		1.00		111	0-200		
2,2,4-Trimethylpentane	**0.858**		µg/l		1.00		86	0-200		
n-Butylcyclohexane	**1.00**		µg/l		1.00		100	0-200		
n-Decane	**0.877**		µg/l		1.00		88	0-200		
Surrogate: 2,5-Dibromotoluene (FID)	*47.0*		µg/l		*50.0*		*94*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*47.3*		µg/l		*50.0*		*95*	*70-130*		
MRL Check (1700620-MRL2)					Prepared & Analyzed: 11-Jan-17					
C5-C8 Aliphatic Hydrocarbons	**2.84**		µg/l		3.00		95	0-200		
C9-C12 Aliphatic Hydrocarbons	**3.53**		µg/l		3.00		118	0-200		
C9-C10 Aromatic Hydrocarbons	**0.935**		µg/l		1.00		94	0-200		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**9.33**		µg/l		10.0		93	0-200		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**4.47**		µg/l		4.00		112	0-200		
Benzene	**0.893**		µg/l		1.00		89	0-200		
Ethylbenzene	**0.938**		µg/l		1.00		94	0-200		
Methyl tert-butyl ether	**0.994**		µg/l		1.00		99	0-200		
Naphthalene	**0.954**		µg/l		1.00		95	0-200		
Toluene	**0.927**		µg/l		1.00		93	0-200		
m,p-Xylene	**1.85**		µg/l		2.00		93	0-200		
o-Xylene	**0.889**		µg/l		1.00		89	0-200		
2-Methylpentane	**0.869**		µg/l		1.00		87	0-200		
n-Nonane	**0.741**		µg/l		1.00		74	0-200		
n-Pentane	**0.941**		µg/l		1.00		94	0-200		
1,2,4-Trimethylbenzene	**0.968**		µg/l		1.00		97	0-200		
2,2,4-Trimethylpentane	**0.813**		µg/l		1.00		81	0-200		
n-Butylcyclohexane	**0.733**		µg/l		1.00		73	0-200		
n-Decane	**0.931**		µg/l		1.00		93	0-200		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700620 - VPH - EPA 5030C Water										
MRL Check (1700620-MRL2)						Prepared & Analyzed: 11-Jan-17				
Surrogate: 2,5-Dibromotoluene (FID)	*50.1*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*49.8*		µg/l		*50.0*		*100*	*70-130*		
MRL Check (1700620-MRL3)						Prepared: 11-Jan-17 Analyzed: 12-Jan-17				
C9-C12 Aliphatic Hydrocarbons	**3.13**		µg/l		3.00		104	0-200		
C5-C8 Aliphatic Hydrocarbons	**2.30**		µg/l		3.00		77	0-200		
C9-C10 Aromatic Hydrocarbons	**1.12**		µg/l		1.00		112	0-200		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**9.82**		µg/l		10.0		98	0-200		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**4.26**		µg/l		4.00		106	0-200		
Benzene	**1.04**		µg/l		1.00		104	0-200		
Ethylbenzene	**1.10**		µg/l		1.00		110	0-200		
Methyl tert-butyl ether	**1.00**		µg/l		1.00		100	0-200		
Naphthalene	**0.857**		µg/l		1.00		86	0-200		
Toluene	**1.10**		µg/l		1.00		110	0-200		
m,p-Xylene	**2.21**		µg/l		2.00		111	0-200		
o-Xylene	**1.07**		µg/l		1.00		107	0-200		
2-Methylpentane	**1.02**		µg/l		1.00		102	0-200		
n-Nonane	**0.943**		µg/l		1.00		94	0-200		
n-Pentane	**0.936**		µg/l		1.00		94	0-200		
1,2,4-Trimethylbenzene	**1.11**		µg/l		1.00		111	0-200		
2,2,4-Trimethylpentane	**0.897**		µg/l		1.00		90	0-200		
n-Butylcyclohexane	**0.896**		µg/l		1.00		90	0-200		
n-Decane	**1.04**		µg/l		1.00		104	0-200		
Surrogate: 2,5-Dibromotoluene (FID)	*45.5*		µg/l		*50.0*		*91*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*45.1*		µg/l		*50.0*		*90*	*70-130*		
MRL Check (1700620-MRL4)						Prepared: 11-Jan-17 Analyzed: 12-Jan-17				
C9-C12 Aliphatic Hydrocarbons	**3.45**		µg/l		3.00		115	0-200		
C5-C8 Aliphatic Hydrocarbons	**3.08**		µg/l		3.00		103	0-200		
C9-C10 Aromatic Hydrocarbons	**1.11**		µg/l		1.00		111	0-200		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**9.44**		µg/l		10.0		94	0-200		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**4.56**		µg/l		4.00		114	0-200		
Benzene	**0.878**		µg/l		1.00		88	0-200		
Ethylbenzene	**0.901**		µg/l		1.00		90	0-200		
Methyl tert-butyl ether	**1.07**		µg/l		1.00		107	0-200		
Naphthalene	**0.814**		µg/l		1.00		81	0-200		
Toluene	**0.822**		µg/l		1.00		82	0-200		
m,p-Xylene	**1.83**		µg/l		2.00		92	0-200		
o-Xylene	**0.864**		µg/l		1.00		86	0-200		
2-Methylpentane	**1.09**		µg/l		1.00		109	0-200		
n-Nonane	**0.874**		µg/l		1.00		87	0-200		
n-Pentane	**0.826**		µg/l		1.00		83	0-200		
1,2,4-Trimethylbenzene	**1.10**		µg/l		1.00		110	0-200		
2,2,4-Trimethylpentane	**1.00**		µg/l		1.00		100	0-200		
n-Butylcyclohexane	**0.808**		µg/l		1.00		81	0-200		
n-Decane	**0.915**		µg/l		1.00		92	0-200		
Surrogate: 2,5-Dibromotoluene (FID)	*53.0*		µg/l		*50.0*		*106*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*53.0*		µg/l		*50.0*		*106*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700460 - SW846 3510C										
Blank (1700460-BLK1)					Prepared: 10-Jan-17 Analyzed: 11-Jan-17					
C9-C18 Aliphatic Hydrocarbons	< 100		µg/l	100						
C19-C36 Aliphatic Hydrocarbons	< 100		µg/l	100						
C11-C22 Aromatic Hydrocarbons	< 100		µg/l	100						
Unadjusted C11-C22 Aromatic Hydrocarbons	< 100		µg/l	100						
Total Petroleum Hydrocarbons	< 300		µg/l	300						
Unadjusted Total Petroleum Hydrocarbons	< 300		µg/l	300						
Naphthalene	< 5.00		µg/l	5.00						
2-Methylnaphthalene	< 5.00		µg/l	5.00						
Acenaphthylene	< 5.00		µg/l	5.00						
Acenaphthene	< 5.00		µg/l	5.00						
Fluorene	< 5.00		µg/l	5.00						
Phenanthrene	< 5.00		µg/l	5.00						
Anthracene	< 5.00		µg/l	5.00						
Fluoranthene	< 5.00		µg/l	5.00						
Pyrene	< 5.00		µg/l	5.00						
Benzo (a) anthracene	< 5.00		µg/l	5.00						
Chrysene	< 5.00		µg/l	5.00						
Benzo (b) fluoranthene	< 5.00		µg/l	5.00						
Benzo (k) fluoranthene	< 5.00		µg/l	5.00						
Benzo (a) pyrene	< 5.00		µg/l	5.00						
Indeno (1,2,3-cd) pyrene	< 5.00		µg/l	5.00						
Dibenzo (a,h) anthracene	< 5.00		µg/l	5.00						
Benzo (g,h,i) perylene	< 5.00		µg/l	5.00						
n-Nonane (C9)	< 5.00		µg/l	5.00						
n-Decane	< 5.00		µg/l	5.00						
n-Dodecane	< 5.00		µg/l	5.00						
n-Tetradecane	< 5.00		µg/l	5.00						
n-Hexadecane	< 5.00		µg/l	5.00						
n-Octadecane	< 5.00		µg/l	5.00						
n-Nonadecane	< 5.00		µg/l	5.00						
n-Eicosane	< 5.00		µg/l	5.00						
n-Docosane	< 5.00		µg/l	5.00						
n-Tetracosane	< 5.00		µg/l	5.00						
n-Hexacosane	< 5.00		µg/l	5.00						
n-Octacosane	< 5.00		µg/l	5.00						
n-Triacontane	< 5.00		µg/l	5.00						
n-Hexatriacontane	< 5.00		µg/l	5.00						
Naphthalene (aliphatic fraction)	**0.00**		µg/l							
2-Methylnaphthalene (aliphatic fraction)	**0.00**		µg/l							
Surrogate: 1-Chlorooctadecane	*21.1*		µg/l		*50.0*		*42*	*40-140*		
Surrogate: Ortho-Terphenyl	*29.1*		µg/l		*50.0*		*58*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*26.8*		µg/l		*40.0*		*67*	*40-140*		
LCS (1700460-BS1)					Prepared: 10-Jan-17 Analyzed: 11-Jan-17					
C9-C18 Aliphatic Hydrocarbons	**502**		µg/l	100	600		84	40-140		
C19-C36 Aliphatic Hydrocarbons	**545**		µg/l	100	800		68	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**372**		µg/l	100	680		55	40-140		
Naphthalene	**27.1**		µg/l	5.00	40.0		68	40-140		
2-Methylnaphthalene	**29.2**		µg/l	5.00	40.0		73	40-140		
Acenaphthylene	**32.3**		µg/l	5.00	40.0		81	40-140		
Acenaphthene	**32.0**		µg/l	5.00	40.0		80	40-140		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700460 - SW846 3510C										
LCS (1700460-BS1)					Prepared: 10-Jan-17 Analyzed: 11-Jan-17					
Fluorene	**34.9**		µg/l	5.00	40.0		87	40-140		
Phenanthrene	**38.5**		µg/l	5.00	40.0		96	40-140		
Anthracene	**34.6**		µg/l	5.00	40.0		87	40-140		
Fluoranthene	**36.4**		µg/l	5.00	40.0		91	40-140		
Pyrene	**33.9**		µg/l	5.00	40.0		85	40-140		
Benzo (a) anthracene	**33.0**		µg/l	5.00	40.0		82	40-140		
Chrysene	**31.5**		µg/l	5.00	40.0		79	40-140		
Benzo (b) fluoranthene	**26.5**		µg/l	5.00	40.0		66	40-140		
Benzo (k) fluoranthene	**33.6**		µg/l	5.00	40.0		84	40-140		
Benzo (a) pyrene	**31.8**		µg/l	5.00	40.0		80	40-140		
Indeno (1,2,3-cd) pyrene	**29.7**		µg/l	5.00	40.0		74	40-140		
Dibenzo (a,h) anthracene	**27.9**		µg/l	5.00	40.0		70	40-140		
Benzo (g,h,i) perylene	**28.8**		µg/l	5.00	40.0		72	40-140		
n-Nonane (C9)	**61.9**		µg/l	5.00	100		62	30-140		
n-Decane	**76.4**		µg/l	5.00	100		76	40-140		
n-Dodecane	**74.1**		µg/l	5.00	100		74	40-140		
n-Tetradecane	**74.0**		µg/l	5.00	100		74	40-140		
n-Hexadecane	**74.4**		µg/l	5.00	100		74	40-140		
n-Octadecane	**73.2**		µg/l	5.00	100		73	40-140		
n-Nonadecane	**67.9**		µg/l	5.00	100		68	40-140		
n-Eicosane	**71.6**		µg/l	5.00	100		72	40-140		
n-Docosane	**70.6**		µg/l	5.00	100		71	40-140		
n-Tetracosane	**71.7**		µg/l	5.00	100		72	40-140		
n-Hexacosane	**70.3**		µg/l	5.00	100		70	40-140		
n-Octacosane	**71.6**		µg/l	5.00	100		72	40-140		
n-Triacontane	**70.4**		µg/l	5.00	100		70	40-140		
n-Hexatriacontane	**67.1**		µg/l	5.00	100		67	40-140		
Naphthalene (aliphatic fraction)	**0.00**		µg/l		40.0			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		µg/l		40.0			0-200		
Surrogate: 1-Chlorooctadecane	*45.4*		µg/l		*50.0*		*91*	*40-140*		
Surrogate: Ortho-Terphenyl	*35.5*		µg/l		*50.0*		*71*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*30.3*		µg/l		*40.0*		*76*	*40-140*		
LCS (1700460-BS2)					Prepared & Analyzed: 10-Jan-17					
C9-C18 Aliphatic Hydrocarbons	**527**		µg/l	100	600		88	40-140		
C19-C36 Aliphatic Hydrocarbons	**587**		µg/l	100	800		73	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**332**		µg/l	100	680		49	40-140		
Naphthalene	**28.1**		µg/l	5.00	40.0		70	40-140		
2-Methylnaphthalene	**27.7**		µg/l	5.00	40.0		69	40-140		
Acenaphthylene	**31.4**		µg/l	5.00	40.0		78	40-140		
Acenaphthene	**32.2**		µg/l	5.00	40.0		81	40-140		
Fluorene	**33.7**		µg/l	5.00	40.0		84	40-140		
Phenanthrene	**37.0**		µg/l	5.00	40.0		93	40-140		
Anthracene	**33.0**		µg/l	5.00	40.0		83	40-140		
Fluoranthene	**34.8**		µg/l	5.00	40.0		87	40-140		
Pyrene	**32.3**		µg/l	5.00	40.0		81	40-140		
Benzo (a) anthracene	**31.0**		µg/l	5.00	40.0		77	40-140		
Chrysene	**29.4**		µg/l	5.00	40.0		74	40-140		
Benzo (b) fluoranthene	**25.5**		µg/l	5.00	40.0		64	40-140		
Benzo (k) fluoranthene	**30.1**		µg/l	5.00	40.0		75	40-140		
Benzo (a) pyrene	**30.0**		µg/l	5.00	40.0		75	40-140		
Indeno (1,2,3-cd) pyrene	**27.5**		µg/l	5.00	40.0		69	40-140		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700460 - SW846 3510C										
LCS (1700460-BS2)					Prepared & Analyzed: 10-Jan-17					
Dibenzo (a,h) anthracene	**24.7**		µg/l	5.00	40.0		62	40-140		
Benzo (g,h,i) perylene	**28.3**		µg/l	5.00	40.0		71	40-140		
n-Nonane (C9)	**64.5**		µg/l	5.00	100		64	30-140		
n-Decane	**86.0**		µg/l	5.00	100		86	40-140		
n-Dodecane	**81.4**		µg/l	5.00	100		81	40-140		
n-Tetradecane	**81.5**		µg/l	5.00	100		81	40-140		
n-Hexadecane	**82.5**		µg/l	5.00	100		82	40-140		
n-Octadecane	**83.6**		µg/l	5.00	100		84	40-140		
n-Nonadecane	**82.7**		µg/l	5.00	100		83	40-140		
n-Eicosane	**84.2**		µg/l	5.00	100		84	40-140		
n-Docosane	**84.9**		µg/l	5.00	100		85	40-140		
n-Tetracosane	**84.8**		µg/l	5.00	100		85	40-140		
n-Hexacosane	**85.5**		µg/l	5.00	100		85	40-140		
n-Octacosane	**86.9**		µg/l	5.00	100		87	40-140		
n-Triacontane	**85.4**		µg/l	5.00	100		85	40-140		
n-Hexatriacontane	**83.0**		µg/l	5.00	100		83	40-140		
Naphthalene (aliphatic fraction)	**0.00**		µg/l		40.0			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		µg/l		40.0			0-200		
Surrogate: 1-Chlorooctadecane	*46.6*		µg/l		*50.0*		*93*	*40-140*		
Surrogate: Ortho-Terphenyl	*34.3*		µg/l		*50.0*		*69*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*29.0*		µg/l		*40.0*		*72*	*40-140*		
LCS Dup (1700460-BSD1)					Prepared: 10-Jan-17 Analyzed: 11-Jan-17					
C9-C18 Aliphatic Hydrocarbons	**511**		µg/l	100	600		85	40-140	2	25
C19-C36 Aliphatic Hydrocarbons	**590**		µg/l	100	800		74	40-140	8	25
Unadjusted C11-C22 Aromatic Hydrocarbons	**516**	QR2	µg/l	100	680		76	40-140	32	25
Naphthalene	**27.0**		µg/l	5.00	40.0		68	40-140	0.2	25
2-Methylnaphthalene	**27.2**		µg/l	5.00	40.0		68	40-140	7	25
Acenaphthylene	**31.2**		µg/l	5.00	40.0		78	40-140	3	25
Acenaphthene	**32.1**		µg/l	5.00	40.0		80	40-140	0.2	25
Fluorene	**33.3**		µg/l	5.00	40.0		83	40-140	5	25
Phenanthrene	**36.5**		µg/l	5.00	40.0		91	40-140	5	25
Anthracene	**33.1**		µg/l	5.00	40.0		83	40-140	5	25
Fluoranthene	**34.8**		µg/l	5.00	40.0		87	40-140	4	25
Pyrene	**31.9**		µg/l	5.00	40.0		80	40-140	6	25
Benzo (a) anthracene	**30.5**		µg/l	5.00	40.0		76	40-140	8	25
Chrysene	**28.9**		µg/l	5.00	40.0		72	40-140	9	25
Benzo (b) fluoranthene	**23.7**		µg/l	5.00	40.0		59	40-140	11	25
Benzo (k) fluoranthene	**30.4**		µg/l	5.00	40.0		76	40-140	10	25
Benzo (a) pyrene	**29.5**		µg/l	5.00	40.0		74	40-140	8	25
Indeno (1,2,3-cd) pyrene	**27.2**		µg/l	5.00	40.0		68	40-140	9	25
Dibenzo (a,h) anthracene	**23.6**		µg/l	5.00	40.0		59	40-140	17	25
Benzo (g,h,i) perylene	**26.1**		µg/l	5.00	40.0		65	40-140	10	25
n-Nonane (C9)	**60.9**		µg/l	5.00	100		61	30-140	2	25
n-Decane	**74.6**		µg/l	5.00	100		75	40-140	2	25
n-Dodecane	**70.3**		µg/l	5.00	100		70	40-140	5	25
n-Tetradecane	**70.9**		µg/l	5.00	100		71	40-140	4	25
n-Hexadecane	**71.2**		µg/l	5.00	100		71	40-140	4	25
n-Octadecane	**70.4**		µg/l	5.00	100		70	40-140	4	25
n-Nonadecane	**68.2**		µg/l	5.00	100		68	40-140	0.4	25
n-Eicosane	**68.6**		µg/l	5.00	100		69	40-140	4	25
n-Docosane	**67.3**		µg/l	5.00	100		67	40-140	5	25

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700460 - SW846 3510C										
LCS Dup (1700460-BSD1)					Prepared: 10-Jan-17 Analyzed: 11-Jan-17					
n-Tetracosane	**66.5**		µg/l	5.00	100		66	40-140	8	25
n-Hexacosane	**66.8**		µg/l	5.00	100		67	40-140	5	25
n-Octacosane	**67.7**		µg/l	5.00	100		68	40-140	6	25
n-Triacontane	**66.3**		µg/l	5.00	100		66	40-140	6	25
n-Hexatriacontane	**64.0**		µg/l	5.00	100		64	40-140	5	25
Naphthalene (aliphatic fraction)	**0.00**		µg/l		40.0			0-200		200
2-Methylnaphthalene (aliphatic fraction)	**0.00**		µg/l		40.0			0-200		200
Surrogate: 1-Chlorooctadecane	*43.2*		µg/l		*50.0*		*86*	*40-140*		
Surrogate: Ortho-Terphenyl	*33.6*		µg/l		*50.0*		*67*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*34.4*		µg/l		*40.0*		*86*	*40-140*		

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700510 - SW846 3005A										
Blank (1700510-BLK1)					Prepared: 11-Jan-17 Analyzed: 12-Jan-17					
Lead	< 0.0075		mg/l	0.0075						
Selenium	< 0.0150		mg/l	0.0150						
Thallium	< 0.0050		mg/l	0.0050						
Zinc	< 0.0050		mg/l	0.0050						
Silver	< 0.0050		mg/l	0.0050						
Nickel	< 0.0050		mg/l	0.0050						
Antimony	< 0.0060		mg/l	0.0060						
Chromium	< 0.0050		mg/l	0.0050						
Cadmium	< 0.0025		mg/l	0.0025						
Arsenic	< 0.0040		mg/l	0.0040						
Beryllium	< 0.0020		mg/l	0.0020						
Copper	< 0.0050		mg/l	0.0050						
LCS (1700510-BS1)					Prepared: 11-Jan-17 Analyzed: 12-Jan-17					
Selenium	**1.19**		mg/l	0.0150	1.25		96	85-115		
Zinc	**1.24**		mg/l	0.0050	1.25		99	85-115		
Thallium	**1.28**		mg/l	0.0050	1.25		102	85-115		
Lead	**1.19**		mg/l	0.0075	1.25		95	85-115		
Nickel	**1.17**		mg/l	0.0050	1.25		94	85-115		
Copper	**1.28**		mg/l	0.0050	1.25		102	85-115		
Cadmium	**1.14**		mg/l	0.0025	1.25		91	85-115		
Beryllium	**1.35**		mg/l	0.0020	1.25		108	85-115		
Arsenic	**1.18**		mg/l	0.0040	1.25		95	85-115		
Silver	**1.25**		mg/l	0.0050	1.25		100	85-115		
Chromium	**1.32**		mg/l	0.0050	1.25		105	85-115		
Antimony	**1.26**		mg/l	0.0060	1.25		101	85-115		
LCS Dup (1700510-BSD1)					Prepared: 11-Jan-17 Analyzed: 12-Jan-17					
Beryllium	**1.40**		mg/l	0.0020	1.25		112	85-115	4	20
Zinc	**1.31**		mg/l	0.0050	1.25		105	85-115	6	20
Antimony	**1.31**		mg/l	0.0060	1.25		105	85-115	4	20
Thallium	**1.33**		mg/l	0.0050	1.25		107	85-115	4	20
Selenium	**1.26**		mg/l	0.0150	1.25		101	85-115	5	20
Lead	**1.25**		mg/l	0.0075	1.25		100	85-115	5	20
Nickel	**1.22**		mg/l	0.0050	1.25		98	85-115	4	20
Copper	**1.33**		mg/l	0.0050	1.25		106	85-115	4	20
Cadmium	**1.20**		mg/l	0.0025	1.25		96	85-115	5	20
Arsenic	**1.24**		mg/l	0.0040	1.25		99	85-115	4	20
Silver	**1.26**		mg/l	0.0050	1.25		101	85-115	0.5	20
Chromium	**1.37**		mg/l	0.0050	1.25		109	85-115	4	20

Total Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1700511 - EPA200/SW7000 Series										
Blank (1700511-BLK1)					Prepared & Analyzed: 11-Jan-17					
Mercury	< 0.00020		mg/l	0.00020						
LCS (1700511-BS1)					Prepared & Analyzed: 11-Jan-17					
Mercury	**0.00442**		mg/l	0.00020	0.00500		88	85-115		

Notes and Definitions

QR2	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC30325 NRV

eurofins | Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

☐ Standard TAT - 7 to 10 business days

☑ Rush TAT - Date Needed: 5 Day

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 60 days unless otherwise instructed.

Report To: CDW CONSULTANTS, INC
40 SPOOR ST
SUITE 301
FRAMINGHAM, MA
Telephone #: 508-875-2657
Project Mgr: SUE CAHALAN

Invoice To: SAME ABOVE

P.O No.: Quote #:

Project No: 1565.2
Site Name: WINTHROP ELEMENTARY - CONTRACT 65
Location: IPSWICH State: MA
Sampler(s): A. SUNDQUIST

F=Field Filtered 1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= 12=

List Preservative Code below: 2 2 2 F

DW=Dinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= X2= X3=

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic		MA DEP EPH	MA DEP VPH	VOCs 8260	Propert 4 Metals	PB-3				Check if chlorinated
SC30325-01	CDW-B1MW	1/5/17	9:00	G	GW	3	1		1		X	X	X	X					☐
-02	CDW-B2MW	1/5/17	10:35	G	GW	3	1		1		X	X	X	X					☐
-03	CDW-B3MW	1/5/17	13:10	G	GW	3	1		1		X	X	X	X					☐
																			☐
-04	TRIP BLANK					2							X						☐
																			☐
																			☐
																			☐
																			☐
																			☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC
☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other:
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp °C
[signature]	Steph Reid	1/6/17	12:55	Observed 2.1
Steph Reid	[signature]	1/6/17	1505	Correction Factor 0
				Corrected 2.1
				IR ID# 02

☐ EDD format:
☑ E-mail to: SCAHALAN@CDWCONSULTANTS.COM

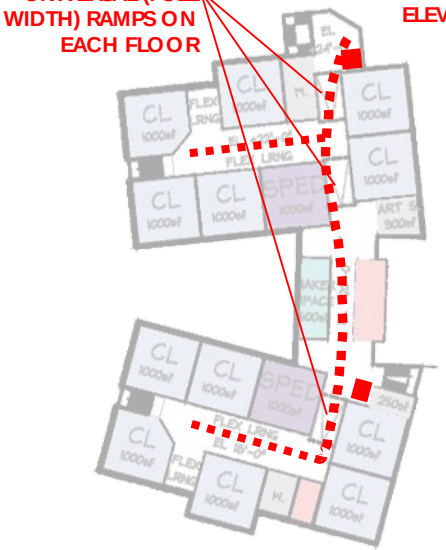
Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☐ Iced ☑ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

One Community School | Site Plan

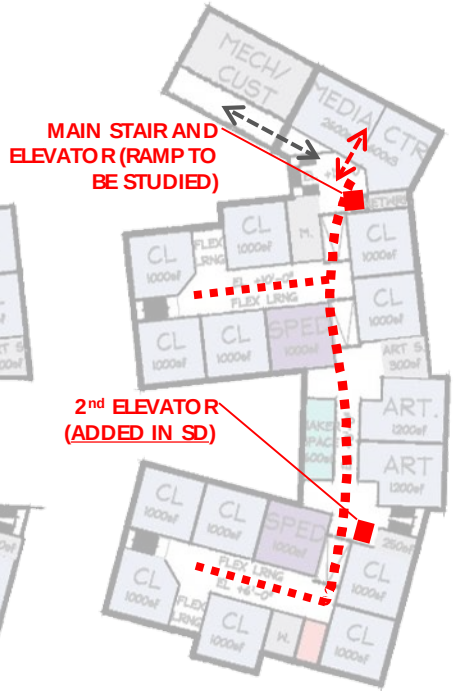
Playground
Play Fields
Meadow/Bioswale
Outdoor Learning
Vehicular Circulation
Pedestrian Circulation

BIRCHWOOD DESIGN GROUP

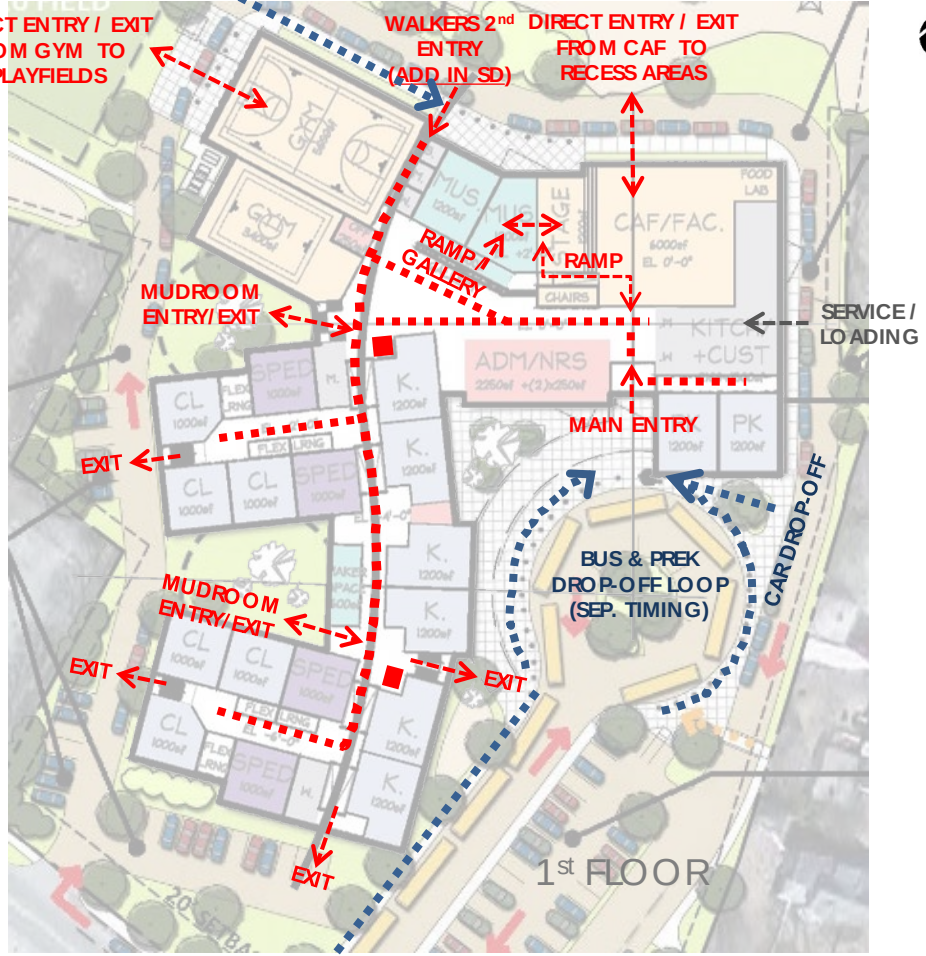
W2A.4



3rd FLOOR

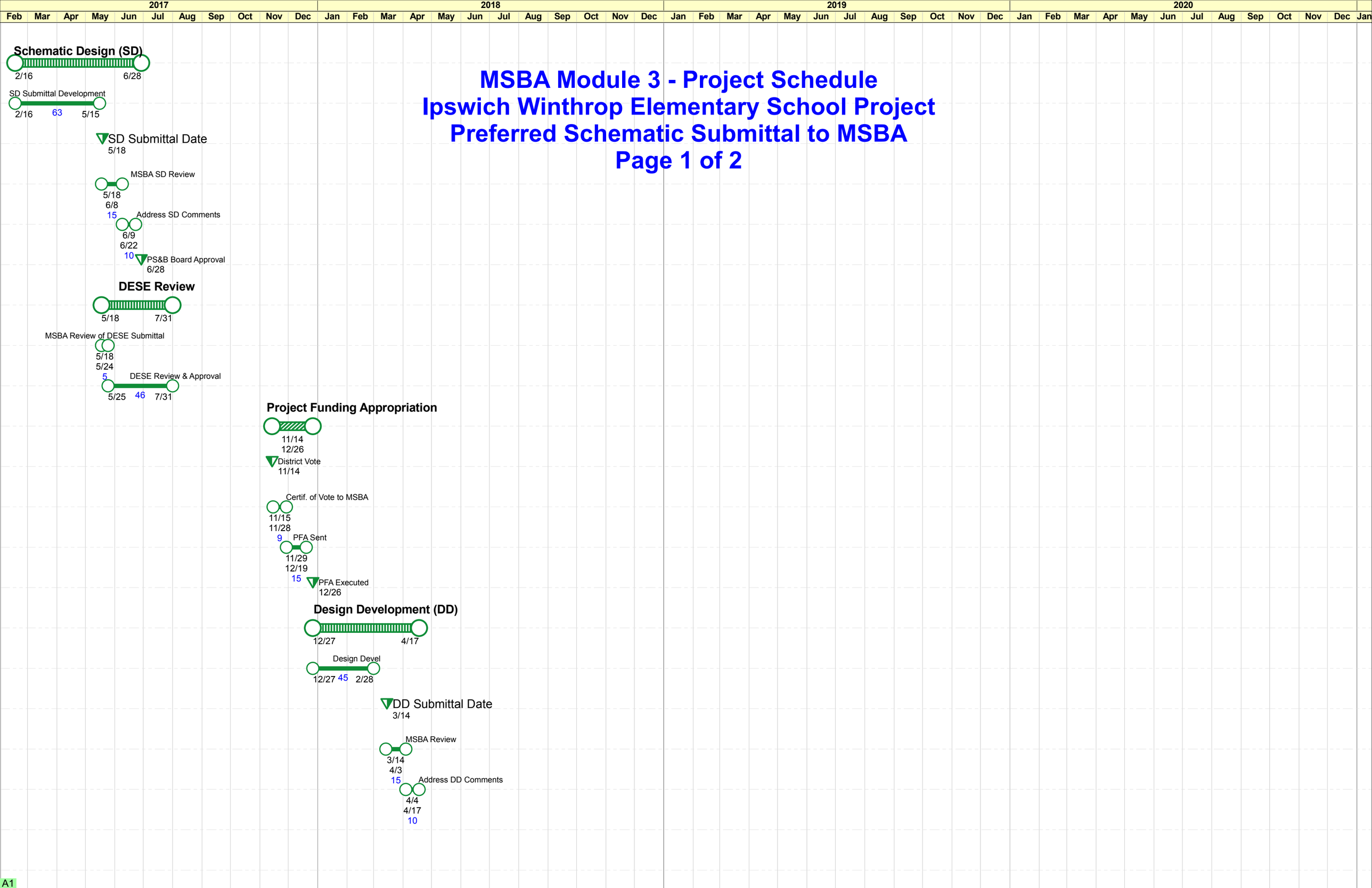


2nd FLOOR



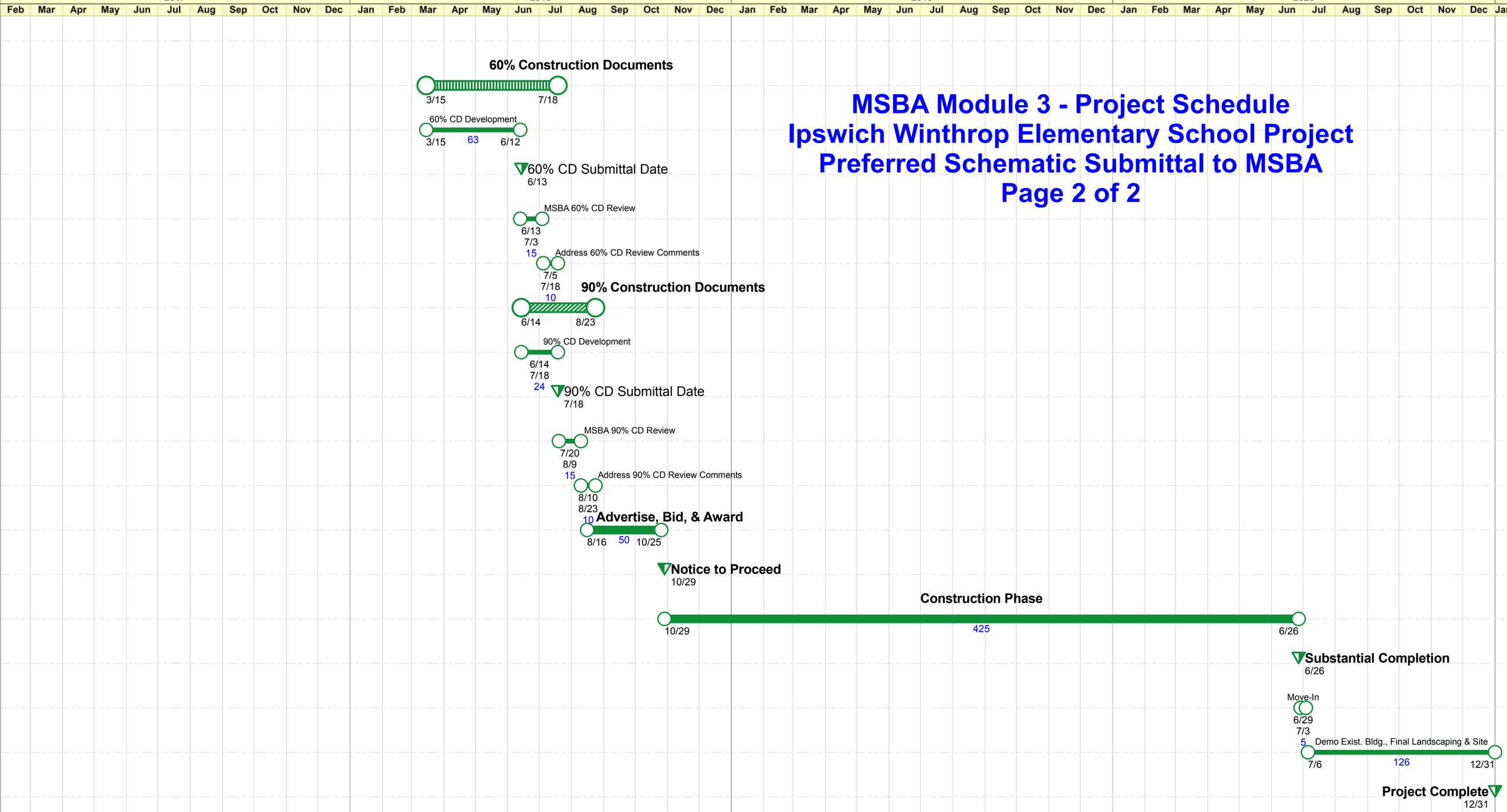
1st FLOOR

MSBA Module 3 - Project Schedule
Ipswich Winthrop Elementary School Project
Preferred Schematic Submittal to MSBA
Page 1 of 2



A1

MSBA Module 3 - Project Schedule
Ipswich Winthrop Elementary School Project
Preferred Schematic Submittal to MSBA
Page 2 of 2



Grade Reconfiguration and Districting Approval Certification

February 7, 2017

Ms. Katie Loeffler
Capital Program Manager
Massachusetts School Building Authority
40 Broad Street
Boston, Massachusetts 02109

Dear Ms. Loeffler:

The Ipswich School Committee ("SC") understands the change to existing grade structure that is being proposed in the Preliminary Design Program (PDP) and the Preferred Schematic Report (PSR) for the Winthrop Elementary School project (the "Project"). At a meeting on April 7, 2016, the SC voted to approve and authorize the a change to a K-5 grade configuration with an enrollment of 775 students that would result in the combining of the students currently attending the Winthrop and Doyon elementary schools into a single school facility. At two subsequent meetings, on May 25, 2016 and on October 10, 2016, the SC affirmed the K-5/775 grade configuration/enrollment. A copy of the SC meeting minutes for these meetings, which includes the specific language of the vote and the number of votes in favor, opposed, and abstained, is attached. Through this letter, the District certifies and affirms this action and confirms that there are no additional votes or approvals required for the proposed change to grade structure.

Reason for Grade Reconfiguration

The SC selected the K-5, 775 student grade configuration and enrollment option as the preferred configuration because they see it as the best means for meeting the District's educational needs, view it to be in the best interest of the community, and believe it will provide the best long-term financial value to the Town. The reasoning behind this decision is addressed in pages 17 to 20 of the District's response to the MSBA's comments on the PDP that were delivered to the MSBA on 7/29/16. Some excerpts from this reasoning are as follows:

- *The evaluation of grade configuration options was a central concern at the outset of the project and became the focal point among the Schools, Committees and Community and throughout the series of public forums. Multiple School Committee, Building Committee, Town Board (Board of Selectman, Finance Committee), Educational Leadership Team, Parent, Teacher and Community Meetings were utilized to discuss the relative advantages and disadvantages of each configuration specific to Ipswich's goals, and were iteratively refined in the Considerations/Implications Matrix of School Configurations.*

- *The process of evaluating the configurations also involved research and surveys, including reference to studies on school size and configuration, review of comparable MSBA projects, parent and teacher surveys and on-line questionnaires.*
- *This configuration would consolidate the District's current structure and create equitable facilities with 100% of the elementary population able to take advantage of appropriately sized spaces designed for the educational objectives, including universal access, student support/co-teaching, flexibility, collaboration, sustainable learning and safety/security, as well as high quality lighting, acoustics, thermal comfort and modern technology integration.*
- *The (1) K-5 configuration provides a long grade-span that helps foster continuity and relationships among teachers, students and parents, while minimizing the number of transitions students would experience moving through the system.*
- *A single school also provides the greatest flexibility for the district to adapt building use to potential future changes in educational programming and practices.*
- *Among the other advantages to a single school that were cited, the ability to create a culture of one community, consolidate support staff and services so that they are not splitting time between locations, eliminate transitions that could adversely impact student achievement, the ability to gain educational and operational efficiencies, have greater flexibility and control over class size and programming and, provide greater opportunities for students and community via combined/concentrated spaces (like larger single cafetorium or side by side art rooms that could be more specialized, rather than generalized) were noted.*

Summary of Local Process and Meetings to Authorize Grade Reconfiguration

The local process employed for selecting the grade configuration and enrollment option (a K-5 school with an enrollment of 775 students) included deliberations of the School Committee in open public meetings, discussions and presentations at well-attended and well-publicized community forums, and joint open public meetings held by the School Committee and the Building Committee. Outside of these meetings, committee and subcommittee members and working groups consulted with the Educational Leadership Team, Educational Working Group, faculty, and staff – their efforts included the review of research papers on educational theories addressing implications of school size and also included surveys of Ipswich citizens, parents, and educators. Other important public meetings for the school project were joint meetings of the Board of Selectmen, the Finance Committee, and the School Committee, called Tri-Board meetings.

The District has provided the MSBA with "Local Actions and Approvals" letters as part of the Preliminary Design Program (PDP) submittal dated June 9, 2016 and the Preferred Schematic Report (PSR) submittal dated January 4, 2017. Please refer to these letters for summaries of the meetings and actions by the District in support of the school project.

Some of the most significant and well-attended of these meetings included the following:

- Community Forums: 2/10/16, 3/10/16, 3/23/16, 8/10/16, 11/15/16, 11/29/16, and 12/8/16
- School Committee meetings (and votes): 4/7/16, 5/25/16, and 10/6/16
- Building Committee/School Committee Joint Sessions: 3/23/16, 3/31/16, and 12/29/16
- Tri-Board meetings: 4/14/16, 4/28/16, and 5/12/16, 7/27/16, 9/20/16, and 12/12/16

Conclusion

The presentation materials for each meeting, meeting minutes, and summary materials related to the Project are available locally for public review at www.ipswichsbc.org, www.ipsk12.net, and www.ipswichma.gov.

To the best of my knowledge and belief, each of the meetings listed above complied with the requirements of the Open Meeting Law, M.G.L. c. 30A, §§ 18-25 and 940 CMR 29 et seq.

If you have any questions or require any additional information, please contact Paul Queeney, Owner's Project Manager, PMA Consultants at pqueeney@pmaconsultants.com and at 781-519-1069.

By signing this Grade Reconfiguration and Districting Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

By: Robin Crosbie

Title: Chief Executive Officer

Date:

By signing this Grade Reconfiguration and Districting Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

By: Dr. William Hart

Title: Superintendent of Schools

Date:

By signing this Grade Reconfiguration and Districting Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

By: Carl Nylen

Title: Chair of the School Committee

Date:

SCHOOL COMMITTEE MEETING
APRIL 7, 2016
TOWN MANAGER'S CONFERENCE ROOM HALL MEETING ROOM A

I. CALL TO ORDER

Chair C. Nylen called the meeting to order at 6:01 p.m. with H. O'Flynn, C. Whitten, J. Bauman, F. Krason, B. Hopping, and S. Player.

Dr. O'Flynn moved, seconded by Mrs. Bauman, to go into Executive Session at 6:02 p.m. Roll Call vote: IN FAVOR- Krason, Whitten, Bauman, Hopping, O'Flynn, Player, Nylen.

- -

TOWN HALL MEETING ROOM A

OPEN SESSION

II. CALL TO ORDER

Chair C. Nylen called the meeting to order at 7:05 p.m. with J. Bauman, H. O'Flynn, B. Hopping, F. Krason, C. Whitten, and S. Player in attendance. Also present were Superintendent Hart and Reed Dolan, Student Representative.

MISSION STATEMENT

Reed read the Mission Statement.

ANNOUNCEMENTS

April 8 – Bean Counting, Town Hall Meeting Room A, 9 a.m.
April 11 – District Parent Forum with the Superintendent, 5-6 p.m., Doyon Library
April 11 – National Honor Society Induction, Dolan PAC, 6:30 p.m.
April 12 – Doyon Grade 2 & 4 Music Showcase, 6:15 p.m.
April 13 – SBC at Town Hall Rm. A, 7 p.m.
April 14 – Doyon School Art Show , 6-8 p.m.
April 14 – Feoffee Grant Showcase, 5-7 p.m., Dolan PAC
April 18 – 22 - Spring Vacation – No School
April 20 – Polished, preventative dental care program, Town Hall Rm. C, 9-5 For free dental screening, etc. for children by appointment. Adults will be charged $49. Call 508-237-5378
April 27 – SBC, Town Hall Rm. A, 7 p.m.
April 28 – SC/SBC Town Hall Rm. A, 7 p.m.

CITIZENS COMMENTS

SPECIAL ACKNOWLEDGMENTS

HIGH SCHOOL STUDENT REPRESENTATIVE REPORT

Reed mentioned the Wed. night All-Town Band performance of 350 students, grades 5-12. The string and chamber orchestras had State competition in Lexington

on April 2 where strings won silver and chamber won gold medals, and next month they go on to All-State championship competition.

A. SUPERINTENDENT'S ADMINISTRATIVE REPORT

Dr. Hart reported on a STEM leadership breakfast on March 30 in Boston's United Way that he attended. Keynote speakers extolled the important role of STEM education and how important it is for students to build SHOM habits and dispositions. He spoke with a United Way representative re Ipswich and a greater financial support for STEAM locally.

On March 31 he met with BioLabs CEO re a partnership to support the Science for Scientists program and other STEM related initiatives, and he is interested in collaborating with IPS. Yesterday, district-wide team met at BioLabs looking at sustainability issues with teachers and scientists.

The Feoffee Celebration is working to highlight STEAM work, a video connected to 21st Century skill development, sharing of PLC training that is transforming their work and that of their colleagues—all reflecting on the "game-changing" Feoffee funds.

A team is being set up toward Ipswich teachers/administrators attending a late June, 2016, national technology conference (International Society for Technology in Education).

III. SCHOOL COMMITTEE PRESENTATIONS

B. SCHOOL BUILDING COMMITTEE – CONFIGURATION DECISION

Mr. Nylen outlined his plan for citizen questions first, Superintendent recommendation, and then the School Committee members' comments/vote. First, he recognized and thanked the people who have been involved since 2012 in the comprehensive process of submitting papers to the State; the School Building Committee members (and he read all their names) for their two years of gathering information and their guidance; the Town government of Board of Selectmen, Finance Committee, Facilities; teaching staff, students, parents, business and community members for their input; The Education Leadership team; the Education Working Group; the questionnaires on the website; the privilege of working with the great consulting team of OPM (project management) and the design team with the educational consultant.

Secondly, he reviewed the process designed by Massachusetts School Building Association (MSBA), extended from March 23 to tonight, begun with the Winthrop School and expanded over time with MSBA request to look at both elementary schools. The School Committee tonight is making the decision on grade configuration as asked, having heard the input from all the individuals/groups mentioned. Decision will be made on one building or two for elementary grades, but no decision will be made on the site that the configuration will be built on.

He opened up discussion to the audience.

Mr. George cautioned, as a sixty-year citizen and active member of the community, that the SC must watch for pitfalls. One of those is the environmental

issues which exist on a site and gave the example of his membership on the Building Committee at the time of purchase of Mile Lane when the wetlands weren't considered long enough. The second caution was the need for community input to offset organized opposition. His suggestion was to add some kind of sport area (basketball court, hockey rink) to the new school site--something out of the box to bring the community together to pass at the ballot box.

Ms. Zagarella, elementary teacher, a K-8 proponent, described the poor conditions at the Doyon and Winthrop because of the rainy day. She worried about the cost for taxpayers and didn't think the community has been involved enough. Mr. Nylen clarified that Town Meeting of May 2017 must pass by 2/3 vote before it goes on the ballot.

A parent/coach was concerned that the baseball diamonds at Bialek would be gone if a school was to be built on the site. Dr. O'Flynn told the audience that the School Committee has promised to replace five athletic fields.

Mr. Howard (Fin Com member) spoke as an advocate for the close community of two elementary schools, and the large scale of the proposed single building would be imposing to small children. He also felt that citizens would be hurt when the tax impact hits.

Mr. Fay (Fin Com), having seen lots of information, still questioned why one building rather than two. When Mr. Nylen and Dr. O'Flynn referred to the three viable options (one building with pre K-5, 2 K-5 buildings, and 1, K-3/l, 4-5), Mr. Fay then wondered if it had been fully vetted in "education" or "cost"? He said he spoke from Fin Com discussion, to the relevancy of personnel costs. Mr. Nylen replied that as discussions go forward, there will be appropriate class sizes and characteristics of two separate schools. Mr. Bell of Perkins-Eastman (project architects) spoke of working with MSBA and on our own guidelines. Many projects are not examining so many variables as this one. Our process is already longer by 1-2 months, and we are doing a study in the next two months to which we are trying to arrive at the single preferred schematic from four preferred options (of many) in early June (MSBA deadline). There are many ways to design a building on sites. We really need to focus.

Mr. Hopping added that Ipswich is hoping to be developing an educational program where there will be a shift in delivery model that is impacting staff. Some of the options that we are hoping to create can't be predicted yet. The present elementary model is not what we want and that will be the challenge.

Dr. Hart has feedback that operational costs are neutral. While there are inefficiencies in the old buildings, electricity and other operating expenses, because of the higher level of functioning, will be higher at a new site. Elementary staff isn't as effectual. There might be efficiencies in a grade as far as being able to collapse one or two classes. The one-building, one-school, one-principal type of approach is not a viable option.

A citizen on Manning Street asked about costs for Doyon. Dr. O'Flynn, Mr. Nylen, and Mr. Hopping replied that the Town would be responsible for the Doyon project OR a process with MSBA would begin all over again.

A grandmother of a five-year old felt that a large school environment would be scary.

Mr. Borgman opined at having to enlarge a 700+ student school one day; Mr. Nylen replied that two studies both predict declining population for several years, dropping by as much as 200 students.

Dr. Hart commented on the thoughtful, open, educational work done by working groups, at forums, and with a variety of feedback. Moving forward, there has been an emerging theme and shifts in peoples' thinking. He recommends the K-5 configuration and the larger school, speaking of equity and culture in the positive and transitions (were it to be a K-3, 4-5 split) in the negative. The larger building, he said, is the best economic decision. People have connected with the schools now that the override is paying off and this choice will be important. The impact of this process cannot be overstated on the educational leaders, our students, and the process has been extremely exhausting because of all it means to be a great principal yet be adding this extensive process, thus taking away from the instructional leadership, especially were it to elongate for another ten years.

Mr. Nylen began his recommendation by speaking of the areas of discussion; i.e., grade configuration, small school status, equity focus, cost (two projects would be more expensive, especially with a delay on the second school). While he loves Winthrop, he can see its limitations. He reviewed his thoughts as a parent, as a School Committee member, and as a resident and feels that the Town would be best served by looking at a single facility, properly planned and designed.

Mrs. Bauman thanked the SBC, parents, and citizens and said she had done the research, visited other buildings, etc. She made her decision on what is best for all students, not based on cost, and she does not support two buildings, nor transitions from one elementary to another (grade 3 to grade 4) nor one new school vs. an old school. Equality would mean that all students would have access to all parts of education including open areas, lighting, etc. The large school idea could double the number of walking students. Ipswich has the opportunity now to pay for half of the building cost, and she supports the K-5, 775-student configuration.

Mr. Whitten feels that for grade configuration, the size of the building and the site are intertwined. He supports the mentoring program and, therefore, supports the K-5. He feels that there would be better participation in a small school. He believes that a 775-student school is too large and advocates for a K-5 school for 420 built on the Winthrop site.

Mrs. Krason explained that she had grown up in Central Asia in a city, which 50 years ago, had suffered an earthquake. The Soviet Union rebuilt only the part that was impacted the hardest, deciding not to rebuild the minimally damaged part which is called the Old City, and the rebuilt part is called the New City. It is awful because, though it is one city, it is obvious who grew up in the New City and who did not. She looks at Ipswich and thinks about the similarity and questions whether she wants to be a part of the town that is where students are in the best environment. Kids are resilient—her family has lived in different countries and moved ten times

in the last ten years, including both Doyon and Winthrop districts. She wants every child to have the same experience and, therefore, she wants K-5 in a larger building. Nobody wants to live in "Old City" she said.

Ms. Player spoke of the opportunity by the State to pay for the project at 50% of the cost. Ipswich has values, Ipswich residents are straight people, no-nonsense people. Educational reasons are School Committee priorities. The research speaks to transitions. If we have one building, all 5th graders have been merged earlier with their peers. Staff collaborations on one site would maximize potential for professional development. Student collaboration allows all students at the same site. Equity gives the best access to resources, gyms, flexible spaces, and from the feasibility angle, there is no guarantee that the Town would get MSBA assistance again. A Doyon school would cost more later. Impressed with the designers and SBC (made up largely of designers), she supports one elementary school, K-5.

Mr. Hopping, a graduate and parent of Winthrop School, thanked everyone who has come forward with their feelings and the SC has listened. Having thought this out for the past 15 months, he resented the implication that the SC needs to think this through further, and he recommends K-5 in one building. Equity will be given to all students for access to the same programs, resources, and facilities. 420 students but keeping Doyon at 355 doesn't mean equity. Neighborhood spaces can be developed in a larger building with meaningful outdoor connections. Transitions are harder for younger children than at the sixth grade.

Dr. O'Flynn has longevity in the Ipswich schools at all the schools, five daughters who also attended, 13 years on the SC and ten years on the Demographic Committee, has seen the process of SBC, seen cutting of staff and busses, talked to administrators and teachers about how kids are differently prepared. He supports K-5 in one building.

Reed Dolan called the process nerve wracking! He liked the small school environment at Winthrop but is not polarized. He sees benefits in the one school but urged being mindful of the small school environment.

Dr. O'Flynn moved, seconded by Mr. Hopping, to support the 775-student single building. Mr. Hopping thanked the SBC for their many hours and stated that the SC are in our hearts and minds doing what is best for the kids in Ipswich. Mr. Nylen asked that everyone stay together, in spite of the fact that some are unhappy with the decision. Vote: IN FAVOR- Bauman, Krason, Nylen, Player, Hopping, O'Flynn; OPPOSED- Whitten.

Mr. Whitten moved, seconded by Mrs. Bauman, to have a 5-minute recess. UNANIMOUS.

C. REVIEW OF TOWN WARRANT FOR THE TOWN MEETING

Mr. Nylen, announcing that there are two meetings before Town Meeting, asked Moderator Murphy whether he was amenable to allowing the discussion of the new school building, and, after discussion, he said it could be included with the presentation of the school budget.

The Board began review of Articles as follows:

Article 3 – Transfer to Educational Stabilization Fund – O'Flynn will speak

Article 5 – Prior Year Unpaid Bills – no vote but someone will speak

Article 7 – FY2017 School Budget

Mr. Hopping moved, seconded by Ms. Player, to support Article 7. UNANIMOUS. Nylen will speak

Article 9 – FY2017 Whittier Regional Budget

Mr. Hopping moved, seconded by Ms. Player, to support with the understanding that the current number ($650,000) will change. UNANIMOUS. Russ Bardsley will speak

Mr. Bardsley will be contacted as a reminder and asked to provide the number of Ipswich students attending.

Article 10 – FY2017 Essex County Technical Budget

Mr. Hopping moved, seconded by Mrs. Bauman, to support Article 10. UNANIMOUS. Mr. Hopping asked if needs of students could be satisfied by attending only one of the two technical schools to avoid redundancy, but Mr. Nylen reminded that Ipswich students are not allowed to attend Essex Technical as technology students, only the agricultural component. Player will speak

Article 11 – Annual Capital Plan

Ms. Player moved, seconded by Dr. O'Flynn, to support Article 11. UNANIMOUS. Whitten will speak

Article 12 – Citizen Petition: Plastic bags and polystyrene

Mr. Whitten moved, seconded by Ms. Player, to support Article 12. UNANIMOUS. Whitten will speak

Dr. Hart was asked to clarify whether the schools can comply with the banning and how it will impact the system.

Article 13 – Creation of Turf Field Stabilization Fund

Ms. Player moved, seconded by Mr. Hopping, to support Article 13. UNANIMOUS. Hopping will speak

Article 15 – Citizen Petition – Saturday meetings

Mr. Hopping moved, seconded by Dr. O'Flynn, to NOT support Article 15. Vote IN FAVOR- Hopping, O'Flynn, Nylen, Krason, Whitten, Bauman; ABSTAINING- Player. If needed, Bauman will speak

Article 16 – Citizen Petition – Saturday meetings

Mr. Whitten moved, seconded by Dr. O'Flynn, to NOT support Article 16. Vote IN FAVOR- Hopping, O'Flynn, Nylen, Krason, Whitten, Bauman; ABSTAINING- Player. If needed, Bauman will speak

Article 19 – OPEB

Mr. Hopping moved, seconded by Ms. Player, to support Article 19. UNANIMOUS.

Article 20 – Citizen Petititon - Discharge of Firearms - deferred

Article 21 – Citizen Petition – Climate Change Committee – deferred

D. POLICY COMMITTEE

Mr. Hopping introduced two policies recently reviewed by the Policy Committee. Mr. Whitten moved, seconded by Mrs. Bauman, to approve the Acceptable Use policy as updated. UNANIMOUS.

Mr. Hopping explained how the Home Education of Students policy has evolved –22 states currently give carte blanche for home educated students to participate in curricular or extracurricular public school activities. Mrs. Bauman moved, seconded by Mrs. Krason, to accept the policy as written. UNANIMOUS.

IV. SCHOOL COMMITTEE REPORTS

A. VOUCHERS AND BILLS

B. SCHOOL COMMITTEE REPORTS

1. ATHLETIC SUBCOMMITTEE
2. BUDGET SUBCOMMITTEE
3. COMMUNICATIONS SUBCOMMITTEE – Mrs. Bauman reported that the Feoffee Celebration is all set for April 14, 5 – 7 p.m. at the Dolan Performing Arts Center with speakers (Dr. Hart and a Feoffee) at 6 p.m.

4. GRANT COMMITTEES

Payne Grant – Dr. Hart is asking for Payne Grants about April 28 and they will go to the Committee by May 6.

5. OPERATIONS SUBCOMMITTEE - Mr. Nylen talked about a meeting for a mid-year review.

6. POLICY SUBCOMMITTEE – Ms. Player reported on a meeting with MASC Mike Gilbert re Policy Manual Reviews: a full policy Manual Review would take the existing manual and meld the MASC manual with it for $10,500 and $3,500 would include conversion to an online policy manual with a $950 annual fee for continued management. The matter will be brought forward in May.

7. TURF FIELD SUBCOMMITTEE – Dr. O'Flynn suggests that at 6 p.m. next Tuesday night the committee will go over issues about the non-waterproof scoreboard, review drawings and plans from Hunter, and coordinate with the construction plan.

8. SCHOOL BUILDING COMMITTEE
9. NEW BUSINESS

V. CONSENT

A. CONSENT AGENDA

Mr. Nylen moved, seconded by Mr. Hopping, to approve the Consent Agenda as follows:

Acceptance of the Budget Presentation to Fin Com Minutes of 3/15/16 Open Session

Acceptance of the Budget Presentation to Fin Com Minutes of 3/16/16 Open Session

Acceptance of the Minutes of 3/17/16 Open Session

Acceptance of the Minutes of 3/23/16 Open Session

Acceptance of the Minutes of 3/24/16 Open Session

Acceptance of donation of $758 from Doyon FRIES to be used to purchase 2 iPads by Grade 5 teachers at the Doyon School

Approval of the Environmental Club Overnight Field Trip to Colt Island, Topsfield, on May 20, returning May 21. UNANIMOUS.

VI. ADJOURNMENT

Mr. Hopping moved, seconded by Mrs. Krason, to adjourn at 11:25 p.m. UNANIMOUS.

IPSWICH SCHOOL COMMITTEE MEETING
MAY 25, 2016
MIDDLE/HIGH SCHOOL ENSEMBLE ROOM

CALL TO ORDER

Chair Nylen called the meeting to order at 7:31 p.m. Attending were C. Whitten, J. Bauman, H. O'Flynn, S. Player, and B. Hopping. Also present were R. Dolan and Dr. Hart.

READING OF DISTRICT MISSION STATEMENT

Reed Dolan read the Mission Statement.

SPECIAL ACKNOWLEDGMENTS

Mr. Whitten spoke of the Sustainability Education dinner attended by over 100 people and served by 4th – 12th grade students just completed as a fabulous event.

Dr. O'Flynn commented on the IMADA celebration in the PAC, currently still taking place.

I. SCHOOL COMMITTEE PRESENTATIONS

A. SCHOOL BUILDING

Mr. Nylen outlined his process for proceeding. The action which is needed is submission of a document to MSBA, due by June 2. Secondly, the School Committee will be reviewing and discussing the vote which the School Committee had taken on a 775-student school. He thanked the audience of about 50 parents, teachers, and citizens for coming and encouraged them to speak but to be constructive and positive, with a shared interest in doing things for the Town and the kids. Compromises will be required and what is desired is a successful outcome with a new school. He wished to diffuse the tension and encouraged open mindedness. He then reviewed the status: School Committee has voted to support single 775-student configuration, supported by SBC consensus. Three sites are under active consideration. A submission, a pretty significant piece of work and a culmination of months of work, is due to the MSBA by June 2. The options are to submit or not, but not to change it. Next is a feasibility and design consideration that culminates in a preferred option which must be completed by September 29. Lastly, he gave a historic timeline of activities and votes: April 7 – 6/1 vote in favor of 775-student single configuration, April 28 and beyond - two Tri Board meetings reviewing the SC's rationale for the team, discussing financial considerations and tax impacts. Fin Com voted 4/3 in favor of the single school and BOS was unable to vote that night but three of them clearly supported a different option. On May 15- BOS voted 3/1 to support a 420-student school at Winthrop and a capital plan for Doyon to be developed. On May 18- SBC (11 members present) expressed their views about what had transpired. Almost all made comments and the TM read her letter. The position of SBC was largely unchanged: 7 in support/3 preferred other considerations/one didn't make a clear statement. On May 19- SC was going to

discuss/vote again, but the vote was postponed because the Board was 3 short on member attendance/voting power. SBC meets tomorrow night with a directive from the SC.

Mr. Nylen commented on emails on both sides of the issue. He opened up comments from the audience. More than twenty-five individuals from the audience gave their preferences, mostly for neighborhood schools with walkability and caring professionals.

Reed Dolan, SC student rep, went to the microphone as an eleventh grader and a former Winthrop student. He said he was torn because of the multiple pros and cons and takes his own experience into consideration. He remembered his preference for his small community but felt that we can take a risk to make a decision that benefits logistically, economically, etc. He is confident that the builders can maintain a small school community, and he hopes that the students will accept and like this. If we are talking about a tight-knit community, there is no better way. He didn't know half of the kids in the town until he was 12; he would have liked to have known them a lot earlier. He is in support of one school. The setting he had, being immersed as he was, is that it should be kept downtown.

Mr. Nylen then opened it up to SC members. Mrs. Bauman respects the opinions of Winthrop parents, is concerned about devisiveness, remembers the trials of Feoffee/Little Neck land sale, overrides, and feels that eliminating the far-away site is appealing. She supports the one K-5 school for elementary students.

Mr. Whitten, referring to his minority vote for a small school at Winthrop, appreciated Mr. Hopping's reminder to always keep the best interest of the students first. 775 is just too big. Doyon and Winthrop each have their own personalities. Doyon does need work and it would become a priority in the future, but political will has changed with a FinCom recommendation of 4/3 and a 3/1 recommendation from the BOS for two different options. The TM wrote a strong letter and SC should change as well. SC is not the majority of the Town of Ipswich. Many people don't want the Bialek site to be changed and $60 million is needed to fund the large school. The Winthrop School has soul as a truly community-oriented school which serves at-risk children. Going to the opposite side of town isn't in anybody's best interest. Most of the best schools in the State are well under 500 students. Our teachers and administrators are our most important people.

Dr. Hart spoke of the themes of continuity, desired outcomes, and equity. The economics is a different question. Currently both elementary schools have wonderful school cultures and people are fearful of losing that. This K-5 school would have continuity of building relationships over time. Walkability seems to be absolutely critical. Decisions are made that align with values and goals. The point of a 775-student school is not a big school but creating a small-school feel. We have 3+ years to figure out how programmatically that will come—a program that creates a sense of community. The big building will work. It is the programs that will work.

We have two antique buildings, and kids deserve a better environment in which to work. Education within Ipswich is on fire with collaboration. All its children deserve room, facilities, technology, and he cannot do anything but advocate for that as Superintendent of Schools. While he is concerned about how much it will cost, he will advocate for the 775 so that the elementary program that addresses all of the values and goals can be created as it has been supported over the last two years.

Ms. Player equated the process to the failed first override because people were afraid. Once focused on what the district needed a year later and increased SC outreach, a decision was not made out of fear, and success was achieved. Originally the State invited only one school but when they visited, they realized both schools were in a mess. This project represents an opportunity for both districts. She is not aware that the State can fund another project in Ipswich. The combined costs, long term, are less by far. We would be losing millions of dollars. This is an incredible opportunity to improve the learning environment for elementary schools. The method of teaching is great, but the facilities hinder us. We need to change. Other districts like Andover and Amherst are doing exactly what we propose. We are representing students who have not yet been born. The SC cannot control where students live or their mode of transportation to school. We need to choose the best option on the table. The Feoffee battle left the Town reeling; now we have a program that allows tremendous opportunities for enhanced education. She urged the SC to make a decision that is right, not necessarily popular, but right and not out of fear.

Mr. Hopping explained that his concept of one school has not eroded. His professional life as a teacher and principal was a result of smaller schools that were closed because of the need for efficiency. He does take exception to some of the things that were said tonight. He sees equity as a pretty straightforward point: equal opportunity for teaching and learning for all students and staff. When you put materials and supplies into substandard buildings and overcrowded classrooms, kids sitting on floors, kids sitting on top of each other, desks crammed together, it is not conducive to teaching and learning. MSBA knows that "equity" was put on the table. With a small school, Doyon would be lost in the shuffle. He is huge on walkability and the Wegzyn property pushes walkability. He will not support a 775-student school at Doyon but wants a school in the downtown area as a single school. The kids come first whether a large school or a small school. We would be building this school from the inside out—design starts from the inside. That is when the community gets involved. Placed in the hands of the professionals, we can make this happen.

Dr. O'Flynn gave his prospective from years with SC. He reviewed student testing in both schools, an era of discussion re K-2 and 3-5, gifted programs, SPED in the Winthrop modular building, 480 kids in a school, then full-day K, a decade-old study which showed that population would go down, moved SPED's location, planned enormous investments in the schools and huge commitments to class size that didn't materialize. He reviewed his own experiences with transitions to schools in Town. The financial picture is much cheaper to do one big school. Demographics

are shrinking with five levels of elementary; it will be hard to balance class size at two schools. We could solve structural problems with equity, and distribute more opportunities for children. Separate education is inherently impossible and he believes in the 775-student school in Town. One single building with the best option is K-5. The original M/HS concept was feared—now it is a great success. A single building can be transformative for the kids.

Mr. Nylen sees, rather than the loss of community schools, the opportunity to come together to enhance education. The quality of education is the primary focus. With the idea that teachers will succeed regardless of small or large, why not give them the better resource of a large school. We get to design a building from scratch, do what we want to do for our educational system. It comes as a once-in-50-year opportunity. We have been reassured by educators that we can do it. Both principals whom he has talked with say that this single school model will work really well. Concern about the cost is shared, but the argument of too big is a failure of logic. It would be more expensive to replace two buildings over time than to do one building now—that is a fact. We shouldn't be driven solely by what the taxpayer thinks because every bit of financial information is to build a single facility. He considers Bialek to be a viable option for location because of the downtown location and still be sensitive to neighbors' concerns. We need the support of Town Boards and we may not have it at the moment. While it is troubling, it is no reason to stop and over time, he hopes to achieve the same success as with the second override attempt. The need is to put energy into making the approach that this move is the best for the Town: the single facility in the downtown location.

Mr. Hopping moved, seconded by Mr. Whitten, to eliminate the Doyon site option from further consideration. Mr. Whitten explained that the 775-student facility on the Winthrop site is problematic because the building barely fits and there would be parking for 60 cars when parking needs number up to 160 cars.

Mr. Kevin Murphy, SBC Chair, explained that MSBA requires that Winthrop cannot be removed as a site because a baseline model must be provided to them for a bare minimum submission. Mr. Murphy further stated that even the 420 or 490 Winthrop school would be difficult given the acreage and other issues. UNAN.

Dr. O'Flynn moved, seconded by Mr. Hopping, to approve a single 775-student elementary school in the walkable downtown area. While there was discussion among the audience members to include a cost figure in the motion, the SC felt that it is too soon to attach a number to the project. Mr. Hopping reiterated that, if all else failed, in order not to lose everything, the option is still needed to go back to a smaller school and a voted number would not be appropriate. Paul Queeney, OPM, came forward to give details of the certification of the vote and options for the future. Mr. Murphy stated that the preferred site plan is due on September 29 and the drop-dead alternate site search would probably be mid-August. Dr. O'Flynn asked the community for an option viable beyond Bialek. Mr. Nylen asked the audience (present and at home) to direct attention to

helping make this work and not see this as an opportunity to disrupt. This will be the best effort that the SC can make. VOTE: IN FAVOR- Bauman, Nylen, Player, O'Flynn, Hopping; OPPOSED- Whitten. Mrs. Krason, not present, had sent a letter in support of the single 775-student school.

Suggestions made by the audience for moving on were as follows:

1. Poll the citizens of Ipswich for consensus
2. Take the subject up at Fall Town Meeting
3. Decide on a deadline for another site
4. Give a cost figure. (K. Murphy was confident with a figure of $58 - $62 million)

B. SCHOOL BUILDING PDP SUBMISSION

Ms. Player moved, seconded by Mr. Hopping, that the SC advise the SBC and architect to submit the PDP to MSBA. UNANIMOUS.

III. CONSENT

A. CONSENT AGENDA

Mr. Nylen moved, seconded by Mrs. Bauman, to accept the May 19, 2016, Open Session Minutes. UNANIMOUS.

IV. ADJOURNMENT

Mrs. Bauman moved, seconded by Ms. Player, to adjourn the meeting at 11:22 p.m. UNANIMOUS.

IPSWICH SCHOOL COMMITTEE MEETING
OCTOBER 6, 2016
MIDDLE/HIGH SCHOOL ENSEMBLE ROOM

CALL TO ORDER

Chair Nylen called the meeting to order at 6:13 p.m. Attending were J. Bauman, B. Hopping, S. Player, C. Whitten, and H. O'Flynn.

I. EXECUTIVE SESSION

Mrs. Bauman moved, seconded by Dr. O'Flynn, to move to Executive Session for the purpose of discussing strategy for negotiation with nonunion personnel. IN FAVOR- Bauman, Player, Nylen, Hopping, Whitten, O'Flynn.

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II. OPEN SESSION

CALL TO ORDER

Chair Nylen called the meeting to order at 7:04 p.m. Attending were S. Player, J. Bauman, B. Hopping, C. Whitten, and H. O'Flynn. Also present were Dr. Hart, Superintendent, and Reed Dolan, Student Representative.

Mr. Nylen announced that Feruza Krason was absent because of surgery but also because she has recused herself according to State law because she is an immediate abutter to the Winthrop School.

READING OF DISTRICT MISSION STATEMENT

Reed Dolan read the Mission Statement.

ANNOUNCEMENTS

October 10 – Columbus Day Holiday, no school
October 11 – Professional Development Day, no school
October 13 - Budget Subcommittee meeting, 7 p.m., Payne School
" " College Fair, lower gym, M/HS
October 18 – Policy Subcommittee meeting, 7 p.m., Payne School
October 20 – School Committee meeting, 7 p.m., M/HS Ensemble Room
October 25 – Fall Town Meeting, 7 p.m., PAC

CITIZENS COMMENTS

SPECIAL ACKNOWLEDGMENTS

HIGH SCHOOL STUDENT REPRESENTATIVE REPORT

Reed reported that, one month into the school year, sports successes abound especially with field hockey's 8/1 win/loss and seniors increasingly busy with college applications, many before November 1.

SUPERINTENDENT'S ADMINISTRATIVE REPORT

Dr. Hart presented to the Board results from MCAS testing comparing the last three years in Positive Achievement Trends in Combined Proficient and Advanced

categories in ELA8, Math8, Math5, and Sci5; Positive Achievement Trends in Advance in Math10, Math8, Math5; and Positive Trends in Needs Improvement and Failing in Sci10, Math8, Math5, and Science5; but Negative Achievement Trends with ELA 7. The Winthrop School regained their Level 1 status this year, reflecting an enormous amount of work by the Winthrop staff and student body.

The Compass team had a full-day workshop on September 30 in preparation for the full-day Professional Development Day on October 11 with a focus on that day of helping create a common understanding of thinking culture concepts district wide.

The New England Association of Schools and Colleges (NEASC) has distributed the results of a self-study survey. He was impressed with the positive responses from school stakeholders in several key areas and presented examples.

Mr. Hopping asked to see the results of the 8th grade tests and Dr. O'Flynn wants to see growth results. Mr. Hopping referred to Principal Dalton's remarks that the rise in achievement is systemic. A meeting will take place on portfolio assessments and understanding "measures."

III. SCHOOL COMMITTEE PRESENTATION

B. SCHOOL BUILDING PROJECT

Mr. Nylen introduced the discussion by thanking the audience present, and the ones who have labored in the project including the School Building Committee and the other working groups who did the body of work. He expressed appreciation for the respectful conversations over the past two years and hoped tonight to honor and maintain that respect. This being the third time the SC has voted, two for the 775-student configuration, the Board realized that not everyone will be happy but is hopeful that everyone will come together to get this improvement for the elementary system. He called for public comments first, SC comments and recommendations, the Superintendent and Student Rep comments, and finally a round of motions, discussions, and votes.

Pepper White (audience member) questioned the Saturday workshop and was told it was an Open Session on the only available day with 8 Town citizens attending. He also questioned the abutter conflict and was told it is a legal matter from the State Ethics Commission. He also questioned the debt burden of the elderly in regard to taxes.

Elizabeth Dorman (audience) advocated for equity at the Doyon site, saying that Winthrop acreage is too small, and displacement of the children during the building phasing is questionable.

Dr. O'Flynn referred to the success of the combination of the Middle and High schools, and the current challenges with resources, grey areas, sub-economic levels, and declining population which led the School Committee to want to combine two schools to one bringing curriculum, brighter lives, and equity education. He preferred a single at Bialek, likes Doyon design, but would support Winthrop.

Mr. Whitten repeated Mr. Hopping's statement that the interest of students come first and he feels that the interests are best served with a new 775-school on the Winthrop site. Doyon's repair is too expensive in the same old substandard building, and there is a loss of the cross collateral of what teachers/students cherish. SC and teachers' top priority is K-5. Winthrop has walkability and a lot of people move to Ipswich because of the central location. It would eliminate the grey areas. Sustainability practices are more and more important every day. Community and recreation spaces are available in the center of town. Logistics allow for a new school to be built while students remain in the old school. Parking for 40-60 cars offsite and alternate transportation promotion are possible.

Mrs. Bauman's two issues were size and location. While she considered K-3 at Winthrop and 4-5 at Doyon, the two-year window at Doyon does not provide the best education. Traffic and parking at Winthrop must be addressed and mitigated. She prefers the 775 at Winthrop.

Mr. Hopping, thanking the residents of the town, spoke of one school, one community, of equity, resources, personnel, and whatever it takes to address those needs for teachers to give the best opportunity for teaching and learning for each child's success. Currently, the two building configurations are woefully short, crowded, and teachers don't have equal access to resources. The architect and the FinCom say the 775 school is the best option and to think of anything but keeping all the kids together is detrimental. Not convinced about Doyon, he offered details for parking at Winthrop and had suggestions re bussing. He prefers the 775 at Winthrop.

Ms. Player's priority is to put the best possible site forward with the K-5 configuration, allowing for maximum flexibility of spaces, and allowing for sociability. Her preference for site continues to be Doyon because of the outdoor learning experience, open play spaces, minimized phasing of construction, less impact on travel and parking. Additionally, it opens up a site for Public Safety. Her priority is 775 at Doyon.

Dr. Hart reiterated the negative effect of K-3 and 4-5 transitions and said it makes no sense economically. The 775 school option is wonderful and the most objective "citizen" is the State which said Ipswich really needs to look at the two buildings and should invest in taking care of both schools. The impact made for the schools because of the Town's passage of the override is phenomenal and cited examples with real-world experiences with whales (at High School robotics) and eagles (at Winthrop second grade) and sustainability that is unique, all of which make Ipswich a model for the State and beyond. The 775-building is an economic no-brainer with a $25 million difference and a $100 difference for the average taxpayer. People are nervous about that many students in one building, but the great educational minds in Ipswich can create powerful environments in the new school.

The 775 school gets his enthusiastic support.

Reed Dolan, who originally supported two schools, said his opinion has evolved, and he now supports one school to serve equal opportunities. Logistically,

Doyon is the best site with Willowdale and Mile Lane, less traffic, but he feared for lack of support by the community and, therefore, wants one school at Winthrop.

Mr. Nylen reviewed the educational process in configuration, values of educational facilities, design, and sites. A single community school makes sense and he supports it. He is convinced that a building can be designed that will work with equal opportunity and access, flexibility and adaptability that will be here 50 years and more, and that will allow education to move into the future. Financially, the cost of the building, while more expensive now will amount to thanks by the townspeople later. He spoke of the operational budget and making good decisions to avoid future overrides. With a single building, there is a real opportunity to think about the standards. With savings of about $500,000, that would do a lot to mitigate the structural deficit. The Doyon site has more flexibility than Winthrop, but many people feel that maintaining a school presence in the center of town is better. With study and control, there could be more bussing; parking is solvable. The architect says it will work; Mr. Nylen supports 775 at Winthrop.

Ms. Player moved, seconded by Dr. O'Flynn, that the SC build a 775-student elementary school at the Doyon site. Mr. Champion (audience member) recommended that the vote be separated, but Mr. Nylen reaffirmed that the Board has already voted twice on the 775 issue. Dr. O'Flynn asked if a Winthrop traffic study would force a change. Bialek is lost, Doyon is a great site, and there is a lack of full review of Doyon. However, he will support either site. Mr. Hopping and Mr. Whitten support Winthrop for downtown access and the economically disadvantaged population. Vote: IN FAVOR – Player; OPPOSED – Hopping, Bauman, Nylen, O'Flynn, Whitten.

Mr. Whitten moved, seconded by Mrs. Bauman, to build a 775-student elementary school at the Winthrop site. Mr. Hopping urged the group to make this work, and Ms. Player, realizing that the sentiment of the Committee is supporting Winthrop, commented that at the end of the day the Committee wants to build a school with a priority for 775 students. Both sites have limitations and different benefits. Mr. Nylen commented that, at some level, all of this requires a leap of faith that the SC can work together to settle the issues. Vote: IN FAVOR- UNANIMOUS.

Kevin Murphy, SBC Chair, commented that, having missed the scheduled deadline (Sept. 28), the 775 elementary school will now come up for a vote at the fall Town Meeting of 2017. The PDP has not changed; next comes the preferred schematic plan. Conversation covered the preferred phasing to 2; that is, building the academic wings in two areas out front with enough classrooms and then building the cafeteria and gym areas in the back. Traffic study and parking analysis come next. Mr. Nylen spoke of additional funding needs at the FTM'16; Mr. Hopping urged funding within the school budget. (See TM Article 18, p. 6)

Ms. Conley and Mrs. McAdams thanked the Committee and commented that they are ready for the challenge, everyone needs to be on board to continue this

project, and asked for timelines to be able to share with the community. Mr. Hopping confirmed his faith in the leadership and the decisions to come.

C. FTM WARRANT HEARING AND SPEAKER ASSIGNMENTS

The Committee reviewed the Town Meeting Warrant Articles as follows:

Article 2 – Legal Settlement Appropriation to School Department
Mr. Whitten moved, seconded by Dr. O'Flynn, to support Article 2. UNAN.
Mrs. Bauman will speak to the article.

Article 3 – Emergency Repairs to Fire Station
Mr. Nylen moved, seconded by Ms. Player, to support Article 3. UNAN.
Mr. Hopping will speak to the article.

Article 5 – Amend School Budget (State Aid)
Ms. Player moved, seconded by Mr. Hopping, to support Article 5. UNAN.
Mr. Nylen will speak to the article.

Article 6 – School VOIP & Communications System
Mr. Whitten moved, seconded by Mr. Hopping, to support Article 6. UNAN.
Mr. Whitten will speak to the article.

Article 7 – Education Stabilization Fund
Ms. Player moved, seconded by Dr. O'Flynn, to support Article 7. UNAN.
Ms. Player will speak to the article.

Article 8 – Reduce Appropriation to Essex Tech
Mr. Hopping moved, seconded by Mrs. Bauman, to support Article 8. UNAN.
Mrs. Krason will speak if needed.

Article 9 - OPEB
Ms. Player moved, seconded by Mr. Whitten, to support Article 9. UNAN.
No speaker

Article 10 – Raise and Appropriate $133,000 for Capital Stabilization Fund
Ms. Player moved, seconded by Mrs. Bauman, to support Article 10. UNAN.
No speaker

Article 11 – Amend the FY17 Capital Plan
Mr. Whitten moved, seconded by Ms. Player, to support Article 11. UNAN.
Dr. O'Flynn will speak to the article.

Article 12 – Green Crab Trapping Funding
Dr. O'Flynn moved, seconded by Mrs. Bauman, to support Article 12. UNAN.
Mr. Whitten will speak to the article.

Article 13 – Create Stabilization Fund for Whittier Regional VoTech
Mr. Hopping moved, seconded by Mr. Whitten, to support Article 13. UNAN.
Mr. Bardsley will speak to the article.
Ms. Player will speak if needed.

Article 14 – No position
Article 15 - No position
Article 16 - No position - Discussion later on Bylaw Revision
Article 17 - No position

Article 18 – Amend School Feasibility Appropriation

Dr. Hart was directed to confirm with Kevin Murphy the consensus of the School Committee that, if the figure is in the $20-25,000 range, it be taken from (1)contingency fund, (2)operating budget, or (3)Choice rather than to ask the Town to appropriate more money. Article 18 to be INDEFINITELY POSTPONED.

Article 19 – Add Parcels to Open Space

Mr. Nylen moved, seconded by Mr. Whitten, to support Article 19. UNAN.

Dr. O'Flynn will speak to the article.

Article 20 – Appropriate from Open Space Bond

The Committee consensus was to put a vote on Article 20 on hold until answers to who will oversee maintenance, restroom facilities, and scheduling of the athletic playing fields is known.

IV. SCHOOL COMMITTEE REPORTS

A. VOUCHERS AND BILLS

B. SCHOOL COMMITTEE REPORTS

1. ATHLETIC SUBCOMMITTEE
2. BUDGET SUBCOMMITTEE
3. COMMUNICATIONS SUBCOMMITTEE
4. GRANT COMMITTEES
5. OPERATIONS SUBCOMMITTEE – Mr. Nylen reported a focus on the Superintendent hiring process – reviewing contract used previously, scope of work, timeline - and he will share the info. Also, proposed concurrently is the formation of a steering committee and hiring a consultant.
6. POLICY SUBCOMMITTEE – Mr. Hopping reported that Mike Gilbert will meet with them on the 18th and it will go on the Oct. 20 agenda. The Feoffee district policy will be discussed with leaders of Payne and MiniGrant Committees. The School Improvement Plan policy is supposed to be linked in some fashion with the school budget.
7. SCHOOL BUILDING COMMITTEE
8. TECHNOLOGY SUBCOMMITTEE – J. Frash will be present at the Oct. 20 meeting.
9. TURF FIELD
10. NEW BUSINESS

IV. CONSENT AGENDA

Mr. Nylen moved, seconded by Ms. Player, to approve the following Consent Agenda items: Acceptance of Open Session Minutes of September 22, 2016

Acceptance of donation of $2,000 from an anonymous donor to support the Grade 5 Plimoth Plantation Field Trip.

Acceptance of a donation of $4,000 from Action for Winthrop Preschool Tuitions for families in need. UNANIMOUS.

VI. ADJOURNMENT Mr. Hopping moved, seconded by Dr. O'Flynn, to adjourn at 10:12 p.m. UNANIMOUS.