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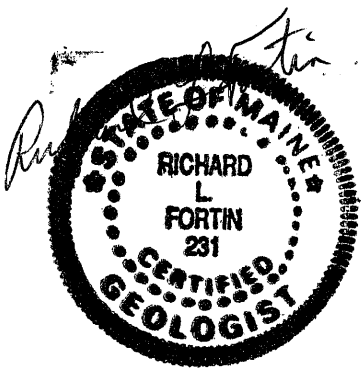
PHASE II SITE INVESTIGATION REPORT
50 INDIA STREET SITE
PORTLAND, MAINE

DECEMBER 14, 2015

prepared for

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1.0 INTRODUCTION

Drumlin Environmental, LLC (Drumlin) recently completed a Phase I Environmental Site Assessment (ESA) of the property located at 50 India Street in Portland, Maine. The report was prepared on behalf of an interested buyer of the property, India Newbury Residences LLC and was submitted in support of an application to the Maine Department of Environmental Protection (MDEP) Voluntary Response Action Program (VRAP) in October 2015. The property is identified as a 0.22-acre portion of Lot 15 on the Tax Assessor's Map 28. The property currently exists as a developed lot containing the Port City Glass building and surrounding asphalt parking area. The site and surrounding area is served by public water, public sewer and natural gas utilities.

Drumlin's Phase I ESA research found no records of a release of hazardous substances or petroleum products on the property. Any spill incidents related to the service station operations would likely have predated the time when spill records were more routinely documented by the MDEP. The building was formerly used as a service station, which appears to have operated with USTs, an auto lift, floor drain, and a structure suspected to be an oil-water separator located outside the building. Given this former, there is a potential for a past release to have occurred at the site. Drumlin's Phase I ESA considered that these former site operations represented recognized environmental conditions.

Drumlin's Phase I ESA recommended implementing a Phase II Environmental Site Investigation in order to assess the soil and soil air/vapor conditions in relation to exposure pathways and scenarios of the MDEP Remedial Action Guidelines, May 10, 2013. The Phase II Investigation report presents the findings of the explorations and sampling completed at the site and provides an evaluation of potential exposure risks with recommendations to manage these risks.

1.1 Site Description

The subject property is located on India Street near the intersection with Middle Street. A majority of the site is covered by a combination of the existing building and asphalt pavement. The area in the vicinity of the site forms the east-end urban area of Portland and includes developed properties in all directions from the site except for the undeveloped asphalt parking lot abutting the subject property on the north at 62 India Street. The surrounding land uses include residential buildings, restaurants, office buildings, food stores, coffee shop, bakery, hair salon and fishing tackle shop. The land surface at 50 India Street slopes gently to the south and southeast towards India Street and Middle Street. Surface runoff and subsurface groundwater flow is anticipated to flow generally to the south towards the Portland Harbor.

In late 2013 and early 2014, the abutting property at 62 India Street was addressed through VRAP after completion of Phase I and Phase II Environmental Site Assessments. In April 2014, the site received a No Further Action Assurance Letter from the MDEP, which provided several conditions of approval including completion of a Declaration of Environmental Covenant and Soil Management Plan.

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1.2 Possible Future Use

The Phase II Site Investigation was completed to evaluate the site environmental conditions with respect to the current use and possible future use of the property. India Newbury Residences LLC is the interested buyer and anticipates developing the property along with the 62 India Street property as one project. Drumlin's understanding of the development concept is to establish multi-story building with retail shops at ground level and residential living space on the upper floors. A ground-level parking garage may also be incorporated into the building layout. The outer footprint of the building is anticipated to generally follow the property boundaries. The new building may be developed with a shallow spread-footing or pile design to support a concrete slab foundation. Given this approach, the excavation and disturbance of soil relative to exposure during construction is anticipated to be limited to shallow depths (e.g., up to 4-6 feet below ground).

2.0 CONCEPTUAL SITE MODEL

Drumlin developed a Conceptual Site Model (CSM) for the site based on our understanding of the site urban setting, historical operations, anticipated future use and results of the Phase II Site Investigation. The CSM was initially presented in the Phase II Site Investigation Work Plan submitted to VRAP on October 29, 2015.

2.1 Potential Sources

The potential sources of contamination identified at the site include:

- Former pump island and suspect USTs at two onsite locations,
- Former service station operations including the auto lift and floor drain located inside the building and oil-water separator located outside the building, and
- Urban fill deposits.

The former USTs are believed to have been removed from the site; however, a geophysical survey is proposed both inside the former service station and outside the building to assess the presence or absence of any underground tank structures. A circular metal ring is embedded in the concrete floor of the former station service bay and represents the remnant feature of a former auto lift that was reportedly removed at some time in the past according to the owner. Through the geophysical survey and visual inspection, the connectivity of the floor drain and physical features of the oil-water separator will be evaluated as potential sources. The oil-water separator has dimensions of approximately 2.7 by 3.1 feet and was recently probed to reach a hard bottom at approximately 5.6 feet deep below ground surface. The oil-water separator has approximately 2.3 feet of oil-water containing solids with 1.1 feet of liquid overlying the solid. A J-shaped pipe facing down into the water appears to be the overflow outlet for excess water that enters the oil-water separator.

2.2 Potential Contaminants of Concern

The potential Contaminants of Concern (COC) associated with the sources listed above include:

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A. Petroleum constituents (e.g., primarily benzene, ethyl benzene, toluene, xylenes and lea associated with the former service station, USTs and pump island.

B. Volatile organic constituents (i.e., solvents, cleaners, etc.) possibly associated with the former service station operations.

C. Heavy metals and hydrocarbons associated with the fill.

The chemical properties associated with these COCs are anticipated to pose a concern primarily for construction workers (short-term) in connection with future development of the site; for residents and commercial workers (i.e., shop owners/workers) as building occupants; and for maintenance and utility workers. The media of focus at the site for potential exposure routes include soil and soil air/vapor in the shallow subsurface and down to an excavation depth of approximately six feet below ground surface.

2.3 Exposure Scenarios and Exposure Pathways

Based on the MDEP guidance, Drumlin identified exposure scenarios and routes of exposure that are considered applicable at the site for posing a potential risk to receptors. The exposure scenarios of concern include the Excavation/Construction Worker, Residential and Outdoor Commercial Worker Exposure Scenarios. The routes of exposure include incidental ingestion and dermal contact with contaminated soil; inhalation of contaminants potentially associated with fugitive dust and ambient air; and, vapor intrusion into the air inside a building and subsequent breathing of contaminated indoor air. The exposure scenarios and associated pathways are presented below for the sources of concern previously identified at the depths in soil below ground surface (bgs) as described below.

<u>Excavation/Construction Worker by:</u>

- Incidental ingestion (eating) of contaminated soil (0-6ft, bgs),
- Incidental dermal (skin) contact with contaminated soil (0-6ft, bgs), and
- Breathing of the contaminated ambient air impacted by volatilization of contaminants from soil (0-6ft, bgs); and, by suspension of fine contaminated soil particles (i.e., fugitive dust) in air.

<u>Outdoor (maintenance) Commercial Workers by</u>:

- Incidental ingestion and dermal contact with shallow contaminated soil (0-2ft, bgs) and inhalation of contaminants potentially associated with fugitive dust and ambient air.

<u>Residential Occupants and Indoor Workers (i.e., shop owners and employees) by</u>:

- Incidental ingestion and dermal contact with shallow contaminated soil (0-2ft, bgs); inhalation of contaminants potentially associated with fugitive dust and ambient air; and, breathing of contaminated indoor air impacted by volatilization of contaminants from shallow soil (0-2ft, bgs) and subsequent vapor intrusion at building foundations.

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3.0 PHASE II SITE INVESTIGATION

The Phase II Site Investigation completed at the 50 India Street site included a geophysical survey, Geoprobe borings, soil vapor probes, field screening; and, soil and soil air/vapor sampling for laboratory analysis. The locations of the investigative activities and sample points are shown in Figure 1. A summary of the Phase II investigation program and laboratory analyses is shown in Figure 2 and is described below:

1. Subcontracted with Northeast Geophysical Services of Bangor, Maine to implement a Geophysical survey using Ground Penetrating Radar (GPR) and an EM-61 Metal Detector.
2. Subcontracted with Environmental Projects, Inc. (EPI) of Auburn, Maine to advance 10 Geoprobe borings at the site. At each location, continuous soil samples were collected for field screening using a photoionization detector (PID) and MDEP SOP TS004 for oil and gasoline. EPI also installed and sealed five shallow screened PVC points in the ground to collect soil vapor samples from a depth of approximately 3-4ft, bgs.
3. Collected soil samples from the Geoprobes for subcontract laboratory analyses by Katahdin Analytical Services (Katahdin) of Scarborough, Maine. The number of soil samples submitted for lab analysis consisted of five for RCRA metals (i.e., arsenic, lead, cadmium, chromium and mercury), seven for MADEP EPH, six for MADEP VPH, two for PCBs and three for EPA Method 8260 volatile organics.
4. Collected subsurface air samples from the five soil vapor points for lab analyses consisting of Air Petroleum Hydrocarbons (APH) and volatile organic compounds (VOCs) using Method TO-15.

The details for implementation of the activities described above are presented in the following sections. Site maps showing the locations of explorations and testing and the study findings are provided along with appendixes of field data and laboratory results.

3.1 Subsurface Exploration Program

Geophysical Survey. A geophysical survey was conducted at the site by Northeast Geophysical Services using Ground Penetrating Radar (GPR) and an EM-61 Metal Detector. The purpose of the survey was to explore the subsurface conditions at the site for suspect USTs and for locating existing underground utilities. The survey was conducted outside on the east, south and west sides of the building using grid lines to record data on 5-foot spacing. Inside the building, the survey covered the area of the former service bay and suspect location of former USTs. The objective was to locate if any tank, tank grave, floor drain piping, utility piping or other infrastructure remains onsite beneath the asphalt pavement and beneath the floor of the building. The results of the Geophysical survey were used to guide and support the follow-on exploration and sampling program that was completed to assess the subsurface environmental conditions. A brief overview of the geophysical survey findings is presented below.

- No underground fuel tanks or other metal tank structures were found by the survey. No metal structure was found around the perimeter of the circular metal rim embedded in the concrete floor that represents the former auto lift location.

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- The GPR signals collected in front of the building suggested the presence of a former UST excavation/backfill area.
- The GPR signals in the building traced a metal pipe leading from the floor drain to the oil-water separator located outside the front of the building. The floor drain cover was removed to confirm the pipe direction/orientation into the oil-water separator. The GPR did not show any indication of a pipe connection or other structure outside the perimeter of the oil-water separator.
- The survey identified a 3-foot wide gap within a remnant concrete slab located at the suspect former pump island. The gap is anticipated to represent the raised platform that was removed from the concrete slab of the former pump island.
- The survey identified other positive signals suggesting underground pipes/utilities extending from the building to the east towards India Street. The signals were consistent with records Drumlin obtained from the Portland Sewer Division and Portland Water District for identifying the onsite locations of the sewer and water services, and were consistent with the Dig-Safe markings for the water, sewer and natural gas lines.

A copy of the report prepared by Northeast Geophysical Services is included in Appendix A along with the local sewer and water records.

Geoprobes. Environmental Projects, Inc. was subcontracted to complete the subsurface investigation program at the site. Ten Geoprobe borings and five soil air/vapor collection points were completed at the site on October 30 and 31, 2015. The Geoprobes were identified as B-1 through B-10 (see Figure 1). Drumlin was present to provide oversight of the exploration program, conduct field screening, collect analytical samples and document the work completed. The objective of the exploration program was to characterize subsurface soil quality with respect to potential COCs located primarily within a depth of 0-6ft, bgs as follows:

- B-1 and B-2 targeted the area of the suspect former USTs located in front of the building.
- B-3 targeted the former pump island location.
- B-4 and B-5 targeted the southern property boundary to assess subsurface conditions between the onsite building and adjacent buildings.
- B-6 targeted the remnant auto lift/floor drain location inside the building.
- B-7 targeted the suspect former USTs located under the addition to the original service station building.
- B-8 targeted the oil-water separator located outside in front of the overhead bay door of the former service station.
- B-9 and B-10 were completed to collect shallow soil samples at the rear of the building.

An additional objective of the investigation was to determine the presence or absence of free product or saturated soil conditions located at the suspect source locations, which were targeted at B-1, B-2, B-3, B-6, B-7 and B-8.

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The depth of the Geoprobes ranged from 16-20ft, bgs at B-1 through B-8. B-9 and B-10 were completed for the purpose of collecting 0-4ft, bgs samples at the rear of the building. Soil samples were collected continuously in the Geoprobes at 4-foot sampling intervals.

Drumlin conducted field screening in accordance with MEDEP SOP TS004. Logs showing the results of the oil (oleophilic dye testing) and photoionization detector (PID) field screening for gasoline are presented in Appendix A. Also provided in this appendix are geologic logs for the Geoprobe explorations. The findings from the field screening are discussed later in Section 3.2, Field Data Collection.

Soil Vapor Points. On October 30 and 31, 2015, shallow sampling points were installed at the site at five locations, SV-1 through SV-5, to collect soil air/vapor (see Figure 1). At each soil air/vapor collection point, EPI probed a shallow hole to a depth of approximately 4ft, bgs and installed a 0.5- or 1-foot long, slotted section of 1-inch diameter PVC. The annular space was backfilled with fine sand and a bentonite seal was placed above the sand. A depth of 3-4ft, bgs was targeted for pulling each soil air/vapor sample. A push-on cap was secured tightly over the top of the pipe at all locations. For protection at the soil air/vapor locations (SV-3, SV-4 and SV-5) located outside the building, a flush-mounted roadbox was installed.

The objectives of the SV sampling program were to characterize subsurface soil air/vapor quality with respect to potential volatile COCs located in the shallow subsurface soils at the following locations:

- SV-1 targeted the area of the former service bay at the remnant auto lift/floor drain location inside the building.
- SV-2 targeted the suspect former USTs located under the addition to the original service station building.
- SV-3 and SV-4 were completed outside the Port City Glass building to assess the present of vapors near the southern property boundary and adjacent buildings.
- SV-5 was completed to assess the presence of vapors along the sewer utility line extending from the Port City Glass building to the sewer main located along India Street.

4.0 PHASE II SITE INVESTIGATION FINDINGS

Drumlin completed the site investigation activities described previously in Section 3.0. The following sections present the investigation findings regarding the subsurface geology and environmental testing conducted at the site.

4.1 Field Data Collection

Drumlin collected various data in the field to document site conditions and to support the evaluation completed for the study. These data included field screening of soil samples for petroleum and field meter measurements collected during soil air/vapor sampling. A brief description of the field data collection activities is provided in the following paragraphs.

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TS004 Field Screening. As drilling progressed at each boring location, Drumlin screened the soil in accordance with MDEP SOP TS004 to detect the potential presence or absence of gasoline and/or oil residues. The Multi RAE IR meter, calibrated to 100 ppm Isobutylene gas, was used to measure aluminum bag headspace for each sample based on a 20 gram sample size. The PID values were recorded for each soil boring on a MDEP TS004 Bag Headspace Field EDD Sheet which is included in Appendix A. TS004 Oil Shake Test (oleophilic dye containers) were also used to screen the soil samples and the results are presented on separate Field EDD sheets in Appendix A.

The field screening found a dye color change in the Oil Shake Tests for soil samples as summarized below:

- Slightly Positive (SP) detections in B-1 (4-8ft), B-2 (8-12ft), B-5(8-12ft), B-6 (4-8ft) and B-8 (4-8ft and 8-12ft).
- Positive (PO) detections in B-7 (4-8ft and 8-12ft).

These readings correspond to the locations of the oil-water separator, the auto lift/floor drain, the two suspect former UST locations and at B-5 positioned outside the building along the property boundary. All other soil samples screened by this method resulted with no detection (U).

The aluminum bag headspace testing found slightly elevated PID readings at B-1, B-2, B-5, B-7 and B-8. The detections were primarily measured in the 4-8ft, bgs and 8-12ft, bgs soil samples. A petroleum odor was observed at B-1, B-2, B-5, B-6, B-7 and B-8 at one or both of these depth sampling intervals. The PID readings were low and ranged from 0.1 to 1.1 ppm. Similar to the Oil Shake Tests, these readings correspond to the locations of the oil-water separator, the suspect former USTs and at B-5 positioned outside the building along the property boundary. All other soil samples collected during the investigation did not show elevated PID readings.

Soil Vapor Sampling. On November 2, 2015, Drumlin visited the site to collect the soil air/vapor samples. A small hole was drilled through the cap on the sampling point, a Teflon suction tubing was inserted to the depth of the slotted section and soft molded clay was used to seal around the tube penetration through the cap. A MultiRAE IR multigas meter was used to: 1) collect ambient air quality parameters prior to sample collection; and, 2) to measure the subsurface soil air/vapor prior to and subsequent to sample collection. Field measurements included O_2, CO, CO_2, lower explosive limit (LEL, as a surrogate for methane) and PID-volatiles in the soil air. Each soil air/vapor sample was collected using a 30 minute Summa canister supplied by the laboratory. The initial and final vacuums in the canister, and the start and stop times were recorded along with other field measurements. The field sampling data sheets for SV-1 through SV-5 are presented in Appendix A. The field measurements generated the following data:

- Ambient O_2 values were measured at 20.9% at all five locations.
- Ambient CO_2 values were measured in the range of 600 to 930 ppm.
- Pre-sample O_2 subsurface soil air values were measured in the range of 9.8% to 20.3%.
- Post-sample O_2 subsurface soil air values were measured in the range of 9.4% to 20.1%.

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- Pre-and post-sample subsurface soil air PID values were measured at zero ppm.
- All pre-and post-sample subsurface soil air CO_2 values measured above the instrument calibration range.
- All ambient, pre-and post-sample subsurface soil air LEL values were zero.

4.2 Subsurface Geology

As stated previously, the subsurface deposits at the site are mapped as till consisting of a compact, poorly sorted, non-stratified, mixture of sand, silt, gravel and rocks. The property does not overly a mapped sand and gravel aquifer. The bedrock formation is mapped as schist and gneiss rock types.

Based on the recent explorations, fill was found at the site ranging in depths from 4-6ft, bgs in suspect former UST locations and from 2-4ft, bgs in other portions of the site. The fill varies in character from brown, gravelly sand located under the concrete slab floor of the building to a mix of sand, silt, brick and wood (i.e., urban type fill) located at varying thickness across the site. The deeper native deposits below the fill include layers of fine sand, clayey silt, and gravelly sand, silt and clay.

Bedrock was not confirmed by coring; however, refusal was encountered at 19.9ft, bgs and 18.5 ft, bgs at B-6 and B-7, respectively. The bottom portion of the Geoprobe samples obtained at refusal depth indicated a weathered rock surface.

4.3 Laboratory Analytical Data

Samples were collected from the Geoprobe borings for laboratory chemical analysis on October 30 and 31, 2015. Soil vapor samples were collected on November 2, 2015. All samples were analyzed by Katahdin Analytical Services of Scarborough, Maine. The laboratory analytical reports are presented in Appendix B. Based on our review of the Katahdin data, the following bulleted paragraphs provide a QA overview of the data.

- With respect to the air data, Katahdin reported that the LCS- WG174317-1 had a low recovery for the C9-C12 aliphatic range which was outside the method acceptance limits. However, the LCSD- WG174317-2 had a C9-C12 aliphatic range recovery was found to be within the method acceptance limits. There were no protocol deviations or observations noted by Katahdin regarding the TO-15Analyses.

- With respect to the soil samples, Katahdin reported the original (Method 8260 VOC) sample SI8722-7 and a re-analysis of the sample had high surrogate recoveries outside the laboratory's acceptable limits. Bromomethane was detected in the methanol blank (WG173895-6) above the MDL, but below the PQL. The laboratory reported no corrective action was needed.

- MA VPH samples SI8722-2, SI8722-8 and their re-analyses had high surrogate recoveries. Sample SI8722-6 and a re-analysis of the sample had low surrogate

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recoveries. Katahdin reported matrix interference effects with respect to these analyse however, no corrective action was indicated by the laboratory.

The results of analyses are tabulated in Tables 1 through 4. The tables include MDEP Remediation Guidelines (RAGs) for Sites Contaminated with Hazardous Substances (RAG Tables 1 and 2). The soil RAGs are presented for the Excavation/Construction Worker, Leaching to Groundwater, Residential and Outdoor Commercial Worker exposure scenarios. Also included in Table 1 are the available background soil concentrations for Urban Fill soil. Soil gas targets (SGTs) are presented as 10x the indoor air RAGs for purposes of evaluating vapor intrusion from contaminated soil into an occupied building. The indoor air exposure pathways include Residential and Commercial exposure scenarios. The findings developed from the sampling program are presented below.

Summary. An overview of the significant findings from the laboratory analytical data is provided as follows:

1. Drumlin collected soil samples for RCRA metals (i.e., arsenic, lead, cadmium, chromium and mercury), volatile organics, PCBs and MADEP EPH/VPH lab analyses. Soil air/vapor samples were collected for Air Petroleum Hydrocarbons (APH) and VOCs using Method TO-15.

2. In Table 1, the MADEP EPH/VPH analyses for soil samples collected at B-1 (2ft & 4 ft), B-6 (4ft) and B-7 (4ft) were reported with a few hydrocarbon detections (Table 1, highlighted in dark gray) above the MDEP Soil RAGs for the Residential and Outdoor Commercial Worker exposure scenarios. The hydrocarbons showing an exceedance included C11-C22 aromatics, benzo(a) anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. None of these values exceeded the MDEP Soil RAGs for the Excavation/Construction Worker exposure scenario.

   For the soil samples collected at B-2 (5ft), B-3 (6ft), B-4 (1.5ft), B-5 (9.5ft) and B-8 (4ft), none of the MADEP EPH and/or VPH analyses were reported with detections above the MDEP Soil RAGs for the Excavation/Construction Worker, Residential and Outdoor Commercial Worker exposure scenarios. At B-2, B-5 and B-8, the soil detections for a few hydrocarbons exceeded the "Leaching to Groundwater" RAGs and/or exceeded available soil Urban Fill background concentrations (Table 1, highlighted in light gray).

3. In Table 2, arsenic, which ranged from 8.8 to 17.4 mg/kg, exceeded the Soil RAG for Residential (1.4 mg/kg) and Outdoor Commercial Worker (4.2 mg/kg) exposure scenarios at all sample locations collected from depths ranging from 1-4ft, bgs.

   Cadmium detected at B-3 (1ft) at 74.8 mg/kg exceeded the Soil RAG for the Excavation/Construction Worker (19 mg/kg) and Residential (11 mg/kg) exposure scenarios.

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Lead, which ranged from 390 and 745 mg/kg, exceeded the Soil RAG for Residential (340 mg/kg) exposure scenarios at B-1 (2ft), B-7 (2ft) and B-9 (1.5ft).

4. In Table 3, no detections were found above the MDEP Soil RAGs for the Excavation/Construction Worker, Residential and Outdoor Commercial Worker exposure scenarios. Naphthalene was detected at 1.9 mg/kg in the soil sample collected at B-6 (4ft) above the Soil RAG of 1.7 mg/kg for the Leaching to Groundwater exposure scenario. Naphthalene also exceeded the soil Urban Fill Background value of 0.82 mg/kg.

   Analytical testing for PCBs in samples B-6 (4ft) and B-7 (2ft), located beneath the floor of the former service station, did not detect any PCB Arochlors.

5. In Table 4, none of the soil air/vapor samples exceeded the individual Air Rags x10 Soil Gas Targets for the APH and VOC compounds. Low-level concentrations of C-chain aliphatics and/or aromatics; and, low-level concentrations of benzene, toluene, ethylbenzene and xylenes were reported in all samples. Low concentrations of trichloroethene and/or tetrachloroethene were reported in samples SV-1, SV-3, SV-4 and SV-5.

The RAGs address human exposure scenarios for individual contaminants. Cumulative risk can also be considered to evaluate the significance of multiple contaminants by using the MDEP's Risk Calculator spreadsheet. Drumlin entered the site soil data and soil air/vapor data into the soil and soil vapor Risk Calculator spreadsheets to further evaluate the exposure scenarios (see Appendix C). A potential cumulative risk is calculated if the Incremental Lifetime Cancer Risk (ILCR) is greater than 1 in 100,000, or the Hazard Index is greater than 1.0 by target organ. An overview of the potential cumulative risks identified with the Risk Calculator using the soil and soil air/vapor data is summarized below:

1. The ILCR for Residential and/or Outdoor Commercial Worker exposure scenarios was exceeded for arsenic and benzo(a)pyrene in soil. Additional compounds, dibenzo(a,h)anthracene, benzo(a) anthracene, benzo(a)pyrene and benzo(b)fluoranthene were also exceeded in soil at B-6 (4ft).

2. The Hazard Quotient of 1.0 (for a single compound) for Residential and Excavation/Construction Worker exposure scenarios was exceeded for cadmium in soil.

3. The soil air/vapor samples did not exceed the individual Air Rags x10 Soil Gas Targets for the APH and VOC compounds. Based on the Risk Calculator cumulative risk analysis, SV-3 exceeded the Chronic and Subchronic Hazard Index of 1.0 for the Residential exposure scenario and SV-4 exceeded the ILCR, Chronic Residential exposure scenario.

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5.0 DISCUSSION AND CONCLUSIONS

The Phase II Site Investigation was completed to evaluate the site environmental conditions with respect to the current use and possible future use of the property. The report was prepared on behalf of an interested buyer of the property, India Newbury Residences LLC. The buyer is interested in developing the property into a multi-story building consisting of retail shops and parking garage at ground level and residential living space on the upper floors. The new building may be developed with a shallow spread-footing or pile design to support the concrete slab foundation. Given this approach, the excavation and disturbance of soil during construction is anticipated to be limited to relatively shallow depths (e.g., from 0-6ft, bgs). The Phase II Site investigation was focused primarily on identifying the nature of subsurface soil and soil air/vapor contamination located within this depth profile.

The site setting, field and laboratory analyses of soil and soil air/vapor conditions were evaluated by Drumlin in comparison to the MDEP RAGs for the Excavation/Construction Worker, Residential and Outdoor Commercial Worker exposure scenarios. The Leaching to Groundwater RAGs and available Urban Fill Background concentrations are also included in the data tables for completeness. Since the site is considered unsuitable as a drinking water source and meets the MDEP's criteria for an urban groundwater non-attainment area, the Leaching to Groundwater exposure scenario is not directly applicable to the site. There is no active use of groundwater at or near the site and none is likely to occur in the future since public water is available.

The study provided the following site characterization and conclusions.

1. The 50 India Street property currently exists as a small, urban parcel of land used by the current owner as Port City Glass. The site and surrounding area are served by public water, public sewer and natural gas utilities. Historically, a service station with USTs was present on the property. An asphalt parking lot borders on the north side of the subject site at 62 India Street. Historical activities on this adjacent site included a garage/service station with USTs. In 2014, this site received a No Further Action Assurance Letter from the MDEP, which provided several conditions of approval including completion of a Declaration of Environmental Covenant and Soil Management Plan.

2. The CSM developed for the site identified several possible historical sources of contamination related to the former service station operations including the remnant auto lift, floor drain, oil-water separator and former presence of USTs and associated pump island. The COCs found at the site include constituents derived from petroleum products, auto service/ solvent cleaning products, and metal/hydrocarbon residues potentially associated with urban fill.

3. Drumlin identified exposure scenarios and routes of exposure that are considered applicable at the site regarding potential risk to receptors. The exposure scenarios of concern include the Excavation/Construction Worker, Residential and Outdoor Commercial Worker exposure scenarios. The routes of exposure include incidental

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ingestion and dermal contact with contaminated soil; inhalation of contaminants potentially associated with fugitive dust and ambient air; and, vapor intrusion into the air inside a building and subsequent breathing of contaminated indoor air.

4. One or more RAGs for the Excavation/Construction Worker, Residential and Outdoor Commercial Worker exposure scenarios were exceeded in the shallow (1.5-4ft, bgs) subsurface soil samples. The primary COCs detected above the RAGs include metals (i.e., arsenic, cadmium and lead), C11-C22 aromatics; and, EPH compounds (i.e., benzo(a) anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene). Several of these compounds were also found to pose a cumulative ILCR for the Residential and/or Outdoor Commercial Worker exposure scenarios.

5. The soil air/vapor samples did not exceed the individual Air Rags x10 Soil Gas Targets for the APH and VOC compounds. However, the low concentrations detected at SV-3 and SV-4 could pose a risk to the Residential exposure scenario due to the cumulative effects of the multiple contaminants detected at these sample locations.

Based on the Phase I ESA research, the service station discontinued operations and USTs appear to have been removed from this site in the 1960s. While some EPH residues of petroleum still remain in the shallow subsurface soil environment, most of the volatile fractions of petroleum and other volatile chemical compounds appear to have dissipated over time through natural attenuation and degradation processes. Exposure to the EPH residues and heavy metals remaining in soil, and exposure to low concentration volatiles could occur through incidental ingestion, dermal contact and inhalation if contaminants are disturbed. However, the risk of such exposure can be mitigated through engineering controls and prudent soil management practices.

6.0 RECOMMENDATIONS

Based on the investigation findings and conclusions developed from the Phase II Site Investigation, Drumlin makes the following recommendations:

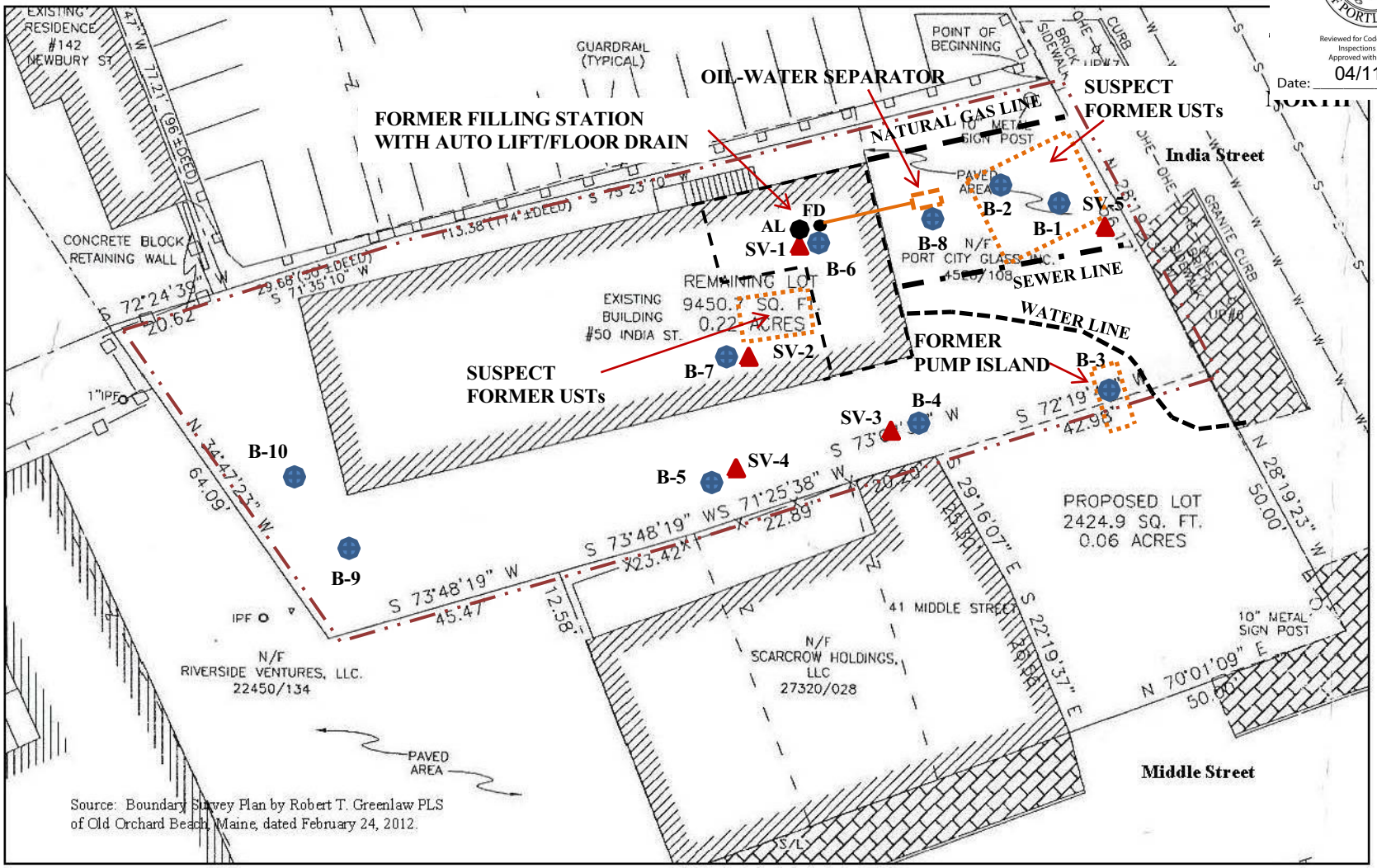
- Re-development of the site will necessitate the removal of the remnant auto lift structure that may remain in the ground and removal of the floor drain/oil-water separator infrastructure and contents along with proper management of impacted soils with oversight provided by an environmental professional.

- The construction of a new building at the site should include a sub-slab depressurization system or soil venting system associated with the foundation in order to prevent future indoor air from being impacted by the intrusion of contaminated soil vapors. The venting system will eliminate the Residential and Indoor Worker exposure scenario for future occupants in the building.

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- A Soil Management Plan (SMP) should be developed to mitigate the potential for Excavation/Construction Worker, Residential and Outdoor Commercial Worker exposure scenarios. The SMP would be used to guide soil disturbance that occurs with site excavation/construction activities and with future post-development uses of the site by indoor residents, indoor workers and with outside landscaping, gardening or maintenance activities.

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EXPLANATION

- B=GEOPROBE SOIL BORING AND SOIL SAMPLE LOCATIONS
- SV=SOILVAPOR SAMPLE LOCATIONS

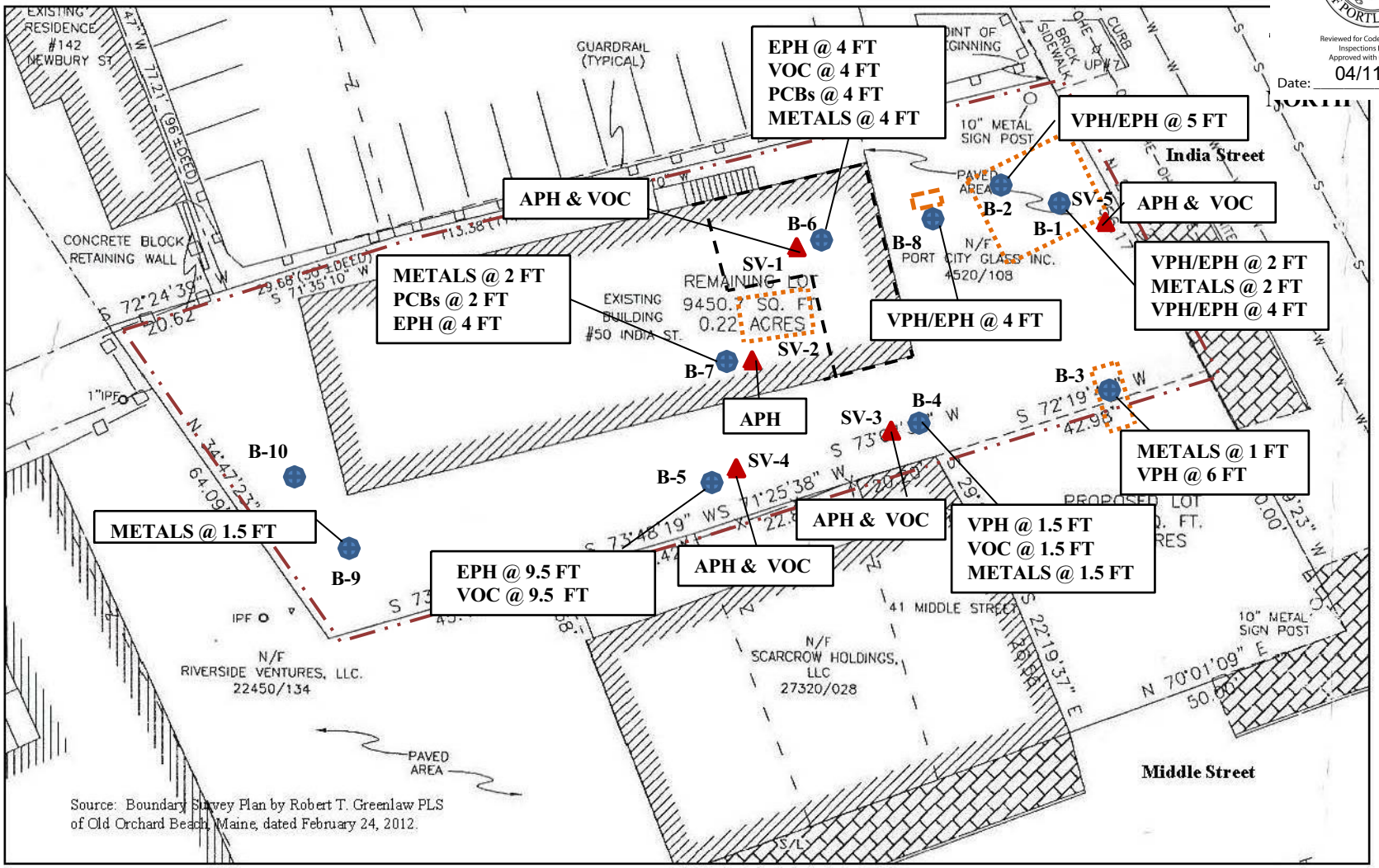
NOTE: U/G UTILITY LINE LOCATIONS ARE APPROXIMATE

0' 20' 40' 60'

Approximate Scale

FIGURE 1
PHASE II EXPLORATIONS PLAN
50 INDIA STREET SITE
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EXPLANATION

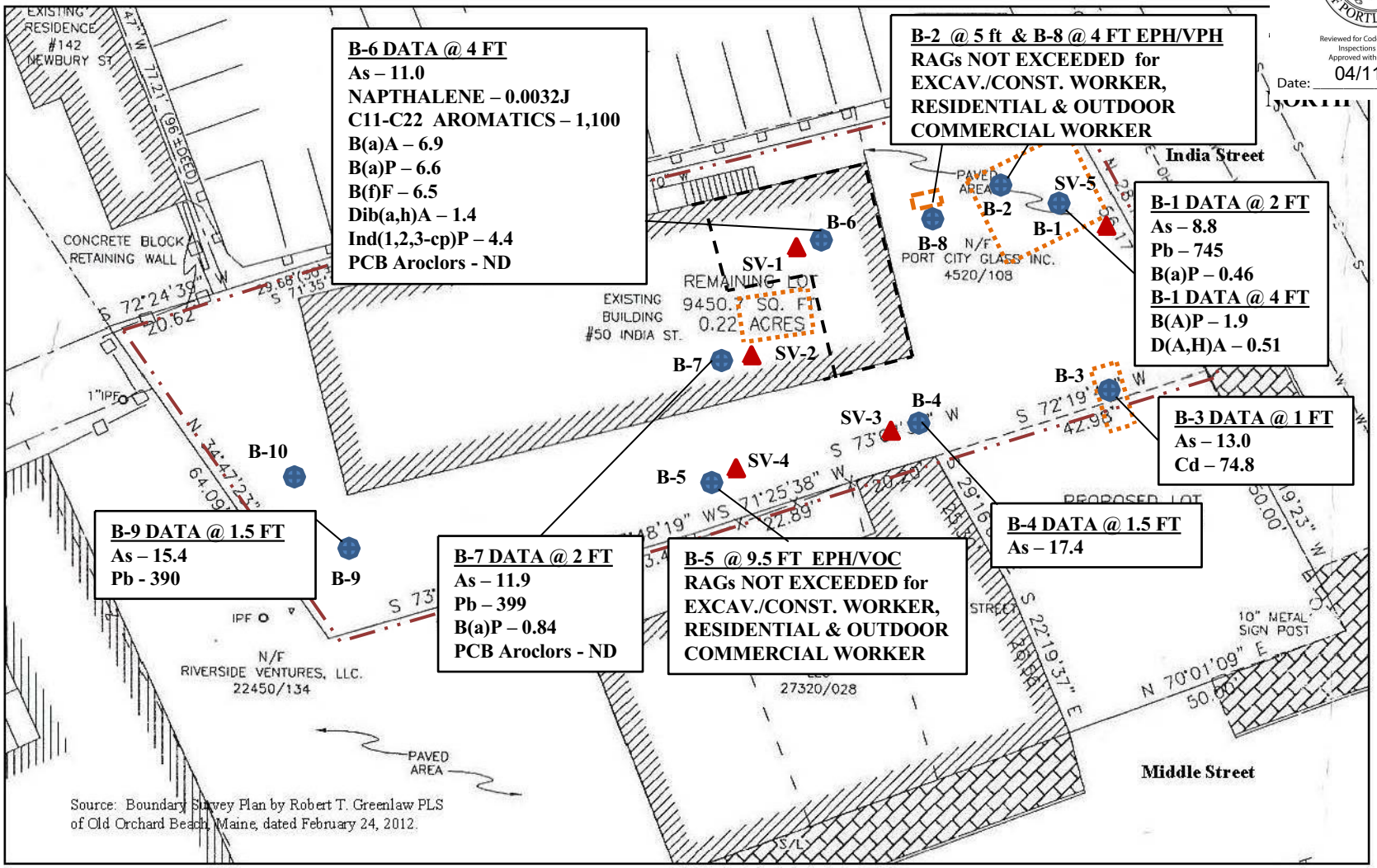
- B=GEOPROBE SOIL BORING AND SOIL SAMPLE LOCATIONS
- SV=SOILVAPOR SAMPLE LOCATIONS

0' 20' 40' 60'

Approximate Scale

FIGURE 2
PHASE II SAMPLING PROGRAM
50 INDIA STREET SITE
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EXPLANATION

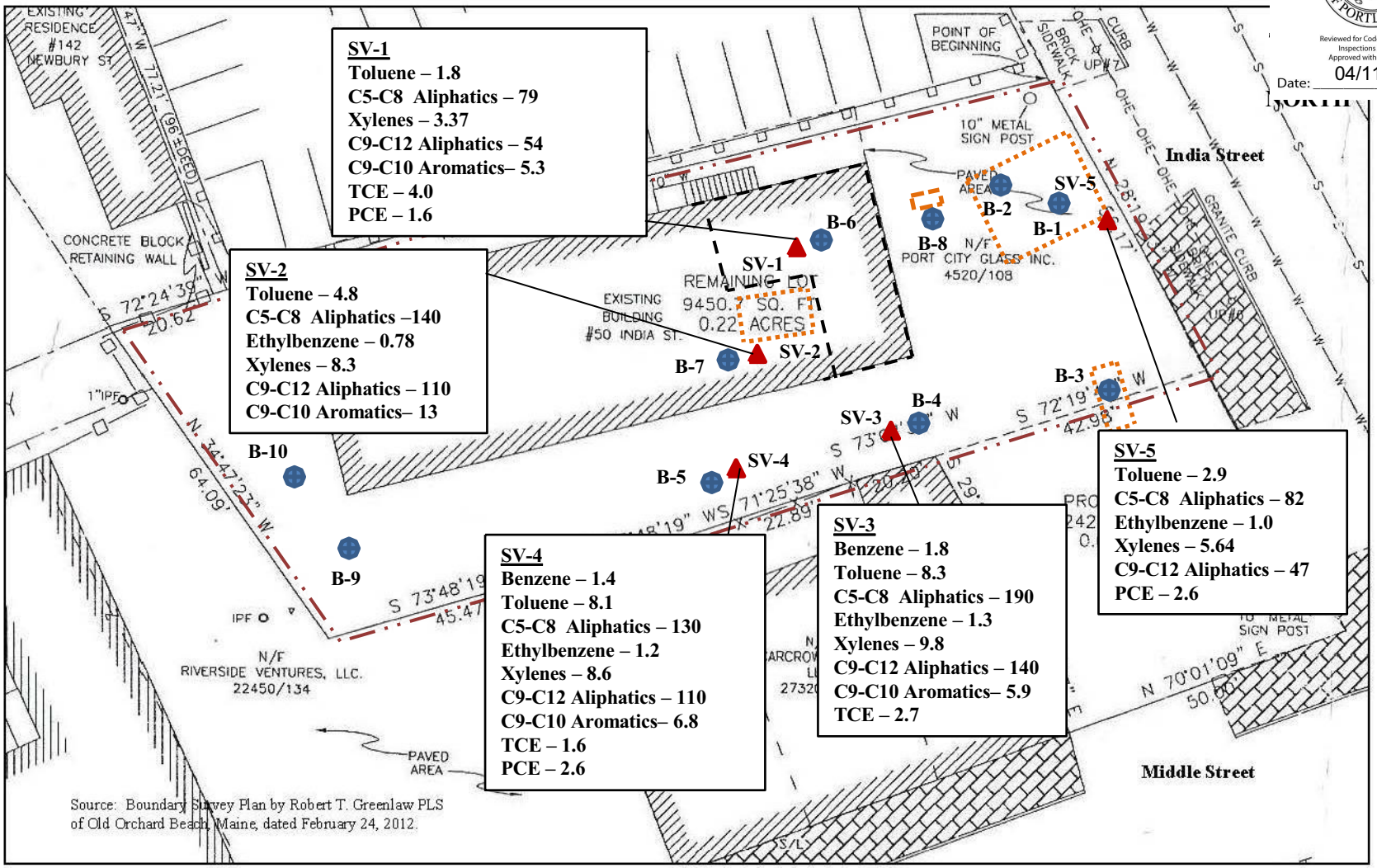
- ANALYTICAL RESULTS (mg/kg) ABOVE SOIL RAGs for EXCAV./CONST. WORKER, RESIDENTIAL and/or OUTDOOR COMMERCIAL WORKER EXPOSURE SCENARIOS

0' 20' 40' 60'

Approximate Scale

FIGURE 3
PHASE II SOIL ANALYTICAL DATA
50 INDIA STREET SITE
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EXPLANATION

- ANALYTICAL RESULTS (ug/m³)
  SOIL GAS TARGETS for RESIDENTIAL and/or COMMEERCIAL WORKER NOT EXCEEDED

0' 20' 40' 60'

Approximate Scale

FIGURE 4
PHASE II SOIL AIR/VAPOR ANALYTICAL DATA
50 INDIA STREET SITE
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TABLE 1
LABORATORY ANALYSES OF SOIL - MADEP EPH & VPH
50 INDIA STREET SITE, PORTLAND, ME

LOCATION	B-1	B-1	B-1 (2DIL)	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-8 (8DIL)	MDEP				
Depth	(2 ft)	(4 ft)	(4 ft)	(5 ft)	(6 ft)	(1.5 ft)	(9.5 ft)	(4 ft)	(4 ft)	(4 ft)	(4 ft)	Table 1 Soil RAGs By Exposure Scenario (mg/kg)				
PARAMETER	10/30/2015	10/30/2015	10/30/2015	10/30/2015	10/30/2015	10/30/2015	10/30/2015	10/31/2015	10/31/2015	10/31/2015	10/31/2015	Exc.Cons.Wrkr.	Leaching to GW	Residential	Outdr.Comm.Wrkr.	Urban Fill Backgd.
MADEP EPH Range Results (mg/kg)																
C9-C18 Aliphatics	**22**	**440**	NA	**240**	NA	NA	**1,200**	**660**	**500**	**220**	**220**	10,000	10,000	2,700	10,000	NA
C19-C36 Aliphatics	**36**	**530**	NA	**330**	NA	NA	**100**	**1,600**	**58**	**680**	**680**	10,000	10,000	10,000	10,000	NA
C11-C22 Aromatics	**57**	**310**	NA	**170**	NA	NA	**620**	**1,100**	**220**	**270**	**270**	10,000	460	750	5,500	NA
Targeted EPH Analytes (mg/kg)																
Naphthalene	**0.25**	**0.74**	NA	**0.90**	NA	NA	< 0.25	**3.6**	**1.7**	**1.4**	**1.4**	10,000	1.7	2,500	10,000	0.82
2-Methylnaphthalene	< 0.22	**1.1**	NA	**0.79**	NA	NA	< 0.25	**3.2**	**1.3**	**1.5**	**1.5**	600	3.6	500	3,600	0.41
Phenanthrene	**0.71**	**1.8**	NA	< 0.22	NA	NA	**2.6**	**24**	**3.2**	**0.51**	**0.51**	8,900	97	3,700	10,000	6.1
Acenaphthylene	< 0.22	**0.45**	NA	< 0.22	NA	NA	< 0.25	**1.0**	< 0.22	< 0.43	< 0.43	10,000	68	7,500	10,000	1.4
Acenaphthene	< 0.22	**0.32**	NA	< 0.22	NA	NA	< 0.25	**2.6**	< 0.22	< 0.43	< 0.43	9,800	170	7,500	10,000	3.5
Anthracene	**0.26**	**0.42**	NA	< 0.22	NA	NA	**0.45**	**5.0**	**0.76**	< 0.43	< 0.43	3,800	2,400	10,000	10,000	6.7
Benzo(a)anthracene [B(a)A]	**0.59**	**2.1**	NA	< 0.22	NA	NA	< 0.25	**6.9**	**1.0**	< 0.43	< 0.43	430	10,000	2.6	35	27
Benzo(a)pyrene [B(a)P]	**0.46**	**1.9**	NA	< 0.22	NA	NA	< 0.25	**6.6**	**0.84**	< 0.43	< 0.43	43	10,000	0.26	3.5	5.2
Benzo(b)fluoranthene [B(b)F]	**0.42**	**1.7**	NA	< 0.22	NA	NA	< 0.25	**6.5**	**0.77**	< 0.43	< 0.43	430	10,000	2.6	35	6.8
Benzo(g,h,i)perylene [B(g,h,i)P]	**0.28**	**1.1**	NA	< 0.22	NA	NA	< 0.25	**4.1**	**0.54**	< 0.43	< 0.43	10,000	10,000	3,700	10,000	16
Benzo(k)fluoranthene [B(k)F]	**0.56**	**2.1**	NA	< 0.22	NA	NA	< 0.25	**5.7**	**0.82**	< 0.43	< 0.43	4,300	10,000	26	350	12
Chrysene	**0.66**	**2.3**	NA	< 0.22	NA	NA	< 0.25	**7.8**	**1.1**	< 0.43	< 0.43	10,000	10,000	260	3,500	6.4
Dibenzo(a,h)anthracene [D(a,h)A]	< 0.22	**0.51**	NA	< 0.22	NA	NA	< 0.25	**1.4**	< 0.22	< 0.43	< 0.43	43	10,000	0.26	3.5	4.5
Fluoranthene	**1.1**	**3.3**	NA	< 0.22	NA	NA	< 0.25	**20**	**2.0**	**0.51**	**0.51**	10,000	10,000	5,000	10,000	10
Fluorene	< 0.22	**0.68**	NA	< 0.22	NA	NA	**5.8**	**3.8**	**1.6**	< 0.43	< 0.43	10,000	120	5,000	10,000	4.4
Indeno(1,2,3-cd)pyrene [I(1,2,3-cd)P]	**0.28**	**1.2**	NA	< 0.22	NA	NA	< 0.25	**4.4**	**0.45**	< 0.43	< 0.43	430	10,000	2.6	35	3.3
Pyrene	**0.98**	**3.5**	NA	< 0.22	NA	NA	< 0.25	**19**	**2.0**	< 0.43	< 0.43	10,000	10,000	3,700	10,000	9.5
MADEP VPH Range Results (mg/kg)																
C5-C8 Aliphatics	< 54	< 37	< 370	< 35	< 22	< 27	NA	NA	NA	< 37	< 37	10,000	1,600	1,400	10,000	NA
C9-C12 Aliphatics	< 54	**490E**	**460**	**70**	< 22	< 27	NA	NA	NA	**180E**	**150**	10,000	10,000	2,700	10,000	NA
C9-C10 Aromatics	< 54	**430E**	**560**	**72**	< 22	< 27	NA	NA	NA	**190E**	**190**	10,000	75	750	5,500	NA
Targeted VPH Analytes (mg/kg)																
Benzene	< 27	< 1.8	< 18	< 1.8	< 1.1	< 1.4	NA	NA	NA	< 1.8	< 3.7	150	0.51	85	850	NA
Ethylbenzene	< 27	< 1.8	< 18	< 1.8	< 1.1	< 1.4	NA	NA	NA	< 1.8	< 3.7	10,000	0.81	1,300	4,320	NA
Methyl tert-butylether	< 27	< 1.8	< 18	< 1.8	< 1.1	< 1.4	NA	NA	NA	< 1.8	< 3.7	10,000	0.19	5,100	10,000	NA
Naphthalene	< 27	< 1.8	< 18	**2.0**	< 1.1	< 1.4	NA	NA	NA	**5.1**	**5.1**	10,000	1.7	2,500	10,000	NA
Toluene	< 27	< 1.8	< 18	< 1.8	< 1.1	< 1.4	NA	NA	NA	< 1.8	< 3.7	10,000	8.1	10,000	10,000	NA
m+p Xylene	< 5.4	< 3.7	< 37	< 3.5	< 2.2	< 2.7	NA	NA	NA	< 3.7	< 7.3	10,000	26	10,000	10,000	NA
o-Xylene	< 27	< 1.8	< 18	< 1.8	< 1.1	< 1.4	NA	NA	NA	< 1.8	< 3.7	10,000	26	10,000	10,000	NA
TS004 Oil Shake Field Test	**N**	**SP**	**SP**	**N**	**N**	**N**	**SP**	**SP**	**PO**	**SP**	**SP**					

Notes:

1) Lab results presented in mg/kg or ppm; "NA" = not analyzed or not available.

2) Values compared to MDEP Remediation Guidelines (RAGs) for Sites Contaminated with Hazardous Substances, May 10, 2013
Table 1: RAGs for the Soil Exposure Pathway, by Exposure Scenario.

3) B-2-2DIL and B-8-8DIL indicate samples were diluted and reanalyzed with resulting data reported.

4) Dark gray highlight indicates values exceeding MDEP RAGs listed above.

5) Light gray highlight indicates values exceeding MDEP Leaching to Groundwater RAGs and/or Urban Fill Background values listed above.

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TABLE 2
LABORATORY ANALYSES OF SOIL - RCRA METALS
50 INDIA STREET SITE, PORTLAND, ME

LOCATION	B-1	B-3	B-4	B-6	B-7	B-9	MDEP				
Depth	(2 ft)	(1 ft)	(1.5 ft)	(4 ft)	(2 ft)	(1.5 ft)	Table 1 Soil RAGs By Exposure Scenario (mg/kg)				
PARAMETER	10/30/2015	10/30/2015	10/30/2015	10/31/2015	10/31/2015	10/30/2015	Exc.Cons.Wrkr.	Leaching to GW	Residential	Outdr.Comm.Wrkr.	Urban Fill Backgd.
RCRA Metals (mg/kg)											
Arsenic	**8.8**	**13.0**	**17.4**	**11.0**	**11.9**	**15.4**	42	NA	1.4	4.2	NA
Cadmium	**0.196J**	**74.8**	**0.467J**	**0.209J**	**1.07**	**0.766**	19	NA	11	94	NA
Chromium	**16.9**	**33.4**	**25.0**	**24.8**	**25.3**	**16.8**	2,800	NA	510	5,100	NA
Lead	**745**	**256**	**235**	**122**	**399**	**390**	950	10,000	340	1,100	NA
Mercury (ug/g)	**0.771**	**0.212**	**2.18**	**0.288**	**0.761**	**0.316**	930	NA	51	510	NA

Notes:

1) Lab results presented in mg/kg or ppm except for mercury; "NA" = not available; "J" = approximate value less than the PQL.

2) Values compared to MDEP Remediation Guidelines (RAGs) for Sites Contaminated with Hazardous Substances, May 10, 2013
Table 1: RAGs for the Soil Exposure Pathway, by Exposure Scenario.

3) Gray highlight indicates values exceeding MDEP RAGs listed above.

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TABLE 3
LABORATORY ANALYSES OF SOIL - VOA 8260 AND PCBs
50 INDIA STREET SITE, PORTLAND, ME

LOCATION	B-4	B-5	B-5-RA	B-6	B-6-10DL	B-7	MDEP				
Depth	(1.5 ft)	(9.5 ft)	(9.5 ft)	(4 ft)	(4 ft)	(2 ft)	Table 1 Soil RAGs By Exposure Scenario (mg/kg)				
PARAMETER	10/30/2015	10/30/2015	10/30/2015	10/31/2015	10/31/2015	10/31/2015	Exc.Cons.Wrkr.	Leaching to GW	Residential	Outdr.Comm.Wrkr.	Urban Fill Backgd.
VOA 8260 (mg/kg)											
Bromomethane					**0.160J**	NA	930		240	2,400	
Ethylbenzene					**0.091J**	NA	10,000	0.81	1,300	4,300	
1,2,3-Trichloropropane				**0.0058J**		NA					
Isopropylbenzene				**0.060**	**0.230J**	NA					
N-Propylbenzene					**0.440**	NA					
1,3,5-Trimethylbenzene				**0.140**	**0.530**	NA					
tert-Buytlbenzene					**0.096J**	NA					
sec-Buytlbenzene				**0.150**	**0.470**	NA					
P-Isopropyltoluene					**0.280J**	NA					
N-Butlybenzene					**0.370**	NA					
1,2,4-Trimethylbenzene				**0.790E**	**3.200**	NA					
Naphthalene	**0.0032J**				**1.900**	NA	10,000	1.7	2,500	10,000	0.82
Acetone			**0.030**	**0.200**		NA	10,000		10,000	10,000	
2-Butanone (MEK)				**0.068**		NA	10,000		10,000	10,000	
m+p-Xylenes				**0.031**	**0.440J**	NA	10,000	26.0	10,000	10,000	
Total Xylenes				**0.031**	**0.440J**	NA	10,000	26.0	10,000	10,000	
Carbon Disulfide		**0.0012J**	**0.0015J**	**0.0037J**		NA	10,000		10,000	10,000	
All Other VOCs	< PQLs	< PQLs	< PQLs	< PQLs	< PQLs	NA	< Guidelline	< Guideline	< Guideline	< Guideline	
PCBs (ug/kg)											
All Aroclors				< PQLs		< PQLs	6.5		2.4	12	

Notes:

1) Lab results presented in mg/kg or ppm; "NA" = not analyzed; "E" = estimated value above instrument calibration range; "J" = approximate value less than the PQL.

2) MDEP Remediation Guidelines (RAGs) for Sites Contaminated with Hazardous Substances, May 10, 2013
Table 1: RAGs for the Soil Exposure Pathway, by Exposure Scenario.

3) B-5-RA indicates sample was reanalyzed with resulting data reported; B-6-10DL indicates sample was diluted and reanalyzed with resulting data reported.

4) Gray highlight indicates value exceeding MDEP Leaching to Groundwater RAG for napthalene.

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TABLE 4
LABORATORY ANALYSES OF SOIL AIR/VAPOR SAMPLES
50 INDIA STREET SITE, PORTLAND, ME

LOCATION	SV-1	SV-2	SV-3	SV-4	SV-5	MDEP Table 2 Air RAGs x10	
Depth	(3-4 ft)	(3-4 ft)	(3-4 ft)	(3-4 ft)	(3-4 ft)	Soil Gas Targets	Soil Gas Targets
PARAMETER	11/2/2015	11/2/2015	11/2/2015	11/2/2015	11/2/2015	**Residential (ug/m3)**	**Commercial (ug/m3)**
MADEP APH (ug/m^3)							
1,3 Butadiene	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	8.1	41
Methyl tert-butylether	< 0.45	< 0.45	< 0.45	< 0.45	< 0.45	940	4,700
Benzene	< 0.40	< 0.40	**1.8**	**1.4**	< 0.40	31	160
Toluene	**1.8**	**4.8**	**8.3**	**8.1**	**2.9**	52,000	220,000
C5-C8 Aliphatics	**79**	**140**	**190**	**130**	**82**	6,300	26,000
Ethylbenzene	< 0.54	**0.78**	**1.3**	**1.2**	**1.0**	97	490
m+p-Xylenes	**2.8**	**6.9**	**8.3**	**7.2**	**4.8**	1,000	4,400
o-Xylene	**0.57**	**1.4**	**1.5**	**1.4**	**0.84**	1,000	4,400
Napthalene	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	7.2	36
C9-C12 Aliphatics	**54**	**110**	**140**	**110**	**47**	2,100	8,800
C9-C10 Aromatics Total	**5.3**	**13**	**5.9**	**6.8**	< 5.0	520	2,200
EPA TO-15 (ug/m3)							
Vinyl Chloride	< 0.26	NA	< 0.26	< 0.26	< 0.26	28	280
1,1-Dichloroethene	< 0.40	NA	< 0.40	< 0.40	< 0.40	2,100	8,800
trans-1,2-Dichloroethene	< 0.40	NA	< 0.40	< 0.40	< 0.40	630	2,600
1,1-Dichloroethane	< 0.40	NA	< 0.40	< 0.40	< 0.40	5,200	22,000
cis-1,2-Dichloroethene	< 0.40	NA	< 0.40	< 0.40	< 0.40	630	2,600
1,2-Dichloroethane	< 0.40	NA	< 0.40	< 0.40	< 0.40	9.4	47
1,1,1-Trichloroethane	< 0.54	NA	< 0.54	< 0.54	< 0.54	5,200	220,000
Trichloroethene	**4.0**	NA	**2.7**	**1.6**	< 0.54	21	88
Tetrachloroethene	**1.6**	NA	< 0.68	**2.6**	**2.6**	420	1,800

Notes:

1) "NA" = not analyzed; < "value" = less than Lab PQLs.

2) MDEP Remediation Guidelines (RAGs) for Sites Contaminated with Hazardous Substances, May 10, 2013
Table 2: RAGs for the Indoor Air Exposure Pathway, by Exposure Scenario.
Soil Gas Targets (SGTs) are 10 times Indoor Air Targets; "NA" = target value not available.

3) Risk Calculator: SV-3 exceeds the Chronic and Subchronic HI for Residential Exposure (for TCE).
SV-4 exceeds the Incremental Lifetime Cancer Risks, Chronic Exposure for Residential without exceeding HI.

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APPENDICES

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Reviewed for Code Compliance
Inspections Division
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Date: 04/11/17

APPENDIX A.1

NEG GEOPHYSICAL SURVEY REPORT

Northeast Geophysical Services
4 Union Street, Suite 3, Bangor, ME 04401

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

November, 2015

ELECTROMAGNETIC AND GROUND PENETRATING RADAR SURVEYS AT THE PORT CITY GLASS SITE, 50 INDIA STREET, PORTLAND, MAINE

INTRODUCTION

At the request of Drumlin Environmental, LLC electromagnetic metal detection (EM) and ground penetrating radar (GPR) surveys were conducted at the Port City Glass site, 50 India Street, Portland, ME. The objective of the surveys was to locate possible underground storage tanks (USTs), tank graves, pipes or other buried utilities or structures at the site. The surveys were conducted on October 27th, 2015 by Mike Scully of Northeast Geophysical Services (NGS). This report summarizes the site conditions, methods used, and the results of the geophysical surveys.

SITE LOCATION AND CONDITIONS

The project site is located at 50 India Street in Portland, ME. The current business at the site, Port City Glass, specializes in glass installations, replacements and repair. The site was originally the location of a service station with gasoline pumps located between the building and India Street. There was also a car lift inside the single garage bay and the remains of that can be seen on the surface of the concrete floor. A buried natural gas supply line runs straight from India Street to the northeast corner of the building. The asphalt pavement on the east and south sides of the building is in fairly rough shape and appears to have been patched in several places, likely more than once. Evidence that may be of the former gasoline pump island can be seen in the southeast corner of the property between the building and India Street. There you can see the edges of two concrete slabs exposed where the thin asphalt pavement has broken away. There is also a rectangular concrete structure with a metal cover exposed directly in front of the garage bay door. This appears to be an oil/water separator for drainage from the garage bay floor.

Figure 1 shows the general layout of the site and the limits of the geophysical surveys. Weather conditions were good on the day of the field work.

METHODS AND INSTRUMENTATION

Ground Penetrating Radar (GPR) utilizes high frequency radio waves to probe the subsurface. Radar waves are transmitted into the ground from an antenna that is pulled across the ground surface. In the subsurface, radar waves are reflected at interfaces of materials with contrasting dielectric properties. The returning signal is intercepted by a receiver and converted to a digital graphic image. The horizontal axis of the image is distance along the traverse. The vertical axis is two-way travel time of the radar pulses, in nanoseconds (ns) which can be converted to depth.

Tanks, pipelines and other objects with rounded tops (boulders, tree roots, or segments of old foundations, for example) may show up on the profiles as hyperbola-shaped reflections.

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Underground storage tanks (USTs) and pipelines usually appear on more than one survey line hyperbolic reflectors on lines perpendicular to the tank or pipe axis and as horizontal reflectors on lines along the axis. The GPR instrument used here was a GSSI, SIR-3000. A 400-MHz antenna was used with a time range set for 80 nanoseconds. At this setting the depth surveyed is approximately 12 feet.

EM-61 Metal Detector (EM): A Geonics EM61-MK2 metal detector was used for the metal detection surveys. The EM61 is a portable time-domain instrument with a coincident transmitter/receiver coil and second parallel receiver coil for depth to target estimation and rejection of surface metal response. The instrument measures the secondary electromagnetic field response in milli-volts (mV). The EM61 is designed specifically to locate medium to large buried metal objects such as drums and storage tanks while being relatively insensitive to above-surface metallic objects such as fences, buildings and power lines. The technique is sensitive to conductive metal up to a depth of approximately 12 feet. The size and burial depth of the metal determine the strength of the response. EM data can be digitally recorded on an Allegro CX field computer. Readings can be triggered automatically (by time), manually or, if the wheel mode is used, readings can be recorded at regular intervals controlled by the rotation of the wheels. At this site the EM instrument was used in a scanning fashion only and the data was not recorded. Metal anomalies found were marked on the ground.

Field Survey Procedures: A field survey grid was established over the survey area outside of the building using tape measures and chalk. The field grid coordinate system was referenced to the southeast corner of the site building which was established as 20 feet north, 120 feet east on the grid. The grid lines were orthogonal to the building walls. GPR profiles were recorded along lines spaced five feet apart in both the north-south and east-west grid directions. Notable features detected by the GPR were also marked on the ground with paint as the survey progressed. EM readings were observed over the entire grid area and any metal anomalies found were marked on the ground with paint.

Several GPR profiles were also recorded inside the building where former garage area was and also in an area that used to be outside the back wall of the original site building. The interest there was to detect underground drain lines, possible hydraulic oil tanks associated with the floor lift or any USTs that may have been located behind the original building. No EM readings were attempted inside the building as the available space was very limited and the reinforcing steel in the concrete floor would have overwhelmed the instrument in any case.

SURVEY RESULTS

Figure 1 shows the general layout of the site and the limits of the geophysical surveys. Notable buried features found are also shown on the figure. No USTs were detected within the areas surveyed at this site. GPR profiles over an area near the driveway entrance to the site appear to indicate a previous deep excavation there. This feature may be the tank grave where the former gasoline USTs were located. The GPR and EM surveys were also able to establish the outlines of two reinforced concrete slabs where the former pump island may have been located. A roughly three foot wide linear gap between the two slabs may be where the actual pump structure was located. A linear metal anomaly was found that runs straight from the southeast corner of the

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building to the closer of the two concrete slabs. This is likely caused by a metal pipe or electric conduit that connected the building to the pump island. Another linear GPR anomaly appears to run from the building, bends around the concrete pump island slabs, and then runs southeasterly towards the street. This feature may represent the water supply line to the building. Portions of what is most likely the building's sewer line to the street were also detected by the GPR. No significant GPR or EM anomalies were found in the alley along the south side of the building or in the small open area at the rear of the building.

Although the reinforced concrete floor slabs inside the building limited the penetration of the GPR signal, we were able to locate the pipe that runs from the floor drain nearest the front of the building to the oil/water separator outside the building. No evidence of an outlet pipe from the oil/water separator was detected by the surveys. No hydraulic oil tanks or other former USTs were located inside the building.

LIMITATIONS OF THE SURVEYS

The EM61 metal detection survey provides an indication of where buried metal exists at the site surveyed. The Ground Penetrating Radar survey produces reflectors at interfaces of materials with contrasting dielectric properties. Both of these instruments provide indirect measurements of subsurface conditions. The actual cause of the features depicted on the figures can only be conclusively determined by direct observation.

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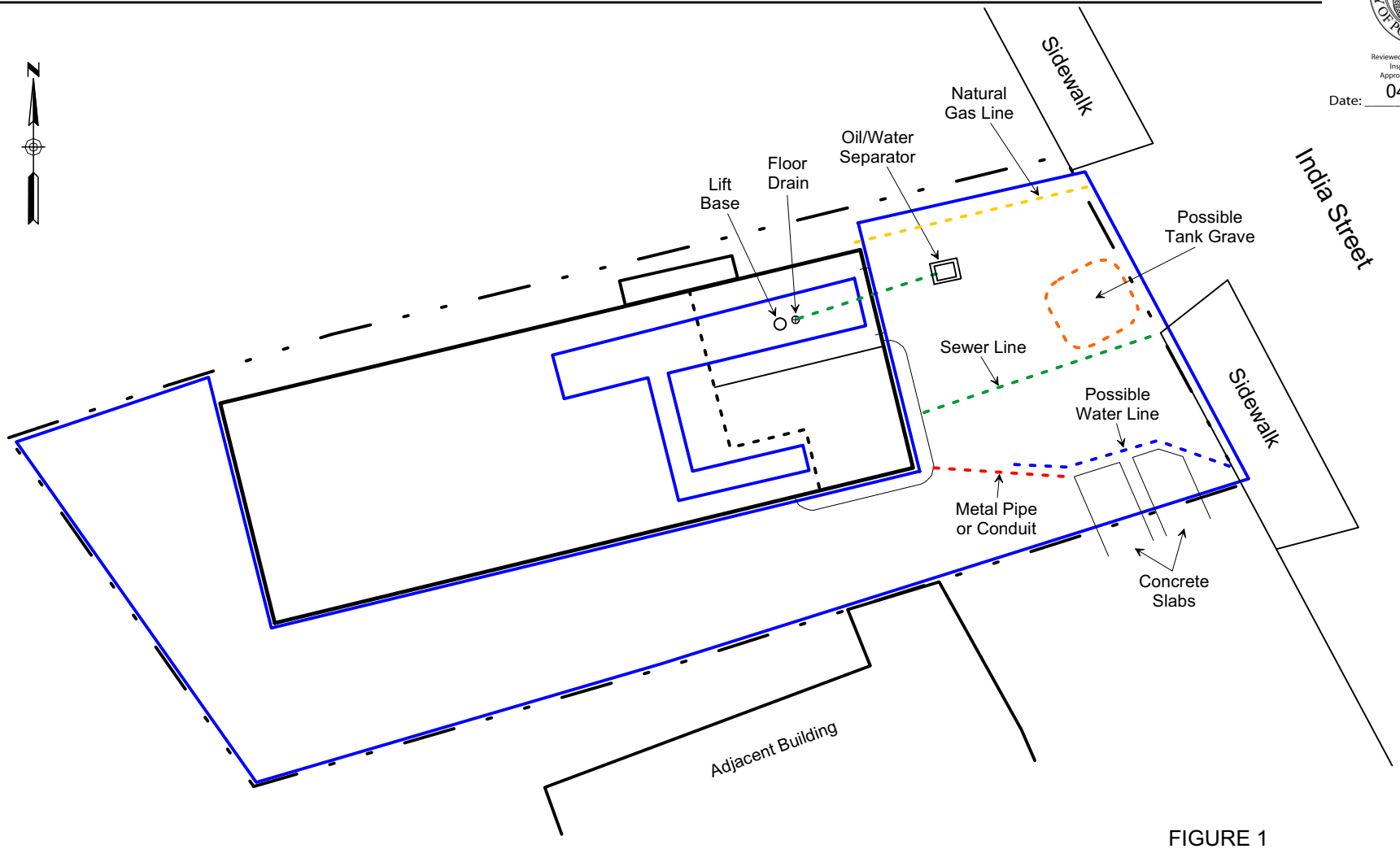


FIGURE 1

GEOPHYSICAL SURVEY LOCATION MAP

PORT CITY GLASS SITE
50 INDIA STREET, PORTLAND, ME

For:

Drumlin Environmental, LLC

Property Boundary

Approximate Original
Back Wall of Building

Approximate Limits of
Geophysical Surveys

0' 20' 40' 60'

GRAPHIC SCALE

Surveyed: 10/27/2015 by:
Northeast Geophysical Services

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

APPENDIX A.2

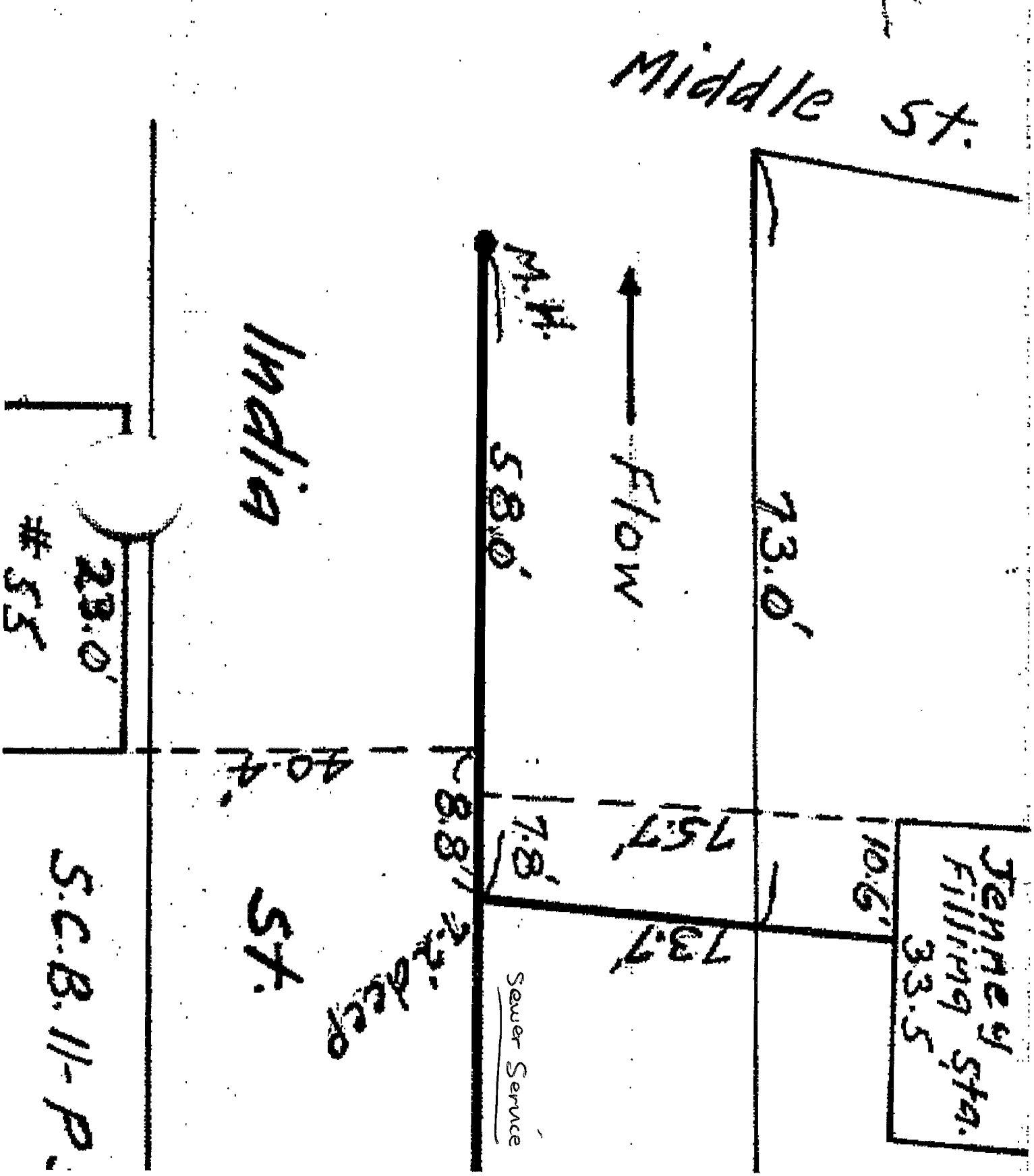
WATER AND SEWER UTILITY MAPS

Connected by [illegible]

Size and kind of pipe 6" Vit

Inspected by H.F. Mitchell

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SERVICE RECORD

NO. 50 INDIA St. DIVISION Portland 027

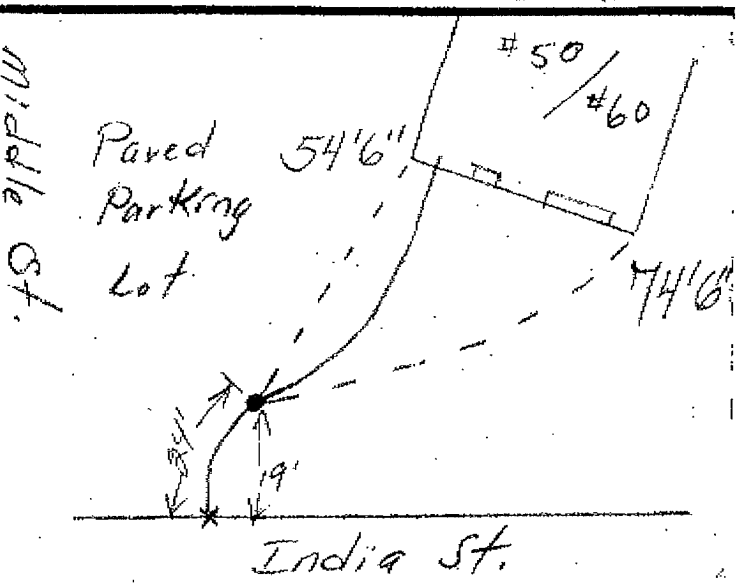
REG. NO. 362 Code No.

Name PORT CITY GLASS INC. Name

Name Name

Name MEASURES Grimaldi's

SERVICE DATA	
Size of Pipe	1"
Kind of Pipe	COPPER
Main to Stop	24' on angle 19' straight
Stop to St. Line	1"
Date	9-25-96
Mat. on Private	3/4" COPPER
Depth/Main	5'
Depth/Private	5'6"
Shut at Corp.	



Water Service

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-39

362 NO. 50/60 Lodi ST. PORTLAND

Mrs K L Weinstein Jenny Mfg Co

NAME Carl Johnson. Thomas Bafrano

NAME City Glass Jenny Mfg Co

SERVICE RECORD		RENEWAL RECORD	
KIND OF PIPE		KIND OF PIPE	Cop.
SIZE OF PIPE		SIZE OF PIPE	3/4"
MAIN TO STOP		MAIN TO STOP	11'
STOP TO ST. LINE		STOP TO ST. LINE	9'2"
ST. LINE TO BUILDING		ST. LINE TO BUILDING	1'10"
TOTAL LENGTH		TOTAL LENGTH	22'
SERVICE COMPLETED		SERVICE COMPLETED	2/7/35
REMARKS		REMARKS	

SERVICE SHUT AT CORP. COCK

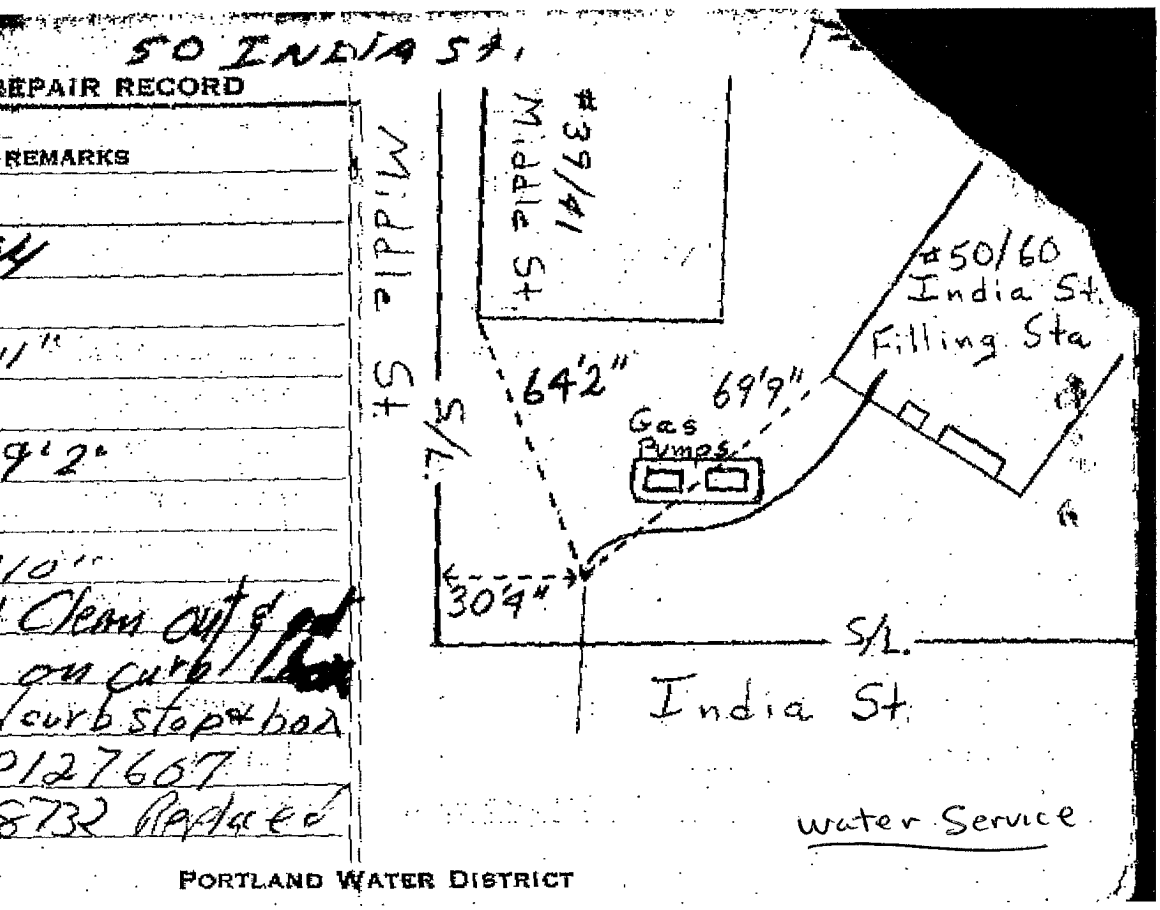
Water Service

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50 INDIA St.

CLEAN OUT AND REPAIR RECORD

DATE	REMARKS
	Cap 3/4
	3/4 11"
	3/4 9'2"
	3/4 1'10"
6/30/64	Raise & Clean out & Cover on curb
10-1-64	Repaired curb stop & box 793 OP127607
11-2-79	793 OP8732 Replaced COVER



PORTLAND WATER DISTRICT

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APPENDIX A.3

TS004 OIL AND GASOLINE FIELD SCREENING EDD SHEETS

CITY OF PORTLAND, MAINE RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

APPENDIX A.3
TS004 Oil Shake Test Field EDD Sheet

Site Name:	50 India Street	Town:	Portland, ME
Date:	10/30/2015	Sample Method:	EPI Geoprobe
Spill #:	N/A	Sampler:	Drumlin Environmental
Ambient Temperature:	40s to 50s degF	Weather:	Sunny, mild & windy

Sample ID	Depth (ft, bgs)	Result	Soil Type	CSS Location	Comments
B-1	0 to 4	U	Fill		Rec 1.9 ft Lab Sample @ 2 ft and 4 ft
B-1	4 to 8	SP	Fill (Sd-Cly Contact)		Rec 2.2 ft
B-1	8 to 12	U	Silty Sand		Rec 2.5 ft
B-1	12 to 16	U	Silty Sand		Rec 2.0 ft
B-1	16 to 20	U	Silty Sand		Rec 0.9 ft
					Water in open hole @ approx. 9 ft, bgs

SA= Saturated-obvious red dye observed in the soil matrix or in/on the water

PO= Positive-the EPS bead dyed dark pink/red and no coloration in the soil or water

SP= Slightly Positive-the EPS bead dyed light pink and no coloration in the soil or water

U= Undetected-No observation of dye coloration on EPS bead, soil or water

CITY OF PORTLAND, MAINE RESURGAM
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Date:	10/30/2015	Sample Method:	EPI Geoprobe
Spill #:	N/A	Sampler:	Drumlin Environmental
Ambient Temperature:	40s to 50s degF	Weather:	Sunny, mild & windy

Sample ID	Depth (ft, bgs)	Result	Soil Type	CSS Location	Comments
B-2	0 to 4	U	Fill		Rec 1.3 ft
B-2	4 to 8	U	Clayey Silt		Rec 1.5 ft Lab Sample @ 5 ft
B-2	8 to 12	SP	Silty Sand		Rec 2.5 ft
B-2	12 to 16	U	Silty Sand		Rec 4 ft
B-2	16 to 20	U	Silty Sand		Rec 1.5 ft

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Date:	10/30/2015	Sample Method:	EPI Geoprobe
Spill #:	N/A	Sampler:	Drumlin Environmental
Ambient Temperature:	40s to 50s degF	Weather:	Sunny, mild & windy

Sample ID	Depth (ft, bgs)	Result	Soil Type	CSS Location	Comments
B-3	0 to 4	U	Fill		Rec 2.3 ft Lab Sample @ 1 ft
B-3	4 to 8	U	Fine Sand		Rec 2.6 ft Lab Sample @ 6 ft
B-3	8 to 12	U	Silty Sand		Rec 3.7 ft
B-3	12 to 16	U	Silty Sand		Rec 2.2 ft
B-3	16 to 20	U	Silty Sand		Rec 3.0 ft
					Water in open hole @ approx. 15.5 ft, bgs

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Site Name:	50 India Street	Town:	Portland, ME
Date:	10/30/2015	Sample Method:	EPI Geoprobe
Spill #:	N/A	Sampler:	Drumlin Environmental
Ambient Temperature:	40s to 50s degF	Weather:	Sunny, mild & windy

Sample ID	Depth (ft, bgs)	Result	Soil Type	CSS Location	Comments
B-4	0 to 4	U	Fill		Rec 1.3 ft Lab Sample @ 1.5 ft
B-4	4 to 8	U	Clayey Silt		Rec 2 ft
B-4	8 to 12	U	Silty Sand		Rec 1.6 ft
B-4	12 to 16	U	Silty Clayey Sand		Rec 1.7 ft
B-4	16 to 20	U	Silty Sand		Rec 4 ft
					Water in open hole @ approx. 16 ft, bgs

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Site Name:	50 India Street	Town:	Portland, ME
Date:	10/30/2015	Sample Method:	EPI Geoprobe
Spill #:	N/A	Sampler:	Drumlin Environmental
Ambient Temperature:	40s to 50s degF	Weather:	Sunny, mild & windy

Sample ID	Depth (ft, bgs)	Result	Soil Type	CSS Location	Comments
B-5	0 to 4	U	Fill		Rec 1.6 ft
B-5	4 to 8	U	Silt		Rec 2.5 ft
B-5	8 to 12	SP	Clayey Silt		Rec 3.2 ft Lab Sample @ 9.5 ft
B-5	12 to 16	U	Silty Sand		Rec 2.4 ft
					Water in open hole @ approx. 12.5 ft, bgs

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APPENDIX A.3
TS004 Oil Shake Test Field EDD Sheet

Site Name:	50 India Street	Town:	Portland, ME
Date:	10/31/2015	Sample Method:	EPI Geoprobe
Spill #:	N/A	Sampler:	Drumlin Environmental
Ambient Temperature:	30s to 40s degF	Weather:	Sunny, cool

Sample ID	Depth (ft, bcs)	Result	Soil Type	CSS Location	Comments
B-6	0 to 4	U	Fill		Rec 1.3 ft
B-6	4 to 8	SP	Fill		Rec 1.5 ft Lab Sample @ 6 ft
B-6	8 to 12	U	Clayey Silt/Sandy Silt		Rec 2.2 ft
B-6	12 to 16	U	Silty Sand		Rec 4 ft
B-6	16 to 20	U	Silty Sand		Rec 2.4 ft

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Site Name:	50 India Street	Town:	Portland, ME
Date:	10/31/2015	Sample Method:	EPI Geoprobe
Spill #:	N/A	Sampler:	Drumlin Environmental
Ambient Temperature:	30s to 40s degF	Weather:	Sunny, cool

Sample ID	Depth (ft, bcs)	Result	Soil Type	CSS Location	Comments
B-7	0 to 4	U	Fill		Rec 1.1 ft Lab Sample @ 2 ft
B-7	4 to 8	U	Fill		Rec 0.5 ft Lab Sample @ 4 ft
Adjacent Probe					Re-drilled at this location due to obstruction.
B-7	0 to 4	U	Fill		Rec 1.4 ft
B-7	4 to 8	PO	Fill		Rec 0.7 ft
B-7	8 to 12	PO	Fill/Silty Sand		Rec 1.5 ft
B-7	12 to 16	U	Silty Sand		Rec 0.4 ft
B-7	16 to 20	U	Sand/Silty Gravelly Sand		Rec 1.3 ft refusal at 18.5 ft

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Site Name:	50 India Street	Town:	Portland, ME
Date:	10/30/2015	Sample Method:	EPI Geoprobe
Spill #:	N/A	Sampler:	Drumlin Environmental
Ambient Temperature:	40s to 50s degF	Weather:	Sunny, mild & windy

Sample ID	Depth (ft, bgs)	Result	Soil Type	CSS Location	Comments
B-8	0 to 4	U	Fill		Rec 1.3 ft Lab Sample @ 4 ft
B-8	4 to 8	SP	Sily		Rec 1.8 ft
B-8	8 to 12	SP	Clayey Silt		Rec 2.4 ft
B-8	12 to 16	U	Silty Sand		Rec 4.0 ft

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Site Name:	50 India Street	Town:	Portland, ME
Date:	10/30/2015	Sample Method:	EPI Geoprobe
Spill #:	N/A	Sampler:	Drumlin Environmental
Ambient Temperature:	40s to 50s degF	Weather:	Sunny, mild & windy

Sample ID	Depth (ft, bgs)	Result	Soil Type	CSS Location	Comments
B-9	0 to 4	U	Fill		Rec 2.6 ft Lab Sample @ 1.5 ft
B-10	0 to 4	U	Fill		Rec 1.2 ft

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APPENDIX A.3

TS004 Bag Headspace Field EDD Sheet

Site Name:	50 India Street							Spill #	N/A	
Town:	Portland, ME							Sampler:	Drumlin	
Air Temp:	40s-50sdegF	Date:	10/30/2015					Sample Method:	EPI Geoprobe	
Calibration Gas Concentration:			100 ppm Isobutylene					Soil Heating Method:	Ambient	
Confirm High End Measurement:								PID nstrument:	Multi RAE Meter	
Calibration Documentation				Bumptest Documentation					Weather	
10/29/15 Time 1:	Pine Env. Rental		Reading 1:	100 ppm	Time 1:		Reading 1:			
Time 2:			Reading 2:		Time 2:		Reading 2:		Sunny, mild & windy	
Time 3:			Reading 3:		Time 3:		Reading 3:			

Calibration readings 1 Site Name/Spill#2 and 3 readings are post-calibration checks. PID/Headspace Operators:

Sample ID	Depth (FGS)	Sample Size	Collection Time	Analysis Time	Bag-1	Bag-2	Bag-3	Ave.	Soil Type	CSS Location
B-1	0 to 4	20 g	8:45 AM	9:08 AM	0					
B-1	4 to 8	20 g	8:50 AM	9:10 AM	0.8					
B-1	8 to 12	20 g	9:00 AM	9:12 AM	0					
B-1	12 to 16	20 g	9:05 AM	9:14 AM	0.5					
B-1	16 to 20	20 g	9:15 AM	9:17 AM	0					

Comments:

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TS004 Bag Headspace Field EDD Sheet

Site Name:	50 India Street							Spill #	N/A	
Town:	Portland, ME							Sampler:	Drumlin	
Air Temp:	40s-50sdegF	Date:	10/30/2015					Sample Method:	EPI Geoprobe	
Calibration Gas Concentration:			100 ppm Isobutylene					Soil Heating Method:	Ambient	
Confirm High End Measurement:								PID nstrument:	Multi RAE Meter	
Calibration Documentation				Bumptest Documentation					Weather	
10/29/15 Time 1:	Pine Env. Rental		Reading 1:	100 ppm	Time 1:		Reading 1:			
Time 2:			Reading 2:		Time 2:		Reading 2:		Sunny, mild & windy	
Time 3:			Reading 3:		Time 3:		Reading 3:			

Calibration readings 1 Site Name/Spill#2 and 3 readings are post-calibration checks. PID/Headspace Operators:

Sample ID	Depth (FGS)	Sample Size	Collection Time	Analysis Time	Bag-1	Bag-2	Bag-3	Ave.	Soil Type	CSS Location
B-2	0 to 4	20 g	1:00 PM	1:20 PM	0					
B-2	4 to 8	20 g	1:05 PM	1:25 PM	1.1					
B-2	8 to 12	20 g	1:07 PM	1:29 PM	0.1					
B-2	12 to 16	20 g	1:12 PM	1:34 PM	0					
B-2	16 to 20	20 g	1:16 PM	1:37 PM	0					

Comments:

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TS004 Bag Headspace Field EDD Sheet

Site Name:	50 India Street							Spill #	N/A	
Town:	Portland, ME							Sampler:	Drumlin	
Air Temp:	40s-50sdegF	Date:	10/30/2015					Sample Method:	EPI Geoprobe	
Calibration Gas Concentration:			100 ppm Isobutylene					Soil Heating Method:	Ambient	
Confirm High End Measurement:								PID nstrument:	Multi RAE Meter	
Calibration Documentation				Bumptest Documentation					Weather	
10/29/15 Time 1:	Pine Env. Rental		Reading 1:	100 ppm	Time 1:		Reading 1:			
Time 2:			Reading 2:		Time 2:		Reading 2:		Sunny, mild & windy	
Time 3:			Reading 3:		Time 3:		Reading 3:			

Calibration readings 1 Site Name/Spill#2 and 3 readings are post-calibration checks. PID/Headspace Operators:

Sample ID	Depth (FGS)	Sample Size	Collection Time	Analysis Time	Bag-1	Bag-2	Bag-3	Ave.	Soil Type	CSS Location
B-3	0 to 4	20 g	9:40 AM	10:05 AM	0					
B-3	4 to 8	20 g	9:45 AM	10:08 AM	0					
B-3	8 to 12	20 g	9:50 AM	10:10 AM	0					
B-3	12 to 16	20 g	9:55 AM	10:13 AM	0					
B-3	16 to 20	20 g	10:01 AM	10:16 AM	0					

Comments:

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

APPENDIX A.3

TS004 Bag Headspace Field EDD Sheet

Site Name:	50 India Street							Spill #	N/A	
Town:	Portland, ME							Sampler:	Drumlin	
Air Temp:	40s-50sdegF	Date:	10/30/2015					Sample Method:	EPI Geoprobe	
Calibration Gas Concentration:			100 ppm Isobutylene					Soil Heating Method:	Ambient	
Confirm High End Measurement:								PID nstrument:	Multi RAE Meter	
Calibration Documentation				Bumptest Documentation					Weather	
10/29/15 Time 1:	Pine Env. Rental		Reading 1:	100 ppm	Time 1:		Reading 1:			
Time 2:			Reading 2:		Time 2:		Reading 2:		Sunny, mild & windy	
Time 3:			Reading 3:		Time 3:		Reading 3:			

Calibration readings 1 Site Name/Spill#2 and 3 readings are post-calibration checks. PID/Headspace Operators:

Sample ID	Depth (FGS)	Sample Size	Collection Time	Analysis Time	Bag-1	Bag-2	Bag-3	Ave.	Soil Type	CSS Location
B-4	0 to 4	20 g	11:05 AM	11:17 AM	0					
B-4	4 to 8	20 g	11:08 AM	11:20 AM	0					
B-4	8 to 12	20 g	11:12 AM	11:25 AM	0					
B-4	12 to 16	20 g	11:15 AM	11:27 AM	0					
B-4	16 to 20	20 g	11:18 AM	11:30 AM	0					

Comments:

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

APPENDIX A.3

TS004 Bag Headspace Field EDD Sheet

Site Name:	50 India Street							Spill #	N/A	
Town:	Portland, ME							Sampler:	Drumlin	
Air Temp:	40s-50sdegF	Date:	10/30/2015					Sample Method:	EPI Geoprobe	
Calibration Gas Concentration:			100 ppm Isobutylene					Soil Heating Method:	Ambient	
Confirm High End Measurement:								PID nstrument:	Multi RAE Meter	
Calibration Documentation				Bumptest Documentation					Weather	
10/29/15 Time 1:	Pine Env. Rental		Reading 1:	100 ppm	Time 1:		Reading 1:			
Time 2:			Reading 2:		Time 2:		Reading 2:		Sunny, mild & windy	
Time 3:			Reading 3:		Time 3:		Reading 3:			

Calibration readings 1 Site Name/Spill#2 and 3 readings are post-calibration checks. PID/Headspace Operators:

Sample ID	Depth (FGS)	Sample Size	Collection Time	Analysis Time	Bag-1	Bag-2	Bag-3	Ave.	Soil Type	CSS Location
B-5	0 to 4	20 g	11:45 AM	12:05 PM	0					
B-5	4 to 8	20 g	11:48 AM	12:08 PM	0					
B-5	8 to 12	20 g	11:51 AM	12:11 PM	1					
B-5	12 to 16	20 g	11:53 AM	12:15 PM	0					

Comments:

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

APPENDIX A.3

TS004 Bag Headspace Field EDD Sheet

Site Name:	50 India Street				Spill #	N/A	
Town:	Portland, ME				Sampler:	Drumlin	
Air Temp:	30s-40sdegF	Date:	10/31/2015		Sample Method:	EPI Geoprobe	
Calibration	Gas Concentration:	100 ppm Isobutylene			Soil Heating Method:	Ambient	
Confirm High	End Measurement:				PID nstrument:	Multi RAE Meter	

Calibration Documentation			Bumptest Documentation				Weather
10/29/15 Time 1:	Pine Env. Rental	Reading 1:	100 ppm	Time 1:		Reading 1:	
Time 2:		Reading 2:		Time 2:		Reading 2:	Sunny, cool
Time 3:		Reading 3:		Time 3:		Reading 3:	

Calibration readings 1 Site Name/Spill#2 and 3 readings are post-calibration checks. PID/Headspace Operators:

Sample ID	Depth (FGS)	Sample Size	Collection Time	Analysis Time	Bag-1	Bag-2	Bag-3	Ave.	Soil Type	CSS Location
B-6	0 to 4	20 g	1:05 PM	1:32 PM	0					
B-6	4 to 8	20 g	1:08 PM	1:35 PM	0					
B-6	8 to 12	20 g	1:10 PM	1:40 PM	0					
B-6	12 to 16	20 g	1:14 PM	1:43 PM	0					
B-6	16 to 20	20 g	1:20 PM	1:47 PM	0					

Comments:

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

APPENDIX A.3

TS004 Bag Headspace Field EDD Sheet

Site Name:	50 India Street							Spill #	N/A	
Town:	Portland, ME							Sampler:	Drumlin	
Air Temp:	30s-40sdegF	Date:	10/31/2015					Sample Method:	EPI Geoprobe	
Calibration	Gas Concentration:		100 ppm Isobutylene					Soil Heating Method:	Ambient	
Confirm High	End Measurement:							PID nstrument:	Multi RAE Meter	
Calibration Documentation				Bumptest Documentation					Weather	
10/29/15 Time 1:	Pine Env. Rental		Reading 1:	100 ppm	Time 1:		Reading 1:			
Time 2:			Reading 2:		Time 2:		Reading 2:		Sunny, cool	
Time 3:			Reading 3:		Time 3:		Reading 3:			

Calibration readings 1 Site Name/Spill#2 and 3 readings are post-calibration checks. PID/Headspace Operators:

Sample ID	Depth (FGS)	Sample Size	Collection Time	Analysis Time	Bag-1	Bag-2	Bag-3	Ave.	Soil Type	CSS Location
B-7	0 to 4	20 g	10:40 AM	10:50 AM	0					
B-7	4 to 8	20 g	10:45 AM	10:53 AM	0					
Adjacent Probe										
B-7	0 to 4	20 g	11:50 AM	12:10 PM	0					
B-7	4 to 8	20 g	11:54 AM	12:13 PM	0.3					
B-7	8 to 12	20 g	11:59 AM	12:17 PM	0.1					
B-7	12 to 16	20 g	12:04 PM	12:20 PM	0					
B-7	16 to 20	20 g	12:08 PM	12:23 PM	0					

Comments:

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

APPENDIX A.3

TS004 Bag Headspace Field EDD Sheet

Site Name:	50 India Street					Spill #	N/A
Town:	Portland, ME					Sampler:	Drumlin
Air Temp:	40s-50sdegF	Date:	10/30/2015			Sample Method:	EPI Geoprobe
Calibration	Gas Concentration:		100 ppm Isobutylene			Soil Heating Method:	Ambient
Confirm High	End Measurement:					PID nstrument:	Multi RAE Meter

Calibration Documentation			Bumptest Documentation				Weather
10/29/15 Time 1:	Pine Env. Rental	Reading 1:	100 ppm	Time 1:		Reading 1:	
Time 2:		Reading 2:		Time 2:		Reading 2:	Sunny, mild & windy
Time 3:		Reading 3:		Time 3:		Reading 3:	

Calibration readings 1 Site Name/Spill#2 and 3 readings are post-calibration checks. PID/Headspace Operators:

Sample ID	Depth (FGS)	Sample Size	Collection Time	Analysis Time	Bag-1	Bag-2	Bag-3	Ave.	Soil Type	CSS Location
B-8	0 to 4	20 g	10:20 AM	10:40 AM	0					
B-8	4 to 8	20 g	10:26 AM	10:42 AM	0.3					
B-8	8 to 12	20 g	10:30 AM	10:43 AM	0.1					
B-8	12 to 16	20 g	10:34 AM	10:46 AM	0					

Comments:

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

APPENDIX A.3

TS004 Bag Headspace Field EDD Sheet

Site Name:	50 India Street				Spill #	N/A	
Town:	Portland, ME				Sampler:	Drumlin	
Air Temp:	40s-50sdegF	Date:	10/30/2015		Sample Method:	EPI Geoprobe	
Calibration	Gas Concentration:		100 ppm Isobutylene		Soil Heating Method:	Ambient	
Confirm High	End Measurement:				PID nstrument:	Multi RAE Meter	

Calibration Documentation			Bumptest Documentation					Weather
10/29/15 Time 1:	Pine Env. Rental	Reading 1:	100 ppm	Time 1:		Reading 1:		
Time 2:		Reading 2:		Time 2:		Reading 2:		Sunny, mild & windy
Time 3:		Reading 3:		Time 3:		Reading 3:		

Calibration readings 1 Site Name/Spill#2 and 3 readings are post-calibration checks. PID/Headspace Operators:

Sample ID	Depth (FGS)	Sample Size	Collection Time	Analysis Time	Bag-1	Bag-2	Bag-3	Ave.	Soil Type	CSS Location
B-9	0 to 4	20 g	1:50 PM	2:00 PM	0					
B-10	0 to 4	20 g	2:10 PM	2:15 PM	0					

Comments:

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

APPENDIX A.4

GROPROBE LOGS

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

DRUMLIN ENVIRONMENTAL, LLC
GEOPROBE LOG

P.O. Box 392, Portland, Maine 04112

SITE LOCATION:
50 India Street Site
Portland, Maine

Completion DATE: 10/30/15
DRILLER: Environmental Projects, Inc.
GEOLOGIST: Richard Fortin

BORING DESIGNATION: **B-1**
DRILLING METHOD: Geoprobe
BORING DEPTH: 20 ft, bgs

Depth (feet)	Sample No.	Sample Interval (feet)	Recovery (feet)	PID (ppm)	Material Description and Comments
0					Asphalt Surface
1	S-1	0-4	1.9	0	Approx. 2-inches - asphalt
2					Fill. Light brown to gray f-m sand with little
3					gravel to 1 ft, bgs;
4	S-2	4-8	2.2	0.8	1-6.5 ft compact gray-brown sand with brick pieces, dry
5					Petroleum odor in S-2 sample
6					
7					Gray-brown, stiff, clayey silt w/oxidation becoming soft
8	S-3	8-12	2.5	0	and moist with depth with some fine sand lenses
9					Below 8 ft, bgs becoming clayey silt and very fine silty sand
10					layering, moist to wet
11					
12	S-4	12-16	2.0	0.5	
13					Change at ~12 ft, bgs to uniform, light brown fine sand with
14					oxidation; becoming gray fine silty sand with some fine
15					gravelly silty sand at bottom of recovery
16	S-5	16-20	0.9	0	
17					
18					Water in open Geoprobe at completion
19					estimated at 9 ft, bgs
20					Bottom of Geoprobe at 20 ft, bgs

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

DRUMLIN ENVIRONMENTAL, LLC
GEOPROBE LOG

P.O. Box 392, Portland, Maine 04112

SITE LOCATION:
50 India Street Site
Portland, Maine

Completion DATE: 10/30/15
DRILLER: Environmental Projects, Inc.
GEOLOGIST: Richard Fortin

BORING DESIGNATION: **B-2**
DRILLING METHOD: Geoprobe
BORING DEPTH: 20 ft, bgs

Depth (feet)	Sample No.	Sample Interval (feet)	Recovery (feet)	PID (ppm)	Material Description and Comments
0					Asphalt Surface
1	S-1	0-4	1.3	0	Approx. 2-inches - asphalt
2					Fill. Light-dark brown, gray, black sand, brick pieces, fine
3					gravel, silt w/oxidation to ~5 ft, bgs, dry, loose
4	S-2	4-8	1.5	1.1	
5					
6					Gray-brown stiff, clayey silt with oxidation, dry to damp
7					becoming soft with depth
8	S-3	8-12	2.5	0.1	Petroleum odor in S-2 and S-3 samples
9					
10					Change at 9.5 ft, bgs to 15.5 ft, bgs with layering of brown
11					to gray clayey silt and fine silty sand, stiff to soft,
12	S-4	12-16	4.0	0	moist to wet
13					
14					
15					
16	S-5	16-20	1.5	0	Gray clayey silt, soft, moist changing to gray silty fine sand
17					with 3-inch layer of black fine sand (no odor); becoming
18					gray, slightly gravelly fine silty sand, compact, moist
19					
20					Bottom of Geoprobe at 20 ft, bgs

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

DRUMLIN ENVIRONMENTAL, LLC
GEOPROBE LOG

P.O. Box 392, Portland, Maine 04112

SITE LOCATION:
50 India Street Site
Portland, Maine

Completion DATE: 10/30/15
DRILLER: Environmental Projects, Inc.
GEOLOGIST: Richard Fortin

BORING DESIGNATION: **B-3**
DRILLING METHOD: Geoprobe
BORING DEPTH: 20 ft, bgs

Depth (feet)	Sample No.	Sample Interval (feet)	Recovery (feet)	PID (ppm)	Material Description and Comments
0					Asphalt Surface
1	S-1	0-4	2.3	0	Approx. 2-inches - asphalt
2					Fill. Light-dark brown, gray, black sand, brick pieces, fine
3					gravel, silt w/oxidation to ~5 ft, bgs, dry, loose
4	S-2	4-8	2.6	0	Light brown sandy silt with mottling, compact, dry
5					changing at approximately 4-5 ft, bgs to light brown,
6					uniform, fine to medium sand with oxidation
7					
8	S-3	8-12	3.7	0	
9					Brown slightly clayey, silty fine sand with mottling
10					changing to gray slightly clayey, silty fine sand
11					damp to moist
12	S-4	12-16	2.2	0	Gray silty fine sand becoming slightly gravelly with depth
13					dense, moist
14					
15					
16	S-5	16-20	3.0	0	
17					
18					Water in open Geoprobe at completion
19					estimated at 15.5 ft, bgs
20					Bottom of Geoprobe at 20 ft, bgs

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

DRUMLIN ENVIRONMENTAL, LLC
GEOPROBE LOG

P.O. Box 392, Portland, Maine 04112

SITE LOCATION:
50 India Street Site
Portland, Maine

Completion DATE: 10/30/15
DRILLER: Environmental Projects, Inc.
GEOLOGIST: Richard Fortin

BORING DESIGNATION: **B-4**
DRILLING METHOD: Geoprobe
BORING DEPTH: 20 ft, bgs

Depth (feet)	Sample No.	Sample Interval (feet)	Recovery (feet)	PID (ppm)	Material Description and Comments
0					Asphalt Surface
1	S-1	0-4	1.3	0	Approx. 2-inches - asphalt
2					Fill. Brown, gray to black, slightly gravelly, fine to
3					medium sand and silt, loose, dry
4	S-2	4-8	2.0	0	
5					Light brown, stiff, clayey silt with oxidation
6					dry to damp;
7					layering of brown, silty fine sand and clayey silt with
8	S-3	8-12	1.6	0	oxidation
9					Gray-brown silty fine sand with oxidation
10					stiff and damp
11					
12	S-4	12-16	1.7	0	
13					Brown changing to gray, slightly clayey, gravelly silty sand
14					with layers of gray silty fine sand and fine gravelly silty sand
15					damp to moist
16	S-5	16-20	4.0	0	Gray silty fine sand becoming slightly gravelly with depth
17					dense, moist
18					Water in open Geoprobe at completion
19					estimated at 16 ft, bgs
20					Bottom of Geoprobe at 20 ft, bgs

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

DRUMLIN ENVIRONMENTAL, LLC
GEOPROBE LOG

P.O. Box 392, Portland, Maine 04112

SITE LOCATION:
50 India Street Site
Portland, Maine

Completion DATE: 10/30/15
DRILLER: Environmental Projects, Inc.
GEOLOGIST: Richard Fortin

BORING DESIGNATION: **B-5**
DRILLING METHOD: Geoprobe
BORING DEPTH: 16 ft, bgs

Depth (feet)	Sample No.	Sample Interval (feet)	Recovery (feet)	PID (ppm)	Material Description and Comments
0					Asphalt Surface
1	S-1	0-4	1.6	0	Approx. 2-inches - asphalt
2					Fill. Brown, gray to black, slightly gravelly, fine to
3					medium sand and silt, loose, dry
4	S-2	4-8	2.5	0	
5					Light to dark brown, stiff, clayey silt with oxidation, trace
6					of fine sand, dry to damp;
7					layering of brown, silty fine sand and clayey silt with
8	S-3	8-12	3.2	1	oxidation
9					Gray stiff, slightly clayey silt with oxidation becoming soft
10					with depth, damp to moist
11					Petroleum odor in S-3 sample
12	S-4	12-16	2.4	0	
13					Gray, uniform silty fine sand becoming slightly gravelly
14					with depth, dense, moist to wet
15					
16					
17					Bottom of Geoprobe at 16 ft, bgs
18					
19					
20					

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

DRUMLIN ENVIRONMENTAL, LLC
GEOPROBE LOG

P.O. Box 392, Portland, Maine 04112

SITE LOCATION:
50 India Street Site
Portland, Maine

Completion DATE: 10/31/15
DRILLER: Environmental Projects, Inc.
GEOLOGIST: Richard Fortin

BORING DESIGNATION: **B-6**
DRILLING METHOD: Geoprobe
BORING DEPTH: 19.9 ft, bcs

Depth (feet)	Sample No.	Sample Interval (feet)	Recovery (feet)	PID (ppm)	Material Description and Comments
0					Concrete Slab Floor
1	S-1	0-4	1.3	0	Approx. 4-5 inches - concrete
2					Fill. Brown, slightly gravelly, fine-medium sand, little
3					coarse sand, loose and dry
4	S-2	4-8	1.5	0	
5					Fill. Gray to black, slightly clayey sand and silt, wood
6					loose, dry to damp
7					Petroleum odor in S-2 sample
8	S-3	8-12	2.2	0	
9					Gray-brown, soft, clayey silt with layering of gray, very
10					fine sandy silt and fine sand, soft and moist
11					
12	S-4	12-16	4.0	0	
13					Gray, slightly silty, fine sand becoming slightly gravelly
14					with depth, loose, wet
15					
16	S-5	16-20	2.4	0	
17					
18					Soft grayish white rock pieces in bottom of sample
19					
20					Bottom of Geoprobe/Refusal at 19.9 ft, bcs

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

DRUMLIN ENVIRONMENTAL, LLC
GEOPROBE LOG

P.O. Box 392, Portland, Maine 04112

SITE LOCATION:
50 India Street Site
Portland, Maine

Completion DATE: 10/31/15
DRILLER: Environmental Projects, Inc.
GEOLOGIST: Richard Fortin

BORING DESIGNATION: **B-7**
DRILLING METHOD: Geoprobe
BORING DEPTH: 18.5 ft, bcs

Depth (feet)	Sample No.	Sample Interval (feet)	Recovery (feet)	PID (ppm)	Material Description and Comments
0					Concrete Slab Floor
1	S-1	0-4	1.4	0	Approx. 4-5 inches - concrete
2					Fill. Brown, slightly gravelly, fine-medium sand, little
3					coarse sand, loose and dry
4	S-2	4-8	0.7	0.3	
5					Fill. Gray, slightly silty, fine sand, loose, moist
6					
7					Petroleum odor in S-2 and S-3 samples
8	S-3	8-12	1.5	0.1	
9					Fill. Gray to dark gray, slightly clayey, fine sand and silt
10					with rocks, stiff, dry to damp
11					
12	S-4	12-16	0.4	0	
13					Gray, slightly silty, fine sand becoming slightly gravelly
14					with depth, loose to dense, moist to wet
15					
16	S-5	16-20	1.3	0	
17					
18					Dry, sandy silt and rocks in bottom of sample
19					
20					Bottom of Geoprobe/Refusal at 18.5 ft, bcs

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

DRUMLIN ENVIRONMENTAL, LLC
GEOPROBE LOG

P.O. Box 392, Portland, Maine 04112

SITE LOCATION:
50 India Street Site
Portland, Maine

Completion DATE: 10/30/15
DRILLER: Environmental Projects, Inc.
GEOLOGIST: Richard Fortin

BORING DESIGNATION: **B-8**
DRILLING METHOD: Geoprobe
BORING DEPTH: 16 ft, bgs

Depth (feet)	Sample No.	Sample Interval (feet)	Recovery (feet)	PID (ppm)	Material Description and Comments
0					Asphalt Surface
1	S-1	0-4	1.3	0	Approx. 2-inches - asphalt
2					Fill. Brown, gray to black, slightly gravelly, fine sand and
3					dense, dry
4	S-2	4-8	1.8	0.3	Gray-brown, stiff silt and clayey silt with oxidation
5					slightly compact, dry,
6					
7					Petroleum odor in S-2 and S-3 samples
8	S-3	8-12	2.4	0.1	Gray-brown, stiff silt and clayey silt with oxidation
9					becoming soft with few sand lenses at bottom of sample
10					
11					
12	S-4	12-16	4.0	0	
13					Gray silty, clayey, fine sand, soft, moist to wet
14					
15					
16					Bottom 0.3 ft gray-brown uniform, fine sand, trace silt
17					Bottom of Geoprobe at 16 ft, bgs
18					
19					
20					

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

DRUMLIN ENVIRONMENTAL, LLC
GEOPROBE LOG

P.O. Box 392, Portland, Maine 04112

SITE LOCATION:
50 India Street Site
Portland, Maine

Completion DATE: 10/30/15
DRILLER: Environmental Projects, Inc.
GEOLOGIST: Richard Fortin

BORING DESIGNATION: **B-9**
DRILLING METHOD: Geoprobe
BORING DEPTH: 4 ft, bgs

Depth (feet)	Sample No.	Sample Interval (feet)	Recovery (feet)	PID (ppm)	Material Description and Comments
0					Asphalt Surface
1	S-1	0-4	2	0	Approx. 2-inches - asphalt
2					Fill. Brown, gravelly, f-m sand above dark brown to black
3					gravel, sand, silt mix, dry
4					Bottom 0.2 ft gray, clayey, f silty sand, loose, moist
5					Bottom of Geoprobe at 4 ft, bgs
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

DRUMLIN ENVIRONMENTAL, LLC
GEOPROBE LOG

P.O. Box 392, Portland, Maine 04112

SITE LOCATION:
50 India Street Site
Portland, Maine

Completion DATE: 10/30/15
DRILLER: Environmental Projects, Inc.
GEOLOGIST: Richard Fortin

BORING DESIGNATION: **B-10**
DRILLING METHOD: Geoprobe
BORING DEPTH: 4 ft, bgs

Depth (feet)	Sample No.	Sample Interval (feet)	Recovery (feet)	PID (ppm)	Material Description and Comments
0					Asphalt Surface
1	S-1	0-4	2	0	Approx. 2-inches - asphalt
2					Fill. Brown, gravelly, f-m sand above brown to black
3					sand, silt, rocks, brick, coal and ash, loose, dry to damp
4					
5					Bottom of Geoprobe at 4 ft, bgs
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

APPENDIX A.5

SOIL GAS SAMPLING FIELD SHEETS

CITY OF PORTLAND, MAINE RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Soil Gas Sampling Field Sheet
Maine DEP

Site Name:	50 India Street
Town:	Portland, ME
Date:	11/2/15
Sample I.D.:	SV-1
Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	Drumlin
Project Manager	Rich Fortin
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Penetration Location:	(Ashphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth:	Screen @ 3-4 ft, bgs
Depth to Water:	Approx. 12 ft, bgs
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	0075
Flow Control I.D.:	0251
Flow control rate:	Approx. 0.28L/min - per Lab
O_2 Ambient	20.9 %
CO_2 Ambient	600 ppm
subsurface pressure/vacuum	N/A (+/- inches of water column)
Pre-Sample: O_2	9.8 %
Pre-Sample CO_2 :	> Calibration @ 5,000 ppm
Pre-Sample PID:	0 ppm
Pre-Sample CH_4:	LEL = 0 (% Volume, %LEL, PPM)
Sample Initiation Time:	1:05 pm
Initial Vacuum:	-26.5" Hg
Sample End Time:	1:35 pm
Final Vaccum:	0" Hg
Post Sample O_2 :	9.4-9.6 %
Post Sample CO_2:	> Calibration @ 5,000 ppm

Sample Location Sketch

Inside Building adjacent to abandoned auto lift and floor drain located in floor of former service station garage bays.

Near Geoprobe B-6

Gravelly Sand Fill

Ambient PID = 0 ppm
Ambient LEL = 0
Ambient CO = 1-2 ppm

Post Sample
PID = 0 ppm
LEL = 0
CO = 0 ppm

Multi RAE-IR Multi Gas Meter

Notes: Sunny, warm in 60s deg F

CITY OF PORTLAND, MAINE RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Soil Gas Sampling Field Sheet
Maine DEP

Site Name:	50 India Street
Town:	Portland, ME
Date:	11/2/15
Sample I.D.:	SV-2
Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	Drumlin
Project Manager	Rich Fortin
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Penetration Location:	(Ashphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth:	Screen @ 3-4 ft, bcs
Depth to Water:	Approx 12 ft, bcs
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	0081
Flow Control I.D.:	0065
Flow control rate:	Approx. 0.28 L/min - per Lab
O_2 Ambient	20.9 %
CO_2 Ambient	930 ppm
subsurface pressure/vacuum	N/A (+/- inches of water column)
Pre-Sample: O_2	18.9 %
Pre-Sample CO_2 :	> Calibration @ 5,000 ppm
Pre-Sample PID:	0 ppm
Pre-Sample CH_4:	LEL = 0 (% Volume, %LEL, PPM)
Sample Initiation Time:	1:20 pm
Initial Vacuum:	-31" Hg
Sample End Time:	1:50 pm
Final Vaccum:	-2" Hg
Post Sample O_2 :	19.1 %
Post Sample CO_2:	> Calibration @ 5,000 ppm

Sample Location Sketch

Inside Building in location suspected for historic presence of USTs.

Near Geoprobe B-7

Gravelly Sand Fill

Ambient PID = 0 ppm
Ambient LEL = 0
Ambient CO = 3-4 ppm

Post Sample
PID = 0 ppm
LEL = 0
CO = 1 ppm

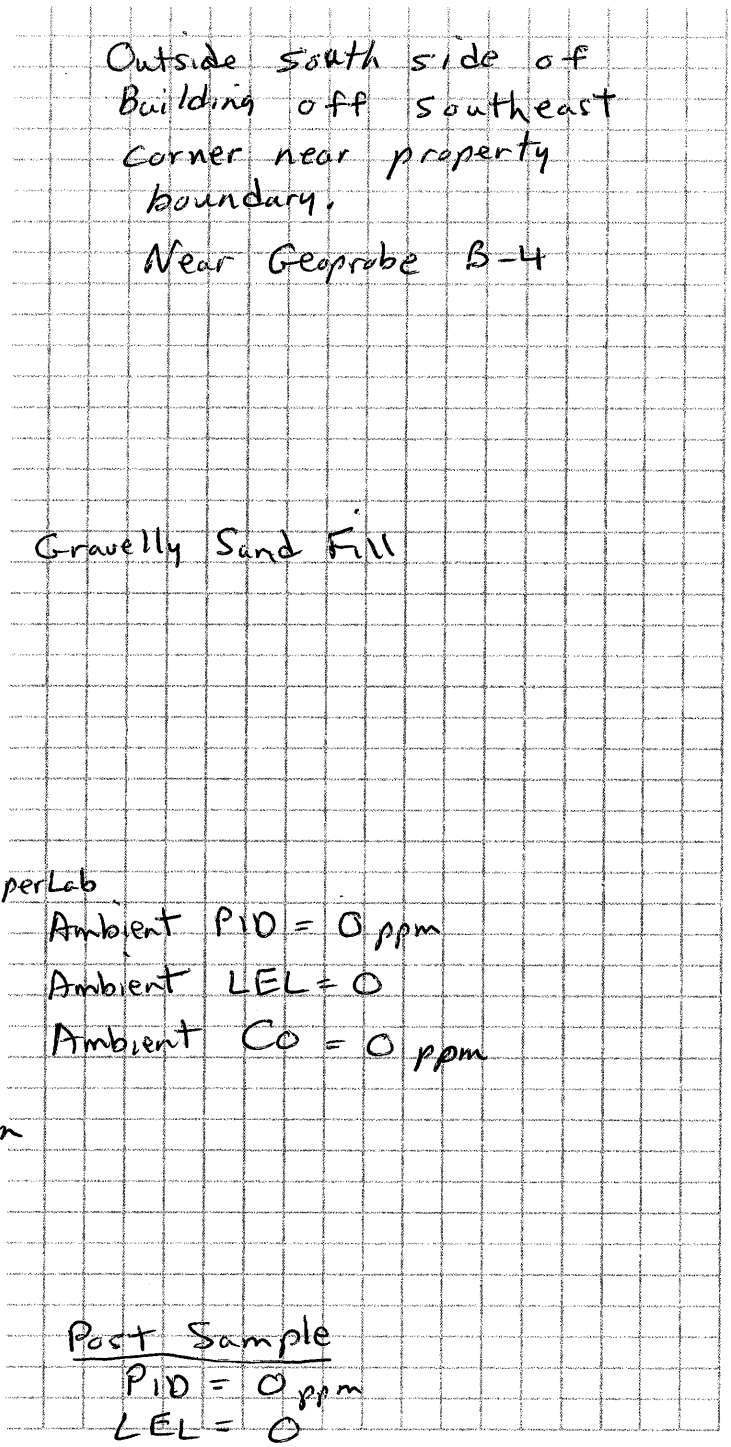
Notes: Multi RAE-IR Multi Gas Meter
Sunny, warm in 60s deg F

Soil Gas Sampling Field Sheet
Maine DEP

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Site Name:	50 India Street
Town:	Portland, ME
Date:	11/2/15
Sample I.D.:	SV-3
Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	Drumlin
Project Manager	Rich Fortin
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Penetration Location:	(Ashphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth:	Screen @ 3.5-4 ft, bgs
Depth to Water:	Approx. 16 ft, bgs
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	0192
Flow Control I.D.:	0262
Flow control rate:	Approx. 0.28 L/min - per Lab
O_2 Ambient	20.9 %
CO_2 Ambient	930 ppm
subsurface pressure/vacuum	N/A (+/- inches of water column)
Pre-Sample: O_2	20.3 %
Pre-Sample CO_2 :	> Calibration @ 5,000 ppm
Pre-Sample PID:	0 ppm
Pre-Sample CH_4:	LEL = 0 (% Volume, %LEL, PPM)
Sample Initiation Time:	1:52 pm
Initial Vacuum:	-26" Hg
Sample End Time:	2:22 pm
Final Vaccum:	0" Hg
Post Sample O_2 :	20.1 %
Post Sample CO_2:	> Calibration @ 5,000 ppm

Sample Location Sketch



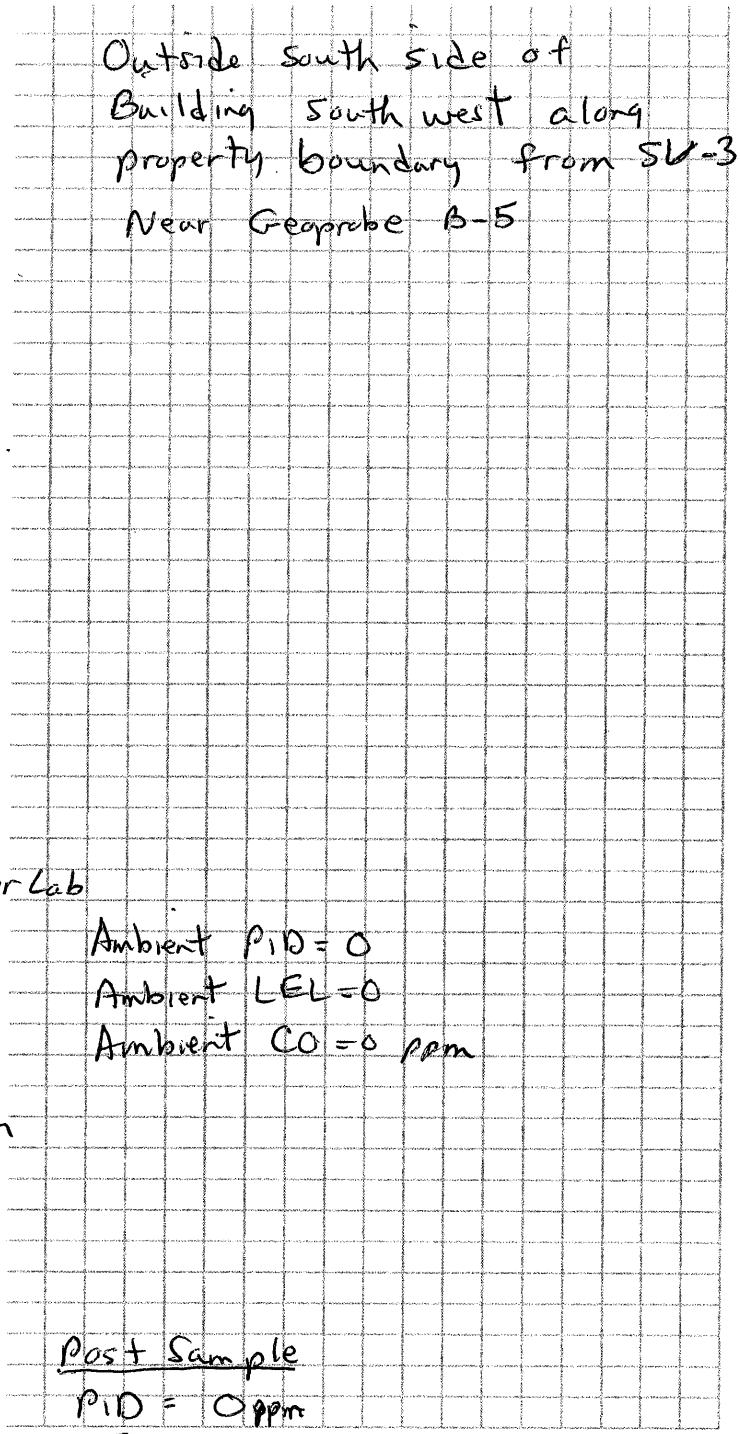
Notes: Multi RAE-IR Multi Gas Meter
Sunny, warm in 60s deg F

Soil Gas Sampling Field Sheet
Maine DEP

Reviewed for Code Compliance
Inspections Division
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Site Name:	50 India Street
Town:	Portland, ME
Date:	11/2/15
Sample I.D.:	SV-4
Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	Drumlin
Project Manager	Rich Fortin
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Penetration Location:	(Ashphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth:	Screen @ 3-4 ft, bgs
Depth to Water:	Approx. 12.5 ft, bgs
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	0201
Flow Control I.D.:	0049
Flow control rate:	Approx. 0.28L/min-per Lab
O_2 Ambient	20.9%
CO_2 Ambient	810 ppm
subsurface pressure/vacuum	N/A (+/- inches of water column)
Pre-Sample: O_2	18.1%
Pre-Sample CO_2 :	> Calibration @ 5,000 ppm
Pre-Sample PID:	0 ppm
Pre-Sample CH_4:	LEL = 0 (% Volume, %LEL, PPM)
Sample Initiation Time:	2:18 pm
Initial Vacuum:	-30 " Hg
Sample End Time:	2:48 pm
Final Vaccum:	-3 " Hg
Post Sample O_2 :	18%
Post Sample CO_2:	> Calibration @ 5,000 ppm

Sample Location Sketch



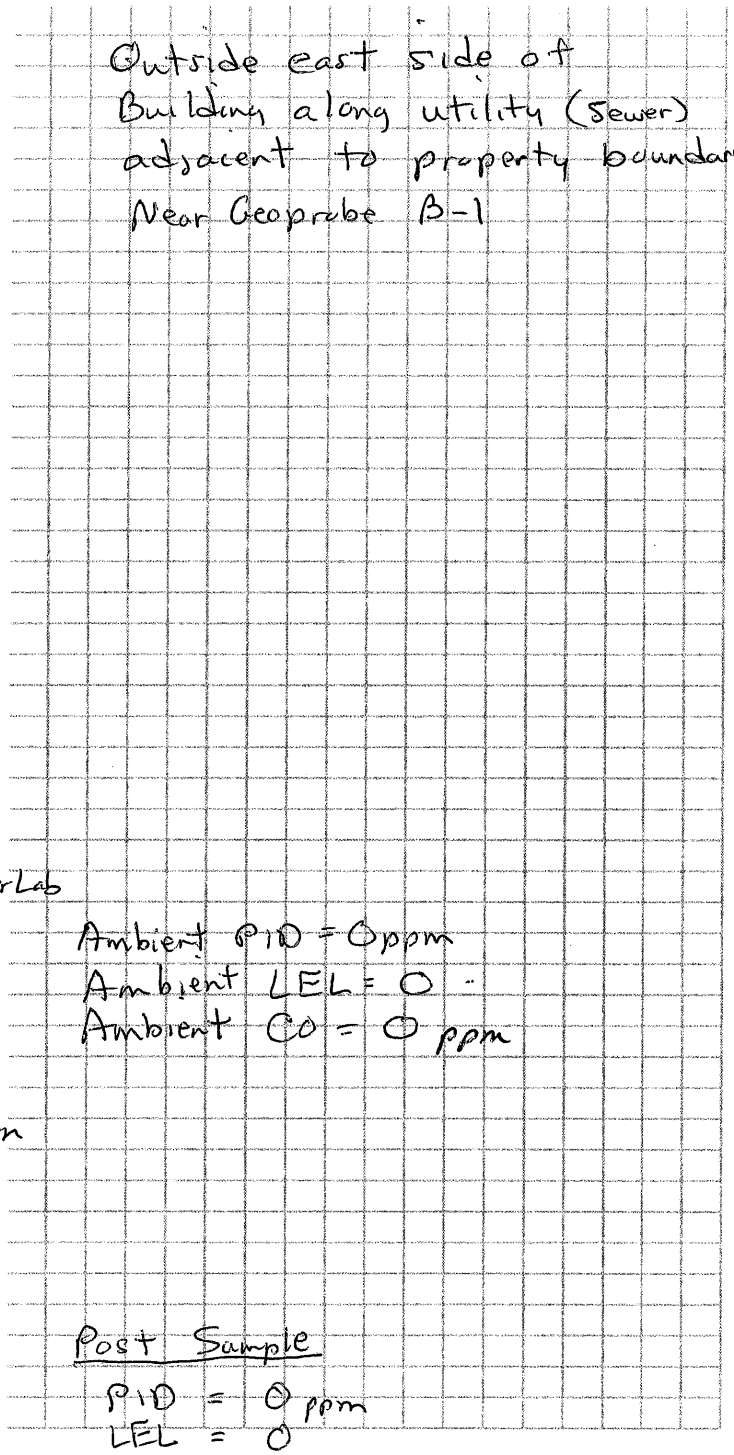
Notes: Multi RAE-IR Multi Gas Meter
Sunny, warm in 60s deg F

Soil Gas Sampling Field Sheet
Maine DEP

CITY OF PORTLAND, MAINE RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Site Name:	50 India Street
Town:	Portland, ME
Date:	11/2/15
Sample I.D.:	SV-5
Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	Drumlin
Project Manager	Rich Fortin
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Penetration Location:	(Ashphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth:	Screen @ 3.5-4 ft, bgs
Depth to Water:	Approx. 9 ft, bgs
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	0035
Flow Control I.D.:	0250
Flow control rate:	Approx. 0.28 L/min - per Lab
O_2 Ambient	20.9 %
CO_2 Ambient	810 ppm
subsurface pressure/vacuum	N/A (+/- inches of water column)
Pre-Sample: O_2	16.7 %
Pre-Sample CO_2 :	> Calibration @ 5,000 ppm
Pre-Sample PID:	0 ppm
Pre-Sample CH_4:	LEL = 0 (% Volume, %LEL, PPM)
Sample Initiation Time:	2:38 pm
Initial Vacuum:	-27" Hg
Sample End Time:	3:08 pm
Final Vaccum:	-0.5 "Hg
Post Sample O_2 :	16.6 %
Post Sample CO_2:	> Calibration @ 5,000 ppm

Sample Location Sketch



Notes: Multi RAE-IR Multi Gas Meter
Sunny, warm in 60s deg F

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APPENDIX B

LABORATORY ANALYTICAL REPORTS

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

November 20, 2015

Mr. Rich Fortin
Drumlin Environmental, LLC
97 India Street
PO Box 392
Portland,ME 04112-0342

RE: Katahdin Lab Number: SI8722
Project ID: 50 India St.
Project Manager: Ms. Diane Paul
Sample Receipt Date(s): November 02, 2015

Dear Mr. Fortin:

Please find enclosed the following information:

* Report of Analysis (Analytical and/or Field)
* Quality Control Data Summary
* Chain of Custody (COC)
* Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Please go to http://www.katahdinlab.com/cert.html for copies of Katahdin Analytical Services Inc. current certificates and analyte lists.

Sincerely,
KATAHDIN ANALYTICAL SERVICES

Deborah J. Nadeau
Authorized Signature

11/20/2015
Date

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Inspections Division
Approved with Conditions
Date: 04/11/17

TECHNICAL NARRATIVE

Organics Laboratory

The samples of work order SI8722 were analyzed in accordance with "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846, 2nd edition, 1982 (revised 1984), 3rd edition, 1986, and Updates I, II, IIA, III, IIIA, and IIIB 1996, 1998 & 2004, Office of Solid Waste and Emergency Response, U.S. EPA, and/or Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MADEP, May 2004, Revision 1.1, and/or for the specific methods listed below or on the Report of Analysis.

8260B Analysis

Sample SI8722-7 had high recoveries of the surrogates toluene-d8 and p-bromofluorobenzene which were outside the laboratory acceptance limits. The sample was reanalyzed with similar recoveries. Both analyses are reported.

The target analyte bromomethane was detected in the methanol blank, WG173895-6, above the MDL but below the PQL. The laboratory policy is not to take corrective action unless the concentration of the target analyte is above the PQL.

The reported percent recovery acceptance limits for the Laboratory Control Samples (LCSs) are statistically derived for the full list of spiked compounds. The recoveries of the spiked analytes in the LCS, Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are compared to these acceptance limits. Katahdin standard operating procedure is to take corrective action only if the number of spiked analytes in the LCS that are outside of the QC limits is greater than ten percent of the client compound list. If the associated MS/MSD has greater than the allowable number of exceedances, no corrective action is taken, as long as the LCS is acceptable.

MA-VPH Analysis

Sample SI8722-6 had low recoveries for he surrogate 2,5-dibromotoluene on the PID and FID. The sample was reanalyzed with similar surrogate deviations confirming a matrix effect. The initial analysis is reported.

Sample SI8722-2 and 8 had high recoveries for the surrogate 2,5-dibromotoluene on the PID and the FID. The samples was reanalyzed diluted and had a similar surrogate deviations confirming a matrix effect. The results for both analyses are reported.

There were no other protocol deviations or observations noted by the organics laboratory staff.

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Inspections Division
Approved with Conditions
Date: 04/11/17

KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

or

J Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

C Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).

L Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.

N Presumptive evidence of a compound based on a mass spectral library search.

A Indicates that a tentatively identified compound is a suspected aldol-condensation product.

P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

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METALS SAMPLE FLAGGING

FLAG	SPECIFIED MEANING
E	The reported value is estimated because of the presence of interference (as indicated by serial dilution).
N	The pre-digestion spiked sample recovery is not within control limits.
*	The duplicate sample analysis relative percent difference (RPD) is not within control limits.
B	Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.
A	The post-digestion spiked sample recovery is not within control limits.
•	Analytical run QC sample (e.g. ICV, CCV, ICB, CCB, ICSA, ICSAB) not within control limits.
U	The analyte was not detected above the specified level. This level may be the Limit of Quantitation (LOQ) (previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client. Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.
J	The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ) (previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).
Q	One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV).

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KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

I-7 The laboratory's Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

A-4 Please refer to cover letter or narrative for further information.

H_ Please note that the regulatory holding time for _____ is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.

H1 - pH H2 - DO H3 - sulfide H4 - residual chlorine

T1 The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.

T2 The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.

M1 The matrix spike and/or matrix spike duplicate recovery performed on this sample was outside of the laboratory acceptance criteria. Sample matrix is suspected. The laboratory criteria was met for the Laboratory Control Sample (LCS) analyzed concurrently with this sample.

M2 The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory acceptance criteria. The native sample concentration is greater than four times the spike added concentration so the spike added could not be distinguished from the native sample concentration.

R1 The relative percent difference (RPD) between the duplicate analyses performed on this sample was outside of the laboratory acceptance criteria (when both values are greater than ten times the PQL).

MCL	Maximum Contaminant Level	NL	No limit
NFL	No Free Liquid Present	FLP	Free Liquid Present
NOD	No Odor Detected	TON	Threshold Odor Number

D-1 As required by Method 5210B, APHA Standard Methods for the Examination of Water and Wastewater (21st edition), the BOD value reported for this sample is 'qualified' because the check standard run concurrently with the sample analysis did not meet the criteria specified in the method (198 +/- 30.5 mg/L). These results may not be reportable for compliance purposes.

D-2 The measured final dissolved oxygen concentrations of all dilutions were less than the method-specified limit of 1 mg/L. The reported BOD result was calculated assuming a final oxygen concentration equal to 1 mg/L.

D-3 The dilution water used to prepare this sample did not meet the method and/or regulatory criteria of less than 0.2 or 0.4 mg/L dissolved oxygen (DO) uptake over the five day period of incubation. These results may not be reportable for compliance purposes.

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Inspections Division
Approved with Conditions
Date: 04/11/17

Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-6
Client ID: B-4 (1.5FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: W4379.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 06-NOV-15
Extracted By: EME
Extraction Method: SW846 5035
Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 88.
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Dichlorodifluoromethane	U	1.2	ug/Kgdrywt	1	10	13.	1.2
Chloromethane	U	1.8	ug/Kgdrywt	1	10	13.	1.8
Vinyl Chloride	U	1.1	ug/Kgdrywt	1	10	13.	1.1
Bromomethane	U	1.4	ug/Kgdrywt	1	10	13.	1.4
Chloroethane	U	1.7	ug/Kgdrywt	1	10	13.	1.7
Trichlorofluoromethane	U	1.2	ug/Kgdrywt	1	10	13.	1.2
1,1-Dichloroethene	U	1.2	ug/Kgdrywt	1	5	6.5	1.2
Methylene Chloride	U	10	ug/Kgdrywt	1	25	32.	10.
trans-1,2-Dichloroethene	U	0.92	ug/Kgdrywt	1	5	6.5	0.92
1,1-Dichloroethane	U	2.2	ug/Kgdrywt	1	5	6.5	2.2
cis-1,2-Dichloroethene	U	1.2	ug/Kgdrywt	1	5	6.5	1.2
1,2-Dichloroethylene (Total)	U	0.92	ug/Kgdrywt	1	10	13.	0.92
2,2-Dichloropropane	U	0.65	ug/Kgdrywt	1	5	6.5	0.65
Chloroform	U	0.46	ug/Kgdrywt	1	5	6.5	0.46
Bromochloromethane	U	1.2	ug/Kgdrywt	1	5	6.5	1.2
1,1,1-Trichloroethane	U	0.55	ug/Kgdrywt	1	5	6.5	0.55
1,2-Dichloroethane	U	1.3	ug/Kgdrywt	1	5	6.5	1.3
1,1-Dichloropropene	U	1.2	ug/Kgdrywt	1	5	6.5	1.2
Carbon Tetrachloride	U	1.7	ug/Kgdrywt	1	5	6.5	1.7
Benzene	U	1.2	ug/Kgdrywt	1	5	6.5	1.2
1,2-Dichloropropane	U	1.8	ug/Kgdrywt	1	5	6.5	1.8
Trichloroethene	U	0.77	ug/Kgdrywt	1	5	6.5	0.77
Dibromomethane	U	0.66	ug/Kgdrywt	1	5	6.5	0.66
Bromodichloromethane	U	0.78	ug/Kgdrywt	1	5	6.5	0.78
cis-1,3-Dichloropropene	U	0.94	ug/Kgdrywt	1	5	6.5	0.94
Toluene	U	1.8	ug/Kgdrywt	1	5	6.5	1.8
trans-1,3-Dichloropropene	U	1.1	ug/Kgdrywt	1	5	6.5	1.1
1,1,2-Trichloroethane	U	1.3	ug/Kgdrywt	1	5	6.5	1.3
1,3-Dichloropropane	U	1.2	ug/Kgdrywt	1	5	6.5	1.2
Dibromochloromethane	U	1.3	ug/Kgdrywt	1	5	6.5	1.3
Tetrachloroethene	U	1.6	ug/Kgdrywt	1	5	6.5	1.6
1,2-Dibromoethane	U	1.6	ug/Kgdrywt	1	5	6.5	1.6
Chlorobenzene	U	0.66	ug/Kgdrywt	1	5	6.5	0.66
1,1,1,2-Tetrachloroethane	U	0.91	ug/Kgdrywt	1	5	6.5	0.91
Ethylbenzene	U	0.84	ug/Kgdrywt	1	5	6.5	0.84

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-6
Client ID: B-4 (1.5FT)
Project: 50 India St.
SDG: SI8722
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Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 88.
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Bromoform	U	0.91	ug/Kgdrywt	1	5	6.5	0.91
Styrene	U	0.66	ug/Kgdrywt	1	5	6.5	0.66
1,1,2,2-Tetrachloroethane	U	1.1	ug/Kgdrywt	1	5	6.5	1.1
1,2,3-Trichloropropane	U	1.6	ug/Kgdrywt	1	5	6.5	1.6
Isopropylbenzene	U	1.2	ug/Kgdrywt	1	5	6.5	1.2
Bromobenzene	U	0.96	ug/Kgdrywt	1	5	6.5	0.96
2-Chlorotoluene	U	1.4	ug/Kgdrywt	1	5	6.5	1.4
N-Propylbenzene	U	1.1	ug/Kgdrywt	1	5	6.5	1.1
4-Chlorotoluene	U	0.64	ug/Kgdrywt	1	5	6.5	0.64
1,3,5-Trimethylbenzene	U	0.87	ug/Kgdrywt	1	5	6.5	0.87
tert-Butylbenzene	U	1.2	ug/Kgdrywt	1	5	6.5	1.2
1,2,4-Trichlorobenzene	U	1.0	ug/Kgdrywt	1	5	6.5	1.0
sec-Butylbenzene	U	1.2	ug/Kgdrywt	1	5	6.5	1.2
1,3-Dichlorobenzene	U	0.81	ug/Kgdrywt	1	5	6.5	0.81
P-Isopropyltoluene	U	0.99	ug/Kgdrywt	1	5	6.5	0.99
1,4-Dichlorobenzene	U	0.57	ug/Kgdrywt	1	5	6.5	0.57
1,2-Dichlorobenzene	U	1.0	ug/Kgdrywt	1	5	6.5	1.0
N-Butylbenzene	U	1.2	ug/Kgdrywt	1	5	6.5	1.2
1,2-Dibromo-3-Chloropropane	U	2.0	ug/Kgdrywt	1	5	6.5	2.0
1,2,4-Trimethylbenzene	U	1.1	ug/Kgdrywt	1	5	6.5	1.1
Naphthalene	J	3.2	ug/Kgdrywt	1	5	6.5	1.1
Hexachlorobutadiene	U	0.96	ug/Kgdrywt	1	5	6.5	0.96
1,2,3-Trichlorobenzene	U	0.99	ug/Kgdrywt	1	5	6.5	0.99
Methyl tert-butyl Ether	U	1.4	ug/Kgdrywt	1	5	6.5	1.4
Acetone	U	6.6	ug/Kgdrywt	1	25	32.	6.6
2-Butanone	U	7.7	ug/Kgdrywt	1	25	32.	7.7
4-Methyl-2-Pentanone	U	7.7	ug/Kgdrywt	1	25	32.	7.7
2-Hexanone	U	6.2	ug/Kgdrywt	1	25	32.	6.2
m+p-Xylenes	U	2.2	ug/Kgdrywt	1	10	13.	2.2
o-Xylene	U	1.7	ug/Kgdrywt	1	5	6.5	1.7
Xylenes (Total)	U	1.7	ug/Kgdrywt	1	15	20.	1.7
1,3,5-Trichlorobenzene	U	1.1	ug/Kgdrywt	1	5	6.5	1.1
Vinyl Acetate	U	1.2	ug/Kgdrywt	1	5	6.5	1.2
Carbon Disulfide	U	1.0	ug/Kgdrywt	1	5	6.5	1.0
Diethyl Ether	U	1.0	ug/Kgdrywt	1	5	6.5	1.0

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-6
Client ID: B-4 (1.5FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: W4379.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 06-NOV-15
Extracted By: EME
Extraction Method: SW846 5035
Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 88.
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Tetrahydrofuran	U	5.8	ug/Kgdrywt	1	50	65.	5.8
Dibromofluoromethane		90.2	%				
1,2-Dichloroethane-d4		80.8	%				
Toluene-d8		96.1	%				
P-Bromofluorobenzene		78.3	%				

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-7
Client ID: B-5 (9.5FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: W4380.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 06-NOV-15
Extracted By: EME
Extraction Method: SW846 5035
Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 79.
Report Date: 16-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Dichlorodifluoromethane	U	0.88	ug/Kgdrywt	1	10	9.6	0.88
Chloromethane	U	1.3	ug/Kgdrywt	1	10	9.6	1.3
Vinyl Chloride	U	0.84	ug/Kgdrywt	1	10	9.6	0.84
Bromomethane	U	1.0	ug/Kgdrywt	1	10	9.6	1.0
Chloroethane	U	1.2	ug/Kgdrywt	1	10	9.6	1.2
Trichlorofluoromethane	U	0.87	ug/Kgdrywt	1	10	9.6	0.87
1,1-Dichloroethene	U	0.89	ug/Kgdrywt	1	5	4.8	0.89
Methylene Chloride	U	7.6	ug/Kgdrywt	1	25	24.	7.6
trans-1,2-Dichloroethene	U	0.68	ug/Kgdrywt	1	5	4.8	0.68
1,1-Dichloroethane	U	1.6	ug/Kgdrywt	1	5	4.8	1.6
cis-1,2-Dichloroethene	U	0.87	ug/Kgdrywt	1	5	4.8	0.87
1,2-Dichloroethylene (Total)	U	0.68	ug/Kgdrywt	1	10	9.6	0.68
2,2-Dichloropropane	U	0.48	ug/Kgdrywt	1	5	4.8	0.48
Chloroform	U	0.34	ug/Kgdrywt	1	5	4.8	0.34
Bromochloromethane	U	0.87	ug/Kgdrywt	1	5	4.8	0.87
1,1,1-Trichloroethane	U	0.40	ug/Kgdrywt	1	5	4.8	0.40
1,2-Dichloroethane	U	0.96	ug/Kgdrywt	1	5	4.8	0.96
1,1-Dichloropropene	U	0.87	ug/Kgdrywt	1	5	4.8	0.87
Carbon Tetrachloride	U	1.2	ug/Kgdrywt	1	5	4.8	1.2
Benzene	U	0.88	ug/Kgdrywt	1	5	4.8	0.88
1,2-Dichloropropane	U	1.3	ug/Kgdrywt	1	5	4.8	1.3
Trichloroethene	U	0.57	ug/Kgdrywt	1	5	4.8	0.57
Dibromomethane	U	0.49	ug/Kgdrywt	1	5	4.8	0.49
Bromodichloromethane	U	0.58	ug/Kgdrywt	1	5	4.8	0.58
cis-1,3-Dichloropropene	U	0.69	ug/Kgdrywt	1	5	4.8	0.69
Toluene	U	1.3	ug/Kgdrywt	1	5	4.8	1.3
trans-1,3-Dichloropropene	U	0.82	ug/Kgdrywt	1	5	4.8	0.82
1,1,2-Trichloroethane	U	0.93	ug/Kgdrywt	1	5	4.8	0.93
1,3-Dichloropropane	U	0.90	ug/Kgdrywt	1	5	4.8	0.90
Dibromochloromethane	U	0.96	ug/Kgdrywt	1	5	4.8	0.96
Tetrachloroethene	U	1.2	ug/Kgdrywt	1	5	4.8	1.2
1,2-Dibromoethane	U	1.2	ug/Kgdrywt	1	5	4.8	1.2
Chlorobenzene	U	0.49	ug/Kgdrywt	1	5	4.8	0.49
1,1,1,2-Tetrachloroethane	U	0.67	ug/Kgdrywt	1	5	4.8	0.67
Ethylbenzene	U	0.62	ug/Kgdrywt	1	5	4.8	0.62

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-7
Client ID: B-5 (9.5FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: W4380.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 06-NOV-15
Extracted By: EME
Extraction Method: SW846 5035
Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 79.
Report Date: 16-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Bromoform	U	0.67	ug/Kgdrywt	1	5	4.8	0.67
Styrene	U	0.49	ug/Kgdrywt	1	5	4.8	0.49
1,1,2,2-Tetrachloroethane	U	0.81	ug/Kgdrywt	1	5	4.8	0.81
1,2,3-Trichloropropane	U	1.2	ug/Kgdrywt	1	5	4.8	1.2
Isopropylbenzene	U	0.88	ug/Kgdrywt	1	5	4.8	0.88
Bromobenzene	U	0.71	ug/Kgdrywt	1	5	4.8	0.71
2-Chlorotoluene	U	1.0	ug/Kgdrywt	1	5	4.8	1.0
N-Propylbenzene	U	0.80	ug/Kgdrywt	1	5	4.8	0.80
4-Chlorotoluene	U	0.47	ug/Kgdrywt	1	5	4.8	0.47
1,3,5-Trimethylbenzene	U	0.64	ug/Kgdrywt	1	5	4.8	0.64
tert-Butylbenzene	U	0.86	ug/Kgdrywt	1	5	4.8	0.86
1,2,4-Trichlorobenzene	U	0.76	ug/Kgdrywt	1	5	4.8	0.76
sec-Butylbenzene	U	0.87	ug/Kgdrywt	1	5	4.8	0.87
1,3-Dichlorobenzene	U	0.60	ug/Kgdrywt	1	5	4.8	0.60
P-Isopropyltoluene	U	0.73	ug/Kgdrywt	1	5	4.8	0.73
1,4-Dichlorobenzene	U	0.42	ug/Kgdrywt	1	5	4.8	0.42
1,2-Dichlorobenzene	U	0.75	ug/Kgdrywt	1	5	4.8	0.75
N-Butylbenzene	U	0.88	ug/Kgdrywt	1	5	4.8	0.88
1,2-Dibromo-3-Chloropropane	U	1.4	ug/Kgdrywt	1	5	4.8	1.4
1,2,4-Trimethylbenzene	U	0.84	ug/Kgdrywt	1	5	4.8	0.84
Naphthalene	U	0.84	ug/Kgdrywt	1	5	4.8	0.84
Hexachlorobutadiene	U	0.71	ug/Kgdrywt	1	5	4.8	0.71
1,2,3-Trichlorobenzene	U	0.73	ug/Kgdrywt	1	5	4.8	0.73
Methyl tert-butyl Ether	U	1.0	ug/Kgdrywt	1	5	4.8	1.0
Acetone	U	4.9	ug/Kgdrywt	1	25	24.	4.9
2-Butanone	U	5.7	ug/Kgdrywt	1	25	24.	5.7
4-Methyl-2-Pentanone	U	5.7	ug/Kgdrywt	1	25	24.	5.7
2-Hexanone	U	4.6	ug/Kgdrywt	1	25	24.	4.6
m+p-Xylenes	U	1.6	ug/Kgdrywt	1	10	9.6	1.6
o-Xylene	U	1.2	ug/Kgdrywt	1	5	4.8	1.2
Xylenes (Total)	U	1.2	ug/Kgdrywt	1	15	14.	1.2
1,3,5-Trichlorobenzene	U	0.84	ug/Kgdrywt	1	5	4.8	0.84
Vinyl Acetate	U	0.90	ug/Kgdrywt	1	5	4.8	0.90
Carbon Disulfide	J	1.2	ug/Kgdrywt	1	5	4.8	0.75
Diethyl Ether	U	0.77	ug/Kgdrywt	1	5	4.8	0.77

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-7
Client ID: B-5 (9.5FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: W4380.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 06-NOV-15
Extracted By: EME
Extraction Method: SW846 5035
Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 79.
Report Date: 16-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Tetrahydrofuran	U	4.3	ug/Kgdrywt	1	50	48.	4.3
Dibromofluoromethane		94.3	%				
1,2-Dichloroethane-d4		85.5	%				
Toluene-d8	*	142.	%				
P-Bromofluorobenzene	*	553.	%				

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-7RA
Client ID: B-5 (9.5FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: W4387.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 06-NOV-15
Extracted By: EME
Extraction Method: SW846 5035
Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 79.
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Dichlorodifluoromethane	U	0.83	ug/Kgdrywt	1	10	9.0	0.83
Chloromethane	U	1.3	ug/Kgdrywt	1	10	9.0	1.3
Vinyl Chloride	U	0.78	ug/Kgdrywt	1	10	9.0	0.78
Bromomethane	U	0.99	ug/Kgdrywt	1	10	9.0	0.99
Chloroethane	U	1.2	ug/Kgdrywt	1	10	9.0	1.2
Trichlorofluoromethane	U	0.82	ug/Kgdrywt	1	10	9.0	0.82
1,1-Dichloroethene	U	0.84	ug/Kgdrywt	1	5	4.5	0.84
Methylene Chloride	U	7.1	ug/Kgdrywt	1	25	22.	7.1
trans-1,2-Dichloroethene	U	0.64	ug/Kgdrywt	1	5	4.5	0.64
1,1-Dichloroethane	U	1.5	ug/Kgdrywt	1	5	4.5	1.5
cis-1,2-Dichloroethene	U	0.82	ug/Kgdrywt	1	5	4.5	0.82
1,2-Dichloroethylene (Total)	U	0.64	ug/Kgdrywt	1	10	9.0	0.64
2,2-Dichloropropane	U	0.45	ug/Kgdrywt	1	5	4.5	0.45
Chloroform	U	0.32	ug/Kgdrywt	1	5	4.5	0.32
Bromochloromethane	U	0.82	ug/Kgdrywt	1	5	4.5	0.82
1,1,1-Trichloroethane	U	0.38	ug/Kgdrywt	1	5	4.5	0.38
1,2-Dichloroethane	U	0.90	ug/Kgdrywt	1	5	4.5	0.90
1,1-Dichloropropene	U	0.82	ug/Kgdrywt	1	5	4.5	0.82
Carbon Tetrachloride	U	1.2	ug/Kgdrywt	1	5	4.5	1.2
Benzene	U	0.83	ug/Kgdrywt	1	5	4.5	0.83
1,2-Dichloropropane	U	1.3	ug/Kgdrywt	1	5	4.5	1.3
Trichloroethene	U	0.53	ug/Kgdrywt	1	5	4.5	0.53
Dibromomethane	U	0.46	ug/Kgdrywt	1	5	4.5	0.46
Bromodichloromethane	U	0.54	ug/Kgdrywt	1	5	4.5	0.54
cis-1,3-Dichloropropene	U	0.65	ug/Kgdrywt	1	5	4.5	0.65
Toluene	U	1.3	ug/Kgdrywt	1	5	4.5	1.3
trans-1,3-Dichloropropene	U	0.77	ug/Kgdrywt	1	5	4.5	0.77
1,1,2-Trichloroethane	U	0.87	ug/Kgdrywt	1	5	4.5	0.87
1,3-Dichloropropane	U	0.85	ug/Kgdrywt	1	5	4.5	0.85
Dibromochloromethane	U	0.90	ug/Kgdrywt	1	5	4.5	0.90
Tetrachloroethene	U	1.1	ug/Kgdrywt	1	5	4.5	1.1
1,2-Dibromoethane	U	1.1	ug/Kgdrywt	1	5	4.5	1.1
Chlorobenzene	U	0.46	ug/Kgdrywt	1	5	4.5	0.46
1,1,1,2-Tetrachloroethane	U	0.63	ug/Kgdrywt	1	5	4.5	0.63
Ethylbenzene	U	0.58	ug/Kgdrywt	1	5	4.5	0.58

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-7RA
Client ID: B-5 (9.5FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: W4387.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 06-NOV-15
Extracted By: EME
Extraction Method: SW846 5035
Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 79.
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Bromoform	U	0.63	ug/Kgdrywt	1	5	4.5	0.63
Styrene	U	0.46	ug/Kgdrywt	1	5	4.5	0.46
1,1,2,2-Tetrachloroethane	U	0.76	ug/Kgdrywt	1	5	4.5	0.76
1,2,3-Trichloropropane	U	1.1	ug/Kgdrywt	1	5	4.5	1.1
Isopropylbenzene	U	0.83	ug/Kgdrywt	1	5	4.5	0.83
Bromobenzene	U	0.67	ug/Kgdrywt	1	5	4.5	0.67
2-Chlorotoluene	U	0.99	ug/Kgdrywt	1	5	4.5	0.99
N-Propylbenzene	U	0.75	ug/Kgdrywt	1	5	4.5	0.75
4-Chlorotoluene	U	0.44	ug/Kgdrywt	1	5	4.5	0.44
1,3,5-Trimethylbenzene	U	0.60	ug/Kgdrywt	1	5	4.5	0.60
tert-Butylbenzene	U	0.81	ug/Kgdrywt	1	5	4.5	0.81
1,2,4-Trichlorobenzene	U	0.71	ug/Kgdrywt	1	5	4.5	0.71
sec-Butylbenzene	U	0.82	ug/Kgdrywt	1	5	4.5	0.82
1,3-Dichlorobenzene	U	0.56	ug/Kgdrywt	1	5	4.5	0.56
P-Isopropyltoluene	U	0.68	ug/Kgdrywt	1	5	4.5	0.68
1,4-Dichlorobenzene	U	0.40	ug/Kgdrywt	1	5	4.5	0.40
1,2-Dichlorobenzene	U	0.70	ug/Kgdrywt	1	5	4.5	0.70
N-Butylbenzene	U	0.83	ug/Kgdrywt	1	5	4.5	0.83
1,2-Dibromo-3-Chloropropane	U	1.4	ug/Kgdrywt	1	5	4.5	1.4
1,2,4-Trimethylbenzene	U	0.78	ug/Kgdrywt	1	5	4.5	0.78
Naphthalene	U	0.79	ug/Kgdrywt	1	5	4.5	0.79
Hexachlorobutadiene	U	0.67	ug/Kgdrywt	1	5	4.5	0.67
1,2,3-Trichlorobenzene	U	0.68	ug/Kgdrywt	1	5	4.5	0.68
Methyl tert-butyl Ether	U	0.99	ug/Kgdrywt	1	5	4.5	0.99
Acetone		30	ug/Kgdrywt	1	25	22.	4.6
2-Butanone	U	5.3	ug/Kgdrywt	1	25	22.	5.3
4-Methyl-2-Pentanone	U	5.3	ug/Kgdrywt	1	25	22.	5.3
2-Hexanone	U	4.3	ug/Kgdrywt	1	25	22.	4.3
m+p-Xylenes	U	1.5	ug/Kgdrywt	1	10	9.0	1.5
o-Xylene	U	1.2	ug/Kgdrywt	1	5	4.5	1.2
Xylenes (Total)	U	1.2	ug/Kgdrywt	1	15	14.	1.2
1,3,5-Trichlorobenzene	U	0.78	ug/Kgdrywt	1	5	4.5	0.78
Vinyl Acetate	U	0.85	ug/Kgdrywt	1	5	4.5	0.85
Carbon Disulfide	J	1.5	ug/Kgdrywt	1	5	4.5	0.70
Diethyl Ether	U	0.72	ug/Kgdrywt	1	5	4.5	0.72

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-7RA
Client ID: B-5 (9.5FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: W4387.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 06-NOV-15
Extracted By: EME
Extraction Method: SW846 5035
Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 79.
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Tetrahydrofuran	U	4.0	ug/Kgdrywt	1	50	45.	4.0
Dibromofluoromethane		88.5	%				
1,2-Dichloroethane-d4		77.8	%				
Toluene-d8	*	118.	%				
P-Bromofluorobenzene	*	398.	%				

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Date: 04/11/17

Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-10
Client ID: B-6 (4FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: W4381.D

Sample Date: 31-OCT-15
Received Date: 02-NOV-15
Extract Date: 06-NOV-15
Extracted By: EME
Extraction Method: SW846 5035
Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Dichlorodifluoromethane	U	1.3	ug/Kgdrywt	1	10	14.	1.3
Chloromethane	U	2.0	ug/Kgdrywt	1	10	14.	2.0
Vinyl Chloride	U	1.2	ug/Kgdrywt	1	10	14.	1.2
Bromomethane	U	1.5	ug/Kgdrywt	1	10	14.	1.5
Chloroethane	U	1.8	ug/Kgdrywt	1	10	14.	1.8
Trichlorofluoromethane	U	1.3	ug/Kgdrywt	1	10	14.	1.3
1,1-Dichloroethene	U	1.3	ug/Kgdrywt	1	5	7.0	1.3
Methylene Chloride	U	11	ug/Kgdrywt	1	25	35.	11.
trans-1,2-Dichloroethene	U	0.99	ug/Kgdrywt	1	5	7.0	0.99
1,1-Dichloroethane	U	2.4	ug/Kgdrywt	1	5	7.0	2.4
cis-1,2-Dichloroethene	U	1.3	ug/Kgdrywt	1	5	7.0	1.3
1,2-Dichloroethylene (Total)	U	0.99	ug/Kgdrywt	1	10	14.	0.99
2,2-Dichloropropane	U	0.70	ug/Kgdrywt	1	5	7.0	0.70
Chloroform	U	0.49	ug/Kgdrywt	1	5	7.0	0.49
Bromochloromethane	U	1.3	ug/Kgdrywt	1	5	7.0	1.3
1,1,1-Trichloroethane	U	0.59	ug/Kgdrywt	1	5	7.0	0.59
1,2-Dichloroethane	U	1.4	ug/Kgdrywt	1	5	7.0	1.4
1,1-Dichloropropene	U	1.3	ug/Kgdrywt	1	5	7.0	1.3
Carbon Tetrachloride	U	1.8	ug/Kgdrywt	1	5	7.0	1.8
Benzene	U	1.3	ug/Kgdrywt	1	5	7.0	1.3
1,2-Dichloropropane	U	2.0	ug/Kgdrywt	1	5	7.0	2.0
Trichloroethene	U	0.83	ug/Kgdrywt	1	5	7.0	0.83
Dibromomethane	U	0.71	ug/Kgdrywt	1	5	7.0	0.71
Bromodichloromethane	U	0.84	ug/Kgdrywt	1	5	7.0	0.84
cis-1,3-Dichloropropene	U	1.0	ug/Kgdrywt	1	5	7.0	1.0
Toluene	U	2.0	ug/Kgdrywt	1	5	7.0	2.0
trans-1,3-Dichloropropene	U	1.2	ug/Kgdrywt	1	5	7.0	1.2
1,1,2-Trichloroethane	U	1.4	ug/Kgdrywt	1	5	7.0	1.4
1,3-Dichloropropane	U	1.3	ug/Kgdrywt	1	5	7.0	1.3
Dibromochloromethane	U	1.4	ug/Kgdrywt	1	5	7.0	1.4
Tetrachloroethene	U	1.7	ug/Kgdrywt	1	5	7.0	1.7
1,2-Dibromoethane	U	1.7	ug/Kgdrywt	1	5	7.0	1.7
Chlorobenzene	U	0.71	ug/Kgdrywt	1	5	7.0	0.71
1,1,1,2-Tetrachloroethane	U	0.98	ug/Kgdrywt	1	5	7.0	0.98
Ethylbenzene	U	0.91	ug/Kgdrywt	1	5	7.0	0.91

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-10
Client ID: B-6 (4FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: W4381.D

Sample Date: 31-OCT-15
Received Date: 02-NOV-15
Extract Date: 06-NOV-15
Extracted By: EME
Extraction Method: SW846 5035
Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Bromoform	U	0.98	ug/Kgdrywt	1	5	7.0	0.98
Styrene	U	0.71	ug/Kgdrywt	1	5	7.0	0.71
1,1,2,2-Tetrachloroethane	U	1.2	ug/Kgdrywt	1	5	7.0	1.2
1,2,3-Trichloropropane	J	5.8	ug/Kgdrywt	1	5	7.0	1.7
Isopropylbenzene		60	ug/Kgdrywt	1	5	7.0	1.3
Bromobenzene	U	1.0	ug/Kgdrywt	1	5	7.0	1.0
2-Chlorotoluene	U	1.5	ug/Kgdrywt	1	5	7.0	1.5
N-Propylbenzene	U	1.2	ug/Kgdrywt	1	5	7.0	1.2
4-Chlorotoluene	U	0.69	ug/Kgdrywt	1	5	7.0	0.69
1,3,5-Trimethylbenzene		140	ug/Kgdrywt	1	5	7.0	0.94
tert-Butylbenzene	U	1.3	ug/Kgdrywt	1	5	7.0	1.3
1,2,4-Trichlorobenzene	U	1.1	ug/Kgdrywt	1	5	7.0	1.1
sec-Butylbenzene		150	ug/Kgdrywt	1	5	7.0	1.3
1,3-Dichlorobenzene	U	0.87	ug/Kgdrywt	1	5	7.0	0.87
P-Isopropyltoluene	U	1.1	ug/Kgdrywt	1	5	7.0	1.1
1,4-Dichlorobenzene	U	0.62	ug/Kgdrywt	1	5	7.0	0.62
1,2-Dichlorobenzene	U	1.1	ug/Kgdrywt	1	5	7.0	1.1
N-Butylbenzene	U	1.3	ug/Kgdrywt	1	5	7.0	1.3
1,2-Dibromo-3-Chloropropane	U	2.1	ug/Kgdrywt	1	5	7.0	2.1
1,2,4-Trimethylbenzene	E	790	ug/Kgdrywt	1	5	7.0	1.2
Naphthalene	U	1.2	ug/Kgdrywt	1	5	7.0	1.2
Hexachlorobutadiene	U	1.0	ug/Kgdrywt	1	5	7.0	1.0
1,2,3-Trichlorobenzene	U	1.1	ug/Kgdrywt	1	5	7.0	1.1
Methyl tert-butyl Ether	U	1.5	ug/Kgdrywt	1	5	7.0	1.5
Acetone		200	ug/Kgdrywt	1	25	35.	7.1
2-Butanone		68	ug/Kgdrywt	1	25	35.	8.3
4-Methyl-2-Pentanone	U	8.3	ug/Kgdrywt	1	25	35.	8.3
2-Hexanone	U	6.7	ug/Kgdrywt	1	25	35.	6.7
m+p-Xylenes		31	ug/Kgdrywt	1	10	14.	2.4
o-Xylene	U	1.8	ug/Kgdrywt	1	5	7.0	1.8
Xylenes (Total)		31	ug/Kgdrywt	1	15	21.	1.8
1,3,5-Trichlorobenzene	U	1.2	ug/Kgdrywt	1	5	7.0	1.2
Vinyl Acetate	U	1.3	ug/Kgdrywt	1	5	7.0	1.3
Carbon Disulfide	J	3.7	ug/Kgdrywt	1	5	7.0	1.1
Diethyl Ether	U	1.1	ug/Kgdrywt	1	5	7.0	1.1

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-10
Client ID: B-6 (4FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: W4381.D

Sample Date: 31-OCT-15
Received Date: 02-NOV-15
Extract Date: 06-NOV-15
Extracted By: EME
Extraction Method: SW846 5035
Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Tetrahydrofuran	U	6.3	ug/Kgdrywt	1	50	70.	6.3
Dibromofluoromethane		108.	%				
1,2-Dichloroethane-d4		109.	%				
Toluene-d8		92.9	%				
P-Bromofluorobenzene		114.	%				

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-10DL
Client ID: B-6 (4FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: T5280.D

Sample Date: 31-OCT-15
Received Date: 02-NOV-15
Extract Date: 09-NOV-15
Extracted By: AAB
Extraction Method: SW846 5035
Lab Prep Batch: WG173895

Analysis Date: 09-NOV-15
Analyst: AAB
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 16-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Dichlorodifluoromethane	U	66	ug/Kgdrywt	1	10	720	66.
Chloromethane	U	100	ug/Kgdrywt	1	10	720	100
Vinyl Chloride	U	63	ug/Kgdrywt	1	10	720	63.
Bromomethane	J	160	ug/Kgdrywt	1	10	720	79.
Chloroethane	U	94	ug/Kgdrywt	1	10	720	94.
Trichlorofluoromethane	U	66	ug/Kgdrywt	1	10	720	66.
1,1-Dichloroethene	U	67	ug/Kgdrywt	1	5	360	67.
Methylene Chloride	U	570	ug/Kgdrywt	1	25	1800	570
trans-1,2-Dichloroethene	U	51	ug/Kgdrywt	1	5	360	51.
1,1-Dichloroethane	U	120	ug/Kgdrywt	1	5	360	120
cis-1,2-Dichloroethene	U	66	ug/Kgdrywt	1	5	360	66.
1,2-Dichloroethylene (Total)	U	51	ug/Kgdrywt	1	10	720	51.
2,2-Dichloropropane	U	36	ug/Kgdrywt	1	5	360	36.
Chloroform	U	25	ug/Kgdrywt	1	5	360	25.
Bromochloromethane	U	66	ug/Kgdrywt	1	5	360	66.
1,1,1-Trichloroethane	U	30	ug/Kgdrywt	1	5	360	30.
1,2-Dichloroethane	U	72	ug/Kgdrywt	1	5	360	72.
1,1-Dichloropropene	U	66	ug/Kgdrywt	1	5	360	66.
Carbon Tetrachloride	U	94	ug/Kgdrywt	1	5	360	94.
Benzene	U	66	ug/Kgdrywt	1	5	360	66.
1,2-Dichloropropane	U	100	ug/Kgdrywt	1	5	360	100
Trichloroethene	U	42	ug/Kgdrywt	1	5	360	42.
Dibromomethane	U	37	ug/Kgdrywt	1	5	360	37.
Bromodichloromethane	U	43	ug/Kgdrywt	1	5	360	43.
cis-1,3-Dichloropropene	U	52	ug/Kgdrywt	1	5	360	52.
Toluene	U	100	ug/Kgdrywt	1	5	360	100
trans-1,3-Dichloropropene	U	62	ug/Kgdrywt	1	5	360	62.
1,1,2-Trichloroethane	U	70	ug/Kgdrywt	1	5	360	70.
1,3-Dichloropropane	U	68	ug/Kgdrywt	1	5	360	68.
Dibromochloromethane	U	72	ug/Kgdrywt	1	5	360	72.
Tetrachloroethene	U	86	ug/Kgdrywt	1	5	360	86.
1,2-Dibromoethane	U	86	ug/Kgdrywt	1	5	360	86.
Chlorobenzene	U	37	ug/Kgdrywt	1	5	360	37.
1,1,1,2-Tetrachloroethane	U	50	ug/Kgdrywt	1	5	360	50.
Ethylbenzene	J	91	ug/Kgdrywt	1	5	360	47.

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-10DL
Client ID: B-6 (4FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: T5280.D

Sample Date: 31-OCT-15
Received Date: 02-NOV-15
Extract Date: 09-NOV-15
Extracted By: AAB
Extraction Method: SW846 5035
Lab Prep Batch: WG173895

Analysis Date: 09-NOV-15
Analyst: AAB
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 16-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Bromoform	U	50	ug/Kgdrywt	1	5	360	50.
Styrene	U	37	ug/Kgdrywt	1	5	360	37.
1,1,2,2-Tetrachloroethane	U	60	ug/Kgdrywt	1	5	360	60.
1,2,3-Trichloropropane	U	86	ug/Kgdrywt	1	5	360	86.
Isopropylbenzene	J	230	ug/Kgdrywt	1	5	360	66.
Bromobenzene	U	53	ug/Kgdrywt	1	5	360	53.
2-Chlorotoluene	U	79	ug/Kgdrywt	1	5	360	79.
N-Propylbenzene		440	ug/Kgdrywt	1	5	360	60.
4-Chlorotoluene	U	35	ug/Kgdrywt	1	5	360	35.
1,3,5-Trimethylbenzene		530	ug/Kgdrywt	1	5	360	48.
tert-Butylbenzene	J	96	ug/Kgdrywt	1	5	360	65.
1,2,4-Trichlorobenzene	U	57	ug/Kgdrywt	1	5	360	57.
sec-Butylbenzene		470	ug/Kgdrywt	1	5	360	66.
1,3-Dichlorobenzene	U	45	ug/Kgdrywt	1	5	360	45.
P-Isopropyltoluene	J	280	ug/Kgdrywt	1	5	360	55.
1,4-Dichlorobenzene	U	32	ug/Kgdrywt	1	5	360	32.
1,2-Dichlorobenzene	U	56	ug/Kgdrywt	1	5	360	56.
N-Butylbenzene		370	ug/Kgdrywt	1	5	360	66.
1,2-Dibromo-3-Chloropropane	U	110	ug/Kgdrywt	1	5	360	110
1,2,4-Trimethylbenzene		3200	ug/Kgdrywt	1	5	360	63.
Naphthalene		1900	ug/Kgdrywt	1	5	360	63.
Hexachlorobutadiene	U	53	ug/Kgdrywt	1	5	360	53.
1,2,3-Trichlorobenzene	U	55	ug/Kgdrywt	1	5	360	55.
Methyl tert-butyl Ether	U	79	ug/Kgdrywt	1	5	360	79.
Acetone	U	370	ug/Kgdrywt	1	25	1800	370
2-Butanone	U	420	ug/Kgdrywt	1	25	1800	420
4-Methyl-2-Pentanone	U	420	ug/Kgdrywt	1	25	1800	420
2-Hexanone	U	340	ug/Kgdrywt	1	25	1800	340
m+p-Xylenes	J	440	ug/Kgdrywt	1	10	720	120
o-Xylene	U	94	ug/Kgdrywt	1	5	360	94.
Xylenes (Total)	J	440	ug/Kgdrywt	1	15	1100	94.
1,3,5-Trichlorobenzene	U	63	ug/Kgdrywt	1	5	360	63.
Vinyl Acetate	U	68	ug/Kgdrywt	1	5	360	68.
Carbon Disulfide	U	56	ug/Kgdrywt	1	5	360	56.
Diethyl Ether	U	58	ug/Kgdrywt	1	5	360	58.

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-10DL
Client ID: B-6 (4FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: T5280.D

Sample Date: 31-OCT-15
Received Date: 02-NOV-15
Extract Date: 09-NOV-15
Extracted By: AAB
Extraction Method: SW846 5035
Lab Prep Batch: WG173895

Analysis Date: 09-NOV-15
Analyst: AAB
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 16-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Tetrahydrofuran	U	320	ug/Kgdrywt	1	50	3600	320
Dibromofluoromethane		96.3	%				
1,2-Dichloroethane-d4		97.4	%				
Toluene-d8		103.	%				
P-Bromofluorobenzene		116.	%				

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Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : 50 India St.
Lab File ID : T5276.D
Instrument ID : GCMS-T
Heated Purge : No

SDG : SI8722
Lab Sample ID : WG173895-2
Date Analyzed : 09-NOV-15
Time Analyzed : 14:51

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG173895-1	T5272.D	11/09/15	12:22
Methanol Blank	WG173895-6	T5277.D	11/09/15	15:25
B-6 (4FT)	SI8722-10DL	T5280.D	11/09/15	17:07

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Date: 04/11/17

Report of Analytical Results

Client:
Lab ID: WG173895-2
Client ID: Method Blank Sample
Project:
SDG: SI8722
Lab File ID: T5276.D

Sample Date:
Received Date:
Extract Date: 09-NOV-15
Extracted By: AAB
Extraction Method: SW846 5030
Lab Prep Batch: WG173895

Analysis Date: 09-NOV-15
Analyst: AAB
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Dichlorodifluoromethane	U	10.	ug/L	1	10	10.	0.24
Chloromethane	U	10.	ug/L	1	10	10.	0.36
Vinyl Chloride	U	10.	ug/L	1	10	10.	0.25
Bromomethane	U	10.	ug/L	1	10	10.	0.49
Chloroethane	U	10.	ug/L	1	10	10.	0.55
Trichlorofluoromethane	U	10.	ug/L	1	10	10.	0.24
1,1-Dichloroethene	U	5.0	ug/L	1	5	5.0	0.35
Methylene Chloride	U	5.0	ug/L	1	5	5.0	1.1
trans-1,2-Dichloroethene	U	5.0	ug/L	1	5	5.0	0.25
1,1-Dichloroethane	U	5.0	ug/L	1	5	5.0	0.21
cis-1,2-Dichloroethene	U	5.0	ug/L	1	5	5.0	0.21
1,2-Dichloroethylene (Total)	U	10.	ug/L	1	10	10.	0.21
2,2-Dichloropropane	U	5.0	ug/L	1	5	5.0	0.25
Chloroform	U	5.0	ug/L	1	5	5.0	0.32
Bromochloromethane	U	5.0	ug/L	1	5	5.0	0.21
1,1,1-Trichloroethane	U	5.0	ug/L	1	5	5.0	0.20
1,2-Dichloroethane	U	5.0	ug/L	1	5	5.0	0.20
1,1-Dichloropropene	U	5.0	ug/L	1	5	5.0	0.21
Carbon Tetrachloride	U	5.0	ug/L	1	5	5.0	0.22
Benzene	U	5.0	ug/L	1	5	5.0	0.26
1,2-Dichloropropane	U	5.0	ug/L	1	5	5.0	0.25
Trichloroethene	U	5.0	ug/L	1	5	5.0	0.28
Dibromomethane	U	5.0	ug/L	1	5	5.0	0.46
Bromodichloromethane	U	5.0	ug/L	1	5	5.0	0.33
cis-1,3-Dichloropropene	U	5.0	ug/L	1	5	5.0	0.19
Toluene	U	5.0	ug/L	1	5	5.0	0.27
trans-1,3-Dichloropropene	U	5.0	ug/L	1	5	5.0	0.20
1,1,2-Trichloroethane	U	5.0	ug/L	1	5	5.0	0.33
1,3-Dichloropropane	U	5.0	ug/L	1	5	5.0	0.22
Dibromochloromethane	U	5.0	ug/L	1	5	5.0	0.30
Tetrachloroethene	U	5.0	ug/L	1	5	5.0	0.40
1,2-Dibromoethane	U	5.0	ug/L	1	5	5.0	0.22
Chlorobenzene	U	5.0	ug/L	1	5	5.0	0.22
1,1,1,2-Tetrachloroethane	U	5.0	ug/L	1	5	5.0	0.19

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Report of Analytical Results

Client:
Lab ID: WG173895-2
Client ID: Method Blank Sample
Project:
SDG: SI8722
Lab File ID: T5276.D

Sample Date:
Received Date:
Extract Date: 09-NOV-15
Extracted By: AAB
Extraction Method: SW846 5030
Lab Prep Batch: WG173895

Analysis Date: 09-NOV-15
Analyst: AAB
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Ethylbenzene	U	5.0	ug/L	1	5	5.0	0.21
Bromoform	U	5.0	ug/L	1	5	5.0	0.23
Styrene	U	5.0	ug/L	1	5	5.0	0.23
1,1,2,2-Tetrachloroethane	U	5.0	ug/L	1	5	5.0	0.38
1,2,3-Trichloropropane	U	5.0	ug/L	1	5	5.0	0.19
Isopropylbenzene	U	5.0	ug/L	1	5	5.0	0.23
Bromobenzene	U	5.0	ug/L	1	5	5.0	0.24
2-Chlorotoluene	U	5.0	ug/L	1	5	5.0	0.20
N-Propylbenzene	U	5.0	ug/L	1	5	5.0	0.26
4-Chlorotoluene	U	5.0	ug/L	1	5	5.0	0.26
1,3,5-Trimethylbenzene	U	5.0	ug/L	1	5	5.0	0.20
tert-Butylbenzene	U	5.0	ug/L	1	5	5.0	0.31
1,2,4-Trichlorobenzene	U	5.0	ug/L	1	5	5.0	0.37
sec-Butylbenzene	U	5.0	ug/L	1	5	5.0	0.21
1,3-Dichlorobenzene	U	5.0	ug/L	1	5	5.0	0.26
P-Isopropyltoluene	U	5.0	ug/L	1	5	5.0	0.25
1,4-Dichlorobenzene	U	5.0	ug/L	1	5	5.0	0.24
1,2-Dichlorobenzene	U	5.0	ug/L	1	5	5.0	0.15
N-Butylbenzene	U	5.0	ug/L	1	5	5.0	0.23
1,2-Dibromo-3-Chloropropane	U	5.0	ug/L	1	5	5.0	0.50
1,2,4-Trimethylbenzene	U	5.0	ug/L	1	5	5.0	0.19
Naphthalene	U	5.0	ug/L	1	5	5.0	0.30
Hexachlorobutadiene	U	5.0	ug/L	1	5	5.0	0.52
1,2,3-Trichlorobenzene	U	5.0	ug/L	1	5	5.0	0.27
Methyl tert-butyl Ether	U	5.0	ug/L	1	5	5.0	0.36
Acetone	U	25.	ug/L	1	25	25.	2.2
2-Butanone	U	25.	ug/L	1	25	25.	1.3
4-Methyl-2-Pentanone	U	25.	ug/L	1	25	25.	1.3
2-Hexanone	U	25.	ug/L	1	25	25.	1.7
m+p-Xylenes	U	10.	ug/L	1	10	10.	0.59
o-Xylene	U	5.0	ug/L	1	5	5.0	0.25
Xylenes (Total)	U	15.	ug/L	1	15	15.	0.25
1,3,5-Trichlorobenzene	U	5.0	ug/L	1	5	5.0	0.24
Vinyl Acetate	U	5.0	ug/L	1	5	5.0	0.40

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Date: 04/11/17

Report of Analytical Results

Client:
Lab ID: WG173895-2
Client ID: Method Blank Sample
Project:
SDG: SI8722
Lab File ID: T5276.D

Sample Date:
Received Date:
Extract Date: 09-NOV-15
Extracted By: AAB
Extraction Method: SW846 5030
Lab Prep Batch: WG173895

Analysis Date: 09-NOV-15
Analyst: AAB
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Carbon Disulfide	U	5.0	ug/L	1	5	5.0	0.25
Diethyl Ether	U	5.0	ug/L	1	5	5.0	0.40
Tetrahydrofuran	U	25.	ug/L	1	25	25.	1.7
Dibromofluoromethane		110.	%				
1,2-Dichloroethane-d4		108.	%				
Toluene-d8		104.	%				
P-Bromofluorobenzene		104.	%				

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Date: 04/11/17

Report of Analytical Results

Client:
Lab ID: WG173895-6
Client ID: Methanol Blank
Project:
SDG: SI8722
Lab File ID: T5277.D

Sample Date:
Received Date:
Extract Date: 09-NOV-15
Extracted By: AAB
Extraction Method: SW846 5030
Lab Prep Batch: WG173895

Analysis Date: 09-NOV-15
Analyst: AAB
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Dichlorodifluoromethane	U	46	ug/Kgdrywt	1	10	500	46.
Chloromethane	U	70	ug/Kgdrywt	1	10	500	70.
Vinyl Chloride	U	44	ug/Kgdrywt	1	10	500	44.
Bromomethane	J	71	ug/Kgdrywt	1	10	500	55.
Chloroethane	U	65	ug/Kgdrywt	1	10	500	65.
Trichlorofluoromethane	U	46	ug/Kgdrywt	1	10	500	46.
1,1-Dichloroethene	U	46	ug/Kgdrywt	1	5	250	46.
Methylene Chloride	U	400	ug/Kgdrywt	1	25	1200	400
trans-1,2-Dichloroethene	U	36	ug/Kgdrywt	1	5	250	36.
1,1-Dichloroethane	U	85	ug/Kgdrywt	1	5	250	85.
cis-1,2-Dichloroethene	U	46	ug/Kgdrywt	1	5	250	46.
1,2-Dichloroethylene (Total)	U	36	ug/Kgdrywt	1	10	500	36.
2,2-Dichloropropane	U	25	ug/Kgdrywt	1	5	250	25.
Chloroform	U	18	ug/Kgdrywt	1	5	250	18.
Bromochloromethane	U	46	ug/Kgdrywt	1	5	250	46.
1,1,1-Trichloroethane	U	21	ug/Kgdrywt	1	5	250	21.
1,2-Dichloroethane	U	50	ug/Kgdrywt	1	5	250	50.
1,1-Dichloropropene	U	46	ug/Kgdrywt	1	5	250	46.
Carbon Tetrachloride	U	65	ug/Kgdrywt	1	5	250	65.
Benzene	U	46	ug/Kgdrywt	1	5	250	46.
1,2-Dichloropropane	U	70	ug/Kgdrywt	1	5	250	70.
Trichloroethene	U	30	ug/Kgdrywt	1	5	250	30.
Dibromomethane	U	26	ug/Kgdrywt	1	5	250	26.
Bromodichloromethane	U	30	ug/Kgdrywt	1	5	250	30.
cis-1,3-Dichloropropene	U	36	ug/Kgdrywt	1	5	250	36.
Toluene	U	70	ug/Kgdrywt	1	5	250	70.
trans-1,3-Dichloropropene	U	43	ug/Kgdrywt	1	5	250	43.
1,1,2-Trichloroethane	U	48	ug/Kgdrywt	1	5	250	48.
1,3-Dichloropropane	U	47	ug/Kgdrywt	1	5	250	47.
Dibromochloromethane	U	50	ug/Kgdrywt	1	5	250	50.
Tetrachloroethene	U	60	ug/Kgdrywt	1	5	250	60.
1,2-Dibromoethane	U	60	ug/Kgdrywt	1	5	250	60.
Chlorobenzene	U	26	ug/Kgdrywt	1	5	250	26.
1,1,1,2-Tetrachloroethane	U	35	ug/Kgdrywt	1	5	250	35.

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Report of Analytical Results

Client:
Lab ID: WG173895-6
Client ID: Methanol Blank
Project:
SDG: SI8722
Lab File ID: T5277.D

Sample Date:
Received Date:
Extract Date: 09-NOV-15
Extracted By: AAB
Extraction Method: SW846 5030
Lab Prep Batch: WG173895

Analysis Date: 09-NOV-15
Analyst: AAB
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Ethylbenzene	U	32	ug/Kgdrywt	1	5	250	32.
Bromoform	U	35	ug/Kgdrywt	1	5	250	35.
Styrene	U	26	ug/Kgdrywt	1	5	250	26.
1,1,2,2-Tetrachloroethane	U	42	ug/Kgdrywt	1	5	250	42.
1,2,3-Trichloropropane	U	60	ug/Kgdrywt	1	5	250	60.
Isopropylbenzene	U	46	ug/Kgdrywt	1	5	250	46.
Bromobenzene	U	37	ug/Kgdrywt	1	5	250	37.
2-Chlorotoluene	U	55	ug/Kgdrywt	1	5	250	55.
N-Propylbenzene	U	42	ug/Kgdrywt	1	5	250	42.
4-Chlorotoluene	U	24	ug/Kgdrywt	1	5	250	24.
1,3,5-Trimethylbenzene	U	34	ug/Kgdrywt	1	5	250	34.
tert-Butylbenzene	U	45	ug/Kgdrywt	1	5	250	45.
1,2,4-Trichlorobenzene	U	40	ug/Kgdrywt	1	5	250	40.
sec-Butylbenzene	U	46	ug/Kgdrywt	1	5	250	46.
1,3-Dichlorobenzene	U	31	ug/Kgdrywt	1	5	250	31.
P-Isopropyltoluene	U	38	ug/Kgdrywt	1	5	250	38.
1,4-Dichlorobenzene	U	22	ug/Kgdrywt	1	5	250	22.
1,2-Dichlorobenzene	U	39	ug/Kgdrywt	1	5	250	39.
N-Butylbenzene	U	46	ug/Kgdrywt	1	5	250	46.
1,2-Dibromo-3-Chloropropane	U	75	ug/Kgdrywt	1	5	250	75.
1,2,4-Trimethylbenzene	U	44	ug/Kgdrywt	1	5	250	44.
Naphthalene	U	44	ug/Kgdrywt	1	5	250	44.
Hexachlorobutadiene	U	37	ug/Kgdrywt	1	5	250	37.
1,2,3-Trichlorobenzene	U	38	ug/Kgdrywt	1	5	250	38.
Methyl tert-butyl Ether	U	55	ug/Kgdrywt	1	5	250	55.
Acetone	U	260	ug/Kgdrywt	1	25	1200	260
2-Butanone	U	300	ug/Kgdrywt	1	25	1200	300
4-Methyl-2-Pentanone	U	300	ug/Kgdrywt	1	25	1200	300
2-Hexanone	U	240	ug/Kgdrywt	1	25	1200	240
m+p-Xylenes	U	85	ug/Kgdrywt	1	10	500	85.
o-Xylene	U	65	ug/Kgdrywt	1	5	250	65.
Xylenes (Total)	U	65	ug/Kgdrywt	1	15	750	65.
1,3,5-Trichlorobenzene	U	44	ug/Kgdrywt	1	5	250	44.
Vinyl Acetate	U	47	ug/Kgdrywt	1	5	250	47.

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Report of Analytical Results

Client:
Lab ID: WG173895-6
Client ID: Methanol Blank
Project:
SDG: SI8722
Lab File ID: T5277.D

Sample Date:
Received Date:
Extract Date: 09-NOV-15
Extracted By: AAB
Extraction Method: SW846 5030
Lab Prep Batch: WG173895

Analysis Date: 09-NOV-15
Analyst: AAB
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Carbon Disulfide	U	39	ug/Kgdrywt	1	5	250	39.
Diethyl Ether	U	40	ug/Kgdrywt	1	5	250	40.
Tetrahydrofuran	U	220	ug/Kgdrywt	1	50	2500	220
Dibromofluoromethane		105.	%				
1,2-Dichloroethane-d4		114.	%				
Toluene-d8		103.	%				
P-Bromofluorobenzene		102.	%				

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LCS Recovery Report

Client:
Lab ID: WG173895-1
Client ID: LCS
Project:
SDG: SI8722
LCS File ID: T5272.D

Sample Date:
Received Date:
Extract Date: 09-NOV-15
Extracted By: AAB
Extraction Method: SW846 5030
Lab Prep Batch: WG173895

Analysis Date: 09-NOV-15
Analyst: AAB
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 12-NOV-15

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Dichlorodifluoromethane	118.	50.0	59.1	ug/L	29-164
Chloromethane	107.	50.0	53.5	ug/L	59-123
Vinyl Chloride	102.	50.0	50.9	ug/L	64-131
Bromomethane	93.2	50.0	46.6	ug/L	57-135
Chloroethane	85.4	50.0	42.7	ug/L	53-157
Trichlorofluoromethane	95.2	50.0	47.6	ug/L	70-149
1,1-Dichloroethene	92.0	50.0	46.0	ug/L	88-127
Methylene Chloride	91.8	50.0	45.9	ug/L	72-129
trans-1,2-Dichloroethene	96.4	50.0	48.2	ug/L	78-125
1,1-Dichloroethane	99.4	50.0	49.7	ug/L	76-130
cis-1,2-Dichloroethene	87.0	50.0	43.5	ug/L	85-123
1,2-Dichloroethylene (Total)	91.7	100.	91.7	ug/L	84-121
2,2-Dichloropropane	92.0	50.0	46.0	ug/L	70-132
Chloroform	85.8	50.0	42.9	ug/L	78-128
Bromochloromethane	96.2	50.0	48.1	ug/L	85-117
1,1,1-Trichloroethane	88.0	50.0	44.0	ug/L	77-129
1,2-Dichloroethane	93.0	50.0	46.5	ug/L	81-125
1,1-Dichloropropene	90.6	50.0	45.3	ug/L	87-118
Carbon Tetrachloride	* 82.6	50.0	41.3	ug/L	87-126
Benzene	88.4	50.0	44.2	ug/L	86-116
1,2-Dichloropropane	88.6	50.0	44.3	ug/L	84-118
Trichloroethene	94.4	50.0	47.2	ug/L	79-121
Dibromomethane	102.	50.0	51.2	ug/L	85-117
Bromodichloromethane	103.	50.0	51.4	ug/L	85-122
cis-1,3-Dichloropropene	99.6	50.0	49.8	ug/L	83-119
Toluene	91.2	50.0	45.6	ug/L	84-118
1,1,2-Trichloroethane	93.0	50.0	46.5	ug/L	84-115
trans-1,3-Dichloropropene	111.	50.0	55.6	ug/L	85-135
1,3-Dichloropropane	99.4	50.0	49.7	ug/L	80-119
Dibromochloromethane	97.2	50.0	48.6	ug/L	85-119
Tetrachloroethene	82.8	50.0	41.4	ug/L	47-155
1,2-Dibromoethane	100.	50.0	50.0	ug/L	84-116
Chlorobenzene	* 87.4	50.0	43.7	ug/L	89-113
1,1,1,2-Tetrachloroethane	97.6	50.0	48.8	ug/L	88-118
Ethylbenzene	91.0	50.0	45.5	ug/L	88-113

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LCS Recovery Report

Client:
Lab ID: WG173895-1
Client ID: LCS
Project:
SDG: SI8722
LCS File ID: T5272.D

Sample Date:
Received Date:
Extract Date: 09-NOV-15
Extracted By: AAB
Extraction Method: SW846 5030
Lab Prep Batch: WG173895

Analysis Date: 09-NOV-15
Analyst: AAB
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 12-NOV-15

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Bromoform	94.6	50.0	47.3	ug/L	86-117
Styrene	97.0	50.0	48.5	ug/L	88-117
1,1,2,2-Tetrachloroethane	98.6	50.0	49.3	ug/L	79-121
1,2,3-Trichloropropane	108.	50.0	53.9	ug/L	77-120
Isopropylbenzene	* 95.4	50.0	47.7	ug/L	96-136
Bromobenzene	91.8	50.0	45.9	ug/L	84-113
2-Chlorotoluene	99.4	50.0	49.7	ug/L	81-120
N-Propylbenzene	96.6	50.0	48.3	ug/L	83-121
4-Chlorotoluene	98.8	50.0	49.4	ug/L	81-122
1,3,5-Trimethylbenzene	96.4	50.0	48.2	ug/L	80-123
tert-Butylbenzene	99.0	50.0	49.5	ug/L	84-121
1,2,4-Trichlorobenzene	94.6	50.0	47.3	ug/L	76-126
sec-Butylbenzene	97.8	50.0	48.9	ug/L	82-122
1,3-Dichlorobenzene	90.4	50.0	45.2	ug/L	86-110
P-Isopropyltoluene	98.6	50.0	49.3	ug/L	88-121
1,4-Dichlorobenzene	90.0	50.0	45.0	ug/L	86-111
1,2-Dichlorobenzene	91.6	50.0	45.8	ug/L	86-112
N-Butylbenzene	96.4	50.0	48.2	ug/L	78-121
1,2-Dibromo-3-Chloropropane	112.	50.0	56.1	ug/L	67-124
1,2,4-Trimethylbenzene	98.6	50.0	49.3	ug/L	83-118
Naphthalene	120.	50.0	60.0	ug/L	62-126
Hexachlorobutadiene	80.2	50.0	40.1	ug/L	73-113
1,2,3-Trichlorobenzene	94.6	50.0	47.3	ug/L	70-122
Methyl tert-butyl Ether	107.	100.	107.	ug/L	81-125
Acetone	96.2	50.0	48.1	ug/L	62-172
2-Butanone	92.2	50.0	46.1	ug/L	71-132
4-Methyl-2-Pentanone	111.	50.0	55.3	ug/L	83-122
2-Hexanone	112.	50.0	56.0	ug/L	80-124
m+p-Xylenes	93.6	100.	93.6	ug/L	88-116
o-Xylene	97.2	50.0	48.6	ug/L	90-116
Xylenes (Total)	94.7	150.	142.	ug/L	89-116
1,3,5-Trichlorobenzene	89.0	50.0	44.5	ug/L	77-120
Vinyl Acetate	98.0	50.0	49.0	ug/L	56-129
Carbon Disulfide	84.4	50.0	42.2	ug/L	71-129
Diethyl Ether	107.	50.0	53.4	ug/L	78-124

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LCS Recovery Report

Client:
Lab ID: WG173895-1
Client ID: LCS
Project:
SDG: SI8722
LCS File ID: T5272.D

Sample Date:
Received Date:
Extract Date: 09-NOV-15
Extracted By: AAB
Extraction Method: SW846 5030
Lab Prep Batch: WG173895

Analysis Date: 09-NOV-15
Analyst: AAB
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 12-NOV-15

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Tetrahydrofuran	85.4	50.0	42.7	ug/L	74-123
Dibromofluoromethane	96.9				68-128
1,2-Dichloroethane-d4	103.				67-135
Toluene-d8	99.8				65-128
P-Bromofluorobenzene	97.6				56-133

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Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : 50 India St.
Lab File ID : W4375.D
Instrument ID : GCMS-W
Heated Purge : Yes

SDG : SI8722
Lab Sample ID : WG173714-2
Date Analyzed : 06-NOV-15
Time Analyzed : 12:17

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG173714-1	W4373.D	11/06/15	10:59
B-4 (1.5FT)	SI8722-6	W4379.D	11/06/15	16:38
B-5 (9.5FT)	SI8722-7	W4380.D	11/06/15	17:11
B-6 (4FT)	SI8722-10	W4381.D	11/06/15	17:44
B-5 (9.5FT)	SI8722-7RA	W4387.D	11/06/15	21:02

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Report of Analytical Results

Client:
Lab ID: WG173714-2
Client ID: Method Blank Sample
Project:
SDG: SI8722
Lab File ID: W4375.D

Sample Date:
Received Date:
Extract Date: 06-NOV-15
Extracted By: EME
Extraction Method: SW846 5035
Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Dichlorodifluoromethane	U	0.92	ug/Kgdrywt	1	10	10.	0.92
Chloromethane	U	1.4	ug/Kgdrywt	1	10	10.	1.4
Vinyl Chloride	U	0.87	ug/Kgdrywt	1	10	10.	0.87
Bromomethane	U	1.1	ug/Kgdrywt	1	10	10.	1.1
Chloroethane	U	1.3	ug/Kgdrywt	1	10	10.	1.3
Trichlorofluoromethane	U	0.91	ug/Kgdrywt	1	10	10.	0.91
1,1-Dichloroethene	U	0.93	ug/Kgdrywt	1	5	5.0	0.93
Methylene Chloride	U	7.9	ug/Kgdrywt	1	25	25.	7.9
trans-1,2-Dichloroethene	U	0.71	ug/Kgdrywt	1	5	5.0	0.71
1,1-Dichloroethane	U	1.7	ug/Kgdrywt	1	5	5.0	1.7
cis-1,2-Dichloroethene	U	0.91	ug/Kgdrywt	1	5	5.0	0.91
1,2-Dichloroethylene (Total)	U	0.71	ug/Kgdrywt	1	10	10.	0.71
2,2-Dichloropropane	U	0.50	ug/Kgdrywt	1	5	5.0	0.50
Chloroform	U	0.35	ug/Kgdrywt	1	5	5.0	0.35
Bromochloromethane	U	0.91	ug/Kgdrywt	1	5	5.0	0.91
1,1,1-Trichloroethane	U	0.42	ug/Kgdrywt	1	5	5.0	0.42
1,2-Dichloroethane	U	1.0	ug/Kgdrywt	1	5	5.0	1.0
1,1-Dichloropropene	U	0.91	ug/Kgdrywt	1	5	5.0	0.91
Carbon Tetrachloride	U	1.3	ug/Kgdrywt	1	5	5.0	1.3
Benzene	U	0.92	ug/Kgdrywt	1	5	5.0	0.92
1,2-Dichloropropane	U	1.4	ug/Kgdrywt	1	5	5.0	1.4
Trichloroethene	U	0.59	ug/Kgdrywt	1	5	5.0	0.59
Dibromomethane	U	0.51	ug/Kgdrywt	1	5	5.0	0.51
Bromodichloromethane	U	0.60	ug/Kgdrywt	1	5	5.0	0.60
cis-1,3-Dichloropropene	U	0.72	ug/Kgdrywt	1	5	5.0	0.72
Toluene	U	1.4	ug/Kgdrywt	1	5	5.0	1.4
trans-1,3-Dichloropropene	U	0.86	ug/Kgdrywt	1	5	5.0	0.86
1,1,2-Trichloroethane	U	0.97	ug/Kgdrywt	1	5	5.0	0.97
1,3-Dichloropropane	U	0.94	ug/Kgdrywt	1	5	5.0	0.94
Dibromochloromethane	U	1.0	ug/Kgdrywt	1	5	5.0	1.0
Tetrachloroethene	U	1.2	ug/Kgdrywt	1	5	5.0	1.2
1,2-Dibromoethane	U	1.2	ug/Kgdrywt	1	5	5.0	1.2
Chlorobenzene	U	0.51	ug/Kgdrywt	1	5	5.0	0.51
1,1,1,2-Tetrachloroethane	U	0.70	ug/Kgdrywt	1	5	5.0	0.70

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Report of Analytical Results

Client:
Lab ID: WG173714-2
Client ID: Method Blank Sample
Project:
SDG: SI8722
Lab File ID: W4375.D

Sample Date:
Received Date:
Extract Date: 06-NOV-15
Extracted By: EME
Extraction Method: SW846 5035
Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Ethylbenzene	U	0.65	ug/Kgdrywt	1	5	5.0	0.65
Bromoform	U	0.70	ug/Kgdrywt	1	5	5.0	0.70
Styrene	U	0.51	ug/Kgdrywt	1	5	5.0	0.51
1,1,2,2-Tetrachloroethane	U	0.84	ug/Kgdrywt	1	5	5.0	0.84
1,2,3-Trichloropropane	U	1.2	ug/Kgdrywt	1	5	5.0	1.2
Isopropylbenzene	U	0.92	ug/Kgdrywt	1	5	5.0	0.92
Bromobenzene	U	0.74	ug/Kgdrywt	1	5	5.0	0.74
2-Chlorotoluene	U	1.1	ug/Kgdrywt	1	5	5.0	1.1
N-Propylbenzene	U	0.83	ug/Kgdrywt	1	5	5.0	0.83
4-Chlorotoluene	U	0.49	ug/Kgdrywt	1	5	5.0	0.49
1,3,5-Trimethylbenzene	U	0.67	ug/Kgdrywt	1	5	5.0	0.67
tert-Butylbenzene	U	0.90	ug/Kgdrywt	1	5	5.0	0.90
1,2,4-Trichlorobenzene	U	0.79	ug/Kgdrywt	1	5	5.0	0.79
sec-Butylbenzene	U	0.91	ug/Kgdrywt	1	5	5.0	0.91
1,3-Dichlorobenzene	U	0.62	ug/Kgdrywt	1	5	5.0	0.62
P-Isopropyltoluene	U	0.76	ug/Kgdrywt	1	5	5.0	0.76
1,4-Dichlorobenzene	U	0.44	ug/Kgdrywt	1	5	5.0	0.44
1,2-Dichlorobenzene	U	0.78	ug/Kgdrywt	1	5	5.0	0.78
N-Butylbenzene	U	0.92	ug/Kgdrywt	1	5	5.0	0.92
1,2-Dibromo-3-Chloropropane	U	1.5	ug/Kgdrywt	1	5	5.0	1.5
1,2,4-Trimethylbenzene	U	0.87	ug/Kgdrywt	1	5	5.0	0.87
Naphthalene	U	0.88	ug/Kgdrywt	1	5	5.0	0.88
Hexachlorobutadiene	U	0.74	ug/Kgdrywt	1	5	5.0	0.74
1,2,3-Trichlorobenzene	U	0.76	ug/Kgdrywt	1	5	5.0	0.76
Methyl tert-butyl Ether	U	1.1	ug/Kgdrywt	1	5	5.0	1.1
Acetone	U	5.1	ug/Kgdrywt	1	25	25.	5.1
2-Butanone	U	5.9	ug/Kgdrywt	1	25	25.	5.9
4-Methyl-2-Pentanone	U	5.9	ug/Kgdrywt	1	25	25.	5.9
2-Hexanone	U	4.8	ug/Kgdrywt	1	25	25.	4.8
m+p-Xylenes	U	1.7	ug/Kgdrywt	1	10	10.	1.7
o-Xylene	U	1.3	ug/Kgdrywt	1	5	5.0	1.3
Xylenes (Total)	U	1.3	ug/Kgdrywt	1	15	15.	1.3
1,3,5-Trichlorobenzene	U	0.87	ug/Kgdrywt	1	5	5.0	0.87
Vinyl Acetate	U	0.94	ug/Kgdrywt	1	5	5.0	0.94

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Report of Analytical Results

Client:
Lab ID: WG173714-2
Client ID: Method Blank Sample
Project:
SDG: SI8722
Lab File ID: W4375.D

Sample Date:
Received Date:
Extract Date: 06-NOV-15
Extracted By: EME
Extraction Method: SW846 5035
Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 12-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
Carbon Disulfide	U	0.78	ug/Kgdrywt	1	5	5.0	0.78
Diethyl Ether	U	0.80	ug/Kgdrywt	1	5	5.0	0.80
Tetrahydrofuran	U	4.5	ug/Kgdrywt	1	50	50.	4.5
Dibromofluoromethane		105.	%				
1,2-Dichloroethane-d4		105.	%				
Toluene-d8		98.6	%				
P-Bromofluorobenzene		92.6	%				

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LCS Recovery Report

Client:
Lab ID: WG173714-1
Client ID: LCS
Project:
SDG: SI8722
LCS File ID: W4373.D

Sample Date:
Received Date:
Extract Date: 06-NOV-15
Extracted By: EME
Extraction Method: SW846 5035
Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 12-NOV-15

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Dichlorodifluoromethane	* 204.	50.0	102.	ug/Kgdrywt	45-167
Chloromethane	* 153.	50.0	76.6	ug/Kgdrywt	69-127
Vinyl Chloride	132.	50.0	65.8	ug/Kgdrywt	73-134
Bromomethane	110.	50.0	55.1	ug/Kgdrywt	64-136
Chloroethane	114.	50.0	57.2	ug/Kgdrywt	71-127
Trichlorofluoromethane	101.	50.0	50.3	ug/Kgdrywt	73-145
1,1-Dichloroethene	102.	50.0	50.8	ug/Kgdrywt	71-137
Methylene Chloride	95.2	50.0	47.6	ug/Kgdrywt	56-152
trans-1,2-Dichloroethene	109.	50.0	54.7	ug/Kgdrywt	67-133
1,1-Dichloroethane	109.	50.0	54.7	ug/Kgdrywt	75-126
cis-1,2-Dichloroethene	106.	50.0	52.9	ug/Kgdrywt	82-123
1,2-Dichloroethylene (Total)	108.	100.	108.	ug/Kgdrywt	82-120
2,2-Dichloropropane	111.	50.0	55.6	ug/Kgdrywt	78-124
Chloroform	99.2	50.0	49.6	ug/Kgdrywt	83-118
Bromochloromethane	109.	50.0	54.6	ug/Kgdrywt	84-115
1,1,1-Trichloroethane	94.4	50.0	47.2	ug/Kgdrywt	80-120
1,2-Dichloroethane	96.2	50.0	48.1	ug/Kgdrywt	83-121
1,1-Dichloropropene	112.	50.0	56.2	ug/Kgdrywt	81-119
Carbon Tetrachloride	96.8	50.0	48.4	ug/Kgdrywt	78-124
Benzene	112.	50.0	55.8	ug/Kgdrywt	82-113
1,2-Dichloropropane	104.	50.0	52.2	ug/Kgdrywt	84-115
Trichloroethene	102.	50.0	51.0	ug/Kgdrywt	83-113
Dibromomethane	107.	50.0	53.6	ug/Kgdrywt	85-118
Bromodichloromethane	104.	50.0	51.8	ug/Kgdrywt	82-118
cis-1,3-Dichloropropene	102.	50.0	51.2	ug/Kgdrywt	80-115
Toluene	110.	50.0	54.9	ug/Kgdrywt	80-113
trans-1,3-Dichloropropene	113.	50.0	56.3	ug/Kgdrywt	87-136
1,1,2-Trichloroethane	102.	50.0	50.8	ug/Kgdrywt	78-117
1,3-Dichloropropane	109.	50.0	54.3	ug/Kgdrywt	80-114
Dibromochloromethane	107.	50.0	53.6	ug/Kgdrywt	80-120
Tetrachloroethene	85.0	50.0	42.5	ug/Kgdrywt	73-122
1,2-Dibromoethane	108.	50.0	54.0	ug/Kgdrywt	81-119
Chlorobenzene	107.	50.0	53.5	ug/Kgdrywt	85-111
1,1,1,2-Tetrachloroethane	106.	50.0	52.8	ug/Kgdrywt	83-114
Ethylbenzene	109.	50.0	54.7	ug/Kgdrywt	81-112

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LCS Recovery Report

Client:
Lab ID: WG173714-1
Client ID: LCS
Project:
SDG: SI8722
LCS File ID: W4373.D

Sample Date:
Received Date:
Extract Date: 06-NOV-15
Extracted By: EME
Extraction Method: SW846 5035
Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 12-NOV-15

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Bromoform	107.	50.0	53.5	ug/Kgdrywt	76-126
Styrene	* 114.	50.0	57.1	ug/Kgdrywt	84-112
1,1,2,2-Tetrachloroethane	104.	50.0	52.2	ug/Kgdrywt	78-122
1,2,3-Trichloropropane	106.	50.0	53.0	ug/Kgdrywt	81-118
Isopropylbenzene	119.	50.0	59.5	ug/Kgdrywt	89-136
Bromobenzene	111.	50.0	55.7	ug/Kgdrywt	78-118
2-Chlorotoluene	111.	50.0	55.5	ug/Kgdrywt	78-118
N-Propylbenzene	115.	50.0	57.7	ug/Kgdrywt	77-121
4-Chlorotoluene	111.	50.0	55.6	ug/Kgdrywt	77-121
1,3,5-Trimethylbenzene	111.	50.0	55.5	ug/Kgdrywt	79-116
tert-Butylbenzene	115.	50.0	57.3	ug/Kgdrywt	79-118
1,2,4-Trichlorobenzene	122.	50.0	60.8	ug/Kgdrywt	61-135
sec-Butylbenzene	114.	50.0	56.9	ug/Kgdrywt	75-122
1,3-Dichlorobenzene	108.	50.0	54.0	ug/Kgdrywt	79-119
P-Isopropyltoluene	116.	50.0	58.2	ug/Kgdrywt	80-124
1,4-Dichlorobenzene	105.	50.0	52.6	ug/Kgdrywt	80-117
1,2-Dichlorobenzene	109.	50.0	54.3	ug/Kgdrywt	76-118
N-Butylbenzene	113.	50.0	56.6	ug/Kgdrywt	70-124
1,2-Dibromo-3-Chloropropane	113.	50.0	56.4	ug/Kgdrywt	66-132
1,2,4-Trimethylbenzene	112.	50.0	56.1	ug/Kgdrywt	76-115
Naphthalene	* 139.	50.0	69.4	ug/Kgdrywt	51-131
Hexachlorobutadiene	105.	50.0	52.5	ug/Kgdrywt	69-120
1,2,3-Trichlorobenzene	120.	50.0	60.1	ug/Kgdrywt	55-134
Methyl tert-butyl Ether	107.	100.	107.	ug/Kgdrywt	81-125
Acetone	80.6	50.0	40.3	ug/Kgdrywt	76-213
2-Butanone	101.	50.0	50.7	ug/Kgdrywt	78-148
4-Methyl-2-Pentanone	106.	50.0	52.8	ug/Kgdrywt	75-137
2-Hexanone	105.	50.0	52.4	ug/Kgdrywt	72-149
m+p-Xylenes	110.	100.	110.	ug/Kgdrywt	80-115
o-Xylene	* 121.	50.0	60.7	ug/Kgdrywt	82-115
Xylenes (Total)	* 114.	150.	171.	ug/Kgdrywt	81-114
1,3,5-Trichlorobenzene	109.	50.0	54.7	ug/Kgdrywt	64-133
Vinyl Acetate	115.	50.0	57.6	ug/Kgdrywt	77-119
Carbon Disulfide	98.6	50.0	49.3	ug/Kgdrywt	69-138
Diethyl Ether	101.	50.0	50.4	ug/Kgdrywt	76-135

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LCS Recovery Report

Client:
Lab ID: WG173714-1
Client ID: LCS
Project:
SDG: SI8722
LCS File ID: W4373.D

Sample Date:
Received Date:
Extract Date: 06-NOV-15
Extracted By: EME
Extraction Method: SW846 5035
Lab Prep Batch: WG173714

Analysis Date: 06-NOV-15
Analyst: EME
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 12-NOV-15

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Tetrahydrofuran	111.	50.0	55.7	ug/Kgdrywt	78-137
Dibromofluoromethane	95.8				64-130
1,2-Dichloroethane-d4	89.8				58-134
Toluene-d8	98.3				67-118
P-Bromofluorobenzene	94.5				47-119

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-10
Client ID: B-6 (4FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: 7IK120.D

Sample Date: 31-OCT-15
Received Date: 02-NOV-15
Extract Date: 04-NOV-15
Extracted By: HG
Extraction Method: SW846 3550
Lab Prep Batch: WG173502

Analysis Date: 05-NOV-15
Analyst: AWS
Analysis Method: SW846 8082A
Matrix: SL
% Solids: 83.
Report Date: 11-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Aroclor-1016	U	20	ug/Kgdrywt	1	16.7	20.
Aroclor-1221	U	20	ug/Kgdrywt	1	16.7	20.
Aroclor-1232	U	20	ug/Kgdrywt	1	16.7	20.
Aroclor-1242	U	20	ug/Kgdrywt	1	16.7	20.
Aroclor-1248	U	20	ug/Kgdrywt	1	16.7	20.
Aroclor-1254	U	20	ug/Kgdrywt	1	16.7	20.
Aroclor-1260	U	20	ug/Kgdrywt	1	16.7	20.
Tetrachloro-M-Xylene		69.4	%			
Decachlorobiphenyl		72.4	%			

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-11
Client ID: B-7 (2FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: 7IK121.D

Sample Date: 31-OCT-15
Received Date: 02-NOV-15
Extract Date: 04-NOV-15
Extracted By: HG
Extraction Method: SW846 3550
Lab Prep Batch: WG173502

Analysis Date: 05-NOV-15
Analyst: AWS
Analysis Method: SW846 8082A
Matrix: SL
% Solids: 91.
Report Date: 11-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Aroclor-1016	U	17	ug/Kgdrywt	1	16.7	17.
Aroclor-1221	U	17	ug/Kgdrywt	1	16.7	17.
Aroclor-1232	U	17	ug/Kgdrywt	1	16.7	17.
Aroclor-1242	U	17	ug/Kgdrywt	1	16.7	17.
Aroclor-1248	U	17	ug/Kgdrywt	1	16.7	17.
Aroclor-1254	U	17	ug/Kgdrywt	1	16.7	17.
Aroclor-1260	U	17	ug/Kgdrywt	1	16.7	17.
Tetrachloro-M-Xylene		93.5	%			
Decachlorobiphenyl		101.	%			

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Form 4
Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : 50 India St.
Lab File ID : 7IK106.D
Matrix : SL

Column A
Instrument ID : GC07
Date Analyzed : 05-NOV-15
Time Analyzed : 15:00

SDG : SI8722
Lab Sample ID : WG173502-1
Date Extracted : 04-NOV-15
Extraction Method : SW846 3550

Column B
Instrument ID : GC07
Date Analyzed : 05-NOV-15
Time Analyzed : 15:00

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG173502-2	7IK107.D	11/05/15	15:35
B-6 (4FT)	SI8722-10	7IK120.D	11/05/15	23:05
B-7 (2FT)	SI8722-11	7IK121.D	11/05/15	23:40

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Date: 04/11/17

Report of Analytical Results

Client:
Lab ID: WG173502-1
Client ID: Method Blank Sample
Project:
SDG: SI8722
Lab File ID: 7IK106.D

Sample Date:
Received Date:
Extract Date: 04-NOV-15
Extracted By: HG
Extraction Method: SW846 3550
Lab Prep Batch: WG173502

Analysis Date: 05-NOV-15
Analyst: AWS
Analysis Method: SW846 8082A
Matrix: SL
% Solids: NA
Report Date: 11-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Aroclor-1016	U	17	ug/Kgdrywt	1	16.7	17.
Aroclor-1221	U	17	ug/Kgdrywt	1	16.7	17.
Aroclor-1232	U	17	ug/Kgdrywt	1	16.7	17.
Aroclor-1242	U	17	ug/Kgdrywt	1	16.7	17.
Aroclor-1248	U	17	ug/Kgdrywt	1	16.7	17.
Aroclor-1254	U	17	ug/Kgdrywt	1	16.7	17.
Aroclor-1260	U	17	ug/Kgdrywt	1	16.7	17.
Tetrachloro-M-Xylene		99.1	%			
Decachlorobiphenyl		108.	%			

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LCS Recovery Report

Client:
Lab ID: WG173502-2
Client ID: LCS
Project:
SDG: SI8722
LCS File ID: 7IK107.D

Sample Date:
Received Date:
Extract Date: 04-NOV-15
Extracted By: HG
Extraction Method: SW846 3550
Lab Prep Batch: WG173502

Analysis Date: 05-NOV-15
Analyst: AWS
Analysis Method: SW846 8082A
Matrix: SL
% Solids: NA
Report Date: 11-NOV-15

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Aroclor-1016	95.2	167.	159.	ug/Kgdrywt	53-123
Aroclor-1260	103.	167.	172.	ug/Kgdrywt	58-120
Tetrachloro-M-Xylene	90.7				56-115
Decachlorobiphenyl	105.				59-124

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Date: 04/11/17

Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-1
Client ID: B-1 (2FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: CIK2126.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 05-NOV-15
Extracted By: HG
Extraction Method: SW846 3546
Lab Prep Batch: WG173597

Analysis Date: 07-NOV-15
Analyst: MW
Analysis Method: MA DEP EPH 04-1.1
Matrix: SL
% Solids: 79.
Report Date: 17-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
C9-C18 Aliphatics		22	mg/Kgdrywt	1	20	22.
C19-C36 Aliphatics		36	mg/Kgdrywt	1	20	22.
C11-C22 Aromatics		57	mg/Kgdrywt	1	20	22.
Naphthalene		0.25	mg/Kgdrywt	1	.2	0.22
2-Methylnaphthalene	U	0.22	mg/Kgdrywt	1	.2	0.22
Phenanthrene		0.71	mg/Kgdrywt	1	.2	0.22
Acenaphthylene	U	0.22	mg/Kgdrywt	1	.2	0.22
Acenaphthene	U	0.22	mg/Kgdrywt	1	.2	0.22
Anthracene		0.26	mg/Kgdrywt	1	.2	0.22
Benzo(a)anthracene		0.59	mg/Kgdrywt	1	.2	0.22
Benzo(a)pyrene		0.46	mg/Kgdrywt	1	.2	0.22
Benzo(b)fluoranthene		0.42	mg/Kgdrywt	1	.2	0.22
Benzo(g,h,i)perylene		0.28	mg/Kgdrywt	1	.2	0.22
Benzo(k)fluoranthene		0.56	mg/Kgdrywt	1	.2	0.22
Chrysene		0.66	mg/Kgdrywt	1	.2	0.22
Dibenzo(a,h)anthracene	U	0.22	mg/Kgdrywt	1	.2	0.22
Fluoranthene		1.1	mg/Kgdrywt	1	.2	0.22
Fluorene	U	0.22	mg/Kgdrywt	1	.2	0.22
Indeno(1,2,3-cd)pyrene		0.28	mg/Kgdrywt	1	.2	0.22
Pyrene		0.98	mg/Kgdrywt	1	.2	0.22
5-Alpha Androstane		56.0	%			
o-Terphenyl		57.9	%			
2-Fluorobiphenyl		68.9	%			
2-Bromonaphthalene		64.9	%			

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-2DL
Client ID: B-1 (4FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: CIK2161.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 05-NOV-15
Extracted By: HG
Extraction Method: SW846 3546
Lab Prep Batch: WG173597

Analysis Date: 10-NOV-15
Analyst: MW
Analysis Method: MA DEP EPH 04-1.1
Matrix: SL
% Solids: 82.
Report Date: 17-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
C9-C18 Aliphatics		440	mg/Kgdrywt	2	20	48.
C19-C36 Aliphatics		530	mg/Kgdrywt	2	20	48.
C11-C22 Aromatics		310	mg/Kgdrywt	1	20	24.
Naphthalene		0.74	mg/Kgdrywt	1	.2	0.24
2-Methylnaphthalene		1.1	mg/Kgdrywt	1	.2	0.24
Phenanthrene		1.8	mg/Kgdrywt	1	.2	0.24
Acenaphthylene		0.45	mg/Kgdrywt	1	.2	0.24
Acenaphthene		0.32	mg/Kgdrywt	1	.2	0.24
Anthracene		0.42	mg/Kgdrywt	1	.2	0.24
Benzo(a)anthracene		2.1	mg/Kgdrywt	1	.2	0.24
Benzo(a)pyrene		1.9	mg/Kgdrywt	1	.2	0.24
Benzo(b)fluoranthene		1.7	mg/Kgdrywt	1	.2	0.24
Benzo(g,h,i)perylene		1.1	mg/Kgdrywt	1	.2	0.24
Benzo(k)fluoranthene		2.1	mg/Kgdrywt	1	.2	0.24
Chrysene		2.3	mg/Kgdrywt	1	.2	0.24
Dibenzo(a,h)anthracene		0.51	mg/Kgdrywt	1	.2	0.24
Fluoranthene		3.3	mg/Kgdrywt	1	.2	0.24
Fluorene		0.68	mg/Kgdrywt	1	.2	0.24
Indeno(1,2,3-cd)pyrene		1.2	mg/Kgdrywt	1	.2	0.24
Pyrene		3.5	mg/Kgdrywt	1	.2	0.24
5-Alpha Androstane		56.6	%			
o-Terphenyl		58.9	%			
2-Fluorobiphenyl		61.3	%			
2-Bromonaphthalene		58.4	%			

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-3DL
Client ID: B-2 (5FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: CIK2163.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 05-NOV-15
Extracted By: HG
Extraction Method: SW846 3546
Lab Prep Batch: WG173597

Analysis Date: 10-NOV-15
Analyst: MW
Analysis Method: MA DEP EPH 04-1.1
Matrix: SL
% Solids: 79.
Report Date: 17-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
C9-C18 Aliphatics		240	mg/Kgdrywt	2	20	44.
C19-C36 Aliphatics		330	mg/Kgdrywt	2	20	44.
C11-C22 Aromatics		170	mg/Kgdrywt	1	20	22.
Naphthalene		0.90	mg/Kgdrywt	1	.2	0.22
2-Methylnaphthalene		0.79	mg/Kgdrywt	1	.2	0.22
Phenanthrene	U	0.22	mg/Kgdrywt	1	.2	0.22
Acenaphthylene	U	0.22	mg/Kgdrywt	1	.2	0.22
Acenaphthene	U	0.22	mg/Kgdrywt	1	.2	0.22
Anthracene	U	0.22	mg/Kgdrywt	1	.2	0.22
Benzo(a)anthracene	U	0.22	mg/Kgdrywt	1	.2	0.22
Benzo(a)pyrene	U	0.22	mg/Kgdrywt	1	.2	0.22
Benzo(b)fluoranthene	U	0.22	mg/Kgdrywt	1	.2	0.22
Benzo(g,h,i)perylene	U	0.22	mg/Kgdrywt	1	.2	0.22
Benzo(k)fluoranthene	U	0.22	mg/Kgdrywt	1	.2	0.22
Chrysene	U	0.22	mg/Kgdrywt	1	.2	0.22
Dibenzo(a,h)anthracene	U	0.22	mg/Kgdrywt	1	.2	0.22
Fluoranthene	U	0.22	mg/Kgdrywt	1	.2	0.22
Fluorene	U	0.22	mg/Kgdrywt	1	.2	0.22
Indeno(1,2,3-cd)pyrene	U	0.22	mg/Kgdrywt	1	.2	0.22
Pyrene	U	0.22	mg/Kgdrywt	1	.2	0.22
5-Alpha Androstane		45.5	%			
o-Terphenyl		59.6	%			
2-Fluorobiphenyl		64.1	%			
2-Bromonaphthalene		61.5	%			

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-7DL
Client ID: B-5 (9.5FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: CIK2158.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 05-NOV-15
Extracted By: HG
Extraction Method: SW846 3546
Lab Prep Batch: WG173597

Analysis Date: 10-NOV-15
Analyst: MW
Analysis Method: MA DEP EPH 04-1.1
Matrix: SL
% Solids: 79.
Report Date: 18-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
C9-C18 Aliphatics		1200	mg/Kgdrywt	5	20	120
C19-C36 Aliphatics		100	mg/Kgdrywt	1	20	25.
C11-C22 Aromatics		620	mg/Kgdrywt	1	20	25.
Naphthalene	U	0.25	mg/Kgdrywt	1	.2	0.25
2-Methylnaphthalene	U	0.25	mg/Kgdrywt	1	.2	0.25
Phenanthrene		2.6	mg/Kgdrywt	1	.2	0.25
Acenaphthylene	U	0.25	mg/Kgdrywt	1	.2	0.25
Acenaphthene	U	0.25	mg/Kgdrywt	1	.2	0.25
Anthracene		0.45	mg/Kgdrywt	1	.2	0.25
Benzo(a)anthracene	U	0.25	mg/Kgdrywt	1	.2	0.25
Benzo(a)pyrene	U	0.25	mg/Kgdrywt	1	.2	0.25
Benzo(b)fluoranthene	U	0.25	mg/Kgdrywt	1	.2	0.25
Benzo(g,h,i)perylene	U	0.25	mg/Kgdrywt	1	.2	0.25
Benzo(k)fluoranthene	U	0.25	mg/Kgdrywt	1	.2	0.25
Chrysene	U	0.25	mg/Kgdrywt	1	.2	0.25
Dibenzo(a,h)anthracene	U	0.25	mg/Kgdrywt	1	.2	0.25
Fluoranthene	U	0.25	mg/Kgdrywt	1	.2	0.25
Fluorene		5.8	mg/Kgdrywt	1	.2	0.25
Indeno(1,2,3-cd)pyrene	U	0.25	mg/Kgdrywt	1	.2	0.25
Pyrene	U	0.25	mg/Kgdrywt	1	.2	0.25
5-Alpha Androstane		52.4	%			
o-Terphenyl		50.4	%			
2-Fluorobiphenyl		64.4	%			
2-Bromonaphthalene		49.8	%			

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-8DL
Client ID: B-8 (4FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: CIK2159.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 05-NOV-15
Extracted By: HG
Extraction Method: SW846 3546
Lab Prep Batch: WG173597

Analysis Date: 10-NOV-15
Analyst: MW
Analysis Method: MA DEP EPH 04-1.1
Matrix: SL
% Solids: 82.
Report Date: 17-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
C9-C18 Aliphatics		220	mg/Kgdrywt	2	20	43.
C19-C36 Aliphatics		680	mg/Kgdrywt	4	20	87.
C11-C22 Aromatics		270	mg/Kgdrywt	2	20	43.
Naphthalene		1.4	mg/Kgdrywt	2	.2	0.43
2-Methylnaphthalene		1.5	mg/Kgdrywt	2	.2	0.43
Phenanthrene		0.51	mg/Kgdrywt	2	.2	0.43
Acenaphthylene	U	0.43	mg/Kgdrywt	2	.2	0.43
Acenaphthene	U	0.43	mg/Kgdrywt	2	.2	0.43
Anthracene	U	0.43	mg/Kgdrywt	2	.2	0.43
Benzo(a)anthracene	U	0.43	mg/Kgdrywt	2	.2	0.43
Benzo(a)pyrene	U	0.43	mg/Kgdrywt	2	.2	0.43
Benzo(b)fluoranthene	U	0.43	mg/Kgdrywt	2	.2	0.43
Benzo(g,h,i)perylene	U	0.43	mg/Kgdrywt	2	.2	0.43
Benzo(k)fluoranthene	U	0.43	mg/Kgdrywt	2	.2	0.43
Chrysene	U	0.43	mg/Kgdrywt	2	.2	0.43
Dibenzo(a,h)anthracene	U	0.43	mg/Kgdrywt	2	.2	0.43
Fluoranthene		0.51	mg/Kgdrywt	2	.2	0.43
Fluorene	U	0.43	mg/Kgdrywt	2	.2	0.43
Indeno(1,2,3-cd)pyrene	U	0.43	mg/Kgdrywt	2	.2	0.43
Pyrene	U	0.43	mg/Kgdrywt	2	.2	0.43
5-Alpha Androstane		52.4	%			
o-Terphenyl		62.4	%			
2-Fluorobiphenyl		73.3	%			
2-Bromonaphthalene		64.5	%			

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-10DL
Client ID: B-6 (4FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: CIK2162.D

Sample Date: 31-OCT-15
Received Date: 02-NOV-15
Extract Date: 05-NOV-15
Extracted By: HG
Extraction Method: SW846 3546
Lab Prep Batch: WG173597

Analysis Date: 10-NOV-15
Analyst: MW
Analysis Method: MA DEP EPH 04-1.1
Matrix: SL
% Solids: 83.
Report Date: 18-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
C9-C18 Aliphatics		660	mg/Kgdrywt	10	20	230
C19-C36 Aliphatics		1600	mg/Kgdrywt	10	20	230
C11-C22 Aromatics		1100	mg/Kgdrywt	2	20	46.
Naphthalene		3.6	mg/Kgdrywt	1	.2	0.23
2-Methylnaphthalene		3.2	mg/Kgdrywt	1	.2	0.23
Phenanthrene		24	mg/Kgdrywt	1	.2	0.23
Acenaphthylene		1.0	mg/Kgdrywt	1	.2	0.23
Acenaphthene		2.6	mg/Kgdrywt	1	.2	0.23
Anthracene		5.0	mg/Kgdrywt	1	.2	0.23
Benzo(a)anthracene		6.9	mg/Kgdrywt	1	.2	0.23
Benzo(a)pyrene		6.6	mg/Kgdrywt	1	.2	0.23
Benzo(b)fluoranthene		6.5	mg/Kgdrywt	1	.2	0.23
Benzo(g,h,i)perylene		4.1	mg/Kgdrywt	1	.2	0.23
Benzo(k)fluoranthene		5.7	mg/Kgdrywt	1	.2	0.23
Chrysene		7.8	mg/Kgdrywt	1	.2	0.23
Dibenzo(a,h)anthracene		1.4	mg/Kgdrywt	1	.2	0.23
Fluoranthene		20	mg/Kgdrywt	1	.2	0.23
Fluorene		3.8	mg/Kgdrywt	1	.2	0.23
Indeno(1,2,3-cd)pyrene		4.4	mg/Kgdrywt	1	.2	0.23
Pyrene		19	mg/Kgdrywt	1	.2	0.23
5-Alpha Androstane	D	0.00	%			
o-Terphenyl		60.3	%			
2-Fluorobiphenyl		63.6	%			
2-Bromonaphthalene		63.4	%			

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-12DL
Client ID: B-7 (4FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: CIK2160.D

Sample Date: 31-OCT-15
Received Date: 02-NOV-15
Extract Date: 05-NOV-15
Extracted By: HG
Extraction Method: SW846 3546
Lab Prep Batch: WG173597

Analysis Date: 10-NOV-15
Analyst: MW
Analysis Method: MA DEP EPH 04-1.1
Matrix: SL
% Solids: 80.
Report Date: 18-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
C9-C18 Aliphatics		500	mg/Kgdrywt	3	20	67.
C19-C36 Aliphatics		58	mg/Kgdrywt	1	20	22.
C11-C22 Aromatics		220	mg/Kgdrywt	1	20	22.
Naphthalene		1.7	mg/Kgdrywt	1	.2	0.22
2-Methylnaphthalene		1.3	mg/Kgdrywt	1	.2	0.22
Phenanthrene		3.2	mg/Kgdrywt	1	.2	0.22
Acenaphthylene	U	0.22	mg/Kgdrywt	1	.2	0.22
Acenaphthene	U	0.22	mg/Kgdrywt	1	.2	0.22
Anthracene		0.76	mg/Kgdrywt	1	.2	0.22
Benzo(a)anthracene		1.0	mg/Kgdrywt	1	.2	0.22
Benzo(a)pyrene		0.84	mg/Kgdrywt	1	.2	0.22
Benzo(b)fluoranthene		0.77	mg/Kgdrywt	1	.2	0.22
Benzo(g,h,i)perylene		0.54	mg/Kgdrywt	1	.2	0.22
Benzo(k)fluoranthene		0.82	mg/Kgdrywt	1	.2	0.22
Chrysene		1.1	mg/Kgdrywt	1	.2	0.22
Dibenzo(a,h)anthracene	U	0.22	mg/Kgdrywt	1	.2	0.22
Fluoranthene		2.0	mg/Kgdrywt	1	.2	0.22
Fluorene		1.6	mg/Kgdrywt	1	.2	0.22
Indeno(1,2,3-cd)pyrene		0.45	mg/Kgdrywt	1	.2	0.22
Pyrene		2.0	mg/Kgdrywt	1	.2	0.22
5-Alpha Androstane		65.0	%			
o-Terphenyl		57.0	%			
2-Fluorobiphenyl		51.5	%			
2-Bromonaphthalene		49.7	%			

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Form 4
Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : 50 India St.
Lab File ID : CIK1107.D
Instrument ID : GC12

SDG : SI8722
Lab Sample ID : WG173597-1
Date Analyzed : 06-NOV-15
Time Analyzed : 18:07
Date Extracted : 05-NOV-15

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG173597-3	CIK1109.D	11/06/15	19:38
B-2 (5FT)	SI8722-3	CIK1115.D	11/07/15	00:10
B-5 (9.5FT)	SI8722-7	CIK1116.D	11/07/15	00:55
B-1 (2FT)	SI8722-1	CIK1126.D	11/07/15	08:28
B-8 (4FT)	SI8722-8	CIK1130.D	11/07/15	11:28
B-7 (4FT)	SI8722-12	CIK1131.D	11/07/15	12:14
B-1 (4FT)	SI8722-2	CIK1132.D	11/07/15	12:59
Laboratory Control S	WG173597-2	CIK1251.D	11/13/15	10:40
B-6 (4FT)	SI8722-10DL	CIK3020.D	11/18/15	05:27

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Form 4
Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : 50 India St.
Lab File ID : CIK1107A.D
Instrument ID : GC12

SDG : SI8722
Lab Sample ID : WG173597-1
Date Analyzed : 06-NOV-15
Time Analyzed : 18:07
Date Extracted : 05-NOV-15

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG173597-3	CIK1109A.	11/06/15	19:38
B-2 (5FT)	SI8722-3	CIK1115A.	11/07/15	00:10
B-5 (9.5FT)	SI8722-7	CIK1116A.	11/07/15	00:55
B-1 (2FT)	SI8722-1	CIK1126A.	11/07/15	08:28
B-8 (4FT)	SI8722-8	CIK1130A.	11/07/15	11:28
B-7 (4FT)	SI8722-12	CIK1131A.	11/07/15	12:14
B-1 (4FT)	SI8722-2	CIK1132A.	11/07/15	12:59
B-6 (4FT)	SI8722-10	CIK1133A.	11/07/15	13:44
Laboratory Control S	WG173597-2	CIK1251A.	11/13/15	10:40

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Form 4
Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : 50 India St.
Lab File ID : CIK2107.D
Instrument ID : GC12

SDG : SI8722
Lab Sample ID : WG173597-1
Date Analyzed : 06-NOV-15
Time Analyzed : 18:07
Date Extracted : 05-NOV-15

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG173597-3	CIK2109.D	11/06/15	19:38
B-5 (9.5FT)	SI8722-7	CIK2116.D	11/07/15	00:55
B-1 (2FT)	SI8722-1	CIK2126.D	11/07/15	08:28
B-8 (4FT)	SI8722-8	CIK2130.D	11/07/15	11:28
B-7 (4FT)	SI8722-12	CIK2131.D	11/07/15	12:14
B-5 (9.5FT)	SI8722-7DL	CIK2158.D	11/10/15	03:47
B-8 (4FT)	SI8722-8DL	CIK2159.D	11/10/15	04:32
B-7 (4FT)	SI8722-12DL	CIK2160.D	11/10/15	05:18
B-1 (4FT)	SI8722-2DL	CIK2161.D	11/10/15	06:03
B-6 (4FT)	SI8722-10DL	CIK2162.D	11/10/15	06:48
B-2 (5FT)	SI8722-3DL	CIK2163.D	11/10/15	07:33
Laboratory Control S	WG173597-2	CIK2251.D	11/13/15	10:40

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Report of Analytical Results

Client:
Lab ID: WG173597-1
Client ID: Method Blank Sample
Project:
SDG: SI8722
Lab File ID: CIK2107.D

Sample Date:
Received Date:
Extract Date: 05-NOV-15
Extracted By: HG
Extraction Method: SW846 3546
Lab Prep Batch: WG173597

Analysis Date: 06-NOV-15
Analyst: MW
Analysis Method: MA DEP EPH 04-1.1
Matrix: SL
% Solids: NA
Report Date: 16-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
C9-C18 Aliphatics	U	20	mg/Kgdrywt	1	20	20.
C19-C36 Aliphatics	U	20	mg/Kgdrywt	1	20	20.
C11-C22 Aromatics	U	20	mg/Kgdrywt	1	20	20.
Naphthalene	U	0.20	mg/Kgdrywt	1	.2	0.20
2-Methylnaphthalene	U	0.20	mg/Kgdrywt	1	.2	0.20
Phenanthrene	U	0.20	mg/Kgdrywt	1	.2	0.20
Acenaphthylene	U	0.20	mg/Kgdrywt	1	.2	0.20
Acenaphthene	U	0.20	mg/Kgdrywt	1	.2	0.20
Anthracene	U	0.20	mg/Kgdrywt	1	.2	0.20
Benzo(a)anthracene	U	0.20	mg/Kgdrywt	1	.2	0.20
Benzo(a)pyrene	U	0.20	mg/Kgdrywt	1	.2	0.20
Benzo(b)fluoranthene	U	0.20	mg/Kgdrywt	1	.2	0.20
Benzo(g,h,i)perylene	U	0.20	mg/Kgdrywt	1	.2	0.20
Benzo(k)fluoranthene	U	0.20	mg/Kgdrywt	1	.2	0.20
Chrysene	U	0.20	mg/Kgdrywt	1	.2	0.20
Dibenzo(a,h)anthracene	U	0.20	mg/Kgdrywt	1	.2	0.20
Fluoranthene	U	0.20	mg/Kgdrywt	1	.2	0.20
Fluorene	U	0.20	mg/Kgdrywt	1	.2	0.20
Indeno(1,2,3-cd)pyrene	U	0.20	mg/Kgdrywt	1	.2	0.20
Pyrene	U	0.20	mg/Kgdrywt	1	.2	0.20
5-Alpha Androstane		55.0	%			
o-Terphenyl		55.0	%			
2-Fluorobiphenyl		61.1	%			
2-Bromonaphthalene		61.1	%			

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LCS/LCSD Recovery Report

LCS ID: WG173597-2
LCSD ID: WG173597-3
Project:
SDG: SI8722
Report Date: 16-NOV-15
LCS File ID: CIK2251.D

Received Date:
Extract Date: 05-NOV-15
Extracted By: HG
Extraction Method: SW846 3546
Lab Prep Batch: WG173597
LCSD File ID: CIK2109.d

Analysis Date: 13-NOV-15
Analyst: MW
Analysis Method: MA DEP EPH 04-1.1
Matrix: SL
% Solids: NA

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
Unadjusted C11-C22 Aromatics	153.	118.	77.1	100.	65.4	mg/Kgdrywt	16	25	40-140
C9-C18 Aliphatics	54.0	35.8	66.3	23.6	43.7	mg/Kgdrywt	41*	25	40-140
C19-C36 Aliphatics	72.0	58.2	80.8	44.5	61.8	mg/Kgdrywt	27*	25	40-140
Naphthalene	9.00	5.63	62.6	5.06	56.2	mg/Kgdrywt	11	25	40-140
2-Methylnaphthalene	9.00	5.74	63.8	5.18	57.6	mg/Kgdrywt	10	25	40-140
Phenanthrene	9.00	6.50	72.2	5.84	64.9	mg/Kgdrywt	11	25	40-140
Acenaphthylene	9.00	5.66	62.9	5.16	57.3	mg/Kgdrywt	9	25	40-140
Acenaphthene	9.00	4.13	45.9	5.11	56.8	mg/Kgdrywt	21	25	40-140
Anthracene	9.00	7.37	81.9	6.50	72.2	mg/Kgdrywt	12	25	40-140
Benzo(a)anthracene	9.00	7.24	80.4	6.29	69.9	mg/Kgdrywt	14	25	40-140
Benzo(a)pyrene	9.00	7.31	81.2	6.28	69.8	mg/Kgdrywt	15	25	40-140
Benzo(b)fluoranthene	9.00	6.86	76.2	6.24	69.3	mg/Kgdrywt	9	25	40-140
Benzo(g,h,i)perylene	9.00	7.24	80.4	6.11	67.9	mg/Kgdrywt	17	25	40-140
Benzo(k)fluoranthene	9.00	7.11	79.0	5.74	63.8	mg/Kgdrywt	21	25	40-140
Chrysene	9.00	7.06	78.4	6.08	67.6	mg/Kgdrywt	15	25	40-140
Dibenzo(a,h)anthracene	9.00	7.05	78.3	6.34	70.4	mg/Kgdrywt	11	25	40-140
Fluoranthene	9.00	7.06	78.4	6.00	66.7	mg/Kgdrywt	16	25	40-140
Fluorene	9.00	5.87	65.2	5.38	59.8	mg/Kgdrywt	9	25	40-140
Indeno(1,2,3-cd)pyrene	9.00	6.87	76.3	5.94	66.0	mg/Kgdrywt	14	25	40-140
Pyrene	9.00	6.87	76.3	5.87	65.2	mg/Kgdrywt	16	25	40-140
5-Alpha Androstane			76.4		55.7				40-140
o-Terphenyl			74.7		64.7				40-140
2-Fluorobiphenyl			77.3		70.2				40-140
2-Bromonaphthalene			75.3		68.3				40-140

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-1
Client ID: B-1 (2FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: 2IK10133.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 09-NOV-15
Extracted By: KNZ
Extraction Method: MA-VPH
Lab Prep Batch: WG173888

Analysis Date: 11-NOV-15
Analyst: KNZ
Analysis Method: MA DEP VPH 04-1.1
Matrix: SL
% Solids: 79.
Report Date: 18-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
C5-C8 Aliphatics	U	54	mg/Kgdrywt	1	25	54.
C9-C12 Aliphatics	U	54	mg/Kgdrywt	1	25	54.
C9-C10 Aromatics	U	54	mg/Kgdrywt	1	25	54.
Benzene	U	2.7	mg/Kgdrywt	1	1.25	2.7
Ethylbenzene	U	2.7	mg/Kgdrywt	1	1.25	2.7
Methyl tert-butylether	U	2.7	mg/Kgdrywt	1	1.25	2.7
Naphthalene	U	2.7	mg/Kgdrywt	1	1.25	2.7
Toluene	U	2.7	mg/Kgdrywt	1	1.25	2.7
m+p-Xylenes	U	5.4	mg/Kgdrywt	1	2.5	5.4
o-Xylene	U	2.7	mg/Kgdrywt	1	1.25	2.7
2,5-Dibromotoluene (FID)		77.7	%			
2,5-Dibromotoluene (PID)		78.8	%			

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-2
Client ID: B-1 (4FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: 2IK10134.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 09-NOV-15
Extracted By: KNZ
Extraction Method: MA-VPH
Lab Prep Batch: WG173888

Analysis Date: 11-NOV-15
Analyst: KNZ
Analysis Method: MA DEP VPH 04-1.1
Matrix: SL
% Solids: 82.
Report Date: 20-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
C5-C8 Aliphatics	U	37	mg/Kgdrywt	1	25	37.
C9-C12 Aliphatics	E	490	mg/Kgdrywt	1	25	37.
C9-C10 Aromatics	E	430	mg/Kgdrywt	1	25	37.
Benzene	U	1.8	mg/Kgdrywt	1	1.25	1.8
Ethylbenzene	U	1.8	mg/Kgdrywt	1	1.25	1.8
Methyl tert-butylether	U	1.8	mg/Kgdrywt	1	1.25	1.8
Naphthalene	U	1.8	mg/Kgdrywt	1	1.25	1.8
Toluene	U	1.8	mg/Kgdrywt	1	1.25	1.8
m+p-Xylenes	U	3.7	mg/Kgdrywt	1	2.5	3.7
o-Xylene	U	1.8	mg/Kgdrywt	1	1.25	1.8
2,5-Dibromotoluene (FID)	*	60.6	%			
2,5-Dibromotoluene (PID)	*	47.5	%			

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-2DIL
Client ID: B-1 (4FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: 2IK10151.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 09-NOV-15
Extracted By: KNZ
Extraction Method: MA-VPH
Lab Prep Batch: WG173888

Analysis Date: 11-NOV-15
Analyst: KNZ
Analysis Method: MA DEP VPH 04-1.1
Matrix: SL
% Solids: 82.
Report Date: 20-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
C5-C8 Aliphatics	U	370	mg/Kgdrywt	10	25	370
C9-C12 Aliphatics		460	mg/Kgdrywt	10	25	370
C9-C10 Aromatics		560	mg/Kgdrywt	10	25	370
Benzene	U	18	mg/Kgdrywt	10	1.25	18.
Ethylbenzene	U	18	mg/Kgdrywt	10	1.25	18.
Methyl tert-butylether	U	18	mg/Kgdrywt	10	1.25	18.
Naphthalene	U	18	mg/Kgdrywt	10	1.25	18.
Toluene	U	18	mg/Kgdrywt	10	1.25	18.
m+p-Xylenes	U	37	mg/Kgdrywt	10	2.5	37.
o-Xylene	U	18	mg/Kgdrywt	10	1.25	18.
2,5-Dibromotoluene (FID)		130.	%			
2,5-Dibromotoluene (PID)	*	136.	%			

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-3
Client ID: B-2 (5FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: 2IK10135.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 09-NOV-15
Extracted By: KNZ
Extraction Method: MA-VPH
Lab Prep Batch: WG173888

Analysis Date: 11-NOV-15
Analyst: KNZ
Analysis Method: MA DEP VPH 04-1.1
Matrix: SL
% Solids: 79.
Report Date: 18-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
C5-C8 Aliphatics	U	35	mg/Kgdrywt	1	25	35.
C9-C12 Aliphatics		70	mg/Kgdrywt	1	25	35.
C9-C10 Aromatics		72	mg/Kgdrywt	1	25	35.
Benzene	U	1.8	mg/Kgdrywt	1	1.25	1.8
Ethylbenzene	U	1.8	mg/Kgdrywt	1	1.25	1.8
Methyl tert-butylether	U	1.8	mg/Kgdrywt	1	1.25	1.8
Naphthalene		2.0	mg/Kgdrywt	1	1.25	1.8
Toluene	U	1.8	mg/Kgdrywt	1	1.25	1.8
m+p-Xylenes	U	3.5	mg/Kgdrywt	1	2.5	3.5
o-Xylene	U	1.8	mg/Kgdrywt	1	1.25	1.8
2,5-Dibromotoluene (FID)		77.9	%			
2,5-Dibromotoluene (PID)		80.3	%			

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-5
Client ID: B-3 (6FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: 2IK10136.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 09-NOV-15
Extracted By: KNZ
Extraction Method: MA-VPH
Lab Prep Batch: WG173888

Analysis Date: 11-NOV-15
Analyst: KNZ
Analysis Method: MA DEP VPH 04-1.1
Matrix: SL
% Solids: 100
Report Date: 18-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
C5-C8 Aliphatics	U	22	mg/Kgdrywt	1	25	22.
C9-C12 Aliphatics	U	22	mg/Kgdrywt	1	25	22.
C9-C10 Aromatics	U	22	mg/Kgdrywt	1	25	22.
Benzene	U	1.1	mg/Kgdrywt	1	1.25	1.1
Ethylbenzene	U	1.1	mg/Kgdrywt	1	1.25	1.1
Methyl tert-butylether	U	1.1	mg/Kgdrywt	1	1.25	1.1
Naphthalene	U	1.1	mg/Kgdrywt	1	1.25	1.1
Toluene	U	1.1	mg/Kgdrywt	1	1.25	1.1
m+p-Xylenes	U	2.2	mg/Kgdrywt	1	2.5	2.2
o-Xylene	U	1.1	mg/Kgdrywt	1	1.25	1.1
2,5-Dibromotoluene (FID)		75.9	%			
2,5-Dibromotoluene (PID)		77.6	%			

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-6
Client ID: B-4 (1.5FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: 2IK10138.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 09-NOV-15
Extracted By: KNZ
Extraction Method: MA-VPH
Lab Prep Batch: WG173888

Analysis Date: 11-NOV-15
Analyst: KNZ
Analysis Method: MA DEP VPH 04-1.1
Matrix: SL
% Solids: 88.
Report Date: 18-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
C5-C8 Aliphatics	U	27	mg/Kgdrywt	1	25	27.
C9-C12 Aliphatics	U	27	mg/Kgdrywt	1	25	27.
C9-C10 Aromatics	U	27	mg/Kgdrywt	1	25	27.
Benzene	U	1.4	mg/Kgdrywt	1	1.25	1.4
Ethylbenzene	U	1.4	mg/Kgdrywt	1	1.25	1.4
Methyl tert-butylether	U	1.4	mg/Kgdrywt	1	1.25	1.4
Naphthalene	U	1.4	mg/Kgdrywt	1	1.25	1.4
Toluene	U	1.4	mg/Kgdrywt	1	1.25	1.4
m+p-Xylenes	U	2.7	mg/Kgdrywt	1	2.5	2.7
o-Xylene	U	1.4	mg/Kgdrywt	1	1.25	1.4
2,5-Dibromotoluene (FID)	*	56.6	%			
2,5-Dibromotoluene (PID)	*	60.1	%			

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-8
Client ID: B-8 (4FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: 2IK10139.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 09-NOV-15
Extracted By: KNZ
Extraction Method: MA-VPH
Lab Prep Batch: WG173888

Analysis Date: 11-NOV-15
Analyst: KNZ
Analysis Method: MA DEP VPH 04-1.1
Matrix: SL
% Solids: 82.
Report Date: 20-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
C5-C8 Aliphatics	U	37	mg/Kgdrywt	1	25	37.
C9-C12 Aliphatics	E	180	mg/Kgdrywt	1	25	37.
C9-C10 Aromatics	E	190	mg/Kgdrywt	1	25	37.
Benzene	U	1.8	mg/Kgdrywt	1	1.25	1.8
Ethylbenzene	U	1.8	mg/Kgdrywt	1	1.25	1.8
Methyl tert-butylether	U	1.8	mg/Kgdrywt	1	1.25	1.8
Naphthalene		5.1	mg/Kgdrywt	1	1.25	1.8
Toluene	U	1.8	mg/Kgdrywt	1	1.25	1.8
m+p-Xylenes	U	3.7	mg/Kgdrywt	1	2.5	3.7
o-Xylene	U	1.8	mg/Kgdrywt	1	1.25	1.8
2,5-Dibromotoluene (FID)	*	34.8	%			
2,5-Dibromotoluene (PID)	*	62.4	%			

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8722-8DIL
Client ID: B-8 (4FT)
Project: 50 India St.
SDG: SI8722
Lab File ID: 2IK10153.D

Sample Date: 30-OCT-15
Received Date: 02-NOV-15
Extract Date: 09-NOV-15
Extracted By: KNZ
Extraction Method: MA-VPH
Lab Prep Batch: WG173888

Analysis Date: 12-NOV-15
Analyst: KNZ
Analysis Method: MA DEP VPH 04-1.1
Matrix: SL
% Solids: 82.
Report Date: 20-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
C5-C8 Aliphatics	U	73	mg/Kgdrywt	2	25	73.
C9-C12 Aliphatics		150	mg/Kgdrywt	2	25	73.
C9-C10 Aromatics		190	mg/Kgdrywt	2	25	73.
Benzene	U	3.7	mg/Kgdrywt	2	1.25	3.7
Ethylbenzene	U	3.7	mg/Kgdrywt	2	1.25	3.7
Methyl tert-butylether	U	3.7	mg/Kgdrywt	2	1.25	3.7
Naphthalene		5.1	mg/Kgdrywt	2	1.25	3.7
Toluene	U	3.7	mg/Kgdrywt	2	1.25	3.7
m+p-Xylenes	U	7.3	mg/Kgdrywt	2	2.5	7.3
o-Xylene	U	3.7	mg/Kgdrywt	2	1.25	3.7
2,5-Dibromotoluene (FID)	*	56.4	%			
2,5-Dibromotoluene (PID)	*	62.4	%			

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Form 4
Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : 50 India St.
Lab File ID : 2IK10121.D
Instrument ID : GC02

SDG : SI8722
Lab Sample ID : WG173888-1
Date Analyzed : 10-NOV-15
Time Analyzed : 11:26
Date Extracted : 09-NOV-15

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG173888-2	2IK10122.I	11/10/15	12:54
Laboratory Control S	WG173888-3	2IK10123.I	11/10/15	13:48
B-1 (2FT)	SI8722-1	2IK10133.I	11/11/15	00:19
B-1 (4FT)	SI8722-2	2IK10134.I	11/11/15	01:16
B-2 (5FT)	SI8722-3	2IK10135.I	11/11/15	02:12
B-3 (6FT)	SI8722-5	2IK10136.I	11/11/15	03:08
B-4 (1.5FT)	SI8722-6	2IK10138.I	11/11/15	09:48
B-8 (4FT)	SI8722-8	2IK10139.I	11/11/15	10:42
B-1 (4FT)	SI8722-2DIL	2IK10151.I	11/11/15	22:51
B-8 (4FT)	SI8722-8DIL	2IK10153.I	11/12/15	00:42

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Report of Analytical Results

Client:
Lab ID: WG173888-1
Client ID: Method Blank Sample
Project:
SDG: SI8722
Lab File ID: 2IK10121.D

Sample Date:
Received Date:
Extract Date: 09-NOV-15
Extracted By: KNZ
Extraction Method: MA-VPH
Lab Prep Batch: WG173888

Analysis Date: 10-NOV-15
Analyst: KNZ
Analysis Method: MA DEP VPH 04-1.1
Matrix: SL
% Solids: NA
Report Date: 18-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
C5-C8 Aliphatics	U	25	mg/Kgdrywt	1	25	25.
C9-C12 Aliphatics	U	25	mg/Kgdrywt	1	25	25.
C9-C10 Aromatics	U	25	mg/Kgdrywt	1	25	25.
Benzene	U	1.2	mg/Kgdrywt	1	1.25	1.2
Ethylbenzene	U	1.2	mg/Kgdrywt	1	1.25	1.2
Methyl tert-butylether	U	1.2	mg/Kgdrywt	1	1.25	1.2
Naphthalene	U	1.2	mg/Kgdrywt	1	1.25	1.2
Toluene	U	1.2	mg/Kgdrywt	1	1.25	1.2
m+p-Xylenes	U	2.5	mg/Kgdrywt	1	2.5	2.5
o-Xylene	U	1.2	mg/Kgdrywt	1	1.25	1.2
2,5-Dibromotoluene (FID)		85.8	%			
2,5-Dibromotoluene (PID)		95.5	%			

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LCS/LCSD Recovery Report

LCS ID: WG173888-2
LCSD ID: WG173888-3
Project:
SDG: SI8722
Report Date: 18-NOV-15
LCS File ID: 2IK10122.D

Received Date:
Extract Date: 09-NOV-15
Extracted By: KNZ
Extraction Method: MA DEP VPH 04-1.1
Lab Prep Batch: WG173888
LCSD File ID: 2IK10123.D

Analysis Date: 10-NOV-15
Analyst: KNZ
Analysis Method: MA DEP VPH 04-1.1
Matrix: SL
% Solids: NA

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
C5-C8 Aliphatics	69.9	69.3	99.1	69.2	99.0	mg/Kgdrywt	0	25	70-130
C9-C12 Aliphatics	46.6	54.5	117.	52.3	112.	mg/Kgdrywt	4	25	70-130
C9-C10 Aromatics	23.3	27.2	117.	26.1	112.	mg/Kgdrywt	4	25	70-130
Benzene	23.3	24.2	104.	23.5	101.	mg/Kgdrywt	3	25	70-130
Ethylbenzene	23.3	24.8	106.	24.0	103.	mg/Kgdrywt	3	25	70-130
Methyl tert-butylether	23.3	23.5	101.	23.2	99.6	mg/Kgdrywt	1	25	70-130
Naphthalene	23.3	23.2	99.6	24.5	105.	mg/Kgdrywt	5	25	70-130
Toluene	23.3	24.5	105.	23.7	102.	mg/Kgdrywt	3	25	70-130
m+p-Xylenes	46.6	52.6	113.	51.0	109.	mg/Kgdrywt	3	25	70-130
o-Xylene	23.3	25.2	108.	24.4	105.	mg/Kgdrywt	3	25	70-130
2,5-Dibromotoluene (FID)			79.4		92.1				70-130
2,5-Dibromotoluene (PID)			80.2		95.2				70-130

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
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http://www.katahdinlab.com

Katahdin ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
PO Box 392
Portland, ME 04112-0342

Lab Sample ID: SI8722-001
Report Date: 11/11/2015
PO No.: India St.
Project: 50 India St.

Sample Description	Matrix	Percent Solids(%)	Date Sampled	Date Received
B-1 (2FT)	SL	79.4	10/30/2015	11/02/2015

Parameter	Result	Units	Adjusted MDL	Dilution Factor	Adjusted PQL	Analytical Method	Analysis Date	Prep Method	Prep Date	QC Batch	Notes
ARSENIC	8.8	mg/Kgdrywt	0.074	1	0.9	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
CADMIUM	J 0.196	mg/Kgdrywt	0.0086	1	0.543	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
CHROMIUM	16.9	mg/Kgdrywt	0.029	1	1.09	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
LEAD	745.	mg/Kgdrywt	0.095	1	0.5	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
MERCURY	0.771	ug/gdrywt	0.0060	1	0.046	SW846 7471	11/5/15	SW846 7471	11/4/15	IK04HGS1	

Katahdin ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
PO Box 392
Portland, ME 04112-0342

Lab Sample ID: SI8722-004
Report Date: 11/11/2015
PO No.: India St.
Project: 50 India St.

Sample Description	Matrix	Percent Solids(%)	Date Sampled	Date Received
B-3 (1FT)	SL	93.9	10/30/2015	11/02/2015

Parameter	Result	Units	Adjusted MDL	Dilution Factor	Adjusted PQL	Analytical Method	Analysis Date	Prep Method	Prep Date	QC Batch	Notes
ARSENIC	13.	mg/Kgdrywt	0.29	5	4.	SW846 6010	11/9/15	SW846 3050	11/5/15	IK05ICS1	
CADMIUM	74.8	mg/Kgdrywt	0.034	5	2.50	SW846 6010	11/9/15	SW846 3050	11/5/15	IK05ICS1	
CHROMIUM	33.4	mg/Kgdrywt	0.11	5	5.00	SW846 6010	11/9/15	SW846 3050	11/5/15	IK05ICS1	
LEAD	256.	mg/Kgdrywt	0.37	5	2.	SW846 6010	11/9/15	SW846 3050	11/5/15	IK05ICS1	
MERCURY	0.212	ug/gdrywt	0.0048	1	0.040	SW846 7471	11/5/15	SW846 7471	11/4/15	IK04HGS1	

Katahdin ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
PO Box 392
Portland, ME 04112-0342

Lab Sample ID: SI8722-006
Report Date: 11/11/2015
PO No.: India St.
Project: 50 India St.

Sample Description	Matrix	Percent Solids(%)	Date Sampled	Date Received
B-4 (1.5FT)	SL	88.0	10/30/2015	11/02/2015

Parameter	Result	Units	Adjusted MDL	Dilution Factor	Adjusted PQL	Analytical Method	Analysis Date	Prep Method	Prep Date	QC Batch	Notes
ARSENIC	17.4	mg/Kgdrywt	0.055	1	0.8	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
CADMIUM	J 0.467	mg/Kgdrywt	0.0064	1	0.500	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
CHROMIUM	25.0	mg/Kgdrywt	0.021	1	1.00	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
LEAD	235.	mg/Kgdrywt	0.071	1	0.5	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
MERCURY	2.18	ug/gdrywt	0.025	5	0.20	SW846 7471	11/5/15	SW846 7471	11/4/15	IK04HGS1	

Katahdin ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
PO Box 392
Portland, ME 04112-0342

Lab Sample ID: SI8722-009
Report Date: 11/11/2015
PO No.: India St.
Project: 50 India St.

Sample Description	Matrix	Percent Solids(%)	Date Sampled	Date Received
B-9 (1.5FT)	SL	86.0	10/30/2015	11/02/2015

Parameter	Result	Units	Adjusted MDL	Dilution Factor	Adjusted PQL	Analytical Method	Analysis Date	Prep Method	Prep Date	QC Batch	Notes
ARSENIC	15.4	mg/Kgdrywt	0.053	1	0.8	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
CADMIUM	0.766	mg/Kgdrywt	0.0062	1	0.500	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
CHROMIUM	16.8	mg/Kgdrywt	0.020	1	1.00	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
LEAD	390.	mg/Kgdrywt	0.068	1	0.5	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
MERCURY	0.316	ug/gdrywt	0.0057	1	0.044	SW846 7471	11/5/15	SW846 7471	11/4/15	IK04HGS1	

Katahdin ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

CITY OF PORTLAND, MAINE RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
PO Box 392
Portland, ME 04112-0342

Lab Sample ID: SI8722-010
Report Date: 11/11/2015
PO No.: India St.
Project: 50 India St.

Sample Description	Matrix	Percent Solids(%)	Date Sampled	Date Received
B-6 (4FT)	SL	83.4	10/31/2015	11/02/2015

Parameter	Result	Units	Adjusted MDL	Dilution Factor	Adjusted PQL	Analytical Method	Analysis Date	Prep Method	Prep Date	QC Batch	Notes
ARSENIC	11.0	mg/Kgdrywt	0.070	1	0.8	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
CADMIUM	J 0.209	mg/Kgdrywt	0.0082	1	0.517	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
CHROMIUM	24.8	mg/Kgdrywt	0.027	1	1.03	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
LEAD	122.	mg/Kgdrywt	0.090	1	0.5	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
MERCURY	0.288	ug/gdrywt	0.0054	1	0.042	SW846 7471	11/5/15	SW846 7471	11/4/15	IK04HGS1	

Katahdin ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
PO Box 392
Portland, ME 04112-0342

Lab Sample ID: SI8722-011
Report Date: 11/11/2015
PO No.: India St.
Project: 50 India St.

Sample Description	Matrix	Percent Solids(%)	Date Sampled	Date Received
B-7 (2FT)	SL	91.3	10/31/2015	11/02/2015

Parameter	Result	Units	Adjusted MDL	Dilution Factor	Adjusted PQL	Analytical Method	Analysis Date	Prep Method	Prep Date	QC Batch	Notes
ARSENIC	11.9	mg/Kgdrywt	0.056	1	0.8	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
CADMIUM	1.07	mg/Kgdrywt	0.0066	1	0.500	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
CHROMIUM	25.3	mg/Kgdrywt	0.022	1	1.00	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
LEAD	399.	mg/Kgdrywt	0.072	1	0.5	SW846 6010	11/7/15	SW846 3050	11/5/15	IK05ICS1	
MERCURY	0.761	ug/gdrywt	0.0048	1	0.040	SW846 7471	11/5/15	SW846 7471	11/4/15	IK04HGS1	

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

PREPARATION BLANK REPORT

Sample ID: PBSIK04HGS1 **Batch ID:** IK04HGS1 **Work Order:** SI8722

Element Name	Result	Units	Flag	PQL	File
MERCURY	0.004	ug/gdrywt	U	0.04	HIK05A

U The analyte was not detected in the sample at a level greater than the instrument detection limit.

J The analyte was detected in the sample at a concentration greater than the instrument detection limit, but less than the laboratory's Practical Quantitation Level.

H The analyte was detected in the sample at a concentration greater than the laboratory's acceptance limit.

Reviewed for Code Compliance
Inspections Division
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Date: 04/11/17

PREPARATION BLANK REPORT

Sample ID: PBSIK05ICS1 **Batch ID:** IK05ICS1 **Work Order:** SI8722

Element Name	Result	Units	Flag	PQL	File
ARSENIC	0.2	mg/kgdrywt	U	0.800	IIK06A
CADMIUM	0.008	mg/kgdrywt	U	0.500	IIK06A
CHROMIUM	0.09	mg/kgdrywt	J	1.00	IIK06A
LEAD	0.1	mg/kgdrywt	U	0.500	IIK09A

U The analyte was not detected in the sample at a level greater than the instrument detection limit.

J The analyte was detected in the sample at a concentration greater than the instrument detection limit, but less than the laboratory's Practical Quantitation Level.

H The analyte was detected in the sample at a concentration greater than the laboratory's acceptance limit.

Katahdin
ANALYTICAL SERVICES

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

LABORATORY CONTROL SAMPLE REPORT

Sample ID: LCSOIK04HGS1 **Batch ID:** IK04HGS1 **Work Order:** SI8722

Element Name	True Value	Result	Units	Recovery(%)	Flag	Limits (ug/gdrywt)		File
MERCURY	0.83	0.820	ug/gdrywt	98.8%		0.663	1.00	HIK05A

H Laboratory control sample recovery is greater than the laboratory's acceptance limit.

L Laboratory control sample recovery is less than the laboratory's acceptance limit.

Katahdin
ANALYTICAL SERVICES

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

LABORATORY CONTROL SAMPLE REPORT

Sample ID: LCSOIK05ICS1 **Batch ID:** IK05ICS1 **Work Order:** SI8722

Element Name	True Value	Result	Units	Recovery(%)	Flag	Limits (mg/kgdrywt)		File
ARSENIC	10.0	10.2	mg/kgdrywt	102.0%		7.95	12.0	IIK06A
CADMIUM	25.0	26.9	mg/kgdrywt	107.6%		19.9	30.1	IIK06A
CHROMIUM	20.0	20.0	mg/kgdrywt	100.0%		15.9	24.1	IIK06A
LEAD	10.0	10.1	mg/kgdrywt	101.0%		7.95	12.0	IIK09A

H Laboratory control sample recovery is greater than the laboratory's acceptance limit.

L Laboratory control sample recovery is less than the laboratory's acceptance limit.

Katahdin
ANALYTICAL SERVICES

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

LABORATORY CONTROL SAMPLE REPORT

Sample ID: LC2OIK04HGS1 **Batch ID:** IK04HGS1 **Work Order:** SI8722

Element Name	True Value	Result	Units	Recovery(%)	Flag	Limits (ug/gdrywt)		File
MERCURY	0.83	0.827	ug/gdrywt	99.6%		0.663	1.00	HIK05A

H Laboratory control sample recovery is greater than the laboratory's acceptance limit.

L Laboratory control sample recovery is less than the laboratory's acceptance limit.

Katahdin
ANALYTICAL SERVICES

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Report of Analytical Results

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
Portland,ME 04112-0342

Lab Sample ID: SI8722-1
Report Date: 11-NOV-15
Client PO: India St.
Project: 50 India St.
SDG: SI8722

Sample Description	Matrix	Date Sampled	Date Received
B-1 (2FT)	SL	30-OCT-15 09:20:00	02-NOV-15

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Total Solids	79. %	1		SM2540G	WG173887	10-NOV-15 16:49:05	SM2540G	09-NOV-15	AP	

Katahdin Analytical Services SI8722 page 0000077 of 0000095

Katahdin
ANALYTICAL SERVICES

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Report of Analytical Results

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
Portland,ME 04112-0342

Lab Sample ID: SI8722-2
Report Date: 11-NOV-15
Client PO: India St.
Project: 50 India St.
SDG: SI8722

Sample Description	Matrix	Date Sampled	Date Received
B-1 (4FT)	SL	30-OCT-15 09:15:00	02-NOV-15

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Total Solids	82. %	1		SM2540G	WG173887	10-NOV-15 16:49:14	SM2540G	09-NOV-15	AP	

Katahdin Analytical Services SI8722 page 0000078 of 0000095

Katahdin
ANALYTICAL SERVICES

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Report of Analytical Results

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
Portland,ME 04112-0342

Lab Sample ID: SI8722-3
Report Date: 11-NOV-15
Client PO: India St.
Project: 50 India St.
SDG: SI8722

Sample Description	Matrix	Date Sampled	Date Received
B-2 (5FT)	SL	30-OCT-15 13:05:00	02-NOV-15

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Total Solids	79. %	1		SM2540G	WG173887	10-NOV-15 16:49:23	SM2540G	09-NOV-15	AP	

Katahdin Analytical Services SI8722 page 0000079 of 0000095

Katahdin
ANALYTICAL SERVICES

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Report of Analytical Results

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
Portland,ME 04112-0342

Lab Sample ID: SI8722-4
Report Date: 11-NOV-15
Client PO: India St.
Project: 50 India St.
SDG: SI8722

Sample Description	Matrix	Date Sampled	Date Received
B-3 (1FT)	SL	30-OCT-15 10:05:00	02-NOV-15

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Total Solids	94. %	1		SM2540G	WG173887	10-NOV-15 16:49:31	SM2540G	09-NOV-15	AP	

Katahdin Analytical Services SI8722 page 0000080 of 0000095

Katahdin
ANALYTICAL SERVICES

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Report of Analytical Results

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
Portland,ME 04112-0342

Lab Sample ID: SI8722-5
Report Date: 11-NOV-15
Client PO: India St.
Project: 50 India St.
SDG: SI8722

Sample Description	Matrix	Date Sampled	Date Received
B-3 (6FT)	SL	30-OCT-15 10:10:00	02-NOV-15

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Total Solids	100 %	1		SM2540G	WG173727	06-NOV-15 13:41:29	SM2540G	N/A	AZ	

Katahdin Analytical Services SI8722 page 0000081 of 0000095

Katahdin
ANALYTICAL SERVICES

Reviewed for Code Compliance
Inspections Division
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Date: 04/11/17

Report of Analytical Results

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
Portland,ME 04112-0342

Lab Sample ID: SI8722-6
Report Date: 11-NOV-15
Client PO: India St.
Project: 50 India St.
SDG: SI8722

Sample Description	Matrix	Date Sampled	Date Received
B-4 (1.5FT)	SL	30-OCT-15 11:05:00	02-NOV-15

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Total Solids	88. %	1		SM2540G	WG173887	10-NOV-15 16:49:41	SM2540G	09-NOV-15	AP	

Katahdin Analytical Services SI8722 page 0000082 of 0000095

Katahdin
ANALYTICAL SERVICES

Reviewed for Code Compliance
Inspections Division
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Report of Analytical Results

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
Portland,ME 04112-0342

Lab Sample ID: SI8722-7
Report Date: 11-NOV-15
Client PO: India St.
Project: 50 India St.
SDG: SI8722

Sample Description	Matrix	Date Sampled	Date Received
B-5 (9.5FT)	SL	30-OCT-15 11:51:00	02-NOV-15

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Total Solids	79. %	1		SM2540G	WG173887	10-NOV-15 16:49:53	SM2540G	09-NOV-15	AP	

Katahdin Analytical Services SI8722 page 0000083 of 0000095

Katahdin
ANALYTICAL SERVICES

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Report of Analytical Results

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
Portland,ME 04112-0342

Lab Sample ID: SI8722-8
Report Date: 11-NOV-15
Client PO: India St.
Project: 50 India St.
SDG: SI8722

Sample Description	Matrix	Date Sampled	Date Received
B-8 (4FT)	SL	30-OCT-15 10:26:00	02-NOV-15

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Total Solids	82. %	1		SM2540G	WG173887	10-NOV-15 16:50:01	SM2540G	09-NOV-15	AP	

Katahdin Analytical Services SI8722 page 0000084 of 0000095

Katahdin
ANALYTICAL SERVICES

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Report of Analytical Results

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
Portland,ME 04112-0342

Lab Sample ID: SI8722-9
Report Date: 11-NOV-15
Client PO: India St.
Project: 50 India St.
SDG: SI8722

Sample Description	Matrix	Date Sampled	Date Received
B-9 (1.5FT)	SL	30-OCT-15 14:00:00	02-NOV-15

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Total Solids	86. %	1		SM2540G	WG173887	10-NOV-15 16:50:10	SM2540G	09-NOV-15	AP	

Katahdin Analytical Services SI8722 page 0000085 of 0000095

Katahdin
ANALYTICAL SERVICES

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Report of Analytical Results

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
Portland,ME 04112-0342

Lab Sample ID: SI8722-10
Report Date: 11-NOV-15
Client PO: India St.
Project: 50 India St.
SDG: SI8722

Sample Description	Matrix	Date Sampled	Date Received
B-6 (4FT)	SL	31-OCT-15 13:15:00	02-NOV-15

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Total Solids	83. %	1		SM2540G	WG173900	10-NOV-15 16:59:39	SM2540G	09-NOV-15	AP	

Katahdin Analytical Services SI8722 page 0000086 of 0000095

Katahdin
ANALYTICAL SERVICES

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Report of Analytical Results

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
Portland,ME 04112-0342

Lab Sample ID: SI8722-11
Report Date: 11-NOV-15
Client PO: India St.
Project: 50 India St.
SDG: SI8722

Sample Description	Matrix	Date Sampled	Date Received
B-7 (2FT)	SL	31-OCT-15 11:00:00	02-NOV-15

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Total Solids	91. %	1		SM2540G	WG173900	10-NOV-15 16:59:51	SM2540G	09-NOV-15	AP	

Katahdin Analytical Services SI8722 page 0000087 of 0000095

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Report of Analytical Results

Client: Rich Fortin
Drumlin Environmental, LLC
97 India Street
Portland,ME 04112-0342

Lab Sample ID: SI8722-12
Report Date: 11-NOV-15
Client PO: India St.
Project: 50 India St.
SDG: SI8722

Sample Description	Matrix	Date Sampled	Date Received
B-7 (4FT)	SL	31-OCT-15 11:10:00	02-NOV-15

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Total Solids	80. %	1		SM2540G	WG173900	10-NOV-15 17:00:00	SM2540G	09-NOV-15	AP	

Katahdin Analytical Services SI8722 page 0000088 of 0000095

Katahdin
ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Quality Control Report

Blank Sample Summary Report

Total Solids

Samp Type	QC Batch	Anal. Method	Anal. Date	Prep. Date	Result	PQL
MBLANK	WG173887	SM2540	10-NOV-15	09-NOV-15	U 1 %	1 %
MBLANK	WG173900	SM2540	10-NOV-15	09-NOV-15	U 1 %	1 %

Katahdin Analytical Services SI8722 page 0000089 of 0000095

Katahdin
ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Quality Control Report

Laboratory Control Sample Summary Report

Total Solids

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG173887-2	LCS	WG173887	10-NOV-15	09-NOV-15	%	90	90.	100	90-110	
WG173900-2	LCS	WG173900	10-NOV-15	09-NOV-15	%	90	90.	100	90-110	

Katahdin Analytical Services SI8722 page 0000090 of 0000095

Katahdin Analytical Services, Inc. — Sample Receipt Conditi

Client: Dumbin	KAS PM: DJP	Sampled By:	
Project: India St.	KIMS Entry By: AP	Delivered By:	
KAS Work Order#: SI 8722	KIMS Review By: DJP	Received By:	
SDG #:	Cooler: 1 of 1	Date/Time Rec.: 11/2/15 0848	

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		✓			
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?		/			B-10 1.5 ft not on chain but present in cooler
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.		✓			Temp (°C): 3.2
Samples received at <6 °C w/o freezing?	✓				Note: Not required for metals (except Hg soil) analys
Ice packs or ice present?	✓				The lack of ice or ice packs (i.e. no attemp begin cooling process) or insufficient ice m not meet certain regulatory requirements a may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	✓				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for met (except Hg soil) analysis.
6. Volatiles: Aqueous: No bubble larger than a pea?				/	-6D arrived cracked & leaking, possibly due to freezing
Soil/Sediment: Received in airtight container?	/				
Received in methanol?	/				
Methanol covering soil?	/				
D.I. Water - Received within 48 hour HT?	/				
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?				/	
8. Proper sample containers and volume?	/				
9. Samples within hold time upon receipt?	/				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2				/	
Sulfide - >9				/	
Cyanide – pH >12				/	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

Client froze VOC soil samples

-13 logged in for EPH based on label

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

RESURGAM CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Client	Drumlin Environmental, LLC	Contact	Rich Fortin	Phone #	(207) 721-5546
Address	PO Box 392	City	Portland	State	ME
Zip Code	04112				
Purchase Order #	India St.	Proj. Name / No.	50 India St.	Katahdin Quote #	
Bill (if different than above)		Address			
Sampler (Print / Sign)	Rich Fortin Richard Fortin	Copies To:			

LAB USE ONLY WORK ORDER #: SI 8722
KATAHDIN PROJECT NUMBER
REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE PRESERVATIVES: Filt. ☐Y ☐N — Metals	VPH	EPH	VOC (8260)	PCBs					
	B-1 (2ft)	10/30/15/0920	Soil	2	X	X	X							
	B-1 (4ft)	10/30/15/0915	Soil	3		X	X							
	B-2 (5ft)	10/30/15/1.185pm	Soil	3		X	X							
	B-3 (1ft)	10/30/15/1005	Soil	1	X									
	B-3 (6ft)	10/30/15/1010	Soil	2		X								
	B-4 (1.5ft)	10/30/15/1105	Soil	7	X	X		X						
	B-5 (9.5ft)	10/30/15/1157	Soil	5			X	X						
	B-8 (4ft)	10/30/15/1026	Soil	3		X	X							
	B-9 (1.5ft)	10/30/15/2:00pm	Soil	1	X									
		/												
	B-6 (4ft)	10/31/15/11:15am	Soil	6	X		X	X	X					
	B-7 (2ft)	10/31/15/1100	Soil	1	X				X					
	B-7 (4ft)	10/31/15/1110	Soil	1			X							
		/												
		/												
		/												

COMMENTS: Metals = lead, cadmium, chromium, mercury, arsenic

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Richard Fortin	11/2/15 8:48 am				
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
				11/2/15 0848	

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

KAS-COC1

ORIGINAL

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Nov. 03, 2015
02:17 PM

Quote/Incoming:

Login Number: SI8722

Account: DRUMLI001 NoWeb
Drumlin Environmental, LLC

Project:

Primary Report Address:
Rich Fortin
Drumlin Environmental, LLC
97 India Street
PO Box 392
Portland,ME 04112-0342
info@drumlinllc.com

Primary Invoice Address:
Accounts Payable
Drumlin Environmental, LLC
97 India Street
PO Box 392
Portland,ME 04112-0342

Report CC Addresses:

Invoice CC Addresses:

Login Information:

ANALYSIS INSTRUCTIONS	:	ClientPQL; ND to MDL for all analysis
CHECK NO.	:	
CLIENT PO#	:	India St.
CLIENT PROJECT MANAGE	:	
CONTRACT	:	
COOLER TEMPERATURE	:	3.2
DELIVERY SERVICES	:	Client
EDD FORMAT	:	KAS064QC-XLS
LOGIN INITIALS	:	AP
PM	:	DJP
PROJECT NAME	:	50 India St.
QC LEVEL	:	II+
REGULATORY LIST	:	
REPORT INSTRUCTIONS	:	email pdf, EDD and Invoice to info@drumlinllc.com, no HC,
SDG ID	:	
SDG STATUS	:	

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SI8722-1	B-1 (2FT)	30-OCT-15 09:20	02-NOV-15			10-NOV-15	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	MA-EPH	13-NOV-15	100g Glass		
Solid	S	MA-VPH	27-NOV-15	40 mL Vial+MEOH		
Solid	S	SW3050-PREP	27-APR-16			
Solid	S	SW6010-ARSENIC	27-APR-16	4oz Glass		
Solid	S	SW6010-CADMIUM	27-APR-16	4oz Glass		
Solid	S	SW6010-CHROMIUM	27-APR-16	4oz Glass		
Solid	S	SW6010-LEAD	27-APR-16	4oz Glass		
Solid	S	SW7471-MERCURY	27-NOV-15	50g Glass		
Solid	S	TS-ME	29-NOV-15			

SI8722-2	B-1 (4FT)	30-OCT-15 09:15	02-NOV-15		10-NOV-15	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	MA-EPH	13-NOV-15	100g Glass		
Solid	S	MA-VPH	27-NOV-15	40 mL Vial+MEOH		
Solid	S	TS-ME	29-NOV-15			

SI8722-3	B-2 (5FT)	30-OCT-15 13:05	02-NOV-15		10-NOV-15	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	MA-EPH	13-NOV-15	100g Glass		
Solid	S	MA-VPH	27-NOV-15	40 mL Vial+MEOH		
Solid	S	TS-ME	29-NOV-15			

SI8722-4	B-3 (1FT)	30-OCT-15 10:05	02-NOV-15		10-NOV-15	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW3050-PREP	27-APR-16			
Solid	S	SW6010-ARSENIC	27-APR-16	4oz Glass		
Solid	S	SW6010-CADMIUM	27-APR-16	4oz Glass		
Solid	S	SW6010-CHROMIUM	27-APR-16	4oz Glass		
Solid	S	SW6010-LEAD	27-APR-16	4oz Glass		
Solid	S	SW7471-MERCURY	27-NOV-15	50g Glass		
Solid	S	TS-ME	29-NOV-15			

SI8722-5	B-3 (6FT)	30-OCT-15 10:10	02-NOV-15		10-NOV-15	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	MA-VPH	27-NOV-15	40 mL Vial+MEOH		no ts jar
Solid	S	TS-ME	29-NOV-15			

RESURGAM CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Login Number: SI8722

Quote/Incoming:

Account: DRUMLI001 NoWeb

Drumlin Environmental, LLC

Project:

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SI8722-6	B-4 (1.5FT)	30-OCT-15 11:05	02-NOV-15			10-NOV-15	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	MA-VPH	27-NOV-15	40 mL Vial+MEOH		
Solid	S	SW3050-PREP	27-APR-16			
Solid	S	SW6010-ARSENIC	27-APR-16	4oz Glass		
Solid	S	SW6010-CADMIUM	27-APR-16	4oz Glass		
Solid	S	SW6010-CHROMIUM	27-APR-16	4oz Glass		
Solid	S	SW6010-LEAD	27-APR-16	4oz Glass		
Solid	S	SW7471-MERCURY	27-NOV-15	50g Glass		
Solid	S	SW8260FULL5ML	13-NOV-15	40 mL Vial+DI+MEOH		
Solid	S	TS-ME	29-NOV-15			

SI8722-7	B-5 (9.5FT)	30-OCT-15 11:51	02-NOV-15		10-NOV-15	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	MA-EPH	13-NOV-15	100g Glass		
Solid	S	SW8260FULL5ML	13-NOV-15	40 mL Vial+DI+MEOH		
Solid	S	TS-ME	29-NOV-15			

SI8722-8	B-8 (4FT)	30-OCT-15 10:26	02-NOV-15		10-NOV-15	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	MA-EPH	13-NOV-15	100g Glass		
Solid	S	MA-VPH	27-NOV-15	40 mL Vial+MEOH		
Solid	S	TS-ME	29-NOV-15			

SI8722-9	B-9 (1.5FT)	30-OCT-15 14:00	02-NOV-15		10-NOV-15	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW3050-PREP	27-APR-16			
Solid	S	SW6010-ARSENIC	27-APR-16	4oz Glass		
Solid	S	SW6010-CADMIUM	27-APR-16	4oz Glass		
Solid	S	SW6010-CHROMIUM	27-APR-16	4oz Glass		
Solid	S	SW6010-LEAD	27-APR-16	4oz Glass		
Solid	S	SW7471-MERCURY	27-NOV-15	50g Glass		
Solid	S	TS-ME	29-NOV-15			

SI8722-10	B-6 (4FT)	31-OCT-15 13:15	02-NOV-15		10-NOV-15	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	MA-EPH	14-NOV-15	100g Glass		
Solid	S	SW3050-PREP	28-APR-16			
Solid	S	SW6010-ARSENIC	28-APR-16	4oz Glass		
Solid	S	SW6010-CADMIUM	28-APR-16	4oz Glass		
Solid	S	SW6010-CHROMIUM	28-APR-16	4oz Glass		
Solid	S	SW6010-LEAD	28-APR-16	4oz Glass		
Solid	S	SW7471-MERCURY	28-NOV-15	50g Glass		
Solid	S	SW8082	30-NOV-15	100g Glass		
Solid	S	SW8260FULL5ML	14-NOV-15	40 mL Vial+DI+MEOH		
Solid	S	TS-ME	30-NOV-15			

SI8722-11	B-7 (2FT)	31-OCT-15 11:00	02-NOV-15		10-NOV-15	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW3050-PREP	28-APR-16			
Solid	S	SW6010-ARSENIC	28-APR-16	4oz Glass		
Solid	S	SW6010-CADMIUM	28-APR-16	4oz Glass		
Solid	S	SW6010-CHROMIUM	28-APR-16	4oz Glass		
Solid	S	SW6010-LEAD	28-APR-16	4oz Glass		
Solid	S	SW7471-MERCURY	28-NOV-15	50g Glass		
Solid	S	SW8082	30-NOV-15	100g Glass		
Solid	S	TS-ME	30-NOV-15			

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Nov. 03, 2015

02:17 PM

CITY OF PORTLAND, MAINE · RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Login Number: SI8722

Quote/Incoming:

Account: DRUMLI001 NoWeb

Drumlin Environmental, LLC

Project:

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SI8722-12	B-7 (4FT)	31-OCT-15 11:10	02-NOV-15			10-NOV-15	

Matrix		*Product*	*Hold Date (shortest)*	*Bottle Type*	*Bottle Count*	*Comments*
Solid	S	MA-EPH	14-NOV-15	100g Glass		
Solid	S	TS-ME	30-NOV-15			

Total Samples: 12 ***Total Analyses: 66***

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

November 17, 2015

Mr. Rich Fortin
Drumlin Environmental, LLC
97 India Street
PO Box 392
Portland,ME 04112-0342

RE: Katahdin Lab Number: SI8740
Project ID: Air Testing
Project Manager: Ms. Diane Paul
Sample Receipt Date(s): November 03, 2015

Dear Mr. Fortin:

Please find enclosed the following information:

* Report of Analysis (Analytical and/or Field)
* Quality Control Data Summary
* Chain of Custody (COC)
* Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Please go to http://www.katahdinlab.com/cert.html for copies of Katahdin Analytical Services Inc. current certificates and analyte lists.

Sincerely,
KATAHDIN ANALYTICAL SERVICES

Deborah J. Nadeau
Authorized Signature

11/17/2015
Date

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

TECHNICAL NARRATIVE

Organics Analysis

The samples of work order SI8740 were analyzed in accordance with "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air: Compendium Method TO-15." 2nd Edition, 1999, Office of Research and Development, U.S. EPA, and/or "Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH)" 1st Edition, 2009, Massachusetts DEP, and/or for the specific methods listed below or on the Report of Analysis.

MA-APH Analysis

The LCS, WG174317-1, had a low recovery for the C9-C12 aliphatic range which was outside the method acceptance limits. Since the LCSD, WG174317-2, had a C9-C12 aliphatic range recovery within the method acceptance limits, no further action was taken.

TO-15 Analysis

There were no protocol deviations or observations noted by the organics laboratory staff for this analysis.

There were no other protocol deviations or observations noted by the organics laboratory staff.

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

or

J Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

C Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).

L Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.

N Presumptive evidence of a compound based on a mass spectral library search.

A Indicates that a tentatively identified compound is a suspected aldol-condensation product.

P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8740-1
Client ID: SV-1
Project: Air Testing
SDG: SI8740
Lab File ID: A0791.D

Sample Date: 02-NOV-15
Received Date: 03-NOV-15
Extract Date: 14-NOV-15
Extracted By: AAB
Extraction Method: MADEP APH
Lab Prep Batch: WG174317

Analysis Date: 14-NOV-15
Analyst: AAB
Analysis Method: MADEP APH
Matrix: AR
% Solids: NA
Report Date: 15-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,3-Butadiene	U	0.28	ug/m3	.5	.55	0.28
Methyl tert-Butyl Ether	U	0.45	ug/m3	.5	.9	0.45
Benzene	U	0.40	ug/m3	.5	.8	0.40
Toluene		1.8	ug/m3	.5	.94	0.47
C5-C8 Aliphatics		79	ug/m3	.5	10	5.0
Ethylbenzene	U	0.54	ug/m3	.5	1.09	0.54
m+p-Xylenes		2.8	ug/m3	.5	2.17	1.1
o-Xylene		0.57	ug/m3	.5	1.09	0.54
Naphthalene	U	0.66	ug/m3	.5	1.31	0.66
C9-C12 Aliphatics		54	ug/m3	.5	10	5.0
C9-C10 Aromatics Total		5.3	ug/m3	.5	10	5.0

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

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Inspections Division
Approved with Conditions
Date: 04/11/17

Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8740-2
Client ID: SV-2
Project: Air Testing
SDG: SI8740
Lab File ID: A0792.D

Sample Date: 02-NOV-15
Received Date: 03-NOV-15
Extract Date: 14-NOV-15
Extracted By: AAB
Extraction Method: MADEP APH
Lab Prep Batch: WG174317

Analysis Date: 14-NOV-15
Analyst: AAB
Analysis Method: MADEP APH
Matrix: AR
% Solids: NA
Report Date: 15-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,3-Butadiene	U	0.28	ug/m3	.5	.55	0.28
Methyl tert-Butyl Ether	U	0.45	ug/m3	.5	.9	0.45
Benzene	U	0.40	ug/m3	.5	.8	0.40
Toluene		4.8	ug/m3	.5	.94	0.47
C5-C8 Aliphatics		140	ug/m3	.5	10	5.0
Ethylbenzene		0.78	ug/m3	.5	1.09	0.54
m+p-Xylenes		6.9	ug/m3	.5	2.17	1.1
o-Xylene		1.4	ug/m3	.5	1.09	0.54
Naphthalene	U	0.66	ug/m3	.5	1.31	0.66
C9-C12 Aliphatics		110	ug/m3	.5	10	5.0
C9-C10 Aromatics Total		13	ug/m3	.5	10	5.0

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

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Inspections Division
Approved with Conditions
Date: 04/11/17

Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8740-3
Client ID: SV-3
Project: Air Testing
SDG: SI8740
Lab File ID: A0793.D

Sample Date: 02-NOV-15
Received Date: 03-NOV-15
Extract Date: 14-NOV-15
Extracted By: AAB
Extraction Method: MADEP APH
Lab Prep Batch: WG174317

Analysis Date: 14-NOV-15
Analyst: AAB
Analysis Method: MADEP APH
Matrix: AR
% Solids: NA
Report Date: 15-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,3-Butadiene	U	0.28	ug/m3	.5	.55	0.28
Methyl tert-Butyl Ether	U	0.45	ug/m3	.5	.9	0.45
Benzene		1.8	ug/m3	.5	.8	0.40
Toluene		8.3	ug/m3	.5	.94	0.47
C5-C8 Aliphatics		190	ug/m3	.5	10	5.0
Ethylbenzene		1.3	ug/m3	.5	1.09	0.54
m+p-Xylenes		8.3	ug/m3	.5	2.17	1.1
o-Xylene		1.5	ug/m3	.5	1.09	0.54
Naphthalene	U	0.66	ug/m3	.5	1.31	0.66
C9-C12 Aliphatics		140	ug/m3	.5	10	5.0
C9-C10 Aromatics Total		5.9	ug/m3	.5	10	5.0

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8740-4
Client ID: SV-4
Project: Air Testing
SDG: SI8740
Lab File ID: A0794.D

Sample Date: 02-NOV-15
Received Date: 03-NOV-15
Extract Date: 14-NOV-15
Extracted By: AAB
Extraction Method: MADEP APH
Lab Prep Batch: WG174317

Analysis Date: 14-NOV-15
Analyst: AAB
Analysis Method: MADEP APH
Matrix: AR
% Solids: NA
Report Date: 15-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,3-Butadiene	U	0.28	ug/m3	.5	.55	0.28
Methyl tert-Butyl Ether	U	0.45	ug/m3	.5	.9	0.45
Benzene		1.4	ug/m3	.5	.8	0.40
Toluene		8.1	ug/m3	.5	.94	0.47
C5-C8 Aliphatics		130	ug/m3	.5	10	5.0
Ethylbenzene		1.2	ug/m3	.5	1.09	0.54
m+p-Xylenes		7.2	ug/m3	.5	2.17	1.1
o-Xylene		1.4	ug/m3	.5	1.09	0.54
Naphthalene	U	0.66	ug/m3	.5	1.31	0.66
C9-C12 Aliphatics		110	ug/m3	.5	10	5.0
C9-C10 Aromatics Total		6.8	ug/m3	.5	10	5.0

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8740-5
Client ID: SV-5
Project: Air Testing
SDG: SI8740
Lab File ID: A0795.D

Sample Date: 02-NOV-15
Received Date: 03-NOV-15
Extract Date: 14-NOV-15
Extracted By: AAB
Extraction Method: MADEP APH
Lab Prep Batch: WG174317

Analysis Date: 14-NOV-15
Analyst: AAB
Analysis Method: MADEP APH
Matrix: AR
% Solids: NA
Report Date: 15-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,3-Butadiene	U	0.28	ug/m3	.5	.55	0.28
Methyl tert-Butyl Ether	U	0.45	ug/m3	.5	.9	0.45
Benzene	U	0.40	ug/m3	.5	.8	0.40
Toluene		2.9	ug/m3	.5	.94	0.47
C5-C8 Aliphatics		82	ug/m3	.5	10	5.0
Ethylbenzene		1.0	ug/m3	.5	1.09	0.54
m+p-Xylenes		4.8	ug/m3	.5	2.17	1.1
o-Xylene		0.84	ug/m3	.5	1.09	0.54
Naphthalene	U	0.66	ug/m3	.5	1.31	0.66
C9-C12 Aliphatics		47	ug/m3	.5	10	5.0
C9-C10 Aromatics Total	U	5.0	ug/m3	.5	10	5.0

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Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Air Testing
Lab File ID : A0783.D
Instrument ID : AIR-1
Heated Purge : No

SDG : SI8740
Lab Sample ID : WG174317-3
Date Analyzed : 13-NOV-15
Time Analyzed : 18:32

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG174317-1	A0781.D	11/13/15	17:04
Laboratory Control S	WG174317-2	A0782.D	11/13/15	17:46
SV-1	SI8740-1	A0791.D	11/14/15	00:24
SV-2	SI8740-2	A0792.D	11/14/15	01:12
SV-3	SI8740-3	A0793.D	11/14/15	02:02
SV-4	SI8740-4	A0794.D	11/14/15	02:51
SV-5	SI8740-5	A0795.D	11/14/15	03:40

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Report of Analytical Results

Client:
Lab ID: WG174317-3
Client ID: Method Blank Sample
Project:
SDG: SI8740
Lab File ID: A0783.D

Sample Date:
Received Date:
Extract Date: 13-NOV-15
Extracted By: AAB
Extraction Method: MADEP APH
Lab Prep Batch: WG174317

Analysis Date: 13-NOV-15
Analyst: AAB
Analysis Method: MADEP APH
Matrix: AR
% Solids: NA
Report Date: 15-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,3-Butadiene	U	0.28	ug/m3	.5	.55	0.28
Methyl tert-Butyl Ether	U	0.45	ug/m3	.5	.9	0.45
Benzene	U	0.40	ug/m3	.5	.8	0.40
Toluene	U	0.47	ug/m3	.5	.94	0.47
C5-C8 Aliphatics	U	5.0	ug/m3	.5	10	5.0
Ethylbenzene	U	0.54	ug/m3	.5	1.09	0.54
m+p-Xylenes	U	1.1	ug/m3	.5	2.17	1.1
o-Xylene	U	0.54	ug/m3	.5	1.09	0.54
Naphthalene	U	0.66	ug/m3	.5	1.31	0.66
C9-C12 Aliphatics	U	5.0	ug/m3	.5	10	5.0
C9-C10 Aromatics Total	U	5.0	ug/m3	.5	10	5.0

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LCS/LCSD Recovery Report

LCS ID: WG174317-1
LCSD ID: WG174317-2
Project:
SDG: SI8740
Report Date: 15-NOV-15
LCS File ID: A0781.D

Received Date:
Extract Date: 13-NOV-15
Extracted By: AAB
Extraction Method: MADEP APH
Lab Prep Batch: WG174317
LCSD File ID: A0782.D

Analysis Date: 13-NOV-15
Analyst: AAB
Analysis Method: MADEP APH
Matrix: AR
% Solids: NA

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
1,3-Butadiene	27.6	24.4	88.4	24.9	90.2	ug/m3	2	25	70-130
Methyl tert-Butyl Ether	45.0	41.7	92.7	43.9	97.6	ug/m3	5	25	70-130
Benzene	39.9	36.1	90.5	37.1	93.0	ug/m3	3	25	70-130
Toluene	47.1	44.7	94.9	46.7	99.2	ug/m3	4	25	70-130
C5-C8 Aliphatics	285.	236.	82.8	244.	85.6	ug/m3	3	25	70-130
Ethylbenzene	54.3	50.2	92.4	52.8	97.2	ug/m3	5	25	70-130
m+p-Xylenes	108.	100.	92.6	104.	96.3	ug/m3	4	25	70-130
o-Xylene	54.3	52.2	96.1	54.2	99.8	ug/m3	4	25	70-130
Naphthalene	65.5	54.6	83.4	57.1	87.2	ug/m3	4	25	50-150
C9-C12 Aliphatics	275.	186.	67.6*	193.	70.2	ug/m3	4	25	70-130
C9-C10 Aromatics Total	314.	303.	96.5	312.	99.4	ug/m3	3	25	70-130

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8740-1
Client ID: SV-1
Project: Air Testing
SDG: SI8740
Lab File ID: A0791.D

Sample Date: 02-NOV-15
Received Date: 03-NOV-15
Extract Date: 14-NOV-15
Extracted By: AAB
Extraction Method: TO 15
Lab Prep Batch: WG174318

Analysis Date: 14-NOV-15
Analyst: AAB
Analysis Method: EPA TO-15
Matrix: AR
% Solids: NA
Report Date: 15-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Vinyl Chloride	U	0.26	ug/m3	1	.1	0.26
1,1-Dichloroethene	U	0.40	ug/m3	1	.1	0.40
trans-1,2-Dichloroethene	U	0.40	ug/m3	1	.1	0.40
1,1-Dichloroethane	U	0.40	ug/m3	1	.1	0.40
cis-1,2-Dichloroethene	U	0.40	ug/m3	1	.1	0.40
1,2-Dichloroethane	U	0.40	ug/m3	1	.1	0.40
1,1,1-Trichloroethane	U	0.54	ug/m3	1	.1	0.54
Trichloroethene		4.0	ug/m3	1	.1	0.54
Tetrachloroethene		1.6	ug/m3	1	.1	0.68

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8740-3
Client ID: SV-3
Project: Air Testing
SDG: SI8740
Lab File ID: A0793.D

Sample Date: 02-NOV-15
Received Date: 03-NOV-15
Extract Date: 14-NOV-15
Extracted By: AAB
Extraction Method: TO 15
Lab Prep Batch: WG174318

Analysis Date: 14-NOV-15
Analyst: AAB
Analysis Method: EPA TO-15
Matrix: AR
% Solids: NA
Report Date: 15-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Vinyl Chloride	U	0.26	ug/m3	1	.1	0.26
1,1-Dichloroethene	U	0.40	ug/m3	1	.1	0.40
trans-1,2-Dichloroethene	U	0.40	ug/m3	1	.1	0.40
1,1-Dichloroethane	U	0.40	ug/m3	1	.1	0.40
cis-1,2-Dichloroethene	U	0.40	ug/m3	1	.1	0.40
1,2-Dichloroethane	U	0.40	ug/m3	1	.1	0.40
1,1,1-Trichloroethane	U	0.54	ug/m3	1	.1	0.54
Trichloroethene		2.7	ug/m3	1	.1	0.54
Tetrachloroethene	U	0.68	ug/m3	1	.1	0.68

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8740-4
Client ID: SV-4
Project: Air Testing
SDG: SI8740
Lab File ID: A0794.D

Sample Date: 02-NOV-15
Received Date: 03-NOV-15
Extract Date: 14-NOV-15
Extracted By: AAB
Extraction Method: TO 15
Lab Prep Batch: WG174318

Analysis Date: 14-NOV-15
Analyst: AAB
Analysis Method: EPA TO-15
Matrix: AR
% Solids: NA
Report Date: 15-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Vinyl Chloride	U	0.26	ug/m3	1	.1	0.26
1,1-Dichloroethene	U	0.40	ug/m3	1	.1	0.40
trans-1,2-Dichloroethene	U	0.40	ug/m3	1	.1	0.40
1,1-Dichloroethane	U	0.40	ug/m3	1	.1	0.40
cis-1,2-Dichloroethene	U	0.40	ug/m3	1	.1	0.40
1,2-Dichloroethane	U	0.40	ug/m3	1	.1	0.40
1,1,1-Trichloroethane	U	0.54	ug/m3	1	.1	0.54
Trichloroethene		1.6	ug/m3	1	.1	0.54
Tetrachloroethene		2.6	ug/m3	1	.1	0.68

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Report of Analytical Results

Client: Drumlin Environmental, LLC
Lab ID: SI8740-5
Client ID: SV-5
Project: Air Testing
SDG: SI8740
Lab File ID: A0795.D

Sample Date: 02-NOV-15
Received Date: 03-NOV-15
Extract Date: 14-NOV-15
Extracted By: AAB
Extraction Method: TO 15
Lab Prep Batch: WG174318

Analysis Date: 14-NOV-15
Analyst: AAB
Analysis Method: EPA TO-15
Matrix: AR
% Solids: NA
Report Date: 15-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Vinyl Chloride	U	0.26	ug/m3	1	.1	0.26
1,1-Dichloroethene	U	0.40	ug/m3	1	.1	0.40
trans-1,2-Dichloroethene	U	0.40	ug/m3	1	.1	0.40
1,1-Dichloroethane	U	0.40	ug/m3	1	.1	0.40
cis-1,2-Dichloroethene	U	0.40	ug/m3	1	.1	0.40
1,2-Dichloroethane	U	0.40	ug/m3	1	.1	0.40
1,1,1-Trichloroethane	U	0.54	ug/m3	1	.1	0.54
Trichloroethene	U	0.54	ug/m3	1	.1	0.54
Tetrachloroethene		2.6	ug/m3	1	.1	0.68

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Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Air Testing
Lab File ID : A0783.D
Instrument ID : AIR1
Heated Purge : No

SDG : SI8740
Lab Sample ID : WG174318-2
Date Analyzed : 13-NOV-15
Time Analyzed : 18:32

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG174318-1	A0779.D	11/13/15	14:43
SV-1	SI8740-1	A0791.D	11/14/15	00:24
SV-3	SI8740-3	A0793.D	11/14/15	02:02
SV-4	SI8740-4	A0794.D	11/14/15	02:51
SV-5	SI8740-5	A0795.D	11/14/15	03:40

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Report of Analytical Results

Client:
Lab ID: WG174318-2
Client ID: Method Blank Sample
Project:
SDG: SI8740
Lab File ID: A0783.D

Sample Date:
Received Date:
Extract Date: 13-NOV-15
Extracted By: AAB
Extraction Method: TO 15
Lab Prep Batch: WG174318

Analysis Date: 13-NOV-15
Analyst: AAB
Analysis Method: EPA TO-15
Matrix: AR
% Solids: NA
Report Date: 15-NOV-15

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Vinyl Chloride	U	0.26	ug/m3	1	.1	0.26
1,1-Dichloroethene	U	0.40	ug/m3	1	.1	0.40
trans-1,2-Dichloroethene	U	0.40	ug/m3	1	.1	0.40
1,1-Dichloroethane	U	0.40	ug/m3	1	.1	0.40
cis-1,2-Dichloroethene	U	0.40	ug/m3	1	.1	0.40
1,2-Dichloroethane	U	0.40	ug/m3	1	.1	0.40
1,1,1-Trichloroethane	U	0.54	ug/m3	1	.1	0.54
Trichloroethene	U	0.54	ug/m3	1	.1	0.54
Tetrachloroethene	U	0.68	ug/m3	1	.1	0.68

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LCS Recovery Report

Client:
Lab ID: WG174318-1
Client ID: LCS
Project:
SDG: SI8740
LCS File ID: A0779.D

Sample Date:
Received Date:
Extract Date: 13-NOV-15
Extracted By: AAB
Extraction Method: TO 15
Lab Prep Batch: WG174318

Analysis Date: 13-NOV-15
Analyst: AAB
Analysis Method: EPA TO-15
Matrix: AR
% Solids: NA
Report Date: 15-NOV-15

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Vinyl Chloride	80.0	5.00	4.00	ppb/v	70-130
1,1-Dichloroethene	80.0	5.00	4.00	ppb/v	70-130
trans-1,2-Dichloroethene	74.0	5.00	3.70	ppb/v	70-130
1,1-Dichloroethane	74.0	5.00	3.70	ppb/v	70-130
cis-1,2-Dichloroethene	76.0	5.00	3.80	ppb/v	70-130
1,2-Dichloroethane	76.0	5.00	3.80	ppb/v	70-130
1,1,1-Trichloroethane	78.0	5.00	3.90	ppb/v	70-130
Trichloroethene	76.0	5.00	3.80	ppb/v	70-130
Tetrachloroethene	70.0	5.00	3.50	ppb/v	70-130

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Katahdin Analytical Services, Inc.

Sample Receipt Conditi

Client: Dumbo	KAS PM: DOP	Sampled By:	
Project:	KIMS Entry By: AP	Delivered By:	
KAS Work Order#: SI8740	KIMS Review By:	Received By: AP	
SDG #:	Cooler: N/A of	Date/Time Rec.: 11/3/15 825	

CITY OF PORTLAND, MAINE RESURGAM
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Date: 04/11/17

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		/			
2. Chain of Custody present in cooler?	/				
3. Chain of Custody signed by client?	/				
4. Chain of Custody matches samples?	/				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.				/	Temp (°C):
Samples received at ≤6 °C w/o freezing?				/	Note: Not required for metals (except Hg soil) analys
Ice packs or ice present?				/	The lack of ice or ice packs (i.e. no attemp
If yes, was there sufficient ice to meet temperature requirements?				/	begin cooling process) or insufficient ice m not meet certain regulatory requirements a may invalidate certain data.
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				/	Note: No cooling process required for met (except Hg soil) analysis.
6. Volatiles:					
Aqueous: No bubble larger than a pea?				/	
Soil/Sediment:					
Received in airtight container?				/	
Received in methanol?				/	
Methanol covering soil?				/	
D.I. Water - Received within 48 hour HT?				/	
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included			/	
7. Trip Blank present in cooler?				/	
8. Proper sample containers and volume?	/				
9. Samples within hold time upon receipt?	/				
10. Aqueous samples properly preserved?					
Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2				/	
Sulfide - >9				/	
Cyanide – pH >12				/	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

Katahdin
ANALYTICAL SERVICES
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P.O. Box 540
Scarborough, ME 04070
Tel: (207) 874-2400 Fax: (207) 775-4029

Air Analysis Chain of Cust

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Approved with Conditions
Date: 04/11/17

Client: Drumlin Environmental, LLC Contact: Rich Fortin Phone: 207-771-5546 Fax: 207

Address: PO Box 392 City: Portland State: ME Zip:

Purchase Order #: 15-017 Project Name/No.: 50 India St. E-mail: info@drumlinllc.com

Billing Address (if different): Same

Sampler (Print/Sign): Rich Fortin Richard Fortin Copies To:

Lab Use Only | Work Order #: SJ8740 KAS Project Manager: Diane Pearl

Shipping: UPS Fed-Ex Mail Drop-Off

Sample Description (Sample Identification and/or Lot #)	Collection					Matrix	Sampler	Can Size	Can ID	Flow Controller ID	Requested Services			Comments
	Date	Start Time	End Time	Initial Vac	Final Vac						APH	VOC		
SV-1	11/2/15	1:05pm	1:35pm	-26.5	0	Air	RFF	1.4 Ltr	0075	0251	X	X		Method TO-15
SV-2	11/2/15	1:20pm	1:50pm	-31	-2	Air	RFF	1.4 Ltr	0081	0065	X			
SV-3	11/2/15	1:52pm	2:22pm	-26	0	Air	RFF	1.4 Ltr	0192	0262	X	X		
SV-4	11/2/15	2:18pm	2:48pm	-30	-3	Air	RFF	1.4 Ltr	0201	0049	X	X		
SV-5	11/2/15	2:38pm	3:08pm	-27	-0.5	Air	RFF	1.4 Ltr	0035	0250	X	X		

Relinquished By:	Date/Time:	Received By:	Relinquished By:	Date/Time:	Received By:
Richard Fortin	11/3/15 9:25 AM				

Katahdin inspects and verifies all equipment including, but not limited to, canisters and flow controllers before being sent to the client. As the client you have agreed to pay a rental fee for use of this equipment, which is the sole property of Katahdin. All equipment will be inspected for damage and completeness upon return to Katahdin. In the event that rental equipment is missing and/or damaged, by signing this COC, you (the client) agrees to pay Katahdin for replacement of any unuseuable, damaged or missing equipment.

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Inspections Division
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Date: 04/11/17

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Nov. 03, 2015
02:07 PM

Quote/Incoming: DRUMLINAIR

Login Number: SI8740

Account: DRUMLI001 NoWeb
Drumlin Environmental, LLC

Project: DRUMLINT015
Chlorinated Air compounds

Primary Report Address:
Rich Fortin
Drumlin Environmental, LLC
97 India Street
PO Box 392
Portland,ME 04112-0342
info@drumlinllc.com

Primary Invoice Address:
Accounts Payable
Drumlin Environmental, LLC
97 India Street
PO Box 392
Portland,ME 04112-0342

Report CC Addresses:

Invoice CC Addresses:

Login Information:

ANALYSIS INSTRUCTIONS	:	
CHECK NO.	:	
CLIENT PO#	:	15.017
CLIENT PROJECT MANAGE	:	
CONTRACT	:	
COOLER TEMPERATURE	:	n/a
DELIVERY SERVICES	:	Client
EDD FORMAT	:	
LOGIN INITIALS	:	AP
PM	:	DJP
PROJECT NAME	:	Air Testing
QC LEVEL	:	II
REGULATORY LIST	:	
REPORT INSTRUCTIONS	:	email pdf and invoice to info@drumlinllc.com, no HC
SDG ID	:	
SDG STATUS	:	

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SI8740-1	SV-1	02-NOV-15 13:35	03-NOV-15			10-NOV-15	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Air	S	CANISTER_RENTAL				
Air	S	MA-APH	02-DEC-15	Canister		
Air	S	TO-15-S	02-DEC-15	Canister		

SI8740-2	SV-2	02-NOV-15 13:50	03-NOV-15			10-NOV-15	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Air	S	CANISTER_RENTAL				
Air	S	MA-APH	02-DEC-15	Canister		

SI8740-3	SV-3	02-NOV-15 14:22	03-NOV-15			10-NOV-15	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Air	S	CANISTER_RENTAL				
Air	S	MA-APH	02-DEC-15	Canister		
Air	S	TO-15-S	02-DEC-15	Canister		

SI8740-4	SV-4	02-NOV-15 14:48	03-NOV-15			10-NOV-15	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Air	S	CANISTER_RENTAL				
Air	S	MA-APH	02-DEC-15	Canister		
Air	S	TO-15-S	02-DEC-15	Canister		

SI8740-5	SV-5	02-NOV-15 15:08	03-NOV-15			10-NOV-15	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Air	S	CANISTER_RENTAL				
Air	S	MA-APH	02-DEC-15	Canister		
Air	S	TO-15-S	02-DEC-15	Canister		

Total Samples: 5 ***Total Analyses: 14***

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

APPENDIX C

INDOOR AIR AND SOIL RISK CALCULATOR SHEETS

Indoor Air Input Sheet and
Summary of Total Incremental Lifetime Cancer Risks
and Endpoint-Specific Hazard Indices



Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Site:	50 India Street Site - Sample SV-1	Sample Date:	11/2/2015
Town	Portland, ME		
Spill No.	N/A		
Remediation No.	VRAP Project		

		ENTER DATA HERE
CAS Number	Chemical	Indoor Air Concentration (ug/m^3)
108-88-3	Toluene	**1.8**
DEP2038	C5-C8 Aliphatics	**79**
1330-20-7	Xylene	**3.4**
DEP2039	C9-C12 Aliphatics	**54**
DEP2040	C9-C10 Aromatics	**5.3**
79-01-6	Trichloroethene	4
127-18-4	Tetrachloroethene	**1.6**

	Residential		Commercial (not subject to OSHA)	
	Chronic	Subchronic	Chronic	Subchronic
Cumulative ILCR	9.0E-06	3.0E-06	1.0E-06	4.0E-07
Target Organ HIs				
Blood	0.30	0.09		0.02
Cardiovascular				
Developmental	2.00	2.00	0.50	0.50
Endocrine				
Eye				
Gastrointestinal				
Immune System	2.00	2.00	0.50	0.50
Kidney	2.00	2.00	0.50	0.50
Liver	0.30	0.10	0.01	0.03
Nervous System	2.00	2.00	0.50	0.50
Reproductive				
Respiratory				
Skin				
Other				

CITY OF PORTLAND, MAINE
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Chronic Residential

CAS Number	Chemical	Indoor Air Concentration (ug/m3)	Cancer-Based IAT (ug/m3)	Non-cancer-Based IAT (ug/m3)	ILCR	HI	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			5.2E+04																	x
630-20-6	1,1,1,2-Tetrachloroethane		3.3E+00				x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		4.2E-01				x									x			x		
71-55-6	1,1,1-Trichloroethane			5.2E+03												x	x				
79-00-5	1,1,2-Trichloroethane		1.5E+00				x	x						x		x	x				
75-34-3	1,1-Dichloroethane			5.2E+02			x								x	x					
75-35-4	1,1-Dichloroethene			2.1E+02												x					
87-61-6	1,2,3-Trichlorobenzene			2.1E+00							x				x	x					
120-82-1	1,2,4-Trichlorobenzene			2.1E+00			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		1.6E-03	2.1E-01			x				x						x	x			
95-50-1	1,2-Dichlorobenzene			2.1E+02											x						
107-06-2	1,2-Dichloroethane		9.4E-01	2.5E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)			6.3E+01				x								x			x		
156-60-5	1,2-Dichloroethene (trans)			6.3E+01				x								x			x		
78-87-5	1,2-Dichloropropane		2.4E+00	4.2E+00			x	x							x	x	x		x		
106-99-0	1,3-Butadiene		8.1E-01	2.1E+00			x			x								x			
542-75-6	1,3-Dichloropropene		6.1E+00	2.1E+01			x					x	x						x	x	
106-46-7	1,4-Dichlorobenzene			6.3E+01			x			x						x			x		
123-91-1	1,4-Dioxane			3.1E+03			x	x							x	x					
91-57-6	2-Methylnaphthalene			3.1E+00															x		
83-32-9	Acenaphthene			3.1E+00												x			x		
67-64-1	Acetone			3.2E+04				x							x		x				
75-05-8	Acetonitrile			6.3E+01				x								x					
107-02-8	Acrolein			3.7E-01				x	x				x	x					x		
107-13-1	Acrylonitrile		3.6E-01	2.1E+00			x	x		x							x	x	x		
107-05-1	Allyl chloride			1.0E+00			x										x				
12674-11-2	Aroclor 1016		4.3E-02				x			x	x						x				
71-43-2	Benzene		3.1E+00	1.0E+01			x	x						x			x				
100-44-7	Benzyl chloride			1.0E+00			x								x	x	x		x		
111-44-4	Bis(2-chloroethyl)ether		7.4E-02				x														
75-27-4	Bromodichloromethane		6.6E-01				x								x	x					
75-25-2	Bromoform		2.2E+01				x									x			x		
74-83-9	Bromomethane			5.2E+00										x			x		x		
75-15-0	Carbon disulfide			7.3E+02					x	x			x				x	x			
56-23-5	Carbon tetrachloride		4.1E+00	1.0E+02			x								x	x					
108-90-7	Chlorobenzene			1.0E+03										x		x			x		
67-66-3	Chloroform		1.1E+00	2.1E+00			x									x					
74-87-3	Chloromethane			9.4E+01					x	x						x	x	x			
124-48-1	Dibromochloromethane		9.0E-01				x								x	x					
75-71-8	Dichlorodifluoromethane			2.1E+02												x					
100-41-4	Ethylbenzene		9.7E+00	1.0E+02			x			x					x	x	x				
106-93-4	Ethylene dibromide		4.1E-02	9.4E+00			x			x	x					x		x	x		
75-00-3	Ethyl chloride			1.0E+04						x											
76-44-8	Heptachlor		1.9E-02				x			x					x	x					
118-74-1	Hexachlorobenzene		5.3E-02				x				x			x		x		x			
87-68-3	Hexachlorobutadiene		1.1E+00				x								x	x	x				
67-72-1	Hexachloroethane			3.1E+01			x								x	x	x				
7439-97-6	Mercury (elemental)			3.1E-01					x	x							x				
78-93-3	Methyl ethyl ketone			5.2E+03						x											
108-10-1	Methyl isobutyl ketone			3.1E+03						x					x	x					
80-62-6	Methyl methacrylate			7.3E+02										x	x				x	x	
1634-04-4	Methyl tert-butyl ether		9.4E+01	3.1E+03			x				x				x	x	x				
75-09-2	Methylene chloride		9.6E+02	6.3E+02			x								x	x			x		
106-94-5	n-Propyl bromide			5.2E+00						x				x			x	x	x		
91-20-3	Naphthalene		7.2E-01	3.1E+00			x	x						x	x	x			x		
1336-36-3	PCBs		4.3E-02				x				x			x			x	x		x	
85-01-8	Phenanthrene			3.1E+00											x				x		
108-95-2	Phenol			2.1E+02													x	x	x		
100-42-5	Styrene			3.1E+02				x			x					x	x				
127-18-4	Tetrachloroethene	1.6	9.4E+01	4.2E+01	1.7E-07	3.84E-02	x			x						x	x				
108-88-3	Toluene	1.8		5.2E+03		3.45E-04								x	x		x				
79-01-6	Trichloroethene	4	4.3E+00	2.1E+00	9.3E-06	1.92E+00	x			x				x	x		x				
75-69-4	Trichlorofluoromethane			7.3E+02					x						x				x		
108-05-4	Vinyl acetate			2.1E+02											x				x		
593-60-2	Vinyl bromide		7.6E-01	3.1E+00			x								x						
75-01-4	Vinyl chloride		2.8E+00	1.0E+01			x			x					x						
1330-20-7	Xylene	3.37		1.0E+02		3.23E-02				x				x	x		x				
DEP2038	C5-C8 Aliphatics	79		6.3E+02		1.26E-01											x				
DEP2039	C9-C12 Aliphatics	54		2.1E+02		2.59E-01		x							x	x					
DEP2040	C9-C10 Aromatics	5.3		5.2E+01		1.02E-01									x						

	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
Total	9.4E-06	0.26	0.00	1.99	0.00	0.00	0.00	1.95	2.05	0.30	2.37	0.00	0.00	0.00	0.00

	ILCR
Cancer - inhalation	9.0E-06

	HQ
Blood	0.30
Cardio	0.00
Dev	2.00
Endo	0.00
Eye	0.00
Gastro	0.00
Immune	2.00
Kidney	2.00
Liver	0.30
Nervous	2.00
Reprod	0.00
Resp	0.00
Skin	0.00
Other	0.00

CITY OF PORTLAND, MAINE
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Sub-Chronic Residential

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m^3)	Noncancer-Based IAT (ug/m^3)	ILCR	HI	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			5.2E+04																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.4E+01				x								x	x					
79-34-5	1,1,2,2-Trichloroethane		1.8E+00				x									x				x	
71-55-6	1,1,1-Trichloroethane			5.2E+03												x	x				
79-00-5	1,1,2-Trichloroethane		6.5E+00				x	x						x		x	x				
75-34-3	1,1-Dichloroethane			5.2E+03			x								x	x					
75-35-4	1,1-Dichloroethene			2.1E+02												x					
87-61-6	1,2,3-Trichlorobenzene			2.1E+00							x				x	x					
120-82-1	1,2,4-Trichlorobenzene			2.1E+00			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		5.2E-02	2.1E+00			x				x							x	x		
95-50-1	1,2-Dichlorobenzene			2.1E+03											x						
107-06-2	1,2-Dichloroethane		4.0E+00	2.5E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)			8.3E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)			8.3E+02				x								x			x		
78-87-5	1,2-Dichloropropane		1.0E+01	3.1E+01			x	x							x	x	x		x		
106-99-0	1,3-Butadiene		3.5E+00	2.1E+00			x			x								x			
542-75-6	1,3-Dichloropropene		2.6E+01	4.2E+01			x						x	x					x	x	
106-46-7	1,4-Dichlorobenzene			1.3E+03			x			x						x			x		
123-91-1	1,4-Dioxane			3.1E+03			x	x							x	x					
91-57-6	2-Methylnaphthalene			3.1E+00															x		
83-32-9	Acenaphthene			3.1E+00												x			x		
67-64-1	Acetone			3.2E+04				x							x		x				
75-05-8	Acetonitrile			6.3E+01				x								x					
107-02-8	Acrolein			3.7E+00				x	x			x	x						x		
107-13-1	Acrylonitrile		1.5E+00	2.1E+00			x	x		x							x	x	x		
107-05-1	Allyl chloride			1.0E+01			x										x				
12674-11-2	Aroclor 1016		1.8E-01				x			x	x						x				
71-43-2	Benzene		1.3E+01	2.1E+01			x	x							x		x				
100-44-7	Benzyl chloride			1.0E+00			x								x	x	x		x		
111-44-4	Bis(2-chloroethyl)ether		3.2E-01	1.2E+02			x														
75-27-4	Bromodichloromethane		2.8E+00				x								x	x					
75-25-2	Bromoform		9.5E+01				x									x			x		
74-83-9	Bromomethane			2.1E+02									x				x		x		
75-15-0	Carbon disulfide			2.2E+03					x	x		x					x	x			
56-23-5	Carbon tetrachloride		1.7E+01	1.0E+02			x								x	x					
108-90-7	Chlorobenzene			1.0E+03									x		x	x		x			
67-66-3	Chloroform		4.5E+00	2.6E+02			x									x					
74-87-3	Chloromethane			9.4E+02					x	x							x	x	x		
124-48-1	Dibromochloromethane		3.9E+00				x								x	x					
75-71-8	Dichlorodifluoromethane			2.1E+03												x					
100-41-4	Ethylbenzene		4.2E+01	9.1E+03			x			x					x	x	x				
106-93-4	Ethylene dibromide		1.7E-01	9.4E+00			x			x	x						x		x	x	
75-00-3	Ethyl chloride			1.0E+04						x											
76-44-8	Heptachlor		8.0E-02				x			x					x	x					
118-74-1	Hexachlorobenzene		2.3E-01				x				x				x		x		x		
87-68-3	Hexachlorobutadiene		4.7E+00				x								x	x	x				
67-72-1	Hexachloroethane			3.1E+02			x								x	x	x				
7439-97-6	Mercury (elemental)			3.1E-01					x	x							x				
78-93-3	Methyl ethyl ketone			5.2E+03						x											
108-10-1	Methyl isobutyl ketone			3.1E+03						x					x	x					
80-62-6	Methyl methacrylate			7.3E+02									x	x					x	x	
1634-04-4	Methyl tert-butyl ether		4.0E+02	3.1E+03			x				x				x	x	x				
75-09-2	Methylene chloride		3.1E+04	1.1E+03			x									x	x		x		
106-94-5	n-Propyl bromide			2.1E+02						x			x				x	x	x		
91-20-3	Naphthalene		3.1E+00	3.1E+00			x	x							x	x			x		
1336-36-3	PCBs		1.8E-01				x				x				x		x	x		x	
85-01-8	Phenanthrene			3.1E+00												x				x	
108-95-2	Phenol			6.3E+02													x	x	x		
100-42-5	Styrene			9.4E+02				x			x						x	x			
127-18-4	Tetrachloroethene	1.6	4.0E+02	4.2E+01	4.0E-08	3.81E-02	x			x							x	x			
108-88-3	Toluene	1.8		5.2E+03		3.46E-04								x	x		x				
79-01-6	Trichloroethene	4	1.3E+01	2.1E+00	3.1E-06	1.90E+00	x			x				x	x		x				
75-69-4	Trichlorofluoromethane			7.3E+03					x						x				x		
108-05-4	Vinyl acetate			2.1E+02											x				x		
593-60-2	Vinyl bromide		3.3E+00	3.1E+00			x									x					
75-01-4	Vinyl chloride		1.2E+01	8.3E+01			x			x						x					
1330-20-7	Xylene	3.37		3.1E+02		1.09E-02				x				x	x		x				
DEP2038	C5-C8 Aliphatics	79		2.1E+03		3.76E-02											x				
DEP2039	C9-C12 Aliphatics	54		6.3E+02		8.57E-02		x								x	x				
DEP2040	C9-C10 Aromatics	5.3		5.2E+02		1.02E-02									x						

Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
4.0E-08			0.04						0.04	0.04				
							0.00	0.00		0.00				
3.1E-06			1.90				1.90	1.90		1.90				
			0.01				0.01	0.01		0.01				
	0.09								0.09	0.09				
								0.01						
Total 3.1E-06	0.09	0.00	1.95	0.00	0.00	0.00	1.92	1.93	0.12	2.08	0.00	0.00	0.00	0.00

	ILCR
Cancer - inhalation	3.0E-06

	HQ
Blood	0.09
Cardiovascular	0.00
Developmental	2.00
Endocrine	0.00
Eye	0.00
Gastrointestinal	0.00
Immune System	2.00
Kidney	2.00
Liver	0.10
Nervous System	2.00
Reproductive	0.00
Respiratory	0.00
Skin	0.00
Other	0.00

CITY OF PORTLAND, MAINE
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Chronic Commercial

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m^3)	Noncancer-Based IAT (ug/m^3)	ILCR	HI	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			2.2E+05																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.7E+01				x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.1E+00				x									x			x		
71-55-6	1,1,1-Trichloroethane			2.2E+04												x	x				
79-00-5	1,1,2-Trichloroethane		7.7E+00				x	x						x		x	x				
75-34-3	1,1-Dichloroethane			2.2E+03			x								x	x					
75-35-4	1,1-Dichloroethene			8.8E+02												x					
87-61-6	1,2,3-Trichlorobenzene			8.8E+00							x				x	x					
120-82-1	1,2,4-Trichlorobenzene			8.8E+00			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		2.0E-02	8.8E-01			x				x							x	x		
95-50-1	1,2-Dichlorobenzene			8.8E+02											x						
107-06-2	1,2-Dichloroethane		4.7E+00	1.1E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)			2.6E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)			2.6E+02				x								x			x		
78-87-5	1,2-Dichloropropane		1.2E+01	1.8E+01			x	x							x	x	x		x		
106-99-0	1,3-Butadiene		4.1E+00	8.8E+00			x			x								x			
542-75-6	1,3-Dichloropropene		3.1E+01	8.8E+01			x						x	x					x	x	
106-46-7	1,4-Dichlorobenzene			2.6E+02			x			x						x			x		
123-91-1	1,4-Dioxane			1.3E+04			x	x							x	x					
91-57-6	2-Methylnaphthalene			1.3E+01															x		
83-32-9	Acenaphthene			1.3E+01												x			x		
67-64-1	Acetone			1.4E+05				x							x		x				
75-05-8	Acetonitrile			2.6E+02				x								x					
107-02-8	Acrolein			1.5E+00				x	x				x	x					x		
107-13-1	Acrylonitrile		1.8E+00	8.8E+00			x	x		x							x	x	x		
107-05-1	Allyl chloride			4.4E+00			x										x				
12674-11-2	Aroclor 1016		2.2E-01				x			x	x						x				
71-43-2	Benzene		1.6E+01	4.4E+01			x	x						x			x				
100-44-7	Benzyl chloride			4.4E+00			x								x	x	x		x		
111-44-4	Bis(2-chloroethyl)ether		3.7E-01				x														
75-27-4	Bromodichloromethane		4.5E+00				x								x	x					
75-25-2	Bromoform		1.1E+02				x									x			x		
74-83-9	Bromomethane			2.2E+01										x			x		x		
75-15-0	Carbon disulfide			3.1E+03					x	x		x				x	x				
56-23-5	Carbon tetrachloride		2.0E+01	4.4E+02			x								x	x					
108-90-7	Chlorobenzene			4.4E+03										x	x	x		x			
67-66-3	Chloroform		5.3E+00	8.8E+00			x									x					
74-87-3	Chloromethane			3.9E+02					x	x						x	x	x			
124-48-1	Dibromochloromethane		4.5E+00				x								x	x					
75-71-8	Dichlorodifluoromethane			8.8E+02												x					
100-41-4	Ethylbenzene		4.9E+01	4.4E+02			x			x					x	x	x				
106-93-4	Ethylene dibromide		2.0E-01	3.9E+01			x			x	x					x		x	x		
75-00-3	Ethyl chloride			4.4E+04						x											
76-44-8	Heptachlor		9.4E-02				x			x					x	x					
118-74-1	Hexachlorobenzene		2.7E-01				x				x				x		x				
87-68-3	Hexachlorobutadiene		5.6E+00				x								x	x	x				
67-72-1	Hexachloroethane			1.3E+02			x								x	x	x				
7439-97-6	Mercury (elemental)			1.3E+00					x	x							x				
78-93-3	Methyl ethyl ketone			2.2E+04						x											
108-10-1	Methyl isobutyl ketone			1.3E+04						x					x	x					
80-62-6	Methyl methacrylate			3.1E+03										x	x				x	x	
1634-04-4	Methyl tert-butyl ether		4.7E+02	1.3E+04			x				x				x	x	x				
75-09-2	Methylene chloride		1.2E+04	2.6E+03			x								x	x			x		
106-94-5	n-Propyl bromide			2.2E+01						x				x			x	x	x		
91-20-3	Naphthalene		3.6E+00	1.3E+01			x	x							x	x			x		
1336-36-3	PCBs		2.2E-01				x				x				x		x	x		x	
85-01-8	Phenanthrene			1.3E+01											x				x		
108-95-2	Phenol			8.8E+02													x	x	x		
100-42-5	Styrene			1.3E+03				x			x						x	x			
127-18-4	Tetrachloroethene	1.6	4.7E+02	1.8E+02	3.4E-08	9.13E-03	x			x							x	x			
108-88-3	Toluene	1.8		2.2E+04		8.22E-05								x	x		x				
79-01-6	Trichloroethene	4	3.0E+01	8.8E+00	1.3E-06	4.57E-01	x			x				x	x		x				
75-69-4	Trichlorofluoromethane			3.1E+03					x						x				x		
108-05-4	Vinyl acetate			8.8E+02											x				x		
593-60-2	Vinyl bromide		3.8E+00	1.3E+01			x									x					
75-01-4	Vinyl chloride		2.8E+01	4.4E+01			x			x						x					
1330-20-7	Xylene	3.37		4.4E+02		7.69E-03				x				x	x		x				
DEP2038	C5-C8 Aliphatics			2.6E+03													x				
DEP2039	C9-C12 Aliphatics			8.8E+02				x								x	x				
DEP2040	C9-C10 Aromatics			2.2E+02											x						

	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
	3.4E-08			0.01							0.01	0.01			
								0.00	0.00		0.00				
	1.3E-06			0.46				0.46	0.46		0.46				
				0.01				0.01	0.01		0.01				
Total	1.4E-06	0.00	0.00	0.47	0.00	0.00	0.00	0.46	0.46	0.01	0.47	0.00	0.00	0.00	0.00

	ILCR
Cancer - inhalation	1.0E-06

	HQ
Blood	0.00
Cardiovascular	0.00
Developmental	0.50
Endocrine	0.00
Eye	0.00
Gastrointestinal	0.00
Immune System	0.50
Kidney	0.50
Liver	0.01
Nervous System	0.50
Reproductive	0.00
Respiratory	0.00
Skin	0.00
Other	0.00

CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Sub-Chronic Commercial

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m^3)	Noncancer-Based IAT (ug/m^3)	ILCR	HI	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			2.2E+05																	x
630-20-6	1,1,1,2-Tetrachloroethane		5.9E+01				x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		7.6E+00				x									x			x		
71-55-6	1,1,1-Trichloroethane			2.2E+04												x	x				
79-00-5	1,1,2-Trichloroethane		2.7E+01				x	x						x		x	x				
75-34-3	1,1-Dichloroethane			2.2E+04			x								x	x					
75-35-4	1,1-Dichloroethene			8.8E+02												x					
87-61-6	1,2,3-Trichlorobenzene			8.8E+00								x			x	x					
120-82-1	1,2,4-Trichlorobenzene			8.8E+00			x					x			x	x					
96-12-8	1,2-Dibromo-3-chloropropane		7.3E-02	8.8E+00			x					x						x	x		
95-50-1	1,2-Dichlorobenzene			8.8E+03											x						
107-06-2	1,2-Dichloroethane		1.7E+01	1.1E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)			3.5E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)			3.5E+03				x								x			x		
78-87-5	1,2-Dichloropropane		4.4E+01	1.3E+02			x	x							x	x	x		x		
106-99-0	1,3-Butadiene		1.5E+01	8.8E+00			x			x								x			
542-75-6	1,3-Dichloropropene		1.1E+02	1.8E+02			x						x	x					x	x	
106-46-7	1,4-Dichlorobenzene			5.3E+03			x			x						x			x		
123-91-1	1,4-Dioxane			1.3E+04			x	x							x	x					
91-57-6	2-Methylnaphthalene			1.3E+01															x		
83-32-9	Acenaphthene			1.3E+01												x			x		
67-64-1	Acetone			1.4E+05				x							x		x				
75-05-8	Acetonitrile			2.6E+02				x								x					
107-02-8	Acrolein			1.5E+01				x	x				x	x					x		
107-13-1	Acrylonitrile		6.4E+00	8.8E+00			x	x		x							x	x	x		
107-05-1	Allyl chloride			4.4E+01			x										x				
12674-11-2	Aroclor 1016		7.7E-01				x			x	x						x				
71-43-2	Benzene		5.6E+01	8.8E+01			x	x						x			x				
100-44-7	Benzyl chloride			4.4E+00			x								x	x	x		x		
111-44-4	Bis(2-chloroethyl)ether		1.3E+00	5.1E+02			x														
75-27-4	Bromodichloromethane		1.2E+01				x								x	x					
75-25-2	Bromoform		4.0E+02				x									x			x		
74-83-9	Bromomethane			8.8E+02										x			x		x		
75-15-0	Carbon disulfide			9.2E+03					x	x		x					x	x			
56-23-5	Carbon tetrachloride		7.3E+01	4.4E+02			x								x	x					
108-90-7	Chlorobenzene			4.4E+03										x	x	x		x			
67-66-3	Chloroform		1.9E+01	1.1E+03			x									x					
74-87-3	Chloromethane			3.9E+03					x	x							x	x	x		
124-48-1	Dibromochloromethane		1.6E+01				x								x	x					
75-71-8	Dichlorodifluoromethane			8.8E+03												x					
100-41-4	Ethylbenzene		1.8E+02	3.8E+04			x			x					x	x	x				
106-93-4	Ethylene dibromide		7.3E-01	3.9E+01			x			x	x					x			x	x	
75-00-3	Ethyl chloride			4.4E+04						x											
76-44-8	Heptachlor		3.4E-01				x			x					x	x					
118-74-1	Hexachlorobenzene		9.5E-01				x				x				x		x				
87-68-3	Hexachlorobutadiene		2.0E+01				x								x	x	x				
67-72-1	Hexachloroethane			1.3E+03			x								x	x	x				
7439-97-6	Mercury (elemental)			1.3E+00					x	x							x				
78-93-3	Methyl ethyl ketone			2.2E+04						x											
108-10-1	Methyl isobutyl ketone			1.3E+04						x					x	x					
80-62-6	Methyl methacrylate			3.1E+03										x	x				x	x	
1634-04-4	Methyl tert-butyl ether		1.7E+03	1.3E+04			x					x			x	x	x				
75-09-2	Methylene chloride		4.4E+04	4.8E+03			x								x	x			x		
106-94-5	n-Propyl bromide			8.8E+02						x				x			x	x	x		
91-20-3	Naphthalene		1.3E+01	1.3E+01			x	x							x	x			x		
1336-36-3	PCBs		7.7E-01				x					x			x		x	x		x	
85-01-8	Phenanthrene			1.3E+01											x				x		
108-95-2	Phenol			2.6E+03													x	x	x		
100-42-5	Styrene			3.9E+03				x			x						x	x			
127-18-4	Tetrachloroethene	1.6	1.7E+03	1.8E+02	9.5E-09	9.13E-03	x			x							x	x			
108-88-3	Toluene	1.8		2.2E+04		8.22E-05								x	x		x				
79-01-6	Trichloroethene	4	1.1E+02	8.8E+00	3.7E-07	4.57E-01	x			x				x	x		x				
75-69-4	Trichlorofluoromethane			3.1E+04					x						x				x		
108-05-4	Vinyl acetate			8.8E+02											x				x		
593-60-2	Vinyl bromide		1.4E+01	1.3E+01			x									x					
75-01-4	Vinyl chloride		1.0E+02	3.5E+02			x									x					
1330-20-7	Xylene	3.37		1.3E+03		2.56E-03				x				x	x		x				
DEP2038	C5-C8 Aliphatics	79		8.8E+03		9.02E-03											x				
DEP2039	C9-C12 Aliphatics	54		2.6E+03		2.05E-02		x							x	x					
DEP2040	C9-C10 Aromatics	5.3		2.2E+03		2.42E-03									x						

Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
9.5E-09			0.01						0.01	0.01				
							0.00	0.00		0.00				
3.7E-07			0.46				0.46	0.46		0.46				
			0.00				0.00	0.00		0.00				
										0.01				
	0.02								0.02	0.02				
								0.00						
Total	3.8E-07	0.02	0.00	0.47	0.00	0.00	0.00	0.46	0.46	0.03	0.50	0.00	0.00	0.00	0.00

	ILCR
Cancer - inhalation	4.0E-07

	HQ
Blood	0.02
Cardiovascular	0.00
Developmental	0.50
Endocrine	0.00
Eye	0.00
Gastrointestinal	0.00
Immune System	0.50
Kidney	0.50
Liver	0.03
Nervous System	0.50
Reproductive	0.00
Respiratory	0.00
Skin	0.00
Other	0.00

Indoor Air Input Sheet and
Summary of Total Incremental Lifetime Cancer Risks
and Endpoint-Specific Hazard Indices

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Site:	50 India Street Site - Sample SV-2	Sample Date:	11/2/2015
Town	Portland, ME		
Spill No.	N/A		
Remediation No.	VRAP Project		

ENTER DATA HERE

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)
108-88-3	Toluene	4.8
DEP2038	C5-C8 Aliphatics	140
100-41-4	Ethylbenzene	0.78
1330-20-7	Xylene	8.3
DEP2039	C9-C12 Aliphatics	110
DEP2040	C9-C10 Aromatics	13

	Residential		Commercial (not subject to OSHA)	
	Chronic	Subchronic	Chronic	Subchronic
Cumulative ILCR	8.0E-07	2.0E-07	2.0E-07	4.0E-08
Target Organ His				
Blood	0.50	0.20		0.04
Cardiovascular				
Developmental	0.09	0.03	0.02	0.01
Endocrine				
Eye				
Gastrointestinal				
Immune System	0.08	0.03	0.02	0.01
Kidney	0.30	0.05	0.02	0.01
Liver	0.50	0.20	0.00	0.04
Nervous System	0.80	0.30	0.02	0.06
Reproductive				
Respiratory				
Skin				
Other				

CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Chronic Residential

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m3)	Non-cancer-Based IAT (ug/m3)	ILCR	HI	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			5.2E+04																	x
630-20-6	1,1,1,2-Tetrachloroethane		3.3E+00				x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		4.2E-01				x									x			x		
71-55-6	1,1,1-Trichloroethane			5.2E+03												x	x				
79-00-5	1,1,2-Trichloroethane		1.5E+00				x	x						x		x	x				
75-34-3	1,1-Dichloroethane			5.2E+02			x								x	x					
75-35-4	1,1-Dichloroethene			2.1E+02												x					
87-61-6	1,2,3-Trichlorobenzene			2.1E+00							x				x	x					
120-82-1	1,2,4-Trichlorobenzene			2.1E+00			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		1.6E-03	2.1E-01			x				x							x	x		
95-50-1	1,2-Dichlorobenzene			2.1E+02											x						
107-06-2	1,2-Dichloroethane		9.4E-01	2.5E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)			6.3E+01				x								x			x		
156-60-5	1,2-Dichloroethene (trans)			6.3E+01				x								x			x		
78-87-5	1,2-Dichloropropane		2.4E+00	4.2E+00			x	x							x	x	x		x		
106-99-0	1,3-Butadiene		8.1E-01	2.1E+00			x			x								x			
542-75-6	1,3-Dichloropropene		6.1E+00	2.1E+01			x						x	x					x	x	
106-46-7	1,4-Dichlorobenzene			6.3E+01			x				x								x		
123-91-1	1,4-Dioxane			3.1E+03			x	x							x	x					
91-57-6	2-Methylnaphthalene			3.1E+00															x		
83-32-9	Acenaphthene			3.1E+00												x			x		
67-64-1	Acetone			3.2E+04				x							x		x				
75-05-8	Acetonitrile			6.3E+01				x								x					
107-02-8	Acrolein			3.7E-01				x	x				x	x					x		
107-13-1	Acrylonitrile		3.6E-01	2.1E+00			x	x		x							x	x	x		
107-05-1	Allyl chloride			1.0E+00			x										x				
12674-11-2	Aroclor 1016		4.3E-02				x			x	x						x				
71-43-2	Benzene		3.1E+00	1.0E+01			x	x						x			x				
100-44-7	Benzyl chloride			1.0E+00			x								x	x	x		x		
111-44-4	Bis(2-chloroethyl)ether		7.4E-02				x														
75-27-4	Bromodichloromethane		6.6E-01				x								x	x					
75-25-2	Bromoform		2.2E+01				x									x			x		
74-83-9	Bromomethane			5.2E+00										x			x		x		
75-15-0	Carbon disulfide			7.3E+02					x	x		x				x	x				
56-23-5	Carbon tetrachloride		4.1E+00	1.0E+02			x								x	x					
108-90-7	Chlorobenzene			1.0E+03									x		x	x		x			
67-66-3	Chloroform		1.1E+00	2.1E+00			x									x					
74-87-3	Chloromethane			9.4E+01					x	x						x	x	x			
124-48-1	Dibromochloromethane		9.0E-01				x								x	x					
75-71-8	Dichlorodifluoromethane			2.1E+02												x					
100-41-4	Ethylbenzene	0.78	9.7E+00	1.0E+02	8.0E-07	7.48E-03	x			x					x	x	x				
106-93-4	Ethylene dibromide		4.1E-02	9.4E+00			x			x	x					x		x	x		
75-00-3	Ethyl chloride			1.0E+04						x											
76-44-8	Heptachlor		1.9E-02				x			x					x	x					
118-74-1	Hexachlorobenzene		5.3E-02				x				x			x		x		x			
87-68-3	Hexachlorobutadiene		1.1E+00				x								x	x	x				
67-72-1	Hexachloroethane			3.1E+01			x								x	x	x				
7439-97-6	Mercury (elemental)			3.1E-01					x	x							x				
78-93-3	Methyl ethyl ketone			5.2E+03						x											
108-10-1	Methyl isobutyl ketone			3.1E+03						x					x	x					
80-62-6	Methyl methacrylate			7.3E+02										x	x				x	x	
1634-04-4	Methyl tert-butyl ether		9.4E+01	3.1E+03			x				x				x	x	x				
75-09-2	Methylene chloride		9.6E+02	6.3E+02			x								x	x			x		
106-94-5	n-Propyl bromide			5.2E+00						x				x			x	x	x		
91-20-3	Naphthalene		7.2E-01	3.1E+00			x	x						x	x	x			x		
1336-36-3	PCBs		4.3E-02				x				x			x		x	x	x		x	
85-01-8	Phenanthrene			3.1E+00											x				x		
108-95-2	Phenol			2.1E+02													x	x	x		
100-42-5	Styrene			3.1E+02				x			x					x	x				
127-18-4	Tetrachloroethene		9.4E+01	4.2E+01			x			x						x	x				
108-88-3	Toluene	4.8		5.2E+03		9.21E-04								x	x		x				
79-01-6	Trichloroethene		4.3E+00	2.1E+00			x			x				x	x		x				
75-69-4	Trichlorofluoromethane			7.3E+02					x						x				x		
108-05-4	Vinyl acetate			2.1E+02											x				x		
593-60-2	Vinyl bromide		7.6E-01	3.1E+00			x									x					
75-01-4	Vinyl chloride		2.8E+00	1.0E+01			x			x						x					
1330-20-7	Xylene	8.3		1.0E+02		7.96E-02				x				x	x		x				
DEP2038	C5-C8 Aliphatics	140		6.3E+02		2.24E-01											x				
DEP2039	C9-C12 Aliphatics	110		2.1E+02		5.27E-01		x								x	x				
DEP2040	C9-C10 Aromatics	13		5.2E+01		2.49E-01									x						

Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
8.0E-07			0.01					0.01	0.01	0.01				
							0.00	0.00		0.00				
			0.08				0.08	0.08		0.08				
	0.53								0.53	0.53				
								0.25						
Total 8.0E-07	0.53	0.00	0.09	0.00	0.00	0.00	0.08	0.34	0.53	0.84	0.00	0.00	0.00	0.00

	ILCR
Cancer - inhalation	8.0E-07

	HQ
Blood	0.50
Cardio	0.00
Dev	0.09
Endo	0.00
Eye	0.00
Gastro	0.00
Immune	0.08
Kidney	0.30
Liver	0.50
Nervous	0.80
Reprod	0.00
Resp	0.00
Skin	0.00
Other	0.00



Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Sub-Chronic Residential

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m^3)	Noncancer-Based IAT (ug/m^3)	ILCR	HI	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			5.2E+04																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.4E+01				x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		1.8E+00				x									x				x	
71-55-6	1,1,1-Trichloroethane			5.2E+03												x	x				
79-00-5	1,1,2-Trichloroethane		6.5E+00				x	x						x		x	x				
75-34-3	1,1-Dichloroethane			5.2E+03			x								x	x					
75-35-4	1,1-Dichloroethene			2.1E+02												x					
87-61-6	1,2,3-Trichlorobenzene			2.1E+00							x				x	x					
120-82-1	1,2,4-Trichlorobenzene			2.1E+00			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		5.2E-02	2.1E+00			x				x							x	x		
95-50-1	1,2-Dichlorobenzene			2.1E+03											x						
107-06-2	1,2-Dichloroethane		4.0E+00	2.5E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)			8.3E+02				x								x				x	
156-60-5	1,2-Dichloroethene (trans)			8.3E+02				x								x				x	
78-87-5	1,2-Dichloropropane		1.0E+01	3.1E+01			x	x							x	x	x			x	
106-99-0	1,3-Butadiene		3.5E+00	2.1E+00			x			x								x			
542-75-6	1,3-Dichloropropene		2.6E+01	4.2E+01			x						x	x						x	x
106-46-7	1,4-Dichlorobenzene			1.3E+03			x			x							x			x	
123-91-1	1,4-Dioxane			3.1E+03			x	x							x	x					
91-57-6	2-Methylnaphthalene			3.1E+00																x	
83-32-9	Acenaphthene			3.1E+00												x				x	
67-64-1	Acetone			3.2E+04				x							x		x				
75-05-8	Acetonitrile			6.3E+01				x								x					
107-02-8	Acrolein			3.7E+00				x	x				x	x						x	
107-13-1	Acrylonitrile		1.5E+00	2.1E+00			x	x		x							x	x	x		
107-05-1	Allyl chloride			1.0E+01			x										x				
12674-11-2	Aroclor 1016		1.8E-01				x			x	x						x				
71-43-2	Benzene		1.3E+01	2.1E+01			x	x						x			x				
100-44-7	Benzyl chloride			1.0E+00			x								x	x	x			x	
111-44-4	Bis(2-chloroethyl)ether		3.2E-01	1.2E+02			x														
75-27-4	Bromodichloromethane		2.8E+00				x								x	x					
75-25-2	Bromoform		9.5E+01				x									x				x	
74-83-9	Bromomethane			2.1E+02										x			x			x	
75-15-0	Carbon disulfide			2.2E+03					x	x		x				x	x				
56-23-5	Carbon tetrachloride		1.7E+01	1.0E+02			x								x	x					
108-90-7	Chlorobenzene			1.0E+03									x		x	x		x			
67-66-3	Chloroform		4.5E+00	2.6E+02			x									x					
74-87-3	Chloromethane			9.4E+02					x	x						x	x	x			
124-48-1	Dibromochloromethane		3.9E+00				x								x	x					
75-71-8	Dichlorodifluoromethane			2.1E+03												x					
100-41-4	Ethylbenzene	0.78	4.2E+01	9.1E+03	1.9E-07	8.57E-05	x			x					x	x	x				
106-93-4	Ethylene dibromide		1.7E-01	9.4E+00			x			x	x						x		x	x	
75-00-3	Ethyl chloride			1.0E+04						x											
76-44-8	Heptachlor		8.0E-02				x			x					x	x					
118-74-1	Hexachlorobenzene		2.3E-01				x				x				x		x				
87-68-3	Hexachlorobutadiene		4.7E+00				x								x	x	x				
67-72-1	Hexachloroethane			3.1E+02			x								x	x	x				
7439-97-6	Mercury (elemental)			3.1E-01					x	x							x				
78-93-3	Methyl ethyl ketone			5.2E+03						x											
108-10-1	Methyl isobutyl ketone			3.1E+03						x					x	x					
80-62-6	Methyl methacrylate			7.3E+02									x	x						x	x
1634-04-4	Methyl tert-butyl ether		4.0E+02	3.1E+03			x				x				x	x	x				
75-09-2	Methylene chloride		3.1E+04	1.1E+03			x									x	x			x	
106-94-5	n-Propyl bromide			2.1E+02						x			x				x	x	x		
91-20-3	Naphthalene		3.1E+00	3.1E+00			x	x							x	x				x	
1336-36-3	PCBs		1.8E-01				x				x				x		x	x			x
85-01-8	Phenanthrene			3.1E+00												x				x	
108-95-2	Phenol			6.3E+02													x	x			
100-42-5	Styrene			9.4E+02				x			x						x	x			
127-18-4	Tetrachloroethene		4.0E+02	4.2E+01			x				x						x	x			
108-88-3	Toluene	4.8		5.2E+03		9.23E-04									x	x		x			
79-01-6	Trichloroethene		1.3E+01	2.1E+00			x				x				x	x		x			
75-69-4	Trichlorofluoromethane			7.3E+03					x							x				x	
108-05-4	Vinyl acetate			2.1E+02												x				x	
593-60-2	Vinyl bromide		3.3E+00	3.1E+00			x									x					
75-01-4	Vinyl chloride		1.2E+01	8.3E+01			x				x					x					
1330-20-7	Xylene	8.3		3.1E+02		2.68E-02				x					x	x		x			
DEP2038	C5-C8 Aliphatics	140		2.1E+03		6.67E-02											x				
DEP2039	C9-C12 Aliphatics	110		6.3E+02		1.75E-01		x								x	x				
DEP2040	C9-C10 Aromatics	13		5.2E+02		2.50E-02									x						

	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
	1.9E-07			0.00					0.00	0.00	0.00				

CITY OF PORTLAND, MAINE RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Chronic Commercial

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m^3)	Noncancer-Based IAT (ug/m^3)	ILCR	HI	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			2.2E+05																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.7E+01				x								x	x					
79-34-5	1,1,2,2-Trichloroethane		2.1E+00				x									x			x		
71-55-6	1,1,1-Trichloroethane			2.2E+04												x	x				
79-00-5	1,1,2-Trichloroethane		7.7E+00				x	x						x		x	x				
75-34-3	1,1-Dichloroethane			2.2E+03			x								x	x					
75-35-4	1,1-Dichloroethene			8.8E+02												x					
87-61-6	1,2,3-Trichlorobenzene			8.8E+00							x				x	x					
120-82-1	1,2,4-Trichlorobenzene			8.8E+00			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		2.0E-02	8.8E-01			x				x							x	x		
95-50-1	1,2-Dichlorobenzene			8.8E+02											x						
107-06-2	1,2-Dichloroethane		4.7E+00	1.1E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)			2.6E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)			2.6E+02				x								x			x		
78-87-5	1,2-Dichloropropane		1.2E+01	1.8E+01			x	x							x	x	x		x		
106-99-0	1,3-Butadiene		4.1E+00	8.8E+00			x			x								x			
542-75-6	1,3-Dichloropropene		3.1E+01	8.8E+01			x						x	x					x	x	
106-46-7	1,4-Dichlorobenzene			2.6E+02			x			x						x			x		
123-91-1	1,4-Dioxane			1.3E+04			x	x							x	x					
91-57-6	2-Methylnaphthalene			1.3E+01															x		
83-32-9	Acenaphthene			1.3E+01												x			x		
67-64-1	Acetone			1.4E+05				x							x		x				
75-05-8	Acetonitrile			2.6E+02				x								x					
107-02-8	Acrolein			1.5E+00				x	x				x	x					x		
107-13-1	Acrylonitrile		1.8E+00	8.8E+00			x	x		x							x	x	x		
107-05-1	Allyl chloride			4.4E+00			x										x				
12674-11-2	Aroclor 1016		2.2E-01				x			x	x						x				
71-43-2	Benzene		1.6E+01	4.4E+01			x	x						x			x				
100-44-7	Benzyl chloride			4.4E+00			x								x	x	x		x		
111-44-4	Bis(2-chloroethyl)ether		3.7E-01				x														
75-27-4	Bromodichloromethane		4.5E+00				x								x	x					
75-25-2	Bromoform		1.1E+02				x									x			x		
74-83-9	Bromomethane			2.2E+01										x			x		x		
75-15-0	Carbon disulfide			3.1E+03					x	x		x				x	x				
56-23-5	Carbon tetrachloride		2.0E+01	4.4E+02			x								x	x					
108-90-7	Chlorobenzene			4.4E+03										x	x	x		x			
67-66-3	Chloroform		5.3E+00	8.8E+00			x									x					
74-87-3	Chloromethane			3.9E+02					x	x						x	x	x			
124-48-1	Dibromochloromethane		4.5E+00				x								x	x					
75-71-8	Dichlorodifluoromethane			8.8E+02												x					
100-41-4	Ethylbenzene	0.78	4.9E+01	4.4E+02	1.6E-07	1.78E-03	x			x					x	x	x				
106-93-4	Ethylene dibromide		2.0E-01	3.9E+01			x			x	x					x		x	x		
75-00-3	Ethyl chloride			4.4E+04						x											
76-44-8	Heptachlor		9.4E-02				x			x					x	x					
118-74-1	Hexachlorobenzene		2.7E-01				x				x					x		x			
87-68-3	Hexachlorobutadiene		5.6E+00				x								x	x	x				
67-72-1	Hexachloroethane			1.3E+02			x								x	x	x				
7439-97-6	Mercury (elemental)			1.3E+00					x	x							x				
78-93-3	Methyl ethyl ketone			2.2E+04						x											
108-10-1	Methyl isobutyl ketone			1.3E+04						x					x	x					
80-62-6	Methyl methacrylate			3.1E+03										x	x				x	x	
1634-04-4	Methyl tert-butyl ether		4.7E+02	1.3E+04			x				x				x	x	x				
75-09-2	Methylene chloride		1.2E+04	2.6E+03			x								x	x			x		
106-94-5	n-Propyl bromide			2.2E+01						x				x			x	x	x		
91-20-3	Naphthalene		3.6E+00	1.3E+01			x	x							x	x			x		
1336-36-3	PCBs		2.2E-01				x				x				x		x	x		x	
85-01-8	Phenanthrene			1.3E+01											x				x		
108-95-2	Phenol			8.8E+02													x	x	x		
100-42-5	Styrene			1.3E+03				x			x						x	x			
127-18-4	Tetrachloroethene		4.7E+02	1.8E+02			x				x						x	x			
108-88-3	Toluene	4.8		2.2E+04		2.19E-04									x	x					
79-01-6	Trichloroethene		3.0E+01	8.8E+00			x								x	x					
75-69-4	Trichlorofluoromethane			3.1E+03					x						x				x		
108-05-4	Vinyl acetate			8.8E+02											x				x		
593-60-2	Vinyl bromide		3.8E+00	1.3E+01			x									x					
75-01-4	Vinyl chloride		2.8E+01	4.4E+01			x				x					x					
1330-20-7	Xylene	8.3		4.4E+02		1.89E-02					x				x	x					
DEP2038	C5-C8 Aliphatics			2.6E+03												x					
DEP2039	C9-C12 Aliphatics			8.8E+02				x								x	x				
DEP2040	C9-C10 Aromatics			2.2E+02											x						

	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
	1.6E-07			0.00					0.00	0.00	0.00				
								0.00	0.00		0.00				
				0.02				0.02	0.02		0.02				
Total	1.6E-07	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.02	0.00	0.02	0.00	0.00	0.00	0.00

Cancer - inhalation	ILCR 2.0E-07
	HQ
Blood	0.00
Cardiovascular	0.00
Developmental	0.02
Endocrine	0.00
Eye	0.00
Gastrointestinal	0.00
Immune System	0.02
Kidney	0.02
Liver	0.00
Nervous System	0.02
Reproductive	0.00
Respiratory	0.00
Skin	0.00
Other	0.00

CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Sub-Chronic Commercial

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m^3)	Noncancer-Based IAT (ug/m^3)	ILCR	HI	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			2.2E+05																	x
630-20-6	1,1,1,2-Tetrachloroethane		5.9E+01				x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		7.6E+00				x									x			x		
71-55-6	1,1,1-Trichloroethane			2.2E+04												x	x				
79-00-5	1,1,2-Trichloroethane		2.7E+01				x	x						x		x	x				
75-34-3	1,1-Dichloroethane			2.2E+04			x								x	x					
75-35-4	1,1-Dichloroethene			8.8E+02												x					
87-61-6	1,2,3-Trichlorobenzene			8.8E+00							x				x	x					
120-82-1	1,2,4-Trichlorobenzene			8.8E+00			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		7.3E-02	8.8E+00			x				x							x	x		
95-50-1	1,2-Dichlorobenzene			8.8E+03											x						
107-06-2	1,2-Dichloroethane		1.7E+01	1.1E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)			3.5E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)			3.5E+03				x								x			x		
78-87-5	1,2-Dichloropropane		4.4E+01	1.3E+02			x	x							x	x	x		x		
106-99-0	1,3-Butadiene		1.5E+01	8.8E+00			x			x								x			
542-75-6	1,3-Dichloropropene		1.1E+02	1.8E+02			x						x	x					x	x	
106-46-7	1,4-Dichlorobenzene			5.3E+03			x			x						x			x		
123-91-1	1,4-Dioxane			1.3E+04			x	x							x	x					
91-57-6	2-Methylnaphthalene			1.3E+01															x		
83-32-9	Acenaphthene			1.3E+01												x			x		
67-64-1	Acetone			1.4E+05				x							x		x				
75-05-8	Acetonitrile			2.6E+02				x								x					
107-02-8	Acrolein			1.5E+01				x	x				x	x					x		
107-13-1	Acrylonitrile		6.4E+00	8.8E+00			x	x		x							x	x	x		
107-05-1	Allyl chloride			4.4E+01			x										x				
12674-11-2	Aroclor 1016		7.7E-01				x			x	x						x				
71-43-2	Benzene		5.6E+01	8.8E+01			x	x						x			x				
100-44-7	Benzyl chloride			4.4E+00			x								x	x	x		x		
111-44-4	Bis(2-chloroethyl)ether		1.3E+00	5.1E+02			x														
75-27-4	Bromodichloromethane		1.2E+01				x								x	x					
75-25-2	Bromoform		4.0E+02				x									x			x		
74-83-9	Bromomethane			8.8E+02										x			x		x		
75-15-0	Carbon disulfide			9.2E+03					x	x		x				x	x				
56-23-5	Carbon tetrachloride		7.3E+01	4.4E+02			x								x	x					
108-90-7	Chlorobenzene			4.4E+03										x	x	x		x			
67-66-3	Chloroform		1.9E+01	1.1E+03			x									x					
74-87-3	Chloromethane			3.9E+03					x	x						x	x	x			
124-48-1	Dibromochloromethane		1.6E+01				x								x	x					
75-71-8	Dichlorodifluoromethane			8.8E+03												x					
100-41-4	Ethylbenzene	0.78	1.8E+02	3.8E+04	4.5E-08	2.05E-05	x			x					x	x	x				
106-93-4	Ethylene dibromide		7.3E-01	3.9E+01			x			x	x					x		x	x		
75-00-3	Ethyl chloride			4.4E+04						x											
76-44-8	Heptachlor		3.4E-01				x			x					x	x					
118-74-1	Hexachlorobenzene		9.5E-01				x				x				x		x				
87-68-3	Hexachlorobutadiene		2.0E+01				x								x	x	x				
67-72-1	Hexachloroethane			1.3E+03			x								x	x	x				
7439-97-6	Mercury (elemental)			1.3E+00					x	x							x				
78-93-3	Methyl ethyl ketone			2.2E+04						x											
108-10-1	Methyl isobutyl ketone			1.3E+04						x					x	x					
80-62-6	Methyl methacrylate			3.1E+03										x	x				x	x	
1634-04-4	Methyl tert-butyl ether		1.7E+03	1.3E+04			x				x				x	x	x				
75-09-2	Methylene chloride		4.4E+04	4.8E+03			x								x	x			x		
106-94-5	n-Propyl bromide			8.8E+02						x				x			x	x	x		
91-20-3	Naphthalene		1.3E+01	1.3E+01			x	x							x	x			x		
1336-36-3	PCBs		7.7E-01				x				x				x		x	x		x	
85-01-8	Phenanthrene			1.3E+01											x				x		
108-95-2	Phenol			2.6E+03													x	x	x		
100-42-5	Styrene			3.9E+03				x			x						x	x			
127-18-4	Tetrachloroethene		1.7E+03	1.8E+02			x			x							x	x			
108-88-3	Toluene	4.8		2.2E+04		2.19E-04									x	x		x			
79-01-6	Trichloroethene		1.1E+02	8.8E+00			x			x					x	x		x			
75-69-4	Trichlorofluoromethane			3.1E+04					x							x			x		
108-05-4	Vinyl acetate			8.8E+02												x			x		
593-60-2	Vinyl bromide		1.4E+01	1.3E+01			x									x					
75-01-4	Vinyl chloride		1.0E+02	3.5E+02			x			x						x					
1330-20-7	Xylene	8.3		1.3E+03		6.32E-03				x				x	x		x				
DEP2038	C5-C8 Aliphatics	140		8.8E+03		1.60E-02											x				
DEP2039	C9-C12 Aliphatics	110		2.6E+03		4.19E-02		x							x	x					
DEP2040	C9-C10 Aromatics	13		2.2E+03		5.94E-03									x						

	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
	4.5E-08			0.00					0.00	0.00	0.00				
				0.01				0.01	0.01		0.01				
		0.04								0.04	0.04				
									0.01						
Total	4.5E-08	0.04	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.04	0.06	0.00	0.00	0.00	0.00

Cancer - inhalation	ILCR 4.0E-08
	HQ
Blood	0.04
Cardiovascular	0.00
Developmental	0.01
Endocrine	0.00
Eye	0.00
Gastrointestinal	0.00
Immune System	0.01
Kidney	0.01
Liver	0.04
Nervous System	0.06
Reproductive	0.00
Respiratory	0.00
Skin	0.00
Other	0.00

Indoor Air Input Sheet and
Summary of Total Incremental Lifetime Cancer Risks
and Endpoint-Specific Hazard Indices



Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Site:	50 India Street Site - Sample SV-3	Sample Date:	11/2/2015
Town	Portland, ME		
Spill No.	N/A		
Remediation No.	VRAP Project		

		ENTER DATA HERE
CAS Number	Chemical	Indoor Air Concentration (ug/m^3)
71-43-2	Benzene	1.8
108-88-3	Toluene	8.3
DEP2038	C5-C8 Aliphatics	190
100-41-4	Ethylbenzene	1.3
1330-20-7	Xylene	9.8
DEP2039	C9-C12 Aliphatics	140
DEP2040	C9-C10 Aromatics	5.9
79-01-6	Trichloroethene	2.7

	Residential		Commercial (not subject to OSHA)	
	Chronic	Subchronic	Chronic	Subchronic
Cumulative ILCR	1.0E-05	4.0E-06	2.0E-06	6.0E-07
Target Organ His				
Blood	0.80	0.30	0.04	0.07
Cardiovascular				
Developmental	1.00	1.00	0.30	0.30
Endocrine				
Eye				
Gastrointestinal				
Immune System	2.00	1.00	0.40	0.30
Kidney	2.00	1.00	0.30	0.30
Liver	0.70	0.20	0.00	0.05
Nervous System	3.00	2.00	0.40	0.40
Reproductive				
Respiratory				
Skin				
Other				

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Chronic Residential

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m3)	Non-cancer-Based IAT (ug/m3)	ILCR	HI
75-68-3	1-Chloro-1,1-difluoroethane			5.2E+04		
630-20-6	1,1,1,2-Tetrachloroethane		3.3E+00			
79-34-5	1,1,2,2-Trichloroethane		4.2E-01			
71-55-6	1,1,1-Trichloroethane			5.2E+03		
79-00-5	1,1,2-Trichloroethane		1.5E+00			
75-34-3	1,1-Dichloroethane			5.2E+02		
75-35-4	1,1-Dichloroethene			2.1E+02		
87-61-6	1,2,3-Trichlorobenzene			2.1E+00		
120-82-1	1,2,4-Trichlorobenzene			2.1E+00		
96-12-8	1,2-Dibromo-3-chloropropane		1.6E-03	2.1E-01		
95-50-1	1,2-Dichlorobenzene			2.1E+02		
107-06-2	1,2-Dichloroethane		9.4E-01	2.5E+03		
156-59-2	1,2-Dichloroethene (cis)			6.3E+01		
156-60-5	1,2-Dichloroethene (trans)			6.3E+01		
78-87-5	1,2-Dichloropropane		2.4E+00	4.2E+00		
106-99-0	1,3-Butadiene		8.1E-01	2.1E+00		
542-75-6	1,3-Dichloropropene		6.1E+00	2.1E+01		
106-46-7	1,4-Dichlorobenzene			6.3E+01		
123-91-1	1,4-Dioxane			3.1E+03		
91-57-6	2-Methylnaphthalene			3.1E+00		
83-32-9	Acenaphthene			3.1E+00		
67-64-1	Acetone			3.2E+04		
75-05-8	Acetonitrile			6.3E+01		
107-02-8	Acrolein			3.7E-01		
107-13-1	Acrylonitrile		3.6E-01	2.1E+00		
107-05-1	Allyl chloride			1.0E+00		
12674-11-2	Aroclor 1016		4.3E-02			
71-43-2	Benzene	1.8	3.1E+00	1.0E+01	5.8E-06	1.73E-01
100-44-7	Benzyl chloride			1.0E+00		
111-44-4	Bis(2-chloroethyl)ether		7.4E-02			
75-27-4	Bromodichloromethane		6.6E-01			
75-25-2	Bromoform		2.2E+01			
74-83-9	Bromomethane			5.2E+00		
75-15-0	Carbon disulfide			7.3E+02		
56-23-5	Carbon tetrachloride		4.1E+00	1.0E+02		
108-90-7	Chlorobenzene			1.0E+03		
67-66-3	Chloroform		1.1E+00	2.1E+00		
74-87-3	Chloromethane			9.4E+01		
124-48-1	Dibromochloromethane		9.0E-01			
75-71-8	Dichlorodifluoromethane			2.1E+02		
100-41-4	Ethylbenzene	1.3	9.7E+00	1.0E+02	1.3E-06	1.25E-02
106-93-4	Ethylene dibromide		4.1E-02	9.4E+00		
75-00-3	Ethyl chloride			1.0E+04		
76-44-8	Heptachlor		1.9E-02			
118-74-1	Hexachlorobenzene		5.3E-02			
87-68-3	Hexachlorobutadiene		1.1E+00			
67-72-1	Hexachloroethane			3.1E+01		
7439-97-6	Mercury (elemental)			3.1E-01		
78-93-3	Methyl ethyl ketone			5.2E+03		
108-10-1	Methyl isobutyl ketone			3.1E+03		
80-62-6	Methyl methacrylate			7.3E+02		
1634-04-4	Methyl tert-butyl ether		9.4E+01	3.1E+03		
75-09-2	Methylene chloride		9.6E+02	6.3E+02		
106-94-5	n-Propyl bromide			5.2E+00		
91-20-3	Naphthalene		7.2E-01	3.1E+00		
1336-36-3	PCBs		4.3E-02			
85-01-8	Phenanthrene			3.1E+00		
108-95-2	Phenol			2.1E+02		
100-42-5	Styrene			3.1E+02		
127-18-4	Tetrachloroethene		9.4E+01	4.2E+01		
108-88-3	Toluene	8.3		5.2E+03		1.59E-03
79-01-6	Trichloroethene	2.7	4.3E+00	2.1E+00	6.3E-06	1.29E+00
75-69-4	Trichlorofluoromethane			7.3E+02		
108-05-4	Vinyl acetate			2.1E+02		
593-60-2	Vinyl bromide		7.6E-01	3.1E+00		
75-01-4	Vinyl chloride		2.8E+00	1.0E+01		
1330-20-7	Xylene	9.8		1.0E+02		9.40E-02
DEP2038	C5-C8 Aliphatics	190		6.3E+02		3.04E-01
DEP2039	C9-C12 Aliphatics	140		2.1E+02		6.71E-01
DEP2040	C9-C10 Aromatics	5.9		5.2E+01		1.13E-01

CAS Number	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3															x
630-20-6	x								x	x					
79-34-5	x									x			x		
71-55-6										x	x				
79-00-5	x	x						x		x	x				
75-34-3	x								x	x					
75-35-4										x					
87-61-6					x				x	x					
120-82-1	x				x				x	x					
96-12-8	x				x							x	x		
95-50-1									x						
107-06-2	x								x	x					
156-59-2		x								x			x		
156-60-5		x								x			x		
78-87-5	x	x							x	x	x		x		
106-99-0	x			x								x			
542-75-6	x						x	x					x	x	
106-46-7	x			x						x			x		
123-91-1	x	x							x	x					
91-57-6													x		
83-32-9										x			x		
67-64-1		x							x		x				
75-05-8		x								x					
107-02-8		x	x				x	x					x		
107-13-1	x	x		x							x	x	x		
106-99-0	x										x				
107-05-1	x										x				
12674-11-2	x			x	x						x				
71-43-2	x	x							x		x				
100-44-7	x								x	x	x		x		
111-44-4	x														
75-27-4	x								x	x					
75-25-2	x									x			x		
74-83-9								x			x		x		
75-15-0			x	x		x				x	x				
56-23-5	x								x	x					
108-90-7							x		x	x		x			
67-66-3	x									x					
74-87-3			x	x						x	x	x			
124-48-1	x								x	x					
75-71-8										x					
100-41-4	x			x					x	x	x				
106-93-4	x			x	x					x		x	x		
75-00-3				x											
76-44-8	x			x					x	x					
118-74-1	x				x			x		x		x			
87-68-3	x								x	x	x				
67-72-1	x								x	x	x				
7439-97-6			x	x							x				
78-93-3				x											
108-10-1				x					x	x					
80-62-6							x	x					x	x	
1634-04-4	x				x				x	x	x				
75-09-2	x									x	x		x		
106-94-5				x				x			x	x	x		
91-20-3	x	x						x	x		x		x		
1336-36-3	x				x			x			x	x		x	
85-01-8									x				x		
108-95-2											x	x			
100-42-5		x			x						x	x			
127-18-4	x			x							x	x			
108-88-3								x	x		x				
79-01-6	x			x				x	x		x				
75-69-4			x						x				x		
108-05-4									x				x		
593-60-2	x									x					
75-01-4	x			x						x					
1330-20-7				x				x	x		x				
DEP2038											x				
DEP2039		x								x	x				
DEP2040									x						

	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
	5.8E-06	0.17						0.17			0.17				

CITY OF PORTLAND, MAINE
RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Sub-Chronic Residential

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m^3)	Noncancer-Based IAT (ug/m^3)	ILCR	HI	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			5.2E+04																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.4E+01				x								x	x					
79-34-5	1,1,2,2-Trichloroethane		1.8E+00				x									x				x	
71-55-6	1,1,1-Trichloroethane			5.2E+03												x	x				
79-00-5	1,1,2-Trichloroethane		6.5E+00				x	x							x		x	x			
75-34-3	1,1-Dichloroethane			5.2E+03			x								x	x					
75-35-4	1,1-Dichloroethene			2.1E+02												x					
87-61-6	1,2,3-Trichlorobenzene			2.1E+00							x				x	x					
120-82-1	1,2,4-Trichlorobenzene			2.1E+00			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		5.2E-02	2.1E+00			x				x							x	x		
95-50-1	1,2-Dichlorobenzene			2.1E+03											x						
107-06-2	1,2-Dichloroethane		4.0E+00	2.5E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)			8.3E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)			8.3E+02				x								x			x		
78-87-5	1,2-Dichloropropane		1.0E+01	3.1E+01			x	x							x	x	x		x		
106-99-0	1,3-Butadiene		3.5E+00	2.1E+00			x			x								x			
542-75-6	1,3-Dichloropropene		2.6E+01	4.2E+01			x					x	x						x	x	
106-46-7	1,4-Dichlorobenzene			1.3E+03			x			x						x			x		
123-91-1	1,4-Dioxane			3.1E+03			x	x							x	x					
91-57-6	2-Methylnaphthalene			3.1E+00															x		
83-32-9	Acenaphthene			3.1E+00												x			x		
67-64-1	Acetone			3.2E+04				x							x		x				
75-05-8	Acetonitrile			6.3E+01				x								x					
107-02-8	Acrolein			3.7E+00				x	x			x	x						x		
107-13-1	Acrylonitrile		1.5E+00	2.1E+00			x	x		x							x	x	x		
107-05-1	Allyl chloride			1.0E+01			x										x				
12674-11-2	Aroclor 1016		1.8E-01				x			x	x						x				
71-43-2	Benzene	1.8	1.3E+01	2.1E+01	1.4E-06	8.57E-02	x	x							x			x			
100-44-7	Benzyl chloride			1.0E+00			x								x	x	x		x		
111-44-4	Bis(2-chloroethyl)ether		3.2E-01	1.2E+02			x														
75-27-4	Bromodichloromethane		2.8E+00				x								x	x					
75-25-2	Bromoform		9.5E+01				x									x			x		
74-83-9	Bromomethane			2.1E+02									x				x		x		
75-15-0	Carbon disulfide			2.2E+03					x	x		x					x	x			
56-23-5	Carbon tetrachloride		1.7E+01	1.0E+02			x								x	x					
108-90-7	Chlorobenzene			1.0E+03									x		x	x		x			
67-66-3	Chloroform		4.5E+00	2.6E+02			x									x					
74-87-3	Chloromethane			9.4E+02					x	x							x	x	x		
124-48-1	Dibromochloromethane		3.9E+00				x								x	x					
75-71-8	Dichlorodifluoromethane			2.1E+03												x					
100-41-4	Ethylbenzene	1.3	4.2E+01	9.1E+03	3.1E-07	1.43E-04	x			x					x	x	x				
106-93-4	Ethylene dibromide		1.7E-01	9.4E+00			x			x	x						x		x	x	
75-00-3	Ethyl chloride			1.0E+04						x											
76-44-8	Heptachlor		8.0E-02				x			x						x	x				
118-74-1	Hexachlorobenzene		2.3E-01				x				x				x		x		x		
87-68-3	Hexachlorobutadiene		4.7E+00				x									x	x				
67-72-1	Hexachloroethane			3.1E+02			x									x	x				
7439-97-6	Mercury (elemental)			3.1E-01					x	x							x				
78-93-3	Methyl ethyl ketone			5.2E+03						x											
108-10-1	Methyl isobutyl ketone			3.1E+03						x						x	x				
80-62-6	Methyl methacrylate			7.3E+02									x	x					x	x	
1634-04-4	Methyl tert-butyl ether		4.0E+02	3.1E+03			x				x					x	x				
75-09-2	Methylene chloride		3.1E+04	1.1E+03			x										x	x		x	
106-94-5	n-Propyl bromide			2.1E+02						x			x					x	x	x	
91-20-3	Naphthalene		3.1E+00	3.1E+00			x	x							x	x		x		x	
1336-36-3	PCBs		1.8E-01				x				x				x		x	x			x
85-01-8	Phenanthrene			3.1E+00												x				x	
108-95-2	Phenol			6.3E+02													x	x			
100-42-5	Styrene			9.4E+02				x			x						x	x			
127-18-4	Tetrachloroethene		4.0E+02	4.2E+01			x				x						x	x			
108-88-3	Toluene	8.3		5.2E+03		1.60E-03									x	x		x			
79-01-6	Trichloroethene	2.7	1.3E+01	2.1E+00	2.1E-06	1.29E+00	x			x					x	x		x			
75-69-4	Trichlorofluoromethane			7.3E+03					x							x				x	
108-05-4	Vinyl acetate			2.1E+02												x				x	
593-60-2	Vinyl bromide		3.3E+00	3.1E+00			x									x					
75-01-4	Vinyl chloride		1.2E+01	8.3E+01			x				x					x					
1330-20-7	Xylene	9.8		3.1E+02		3.16E-02				x					x	x		x			
DEP2038	C5-C8 Aliphatics	190		2.1E+03		9.05E-02												x			
DEP2039	C9-C12 Aliphatics	140		6.3E+02		2.22E-01		x								x	x				
DEP2040	C9-C10 Aromatics	5.9		5.2E+02		1.13E-02									x						

	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
	1.4E-06	0.09						0.09			0.09				
	3.1E-07			0.00					0.00	0.00	0.00				
	2.1E-06			1.29				1.29	1.29		1.29				
		0.22								0.22	0.22				
									0.01						
Total	3.8E-06	0.31	0.00	1.32	0.00	0.00	0.00	1.40	1.33	0.22	1.72	0.00	0.00	0.00	0.00

	ILCR
Cancer - inhalation	4.0E-06

	HQ
Blood	0.30
Cardiovascular	0.00
Developmental	1.00
Endocrine	0.00
Eye	0.00
Gastrointestinal	0.00
Immune System	1.00
Kidney	1.00
Liver	0.20
Nervous System	2.00
Reproductive	0.00
Respiratory	0.00
Skin	0.00
Other	0.00

CITY OF PORTLAND, MAINE
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Chronic Commercial

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m^3)	Noncancer-Based IAT (ug/m^3)	ILCR	HI	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			2.2E+05																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.7E+01				x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.1E+00				x									x			x		
71-55-6	1,1,1-Trichloroethane			2.2E+04												x	x				
79-00-5	1,1,2-Trichloroethane		7.7E+00				x	x						x		x	x				
75-34-3	1,1-Dichloroethane			2.2E+03			x								x	x					
75-35-4	1,1-Dichloroethene			8.8E+02												x					
87-61-6	1,2,3-Trichlorobenzene			8.8E+00							x				x	x					
120-82-1	1,2,4-Trichlorobenzene			8.8E+00			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		2.0E-02	8.8E-01			x				x							x	x		
95-50-1	1,2-Dichlorobenzene			8.8E+02											x						
107-06-2	1,2-Dichloroethane		4.7E+00	1.1E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)			2.6E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)			2.6E+02				x								x			x		
78-87-5	1,2-Dichloropropane		1.2E+01	1.8E+01			x	x							x	x	x		x		
106-99-0	1,3-Butadiene		4.1E+00	8.8E+00			x			x								x			
542-75-6	1,3-Dichloropropene		3.1E+01	8.8E+01			x					x	x						x	x	
106-46-7	1,4-Dichlorobenzene			2.6E+02			x			x						x			x		
123-91-1	1,4-Dioxane			1.3E+04			x	x							x	x					
91-57-6	2-Methylnaphthalene			1.3E+01															x		
83-32-9	Acenaphthene			1.3E+01												x			x		
67-64-1	Acetone			1.4E+05				x							x		x				
75-05-8	Acetonitrile			2.6E+02				x								x					
107-02-8	Acrolein			1.5E+00				x	x				x	x					x		
107-13-1	Acrylonitrile		1.8E+00	8.8E+00			x	x		x							x	x	x		
107-05-1	Allyl chloride			4.4E+00			x										x				
12674-11-2	Aroclor 1016			2.2E-01			x			x	x						x				
71-43-2	Benzene	1.8	1.6E+01	4.4E+01	1.1E-06	4.11E-02	x	x						x			x				
100-44-7	Benzyl chloride			4.4E+00			x								x	x	x		x		
111-44-4	Bis(2-chloroethyl)ether		3.7E-01				x														
75-27-4	Bromodichloromethane		4.5E+00				x								x	x					
75-25-2	Bromoform		1.1E+02				x									x			x		
74-83-9	Bromomethane			2.2E+01										x			x		x		
75-15-0	Carbon disulfide			3.1E+03					x	x		x				x	x				
56-23-5	Carbon tetrachloride		2.0E+01	4.4E+02			x								x	x					
108-90-7	Chlorobenzene			4.4E+03										x	x	x		x			
67-66-3	Chloroform		5.3E+00	8.8E+00			x									x					
74-87-3	Chloromethane			3.9E+02					x	x						x	x	x			
124-48-1	Dibromochloromethane		4.5E+00				x								x	x					
75-71-8	Dichlorodifluoromethane			8.8E+02												x					
100-41-4	Ethylbenzene	1.3	4.9E+01	4.4E+02	2.7E-07	2.97E-03	x			x					x	x	x				
106-93-4	Ethylene dibromide		2.0E-01	3.9E+01			x			x	x					x		x	x		
75-00-3	Ethyl chloride			4.4E+04						x											
76-44-8	Heptachlor		9.4E-02				x			x					x	x					
118-74-1	Hexachlorobenzene		2.7E-01				x				x			x		x		x			
87-68-3	Hexachlorobutadiene		5.6E+00				x								x	x	x				
67-72-1	Hexachloroethane			1.3E+02			x								x	x	x				
7439-97-6	Mercury (elemental)			1.3E+00					x	x							x				
78-93-3	Methyl ethyl ketone			2.2E+04						x											
108-10-1	Methyl isobutyl ketone			1.3E+04						x					x	x					
80-62-6	Methyl methacrylate			3.1E+03										x	x				x	x	
1634-04-4	Methyl tert-butyl ether		4.7E+02	1.3E+04			x				x				x	x	x				
75-09-2	Methylene chloride		1.2E+04	2.6E+03			x								x	x			x		
106-94-5	n-Propyl bromide			2.2E+01						x				x			x	x	x		
91-20-3	Naphthalene		3.6E+00	1.3E+01			x	x							x	x			x		
1336-36-3	PCBs		2.2E-01				x				x				x		x	x		x	
85-01-8	Phenanthrene			1.3E+01											x				x		
108-95-2	Phenol			8.8E+02													x	x	x		
100-42-5	Styrene			1.3E+03				x			x						x	x			
127-18-4	Tetrachloroethene		4.7E+02	1.8E+02			x				x						x	x			
108-88-3	Toluene	8.3		2.2E+04		3.79E-04								x	x		x				
79-01-6	Trichloroethene	2.7	3.0E+01	8.8E+00	9.0E-07	3.08E-01	x			x				x	x		x				
75-69-4	Trichlorofluoromethane			3.1E+03					x						x				x		
108-05-4	Vinyl acetate			8.8E+02											x				x		
593-60-2	Vinyl bromide		3.8E+00	1.3E+01			x									x					
75-01-4	Vinyl chloride		2.8E+01	4.4E+01			x			x						x					
1330-20-7	Xylene	9.8		4.4E+02		2.24E-02				x				x	x		x				
DEP2038	C5-C8 Aliphatics			2.6E+03													x				
DEP2039	C9-C12 Aliphatics			8.8E+02				x								x	x				
DEP2040	C9-C10 Aromatics			2.2E+02											x						

	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
	1.1E-06	0.04						0.04			0.04				
	2.7E-07			0.00					0.00	0.00	0.00				
	9.0E-07			0.31				0.31	0.31		0.31				
				0.02				0.02	0.02		0.02				
Total	2.3E-06	0.04	0.00	0.33	0.00	0.00	0.00	0.37	0.33	0.00	0.38	0.00	0.00	0.00	0.00

	ILCR
Cancer - inhalation	2.0E-06

	HQ
Blood	0.04
Cardiovascular	0.00
Developmental	0.30
Endocrine	0.00
Eye	0.00
Gastrointestinal	0.00
Immune System	0.40
Kidney	0.30
Liver	0.00
Nervous System	0.40
Reproductive	0.00
Respiratory	0.00
Skin	0.00
Other	0.00

CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Sub-Chronic Commercial

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m^3)	Noncancer-Based IAT (ug/m^3)	ILCR	HI	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			2.2E+05																	x
630-20-6	1,1,1,2-Tetrachloroethane		5.9E+01				x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		7.6E+00				x									x				x	
71-55-6	1,1,1-Trichloroethane			2.2E+04												x	x				
79-00-5	1,1,2-Trichloroethane		2.7E+01				x	x						x		x	x				
75-34-3	1,1-Dichloroethane			2.2E+04			x								x	x					
75-35-4	1,1-Dichloroethene			8.8E+02												x					
87-61-6	1,2,3-Trichlorobenzene			8.8E+00								x			x	x					
120-82-1	1,2,4-Trichlorobenzene			8.8E+00			x					x			x	x					
96-12-8	1,2-Dibromo-3-chloropropane		7.3E-02	8.8E+00			x					x						x	x		
95-50-1	1,2-Dichlorobenzene			8.8E+03											x						
107-06-2	1,2-Dichloroethane		1.7E+01	1.1E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)			3.5E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)			3.5E+03				x								x			x		
78-87-5	1,2-Dichloropropane		4.4E+01	1.3E+02			x	x							x	x	x		x		
106-99-0	1,3-Butadiene		1.5E+01	8.8E+00			x			x								x			
542-75-6	1,3-Dichloropropene		1.1E+02	1.8E+02			x						x	x					x	x	
106-46-7	1,4-Dichlorobenzene			5.3E+03			x			x						x			x		
123-91-1	1,4-Dioxane			1.3E+04			x	x							x	x					
91-57-6	2-Methylnaphthalene			1.3E+01															x		
83-32-9	Acenaphthene			1.3E+01												x			x		
67-64-1	Acetone			1.4E+05				x							x		x				
75-05-8	Acetonitrile			2.6E+02				x								x					
107-02-8	Acrolein			1.5E+01				x	x				x	x					x		
107-13-1	Acrylonitrile		6.4E+00	8.8E+00			x	x		x							x	x	x		
107-05-1	Allyl chloride			4.4E+01			x										x				
12674-11-2	Aroclor 1016		7.7E-01				x			x	x						x				
71-43-2	Benzene	1.8	5.6E+01	8.8E+01	3.2E-07	2.05E-02	x	x						x			x				
100-44-7	Benzyl chloride			4.4E+00			x								x	x	x		x		
111-44-4	Bis(2-chloroethyl)ether		1.3E+00	5.1E+02			x														
75-27-4	Bromodichloromethane		1.2E+01				x								x	x					
75-25-2	Bromoform		4.0E+02				x									x			x		
74-83-9	Bromomethane			8.8E+02										x			x		x		
75-15-0	Carbon disulfide			9.2E+03					x	x		x				x	x				
56-23-5	Carbon tetrachloride		7.3E+01	4.4E+02			x								x	x					
108-90-7	Chlorobenzene			4.4E+03										x	x	x		x			
67-66-3	Chloroform		1.9E+01	1.1E+03			x									x					
74-87-3	Chloromethane			3.9E+03					x	x						x	x	x			
124-48-1	Dibromochloromethane		1.6E+01				x								x	x					
75-71-8	Dichlorodifluoromethane			8.8E+03												x					
100-41-4	Ethylbenzene	1.3	1.8E+02	3.8E+04	7.4E-08	3.41E-05	x			x					x	x	x				
106-93-4	Ethylene dibromide		7.3E-01	3.9E+01			x			x	x					x		x	x		
75-00-3	Ethyl chloride			4.4E+04						x											
76-44-8	Heptachlor		3.4E-01				x			x					x	x					
118-74-1	Hexachlorobenzene		9.5E-01				x				x				x		x				
87-68-3	Hexachlorobutadiene		2.0E+01				x								x	x	x				
67-72-1	Hexachloroethane			1.3E+03			x								x	x	x				
7439-97-6	Mercury (elemental)			1.3E+00					x	x							x				
78-93-3	Methyl ethyl ketone			2.2E+04						x											
108-10-1	Methyl isobutyl ketone			1.3E+04						x					x	x					
80-62-6	Methyl methacrylate			3.1E+03										x	x				x	x	
1634-04-4	Methyl tert-butyl ether		1.7E+03	1.3E+04			x					x			x	x	x				
75-09-2	Methylene chloride		4.4E+04	4.8E+03			x								x	x			x		
106-94-5	n-Propyl bromide			8.8E+02						x				x			x	x	x		
91-20-3	Naphthalene		1.3E+01	1.3E+01			x	x							x	x			x		
1336-36-3	PCBs		7.7E-01				x					x			x		x	x		x	
85-01-8	Phenanthrene			1.3E+01											x				x		
108-95-2	Phenol			2.6E+03												x	x	x			
100-42-5	Styrene			3.9E+03				x			x					x	x				
127-18-4	Tetrachloroethene		1.7E+03	1.8E+02			x			x						x	x				
108-88-3	Toluene	8.3		2.2E+04		3.79E-04								x	x		x				
79-01-6	Trichloroethene	2.7	1.1E+02	8.8E+00	2.5E-07	3.08E-01	x			x				x	x		x				
75-69-4	Trichlorofluoromethane			3.1E+04					x						x				x		
108-05-4	Vinyl acetate			8.8E+02											x				x		
593-60-2	Vinyl bromide		1.4E+01	1.3E+01			x									x					
75-01-4	Vinyl chloride		1.0E+02	3.5E+02			x			x						x					
1330-20-7	Xylene	9.8		1.3E+03		7.46E-03				x				x	x		x				
DEP2038	C5-C8 Aliphatics	190		8.8E+03		2.17E-02											x				
DEP2039	C9-C12 Aliphatics	140		2.6E+03		5.33E-02		x							x	x					
DEP2040	C9-C10 Aromatics	5.9		2.2E+03		2.69E-03									x						

Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
3.2E-07	0.02						0.02			0.02				
7.4E-08			0.00					0.00	0.00	0.00				
2.5E-07			0.31				0.31	0.31		0.31				
	0.05								0.05	0.05				
								0.00						
Total 6.5E-07	0.07	0.00	0.32	0.00	0.00	0.00	0.34	0.32	0.05	0.41	0.00	0.00	0.00	0.00

	ILCR
Cancer - inhalation	6.0E-07

	HQ
Blood	0.07
Cardiovascular	0.00
Developmental	0.30
Endocrine	0.00
Eye	0.00
Gastrointestinal	0.00
Immune System	0.30
Kidney	0.30
Liver	0.05
Nervous System	0.40
Reproductive	0.00
Respiratory	0.00
Skin	0.00
Other	0.00

Indoor Air Input Sheet and
Summary of Total Incremental Lifetime Cancer Risks
and Endpoint-Specific Hazard Indices



Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Site:	50 India Street Site - Sample SV-4	Sample Date:	11/2/2015
Town	Portland, ME		
Spill No.	N/A		
Remediation No.	VRAP Project		

ENTER DATA HERE

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)
71-43-2	Benzene	1.4
108-88-3	Toluene	8.1
DEP2038	C5-C8 Aliphatics	130
100-41-4	Ethylbenzene	1.2
1330-20-7	Xylene	8.6
DEP2039	C9-C12 Aliphatics	110
DEP2040	C9-C10 Aromatics	6.8
79-01-6	Trichloroethene	1.6
127-18-4	Tetrachloroethene	2.6

	Residential		Commercial (not subject to OSHA)	
	Chronic	Subchronic	Chronic	Subchronic
Cumulative ILCR	1.0E-05	3.0E-06	2.0E-06	5.0E-07
Target Organ HIs				
Blood	0.70	0.20	0.03	0.06
Cardiovascular				
Developmental	0.90	0.90	0.20	0.20
Endocrine				
Eye				
Gastrointestinal				
Immune System	1.00	0.90	0.20	0.20
Kidney	1.00	0.80	0.20	0.20
Liver	0.60	0.20	0.02	0.06
Nervous System	2.00	1.00	0.30	0.30
Reproductive				
Respiratory				
Skin				
Other				

CITY OF PORTLAND, MAINE
RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Chronic Residential

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m3)	Non-cancer-Based IAT (ug/m3)	ILCR	HI
75-68-3	1-Chloro-1,1-difluoroethane			5.2E+04		
630-20-6	1,1,1,2-Tetrachloroethane		3.3E+00			
79-34-5	1,1,2,2-Trichloroethane		4.2E-01			
71-55-6	1,1,1-Trichloroethane			5.2E+03		
79-00-5	1,1,2-Trichloroethane		1.5E+00			
75-34-3	1,1-Dichloroethane			5.2E+02		
75-35-4	1,1-Dichloroethene			2.1E+02		
87-61-6	1,2,3-Trichlorobenzene			2.1E+00		
120-82-1	1,2,4-Trichlorobenzene			2.1E+00		
96-12-8	1,2-Dibromo-3-chloropropane		1.6E-03	2.1E-01		
95-50-1	1,2-Dichlorobenzene			2.1E+02		
107-06-2	1,2-Dichloroethane		9.4E-01	2.5E+03		
156-59-2	1,2-Dichloroethene (cis)			6.3E+01		
156-60-5	1,2-Dichloroethene (trans)			6.3E+01		
78-87-5	1,2-Dichloropropane		2.4E+00	4.2E+00		
106-99-0	1,3-Butadiene		8.1E-01	2.1E+00		
542-75-6	1,3-Dichloropropene		6.1E+00	2.1E+01		
106-46-7	1,4-Dichlorobenzene			6.3E+01		
123-91-1	1,4-Dioxane			3.1E+03		
91-57-6	2-Methylnaphthalene			3.1E+00		
83-32-9	Acenaphthene			3.1E+00		
67-64-1	Acetone			3.2E+04		
75-05-8	Acetonitrile			6.3E+01		
107-02-8	Acrolein			3.7E-01		
107-13-1	Acrylonitrile		3.6E-01	2.1E+00		
107-05-1	Allyl chloride			1.0E+00		
12674-11-2	Aroclor 1016		4.3E-02			
71-43-2	Benzene	1.4	3.1E+00	1.0E+01	4.5E-06	1.34E-01
100-44-7	Benzyl chloride			1.0E+00		
111-44-4	Bis(2-chloroethyl)ether		7.4E-02			
75-27-4	Bromodichloromethane		6.6E-01			
75-25-2	Bromoform		2.2E+01			
74-83-9	Bromomethane			5.2E+00		
75-15-0	Carbon disulfide			7.3E+02		
56-23-5	Carbon tetrachloride		4.1E+00	1.0E+02		
108-90-7	Chlorobenzene			1.0E+03		
67-66-3	Chloroform		1.1E+00	2.1E+00		
74-87-3	Chloromethane			9.4E+01		
124-48-1	Dibromochloromethane		9.0E-01			
75-71-8	Dichlorodifluoromethane			2.1E+02		
100-41-4	Ethylbenzene	1.2	9.7E+00	1.0E+02	1.2E-06	1.15E-02
106-93-4	Ethylene dibromide		4.1E-02	9.4E+00		
75-00-3	Ethyl chloride			1.0E+04		
76-44-8	Heptachlor		1.9E-02			
118-74-1	Hexachlorobenzene		5.3E-02			
87-68-3	Hexachlorobutadiene		1.1E+00			
67-72-1	Hexachloroethane			3.1E+01		
7439-97-6	Mercury (elemental)			3.1E-01		
78-93-3	Methyl ethyl ketone			5.2E+03		
108-10-1	Methyl isobutyl ketone			3.1E+03		
80-62-6	Methyl methacrylate			7.3E+02		
1634-04-4	Methyl tert-butyl ether		9.4E+01	3.1E+03		
75-09-2	Methylene chloride		9.6E+02	6.3E+02		
106-94-5	n-Propyl bromide			5.2E+00		
91-20-3	Naphthalene		7.2E-01	3.1E+00		
1336-36-3	PCBs		4.3E-02			
85-01-8	Phenanthrene			3.1E+00		
108-95-2	Phenol			2.1E+02		
100-42-5	Styrene			3.1E+02		
127-18-4	Tetrachloroethene	2.6	9.4E+01	4.2E+01	2.8E-07	6.23E-02
108-88-3	Toluene	8.1		5.2E+03		1.55E-03
79-01-6	Trichloroethene	1.6	4.3E+00	2.1E+00	3.7E-06	7.67E-01
75-69-4	Trichlorofluoromethane			7.3E+02		
108-05-4	Vinyl acetate			2.1E+02		
593-60-2	Vinyl bromide		7.6E-01	3.1E+00		
75-01-4	Vinyl chloride		2.8E+00	1.0E+01		
1330-20-7	Xylene	8.6		1.0E+02		8.25E-02
DEP2038	C5-C8 Aliphatics	130		6.3E+02		2.08E-01
DEP2039	C9-C12 Aliphatics	110		2.1E+02		5.27E-01
DEP2040	C9-C10 Aromatics	6.8		5.2E+01		1.30E-01

Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
														x
x								x	x					
x									x			x		
									x	x				
	x						x		x	x				
x								x						
									x					
								x	x					
x				x				x	x					
x				x							x	x		
								x						
x								x	x					
	x								x			x		
	x								x			x		
x	x							x	x	x		x		
x			x								x			
x							x	x				x	x	
x				x							x			
x	x							x	x					
									x			x		
	x								x					
	x	x			x	x						x		
	x		x							x	x	x		
x										x				
x			x	x										
x	x								x					
x								x	x	x				
x										x				
x								x	x					
		x	x							x				
			x											
								x	x					
			x											
								x	x					
x			x											
x				x										
								x	x					
x								x	x	x				
										x				
										x	x	x		
	x			x								x		
										x	x			
										x	x			
										x	x

CITY OF PORTLAND, MAINE
RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Sub-Chronic Residential

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m^3)	Noncancer-Based IAT (ug/m^3)	ILCR	HI	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			5.2E+04																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.4E+01				x								x	x					
79-34-5	1,1,2,2-Trichloroethane		1.8E+00				x									x				x	
71-55-6	1,1,1-Trichloroethane			5.2E+03												x	x				
79-00-5	1,1,2-Trichloroethane		6.5E+00				x	x							x		x	x			
75-34-3	1,1-Dichloroethane			5.2E+03			x								x	x					
75-35-4	1,1-Dichloroethene			2.1E+02												x					
87-61-6	1,2,3-Trichlorobenzene			2.1E+00							x				x	x					
120-82-1	1,2,4-Trichlorobenzene			2.1E+00			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		5.2E-02	2.1E+00			x				x							x	x		
95-50-1	1,2-Dichlorobenzene			2.1E+03											x						
107-06-2	1,2-Dichloroethane		4.0E+00	2.5E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)			8.3E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)			8.3E+02				x								x			x		
78-87-5	1,2-Dichloropropane		1.0E+01	3.1E+01			x	x							x	x	x		x		
106-99-0	1,3-Butadiene		3.5E+00	2.1E+00			x			x								x			
542-75-6	1,3-Dichloropropene		2.6E+01	4.2E+01			x					x	x						x	x	
106-46-7	1,4-Dichlorobenzene			1.3E+03			x			x						x			x		
123-91-1	1,4-Dioxane			3.1E+03			x	x							x	x					
91-57-6	2-Methylnaphthalene			3.1E+00															x		
83-32-9	Acenaphthene			3.1E+00												x			x		
67-64-1	Acetone			3.2E+04				x							x		x				
75-05-8	Acetonitrile			6.3E+01				x								x					
107-02-8	Acrolein			3.7E+00				x	x			x	x						x		
107-13-1	Acrylonitrile		1.5E+00	2.1E+00			x	x		x							x	x	x		
107-05-1	Allyl chloride			1.0E+01			x										x				
12674-11-2	Aroclor 1016		1.8E-01				x			x	x						x				
71-43-2	Benzene	1.4	1.3E+01	2.1E+01	1.1E-06	6.67E-02	x	x							x			x			
100-44-7	Benzyl chloride			1.0E+00			x								x	x	x		x		
111-44-4	Bis(2-chloroethyl)ether		3.2E-01	1.2E+02			x														
75-27-4	Bromodichloromethane		2.8E+00				x								x	x					
75-25-2	Bromoform		9.5E+01				x									x			x		
74-83-9	Bromomethane			2.1E+02									x				x		x		
75-15-0	Carbon disulfide			2.2E+03					x	x		x				x	x				
56-23-5	Carbon tetrachloride		1.7E+01	1.0E+02			x								x	x					
108-90-7	Chlorobenzene			1.0E+03									x		x	x		x			
67-66-3	Chloroform		4.5E+00	2.6E+02			x									x					
74-87-3	Chloromethane			9.4E+02					x	x						x	x	x			
124-48-1	Dibromochloromethane		3.9E+00				x								x	x					
75-71-8	Dichlorodifluoromethane			2.1E+03												x					
100-41-4	Ethylbenzene	1.2	4.2E+01	9.1E+03	2.9E-07	1.32E-04	x			x					x	x	x				
106-93-4	Ethylene dibromide		1.7E-01	9.4E+00			x			x	x						x		x	x	
75-00-3	Ethyl chloride			1.0E+04						x											
76-44-8	Heptachlor		8.0E-02				x			x					x	x					
118-74-1	Hexachlorobenzene		2.3E-01				x				x				x		x		x		
87-68-3	Hexachlorobutadiene		4.7E+00				x								x	x	x				
67-72-1	Hexachloroethane			3.1E+02			x								x	x	x				
7439-97-6	Mercury (elemental)			3.1E-01					x	x							x				
78-93-3	Methyl ethyl ketone			5.2E+03						x											
108-10-1	Methyl isobutyl ketone			3.1E+03						x					x	x					
80-62-6	Methyl methacrylate			7.3E+02									x	x					x	x	
1634-04-4	Methyl tert-butyl ether		4.0E+02	3.1E+03			x				x				x	x	x				
75-09-2	Methylene chloride		3.1E+04	1.1E+03			x									x	x		x		
106-94-5	n-Propyl bromide			2.1E+02						x			x				x	x	x		
91-20-3	Naphthalene		3.1E+00	3.1E+00			x	x							x	x			x		
1336-36-3	PCBs		1.8E-01				x				x				x		x	x		x	
85-01-8	Phenanthrene			3.1E+00												x			x		
108-95-2	Phenol			6.3E+02													x	x			
100-42-5	Styrene			9.4E+02				x			x						x	x			
127-18-4	Tetrachloroethene	2.6	4.0E+02	4.2E+01	6.5E-08	6.19E-02	x			x							x	x			
108-88-3	Toluene	8.1		5.2E+03		1.56E-03									x	x		x			
79-01-6	Trichloroethene	1.6	1.3E+01	2.1E+00	1.2E-06	7.62E-01	x			x					x	x		x			
75-69-4	Trichlorofluoromethane			7.3E+03					x							x			x		
108-05-4	Vinyl acetate			2.1E+02												x			x		
593-60-2	Vinyl bromide		3.3E+00	3.1E+00			x									x					
75-01-4	Vinyl chloride		1.2E+01	8.3E+01			x			x						x					
1330-20-7	Xylene	8.6		3.1E+02		2.77E-02				x					x	x					
DEP2038	C5-C8 Aliphatics	130		2.1E+03		6.19E-02											x				
DEP2039	C9-C12 Aliphatics	110		6.3E+02		1.75E-01		x								x	x				
DEP2040	C9-C10 Aromatics	6.8		5.2E+02		1.31E-02									x						

	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
1	1.1E-06	0.07						0.07			0.07				
2	2.9E-07			0.00					0.00	0.00	0.00				
3	6.5E-08			0.06						0.06	0.06				
4	1.2E-06			0.76				0.76	0.76		0.76				
5								0.00	0.00		0.00				
6				0.03				0.03	0.03		0.03				
7											0.06				
8		0.17								0.17	0.17				
9									0.01						
Total	2.7E-06	0.24	0.00	0.85	0.00	0.00	0.00	0.86	0.80	0.24	1.16	0.00	0.00	0.00	0.00

	ILCR
Cancer - inhalation	3.0E-06

	HQ
Blood	0.20
Cardiovascular	0.00
Developmental	0.90
Endocrine	0.00
Eye	0.00
Gastrointestinal	0.00
Immune System	0.90
Kidney	0.80
Liver	0.20
Nervous System	1.00
Reproductive	0.00
Respiratory	0.00
Skin	0.00
Other	0.00

CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Chronic Commercial

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m^3)	Noncancer-Based IAT (ug/m^3)	ILCR	HI	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			2.2E+05																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.7E+01				x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.1E+00				x									x			x		
71-55-6	1,1,1-Trichloroethane			2.2E+04												x	x				
79-00-5	1,1,2-Trichloroethane		7.7E+00				x	x						x		x	x				
75-34-3	1,1-Dichloroethane			2.2E+03			x								x	x					
75-35-4	1,1-Dichloroethene			8.8E+02												x					
87-61-6	1,2,3-Trichlorobenzene			8.8E+00								x			x	x					
120-82-1	1,2,4-Trichlorobenzene			8.8E+00			x					x			x	x					
96-12-8	1,2-Dibromo-3-chloropropane		2.0E-02	8.8E-01			x					x						x	x		
95-50-1	1,2-Dichlorobenzene			8.8E+02											x						
107-06-2	1,2-Dichloroethane		4.7E+00	1.1E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)			2.6E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)			2.6E+02				x								x			x		
78-87-5	1,2-Dichloropropane		1.2E+01	1.8E+01			x	x							x	x	x		x		
106-99-0	1,3-Butadiene		4.1E+00	8.8E+00			x			x								x			
542-75-6	1,3-Dichloropropene		3.1E+01	8.8E+01			x						x	x					x	x	
106-46-7	1,4-Dichlorobenzene			2.6E+02			x			x						x			x		
123-91-1	1,4-Dioxane			1.3E+04			x	x							x	x					
91-57-6	2-Methylnaphthalene			1.3E+01															x		
83-32-9	Acenaphthene			1.3E+01												x			x		
67-64-1	Acetone			1.4E+05				x							x		x				
75-05-8	Acetonitrile			2.6E+02				x								x					
107-02-8	Acrolein			1.5E+00				x	x				x	x					x		
107-13-1	Acrylonitrile		1.8E+00	8.8E+00			x	x		x							x	x	x		
107-05-1	Allyl chloride			4.4E+00			x										x				
12674-11-2	Aroclor 1016			2.2E-01			x			x	x						x				
71-43-2	Benzene	1.4	1.6E+01	4.4E+01	8.9E-07	3.20E-02	x	x						x			x				
100-44-7	Benzyl chloride			4.4E+00			x								x	x	x		x		
111-44-4	Bis(2-chloroethyl)ether		3.7E-01				x														
75-27-4	Bromodichloromethane		4.5E+00				x								x	x					
75-25-2	Bromoform		1.1E+02				x									x			x		
74-83-9	Bromomethane			2.2E+01										x			x		x		
75-15-0	Carbon disulfide			3.1E+03					x	x		x				x	x				
56-23-5	Carbon tetrachloride		2.0E+01	4.4E+02			x								x	x					
108-90-7	Chlorobenzene			4.4E+03										x	x	x		x			
67-66-3	Chloroform		5.3E+00	8.8E+00			x									x					
74-87-3	Chloromethane			3.9E+02					x	x						x	x	x			
124-48-1	Dibromochloromethane		4.5E+00				x								x	x					
75-71-8	Dichlorodifluoromethane			8.8E+02												x					
100-41-4	Ethylbenzene	1.2	4.9E+01	4.4E+02	2.4E-07	2.74E-03	x			x					x	x	x				
106-93-4	Ethylene dibromide		2.0E-01	3.9E+01			x			x	x					x		x	x		
75-00-3	Ethyl chloride			4.4E+04						x											
76-44-8	Heptachlor		9.4E-02				x			x					x	x					
118-74-1	Hexachlorobenzene		2.7E-01				x					x				x		x			
87-68-3	Hexachlorobutadiene		5.6E+00				x								x	x	x				
67-72-1	Hexachloroethane			1.3E+02			x								x	x	x				
7439-97-6	Mercury (elemental)			1.3E+00					x	x							x				
78-93-3	Methyl ethyl ketone			2.2E+04						x											
108-10-1	Methyl isobutyl ketone			1.3E+04						x					x	x					
80-62-6	Methyl methacrylate			3.1E+03										x	x				x	x	
1634-04-4	Methyl tert-butyl ether		4.7E+02	1.3E+04			x					x			x	x	x				
75-09-2	Methylene chloride		1.2E+04	2.6E+03			x								x	x			x		
106-94-5	n-Propyl bromide			2.2E+01						x				x			x	x	x		
91-20-3	Naphthalene		3.6E+00	1.3E+01			x	x							x	x			x		
1336-36-3	PCBs		2.2E-01				x					x			x		x	x		x	
85-01-8	Phenanthrene			1.3E+01											x				x		
108-95-2	Phenol			8.8E+02													x	x	x		
100-42-5	Styrene			1.3E+03				x				x					x	x			
127-18-4	Tetrachloroethene	2.6	4.7E+02	1.8E+02	5.5E-08	1.48E-02	x			x							x	x			
108-88-3	Toluene	8.1		2.2E+04		3.70E-04								x	x		x				
79-01-6	Trichloroethene	1.6	3.0E+01	8.8E+00	5.3E-07	1.83E-01	x			x				x	x		x				
75-69-4	Trichlorofluoromethane			3.1E+03					x						x				x		
108-05-4	Vinyl acetate			8.8E+02											x				x		
593-60-2	Vinyl bromide		3.8E+00	1.3E+01			x									x					
75-01-4	Vinyl chloride		2.8E+01	4.4E+01			x			x						x					
1330-20-7	Xylene	8.6		4.4E+02		1.96E-02				x				x	x		x				
DEP2038	C5-C8 Aliphatics			2.6E+03													x				
DEP2039	C9-C12 Aliphatics			8.8E+02				x								x	x				
DEP2040	C9-C10 Aromatics			2.2E+02											x						

	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
	8.9E-07	0.03						0.03			0.03				
	2.4E-07			0.00					0.00	0.00	0.00				
	5.5E-08			0.01						0.01	0.01				
	5.3E-07			0.18				0.18	0.18		0.18				
				0.02				0.02	0.02		0.02				
Total	1.7E-06	0.03	0.00	0.22	0.00	0.00	0.00	0.23	0.21	0.02	0.25	0.00	0.00	0.00	0.00

	ILCR
Cancer - inhalation	2.0E-06

	HQ
Blood	0.03
Cardiovascular	0.00
Developmental	0.20
Endocrine	0.00
Eye	0.00
Gastrointestinal	0.00
Immune System	0.20
Kidney	0.20
Liver	0.02
Nervous System	0.30
Reproductive	0.00
Respiratory	0.00
Skin	0.00
Other	0.00

CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Sub-Chronic Commercial

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m^3)	Noncancer-Based IAT (ug/m^3)	ILCR	HI	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			2.2E+05																	x
630-20-6	1,1,1,2-Tetrachloroethane		5.9E+01				x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		7.6E+00				x									x				x	
71-55-6	1,1,1-Trichloroethane			2.2E+04												x	x				
79-00-5	1,1,2-Trichloroethane		2.7E+01				x	x						x		x	x				
75-34-3	1,1-Dichloroethane			2.2E+04			x								x	x					
75-35-4	1,1-Dichloroethene			8.8E+02												x					
87-61-6	1,2,3-Trichlorobenzene			8.8E+00							x				x	x					
120-82-1	1,2,4-Trichlorobenzene			8.8E+00			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		7.3E-02	8.8E+00			x				x							x	x		
95-50-1	1,2-Dichlorobenzene			8.8E+03											x						
107-06-2	1,2-Dichloroethane		1.7E+01	1.1E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)			3.5E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)			3.5E+03				x								x			x		
78-87-5	1,2-Dichloropropane		4.4E+01	1.3E+02			x	x							x	x	x		x		
106-99-0	1,3-Butadiene		1.5E+01	8.8E+00			x			x								x			
542-75-6	1,3-Dichloropropene		1.1E+02	1.8E+02			x						x	x					x	x	
106-46-7	1,4-Dichlorobenzene			5.3E+03			x			x							x		x		
123-91-1	1,4-Dioxane			1.3E+04			x	x								x	x				
91-57-6	2-Methylnaphthalene			1.3E+01															x		
83-32-9	Acenaphthene			1.3E+01													x		x		
67-64-1	Acetone			1.4E+05				x								x		x			
75-05-8	Acetonitrile			2.6E+02				x									x				
107-02-8	Acrolein			1.5E+01				x	x				x	x					x		
107-13-1	Acrylonitrile		6.4E+00	8.8E+00			x	x		x								x	x	x	
107-05-1	Allyl chloride			4.4E+01			x										x				
12674-11-2	Aroclor 1016		7.7E-01				x			x	x						x				
71-43-2	Benzene	1.4	5.6E+01	8.8E+01	2.5E-07	1.60E-02	x	x						x			x				
100-44-7	Benzyl chloride			4.4E+00			x								x	x	x		x		
111-44-4	Bis(2-chloroethyl)ether		1.3E+00	5.1E+02			x														
75-27-4	Bromodichloromethane		1.2E+01				x								x	x					
75-25-2	Bromoform		4.0E+02				x									x			x		
74-83-9	Bromomethane			8.8E+02										x			x		x		
75-15-0	Carbon disulfide			9.2E+03					x	x		x					x	x			
56-23-5	Carbon tetrachloride		7.3E+01	4.4E+02			x								x	x					
108-90-7	Chlorobenzene			4.4E+03										x	x	x		x			
67-66-3	Chloroform		1.9E+01	1.1E+03			x									x					
74-87-3	Chloromethane			3.9E+03					x	x							x	x	x		
124-48-1	Dibromochloromethane		1.6E+01				x								x	x					
75-71-8	Dichlorodifluoromethane			8.8E+03												x					
100-41-4	Ethylbenzene	1.2	1.8E+02	3.8E+04	6.8E-08	3.15E-05	x			x					x	x	x				
106-93-4	Ethylene dibromide		7.3E-01	3.9E+01			x			x	x					x		x	x		
75-00-3	Ethyl chloride			4.4E+04						x											
76-44-8	Heptachlor		3.4E-01				x			x					x	x					
118-74-1	Hexachlorobenzene		9.5E-01				x				x				x		x				
87-68-3	Hexachlorobutadiene		2.0E+01				x								x	x	x				
67-72-1	Hexachloroethane			1.3E+03			x								x	x	x				
7439-97-6	Mercury (elemental)			1.3E+00					x	x							x				
78-93-3	Methyl ethyl ketone			2.2E+04						x											
108-10-1	Methyl isobutyl ketone			1.3E+04						x					x	x					
80-62-6	Methyl methacrylate			3.1E+03										x	x				x	x	
1634-04-4	Methyl tert-butyl ether		1.7E+03	1.3E+04			x				x				x	x	x				
75-09-2	Methylene chloride		4.4E+04	4.8E+03			x								x	x			x		
106-94-5	n-Propyl bromide			8.8E+02						x				x			x	x	x		
91-20-3	Naphthalene		1.3E+01	1.3E+01			x	x							x	x			x		
1336-36-3	PCBs		7.7E-01				x				x				x		x	x		x	
85-01-8	Phenanthrene			1.3E+01											x				x		
108-95-2	Phenol			2.6E+03													x	x	x		
100-42-5	Styrene			3.9E+03				x			x						x	x			
127-18-4	Tetrachloroethene	2.6	1.7E+03	1.8E+02	1.5E-08	1.48E-02	x			x							x	x			
108-88-3	Toluene	8.1		2.2E+04		3.70E-04								x	x		x				
79-01-6	Trichloroethene	1.6	1.1E+02	8.8E+00	1.5E-07	1.83E-01	x			x				x	x		x				
75-69-4	Trichlorofluoromethane			3.1E+04					x						x				x		
108-05-4	Vinyl acetate			8.8E+02											x				x		
593-60-2	Vinyl bromide		1.4E+01	1.3E+01			x									x					
75-01-4	Vinyl chloride		1.0E+02	3.5E+02			x			x						x					
1330-20-7	Xylene	8.6		1.3E+03		6.54E-03				x				x	x		x				
DEP2038	C5-C8 Aliphatics	130		8.8E+03		1.48E-02											x				
DEP2039	C9-C12 Aliphatics	110		2.6E+03		4.19E-02		x							x	x					
DEP2040	C9-C10 Aromatics	6.8		2.2E+03		3.11E-03									x						

	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
	2.5E-07	0.02						0.02			0.02				
	6.8E-08			0.00					0.00	0.00	0.00				
	1.5E-08			0.01						0.01	0.01				
								0.00	0.00		0.00				
	1.5E-07			0.18				0.18	0.18		0.18				
								0.01	0.01		0.01				
		0.04								0.04	0.04				
									0.00						
Total	4.8E-07	0.06	0.00	0.20	0.00	0.00	0.00	0.21	0.19	0.06	0.28	0.00	0.00	0.00	0.00

	ILCR
Cancer - inhalation	5.0E-07

	HQ
Blood	0.06
Cardiovascular	0.00
Developmental	0.20
Endocrine	0.00
Eye	0.00
Gastrointestinal	0.00
Immune System	0.20
Kidney	0.20
Liver	0.06
Nervous System	0.30
Reproductive	0.00
Respiratory	0.00
Skin	0.00
Other	0.00

Indoor Air Input Sheet and
Summary of Total Incremental Lifetime Cancer Risks
and Endpoint-Specific Hazard Indices



Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Site:	50 India Street Site - Sample SV-5	Sample Date:	11/2/2015
Town	Portland, ME		
Spill No.	N/A		
Remediation No.	VRAP Project		

ENTER DATA HERE

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)
108-88-3	Toluene	2.9
DEP2038	C5-C8 Aliphatics	82
100-41-4	Ethylbenzene	1
1330-20-7	Xylene	5.64
DEP2039	C9-C12 Aliphatics	47
127-18-4	Tetrachloroethene	2.6

	Residential		Commercial (not subject to OSHA)	
	Chronic	Subchronic	Chronic	Subchronic
Cumulative ILCR	1.0E-06	3.0E-07	3.0E-07	7.0E-08
Target Organ His				
Blood	0.20	0.07		0.02
Cardiovascular				
Developmental	0.10	0.08	0.03	0.02
Endocrine				
Eye				
Gastrointestinal				
Immune System	0.05	0.02	0.01	0.00
Kidney	0.06	0.02	0.02	0.00
Liver	0.30	0.10	0.02	0.03
Nervous System	0.50	0.20	0.03	0.05
Reproductive				
Respiratory				
Skin				
Other				

CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Chronic Residential

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m3)	Non-cancer-Based IAT (ug/m3)	ILCR	HI
75-68-3	1-Chloro-1,1-difluoroethane			5.2E+04		
630-20-6	1,1,1,2-Tetrachloroethane		3.3E+00			
79-34-5	1,1,2,2-Tetrachloroethane		4.2E-01			
71-55-6	1,1,1-Trichloroethane			5.2E+03		
79-00-5	1,1,2-Trichloroethane		1.5E+00			
75-34-3	1,1-Dichloroethane			5.2E+02		
75-35-4	1,1-Dichloroethene			2.1E+02		
87-61-6	1,2,3-Trichlorobenzene			2.1E+00		
120-82-1	1,2,4-Trichlorobenzene			2.1E+00		
96-12-8	1,2-Dibromo-3-chloropropane		1.6E-03	2.1E-01		
95-50-1	1,2-Dichlorobenzene			2.1E+02		
107-06-2	1,2-Dichloroethane		9.4E-01	2.5E+03		
156-59-2	1,2-Dichloroethene (cis)			6.3E+01		
156-60-5	1,2-Dichloroethene (trans)			6.3E+01		
78-87-5	1,2-Dichloropropane		2.4E+00	4.2E+00		
106-99-0	1,3-Butadiene		8.1E-01	2.1E+00		
542-75-6	1,3-Dichloropropene		6.1E+00	2.1E+01		
106-46-7	1,4-Dichlorobenzene			6.3E+01		
123-91-1	1,4-Dioxane			3.1E+03		
91-57-6	2-Methylnaphthalene			3.1E+00		
83-32-9	Acenaphthene			3.1E+00		
67-64-1	Acetone			3.2E+04		
75-05-8	Acetonitrile			6.3E+01		
107-02-8	Acrolein			3.7E-01		
107-13-1	Acrylonitrile		3.6E-01	2.1E+00		
107-05-1	Allyl chloride			1.0E+00		
12674-11-2	Aroclor 1016		4.3E-02			
71-43-2	Benzene		3.1E+00	1.0E+01		
100-44-7	Benzyl chloride			1.0E+00		
111-44-4	Bis(2-chloroethyl)ether		7.4E-02			
75-27-4	Bromodichloromethane		6.6E-01			
75-25-2	Bromoform		2.2E+01			
74-83-9	Bromomethane			5.2E+00		
75-15-0	Carbon disulfide			7.3E+02		
56-23-5	Carbon tetrachloride		4.1E+00	1.0E+02		
108-90-7	Chlorobenzene			1.0E+03		
67-66-3	Chloroform		1.1E+00	2.1E+00		
74-87-3	Chloromethane			9.4E+01		
124-48-1	Dibromochloromethane		9.0E-01			
75-71-8	Dichlorodifluoromethane			2.1E+02		
100-41-4	Ethylbenzene	1	9.7E+00	1.0E+02	1.0E-06	9.59E-03
106-93-4	Ethylene dibromide		4.1E-02	9.4E+00		
75-00-3	Ethyl chloride			1.0E+04		
76-44-8	Heptachlor		1.9E-02			
118-74-1	Hexachlorobenzene		5.3E-02			
87-68-3	Hexachlorobutadiene		1.1E+00			
67-72-1	Hexachloroethane			3.1E+01		
7439-97-6	Mercury (elemental)			3.1E-01		
78-93-3	Methyl ethyl ketone			5.2E+03		
108-10-1	Methyl isobutyl ketone			3.1E+03		
80-62-6	Methyl methacrylate			7.3E+02		
1634-04-4	Methyl tert-butyl ether		9.4E+01	3.1E+03		
75-09-2	Methylene chloride		9.6E+02	6.3E+02		
106-94-5	n-Propyl bromide			5.2E+00		
91-20-3	Naphthalene		7.2E-01	3.1E+00		
1336-36-3	PCBs		4.3E-02			
85-01-8	Phenanthrene			3.1E+00		
108-95-2	Phenol			2.1E+02		
100-42-5	Styrene			3.1E+02		
127-18-4	Tetrachloroethene	2.6	9.4E+01	4.2E+01	2.8E-07	6.23E-02
108-88-3	Toluene	2.9		5.2E+03		5.56E-04
79-01-6	Trichloroethene		4.3E+00	2.1E+00		
75-69-4	Trichlorofluoromethane			7.3E+02		
108-05-4	Vinyl acetate			2.1E+02		
593-60-2	Vinyl bromide		7.6E-01	3.1E+00		
75-01-4	Vinyl chloride		2.8E+00	1.0E+01		
1330-20-7	Xylene	5.64		1.0E+02		5.41E-02
DEP2038	C5-C8 Aliphatics	82		6.3E+02		1.31E-01
DEP2039	C9-C12 Aliphatics	47		2.1E+02		2.25E-01
DEP2040	C9-C10 Aromatics			5.2E+01		

	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3															x
630-20-6	x								x	x					
79-34-5	x									x			x		
71-55-6										x	x				
79-00-5	x	x						x		x	x				
75-34-3	x								x	x					
75-35-4										x					
87-61-6					x				x	x					
120-82-1	x				x				x	x					
96-12-8	x				x							x	x		
95-50-1									x						
107-06-2	x								x	x					
156-59-2		x								x			x		
156-60-5		x								x			x		
78-87-5	x	x							x	x	x		x		
106-99-0	x			x								x			
542-75-6	x						x	x					x	x	
106-46-7	x			x						x			x		
123-91-1	x	x							x	x					
91-57-6													x		
83-32-9										x			x		
67-64-1		x							x		x				
75-05-8		x								x					
107-02-8		x	x				x	x					x		
107-13-1	x	x		x							x	x	x		
107-05-1	x										x				
12674-11-2	x			x	x						x				
71-43-2	x	x						x			x				
100-44-7	x								x	x	x		x		
111-44-4	x														
75-27-4	x								x	x					
75-25-2	x									x			x		
74-83-9							x				x		x		
75-15-0			x	x		x					x	x			
56-23-5	x								x	x					
108-90-7							x		x	x		x			
67-66-3	x									x					
74-87-3			x	x						x	x	x			
124-48-1	x								x	x					
75-71-8										x					
100-41-4	x			x					x	x	x				
106-93-4	x			x	x					x		x	x		
75-00-3				x											
76-44-8	x			x					x	x					
118-74-1	x				x			x		x		x			
87-68-3	x								x	x	x				
67-72-1	x								x	x	x				
7439-97-6			x	x							x				
78-93-3				x											
108-10-1				x					x	x					
80-62-6							x	x					x	x	
1634-04-4	x				x				x	x	x				
75-09-2	x								x	x			x		
106-94-5				x			x				x	x	x		
91-20-3	x	x						x	x		x		x		
1336-36-3	x				x			x			x	x		x	
85-01-8									x				x		
108-95-2											x	x			
100-42-5		x			x						x	x			
127-18-4	x			x							x	x			
108-88-3								x	x		x				
79-01-6	x			x				x	x		x				
75-69-4			x						x				x		
108-05-4									x				x		
593-60-2	x									x					
75-01-4	x			x						x					
1330-20-7				x				x	x		x				
DEP2038											x				
DEP2039		x								x	x				
DEP2040									x						

	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
75-68-3															
630-20-6															
79-34-5															
71-55-6															
79-00-5															
75-34-3															
75-35-4															
87-61-6															
120-82-1															
96-12-8															
95-50-1															
107-06-2															
156-59-2															
156-60-5															
78-87-5															
106-99-0															
542-75-6															
106-46-7															
123-91-1															
91-57-6															
83-32-9															
67-64-1															
75-05-8															
107-02-8															
107-13-1															
107-05-1															
12674-11-2															
71-43-2															
100-44-7															
111-44-4															
75-27-4															
75-25-2															
74-83-9															
75-15-0															
56-23-5															
108-90-7															
67-66-3															
74-87-3															
124-48-1															
75-71-8															
100-41-4	1.0E-06			0.01						0.01	0.01	0.01			
106-93-4															
75-00-3															
76-44-8															
118-74-1															
87-68-3															
67-72-1															
7439-97-6															
78-93-3															
108-10-1															
80-62-6															
1634-04-4															
75-09-2															
106-94-5															
91-20-3															
1336-36-3															
85-01-8															
108-95-2															
100-42-5															
127-18-4	2.8E-07			0.06							0.06	0.06			
108-88-3								0.00	0.00			0.00			
79-01-6															
75-69-4															
108-05-4															
593-60-2															
75-01-4															
1330-20-7				0.05				0.05	0.05			0.05			
DEP2038											0.13				
DEP2039		0.23								0.23	0.23				
DEP2040															
Total	1.3E-06	0.23	0.00	0.13	0.00	0.00	0.00	0.05	0.06	0.30	0.48	0.00	0.00	0.00	0.00

	ILCR
Cancer - inhalation	1.0E-06

	HQ
Blood	0.20
Cardio	0.00
Dev	0.10
Endo	0.00
Eye	0.00
Gastro	0.00
Immune	0.05
Kidney	0.06
Liver	0.30
Nervous	0.50
Reprod	0.00
Resp	0.00
Skin	0.00
Other	0.00

CITY OF PORTLAND, MAINE
RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Sub-Chronic Residential

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m^3)	Noncancer-Based IAT (ug/m^3)	ILCR	HI	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			5.2E+04																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.4E+01				x								x	x					
79-34-5	1,1,2,2-Trichloroethane		1.8E+00				x									x				x	
71-55-6	1,1,1-Trichloroethane			5.2E+03												x	x				
79-00-5	1,1,2-Trichloroethane		6.5E+00				x	x							x		x	x			
75-34-3	1,1-Dichloroethane			5.2E+03			x								x	x					
75-35-4	1,1-Dichloroethene			2.1E+02												x					
87-61-6	1,2,3-Trichlorobenzene			2.1E+00							x				x	x					
120-82-1	1,2,4-Trichlorobenzene			2.1E+00			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		5.2E-02	2.1E+00			x				x							x	x		
95-50-1	1,2-Dichlorobenzene			2.1E+03											x						
107-06-2	1,2-Dichloroethane		4.0E+00	2.5E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)			8.3E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)			8.3E+02				x								x			x		
78-87-5	1,2-Dichloropropane		1.0E+01	3.1E+01			x	x							x	x	x		x		
106-99-0	1,3-Butadiene		3.5E+00	2.1E+00			x			x								x			
542-75-6	1,3-Dichloropropene		2.6E+01	4.2E+01			x					x	x						x	x	
106-46-7	1,4-Dichlorobenzene			1.3E+03			x			x						x			x		
123-91-1	1,4-Dioxane			3.1E+03			x	x							x	x					
91-57-6	2-Methylnaphthalene			3.1E+00															x		
83-32-9	Acenaphthene			3.1E+00												x			x		
67-64-1	Acetone			3.2E+04				x							x		x				
75-05-8	Acetonitrile			6.3E+01				x								x					
107-02-8	Acrolein			3.7E+00				x	x				x	x					x		
107-13-1	Acrylonitrile		1.5E+00	2.1E+00			x	x		x							x	x	x		
107-05-1	Allyl chloride			1.0E+01			x										x				
12674-11-2	Aroclor 1016		1.8E-01				x			x	x						x				
71-43-2	Benzene		1.3E+01	2.1E+01			x	x							x		x				
100-44-7	Benzyl chloride			1.0E+00			x								x	x	x		x		
111-44-4	Bis(2-chloroethyl)ether		3.2E-01	1.2E+02			x														
75-27-4	Bromodichloromethane		2.8E+00				x								x	x					
75-25-2	Bromoform		9.5E+01				x									x			x		
74-83-9	Bromomethane			2.1E+02										x			x		x		
75-15-0	Carbon disulfide			2.2E+03					x	x		x					x	x			
56-23-5	Carbon tetrachloride		1.7E+01	1.0E+02			x								x	x					
108-90-7	Chlorobenzene			1.0E+03										x	x	x		x			
67-66-3	Chloroform		4.5E+00	2.6E+02			x									x					
74-87-3	Chloromethane			9.4E+02					x	x							x	x	x		
124-48-1	Dibromochloromethane		3.9E+00				x								x	x					
75-71-8	Dichlorodifluoromethane			2.1E+03												x					
100-41-4	Ethylbenzene	1	4.2E+01	9.1E+03	2.4E-07	1.10E-04	x			x					x	x	x				
106-93-4	Ethylene dibromide		1.7E-01	9.4E+00			x			x	x						x		x	x	
75-00-3	Ethyl chloride			1.0E+04						x											
76-44-8	Heptachlor		8.0E-02				x			x					x	x					
118-74-1	Hexachlorobenzene		2.3E-01				x				x				x		x		x		
87-68-3	Hexachlorobutadiene		4.7E+00				x								x	x	x				
67-72-1	Hexachloroethane			3.1E+02			x								x	x	x				
7439-97-6	Mercury (elemental)			3.1E-01					x	x							x				
78-93-3	Methyl ethyl ketone			5.2E+03						x											
108-10-1	Methyl isobutyl ketone			3.1E+03						x					x	x					
80-62-6	Methyl methacrylate			7.3E+02									x	x					x	x	
1634-04-4	Methyl tert-butyl ether		4.0E+02	3.1E+03			x				x				x	x	x				
75-09-2	Methylene chloride		3.1E+04	1.1E+03			x									x	x		x		
106-94-5	n-Propyl bromide			2.1E+02						x			x				x	x	x		
91-20-3	Naphthalene		3.1E+00	3.1E+00			x	x							x	x			x		
1336-36-3	PCBs		1.8E-01				x				x				x		x	x		x	
85-01-8	Phenanthrene			3.1E+00												x			x		
108-95-2	Phenol			6.3E+02													x	x			
100-42-5	Styrene			9.4E+02				x			x						x	x			
127-18-4	Tetrachloroethene	2.6	4.0E+02	4.2E+01	6.5E-08	6.19E-02	x			x							x	x			
108-88-3	Toluene	2.9		5.2E+03		5.58E-04									x	x		x			
79-01-6	Trichloroethene		1.3E+01	2.1E+00			x				x				x	x		x			
75-69-4	Trichlorofluoromethane			7.3E+03					x							x				x	
108-05-4	Vinyl acetate			2.1E+02												x				x	
593-60-2	Vinyl bromide		3.3E+00	3.1E+00			x									x					
75-01-4	Vinyl chloride		1.2E+01	8.3E+01			x				x					x					
1330-20-7	Xylene	5.64		3.1E+02		1.82E-02				x					x	x					
DEP2038	C5-C8 Aliphatics	82		2.1E+03		3.90E-02											x				
DEP2039	C9-C12 Aliphatics	47		6.3E+02		7.46E-02		x								x	x				
DEP2040	C9-C10 Aromatics			5.2E+02											x						

Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
2.4E-07			0.00					0.00	0.00	0.00				
6.5E-08			0.06						0.06	0.06				
							0.00	0.00		0.00				
	0.07								0.07	0.07				
Total 3.0E-07	0.07	0.00	0.08	0.00	0.00	0.00	0.02	0.02	0.14	0.19	0.00	0.00	0.00	0.00

	ILCR
Cancer - inhalation	3.0E-07
	HQ
Blood	0.07
Cardiovascular	0.00
Developmental	0.08
Endocrine	0.00
Eye	0.00
Gastrointestinal	0.00
Immune System	0.02
Kidney	0.02
Liver	0.10
Nervous System	0.20
Reproductive	0.00
Respiratory	0.00
Skin	0.00
Other	0.00

CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Chronic Commercial

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m^3)	Noncancer-Based IAT (ug/m^3)	ILCR	HI	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			2.2E+05																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.7E+01				x								x	x					
79-34-5	1,1,2,2-Trichloroethane		2.1E+00				x									x				x	
71-55-6	1,1,1-Trichloroethane			2.2E+04												x	x				
79-00-5	1,1,2-Trichloroethane		7.7E+00				x	x						x		x	x				
75-34-3	1,1-Dichloroethane			2.2E+03			x								x	x					
75-35-4	1,1-Dichloroethene			8.8E+02												x					
87-61-6	1,2,3-Trichlorobenzene			8.8E+00							x				x	x					
120-82-1	1,2,4-Trichlorobenzene			8.8E+00			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		2.0E-02	8.8E-01			x				x							x	x		
95-50-1	1,2-Dichlorobenzene			8.8E+02											x						
107-06-2	1,2-Dichloroethane		4.7E+00	1.1E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)			2.6E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)			2.6E+02				x								x			x		
78-87-5	1,2-Dichloropropane		1.2E+01	1.8E+01			x	x							x	x	x		x		
106-99-0	1,3-Butadiene		4.1E+00	8.8E+00			x			x								x			
542-75-6	1,3-Dichloropropene		3.1E+01	8.8E+01			x						x	x					x	x	
106-46-7	1,4-Dichlorobenzene			2.6E+02			x			x						x			x		
123-91-1	1,4-Dioxane			1.3E+04			x	x							x	x					
91-57-6	2-Methylnaphthalene			1.3E+01															x		
83-32-9	Acenaphthene			1.3E+01												x			x		
67-64-1	Acetone			1.4E+05				x							x		x				
75-05-8	Acetonitrile			2.6E+02				x								x					
107-02-8	Acrolein			1.5E+00				x	x				x	x					x		
107-13-1	Acrylonitrile		1.8E+00	8.8E+00			x	x		x							x	x	x		
107-05-1	Allyl chloride			4.4E+00			x										x				
12674-11-2	Aroclor 1016		2.2E-01				x			x	x						x				
71-43-2	Benzene		1.6E+01	4.4E+01			x	x						x			x				
100-44-7	Benzyl chloride			4.4E+00			x								x	x	x		x		
111-44-4	Bis(2-chloroethyl)ether		3.7E-01				x														
75-27-4	Bromodichloromethane		4.5E+00				x								x	x					
75-25-2	Bromoform		1.1E+02				x									x			x		
74-83-9	Bromomethane			2.2E+01										x			x		x		
75-15-0	Carbon disulfide			3.1E+03					x	x		x				x	x				
56-23-5	Carbon tetrachloride		2.0E+01	4.4E+02			x								x	x					
108-90-7	Chlorobenzene			4.4E+03										x	x	x		x			
67-66-3	Chloroform		5.3E+00	8.8E+00			x									x					
74-87-3	Chloromethane			3.9E+02					x	x						x	x	x			
124-48-1	Dibromochloromethane		4.5E+00				x								x	x					
75-71-8	Dichlorodifluoromethane			8.8E+02												x					
100-41-4	Ethylbenzene	1	4.9E+01	4.4E+02	2.0E-07	2.28E-03	x			x					x	x	x				
106-93-4	Ethylene dibromide		2.0E-01	3.9E+01			x			x	x					x		x	x		
75-00-3	Ethyl chloride			4.4E+04						x											
76-44-8	Heptachlor		9.4E-02				x			x					x	x					
118-74-1	Hexachlorobenzene		2.7E-01				x				x					x		x			
87-68-3	Hexachlorobutadiene		5.6E+00				x								x	x	x				
67-72-1	Hexachloroethane			1.3E+02			x								x	x	x				
7439-97-6	Mercury (elemental)			1.3E+00					x	x							x				
78-93-3	Methyl ethyl ketone			2.2E+04						x											
108-10-1	Methyl isobutyl ketone			1.3E+04						x					x	x					
80-62-6	Methyl methacrylate			3.1E+03										x	x				x	x	
1634-04-4	Methyl tert-butyl ether		4.7E+02	1.3E+04			x				x				x	x	x				
75-09-2	Methylene chloride		1.2E+04	2.6E+03			x								x	x			x		
106-94-5	n-Propyl bromide			2.2E+01						x				x			x	x	x		
91-20-3	Naphthalene		3.6E+00	1.3E+01			x	x							x	x			x		
1336-36-3	PCBs		2.2E-01				x				x				x			x	x		x
85-01-8	Phenanthrene			1.3E+01											x				x		
108-95-2	Phenol			8.8E+02													x	x	x		
100-42-5	Styrene			1.3E+03				x			x						x	x			
127-18-4	Tetrachloroethene	2.6	4.7E+02	1.8E+02	5.5E-08	1.48E-02	x			x							x	x			
108-88-3	Toluene	2.9		2.2E+04		1.32E-04								x	x			x			
79-01-6	Trichloroethene		3.0E+01	8.8E+00			x				x				x	x		x			
75-69-4	Trichlorofluoromethane			3.1E+03					x						x				x		
108-05-4	Vinyl acetate			8.8E+02											x				x		
593-60-2	Vinyl bromide		3.8E+00	1.3E+01			x									x					
75-01-4	Vinyl chloride		2.8E+01	4.4E+01			x				x					x					
1330-20-7	Xylene	5.64		4.4E+02		1.29E-02				x				x	x		x				
DEP2038	C5-C8 Aliphatics			2.6E+03													x				
DEP2039	C9-C12 Aliphatics			8.8E+02				x									x	x			
DEP2040	C9-C10 Aromatics			2.2E+02											x						

	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
	2.0E-07			0.00					0.00	0.00	0.00				
	5.5E-08			0.01						0.01	0.01				
								0.00	0.00		0.00				
				0.01				0.01	0.01		0.01				
Total	2.6E-07	0.00	0.00	0.03	0.00	0.00	0.00	0.01	0.02	0.02	0.03	0.00	0.00	0.00	0.00

	ILCR
Cancer - inhalation	3.0E-07

	HQ
Blood	0.00
Cardiovascular	0.00
Developmental	0.03
Endocrine	0.00
Eye	0.00
Gastrointestinal	0.00
Immune System	0.01
Kidney	0.02
Liver	0.02
Nervous System	0.03
Reproductive	0.00
Respiratory	0.00
Skin	0.00
Other	0.00

CITY OF PORTLAND, MAINE
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Inspections Division
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Sub-Chronic Commercial

CAS Number	Chemical	Indoor Air Concentration (ug/m^3)	Cancer-Based IAT (ug/m^3)	Noncancer-Based IAT (ug/m^3)	ILCR	HI	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			2.2E+05																	x
630-20-6	1,1,1,2-Tetrachloroethane		5.9E+01				x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		7.6E+00				x									x			x		
71-55-6	1,1,1-Trichloroethane			2.2E+04												x	x				
79-00-5	1,1,2-Trichloroethane		2.7E+01				x	x						x		x	x				
75-34-3	1,1-Dichloroethane			2.2E+04			x								x	x					
75-35-4	1,1-Dichloroethene			8.8E+02												x					
87-61-6	1,2,3-Trichlorobenzene			8.8E+00								x			x	x					
120-82-1	1,2,4-Trichlorobenzene			8.8E+00			x					x			x	x					
96-12-8	1,2-Dibromo-3-chloropropane		7.3E-02	8.8E+00			x					x						x	x		
95-50-1	1,2-Dichlorobenzene			8.8E+03											x						
107-06-2	1,2-Dichloroethane		1.7E+01	1.1E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)			3.5E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)			3.5E+03				x								x			x		
78-87-5	1,2-Dichloropropane		4.4E+01	1.3E+02			x	x							x	x	x		x		
106-99-0	1,3-Butadiene		1.5E+01	8.8E+00			x			x								x			
542-75-6	1,3-Dichloropropene		1.1E+02	1.8E+02			x						x	x					x	x	
106-46-7	1,4-Dichlorobenzene			5.3E+03			x			x							x		x		
123-91-1	1,4-Dioxane			1.3E+04			x	x							x	x					
91-57-6	2-Methylnaphthalene			1.3E+01															x		
83-32-9	Acenaphthene			1.3E+01												x			x		
67-64-1	Acetone			1.4E+05				x							x		x				
75-05-8	Acetonitrile			2.6E+02				x								x					
107-02-8	Acrolein			1.5E+01				x	x				x	x					x		
107-13-1	Acrylonitrile		6.4E+00	8.8E+00			x	x		x							x	x	x		
107-05-1	Allyl chloride			4.4E+01			x										x				
12674-11-2	Aroclor 1016		7.7E-01				x			x	x						x				
71-43-2	Benzene		5.6E+01	8.8E+01			x	x						x			x				
100-44-7	Benzyl chloride			4.4E+00			x								x	x	x		x		
111-44-4	Bis(2-chloroethyl)ether		1.3E+00	5.1E+02			x														
75-27-4	Bromodichloromethane		1.2E+01				x								x	x					
75-25-2	Bromoform		4.0E+02				x									x			x		
74-83-9	Bromomethane			8.8E+02										x			x		x		
75-15-0	Carbon disulfide			9.2E+03					x	x		x					x	x			
56-23-5	Carbon tetrachloride		7.3E+01	4.4E+02			x								x	x					
108-90-7	Chlorobenzene			4.4E+03										x	x	x		x			
67-66-3	Chloroform		1.9E+01	1.1E+03			x									x					
74-87-3	Chloromethane			3.9E+03					x	x							x	x	x		
124-48-1	Dibromochloromethane		1.6E+01				x								x	x					
75-71-8	Dichlorodifluoromethane			8.8E+03												x					
100-41-4	Ethylbenzene	1	1.8E+02	3.8E+04	5.7E-08	2.62E-05	x			x					x	x	x				
106-93-4	Ethylene dibromide		7.3E-01	3.9E+01			x			x	x						x		x	x	
75-00-3	Ethyl chloride			4.4E+04						x											
76-44-8	Heptachlor		3.4E-01				x			x					x	x					
118-74-1	Hexachlorobenzene		9.5E-01				x				x			x		x		x			
87-68-3	Hexachlorobutadiene		2.0E+01				x								x	x	x				
67-72-1	Hexachloroethane			1.3E+03			x								x	x	x				
7439-97-6	Mercury (elemental)			1.3E+00					x	x							x				
78-93-3	Methyl ethyl ketone			2.2E+04						x											
108-10-1	Methyl isobutyl ketone			1.3E+04						x					x	x					
80-62-6	Methyl methacrylate			3.1E+03										x	x				x	x	
1634-04-4	Methyl tert-butyl ether		1.7E+03	1.3E+04			x					x			x	x	x				
75-09-2	Methylene chloride		4.4E+04	4.8E+03			x								x	x			x		
106-94-5	n-Propyl bromide			8.8E+02						x				x			x	x	x		
91-20-3	Naphthalene		1.3E+01	1.3E+01			x	x							x	x			x		
1336-36-3	PCBs		7.7E-01				x					x			x		x	x		x	
85-01-8	Phenanthrene			1.3E+01											x				x		
108-95-2	Phenol			2.6E+03													x	x			
100-42-5	Styrene			3.9E+03				x			x						x	x			
127-18-4	Tetrachloroethene	2.6	1.7E+03	1.8E+02	1.5E-08	1.48E-02	x			x							x	x			
108-88-3	Toluene	2.9		2.2E+04		1.32E-04								x	x		x				
79-01-6	Trichloroethene		1.1E+02	8.8E+00			x			x				x	x		x				
75-69-4	Trichlorofluoromethane			3.1E+04					x						x				x		
108-05-4	Vinyl acetate			8.8E+02											x				x		
593-60-2	Vinyl bromide		1.4E+01	1.3E+01			x									x					
75-01-4	Vinyl chloride		1.0E+02	3.5E+02			x			x						x					
1330-20-7	Xylene	5.64		1.3E+03		4.29E-03				x				x	x		x				
DEP2038	C5-C8 Aliphatics	82		8.8E+03		9.36E-03											x				
DEP2039	C9-C12 Aliphatics	47		2.6E+03		1.79E-02		x							x	x					
DEP2040	C9-C10 Aromatics			2.2E+03											x						

	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune System	Kidney	Liver	Nervous System	Reproductive	Respiratory	Skin	Other
5															
6															
7															
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41															
42															
43															
44															
45	5.7E-08			0.00						0.00	0.00	0.00			
46															
47															
48															
49															
50															
51															
52															
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54															
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57															
58															
59															
60															
61															
62															
63															
64	1.5E-08			0.01							0.01	0.01			
65															
66															
67															
68															
69															
70															
71				0.00					0.00	0.00		0.00			
72												0.01			
73		0.02									0.02	0.02			
74															
75															
76	Total 7.3E-08	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.03	0.05	0.00	0.00	0.00	0.00

	ILCR
Cancer - inhalation	7.0E-08

	HQ
Blood	0.02
Cardiovascular	0.00
Developmental	0.02
Endocrine	0.00
Eye	0.00
Gastrointestinal	0.00
Immune System	0.00
Kidney	0.00
Liver	0.03
Nervous System	0.05
Reproductive	0.00
Respiratory	0.00
Skin	0.00
Other	0.00

Soil Input Sheet and
Summary of Total Incremental Lifetime Cancer Risks
and Endpoint-Specific Hazard Indices

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Input Sheet

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Exposure Point Conc No.	Sample B-1 (2 ft)

CAS No.	Compound	Soil Conc (mg/kg)
	Napthalene	0.25
91-57-6	2-Methylnaphthalene	
85-01-8	Phenanthrene	0.71
208-96-8	Acenaphthylene	
83-32-9	Acenaphthene	
120-12-7	Anthracene	0.26
56-55-3	Benzo(a)anthracene	0.59
50-32-8	Benzo(a)pyrene	0.46
	Benzo(b)fluoranthene	0.42
191-24-2	Benzo(g,h,i)perylene	0.28
	Benzo(k)fluoranthene	0.56
	Chrysene	0.66
	Dibenzo(a,h)anthracene	
206-44-0	Fluoranthene	1.10
86-73-7	Fluorene	
132-64-9	Dibenzofuran	
86-74-8	Carbazole	
117-81-7	Bis(2-Ethylhexyl)Phthalate	
	Indeno(1,2,3-cd)pyrene	0.28
129-00-0	Pyrene	0.98
7440-38-2	Arsenic	8.80
7440-39-3	Barium	
7440-43-9	Cadmium	0.20
	Chromium	16.90
7439-92-1	Lead	745.00
	Mercury (ug/g)	0.77
	Selenium	
7440-22-4	Silver	
DEP2038	C5-C8 Aliphatics	
DEP2039	C9-C12 Aliphatics	
DEP2040	C9-C10 Aromatics	
DEP2043	C9-C18 Aliphatics	22.00
DEP2042	C19-C36 Aliphatics	36.00
DEP2041	C11-C22 Aromatics	57.00

	Residential	Park/Rec	Commercial	Construction
	ILCR			
Cancer	8.4E-05	5.0E-05	2.2E-05	2.2E-06
	HQ			
Blood	0.00	0.00	0.00	0.00
Cardio	0.19	0.11	0.02	0.10
Dev	0.19	0.11	0.02	0.10
Endo	0.00	0.00	0.00	0.00
Eye	0.00	0.00	0.00	0.00
Gastro	0.19	0.11	0.02	0.10
Immune	0.02	0.01	0.00	0.01
Kidney	0.22	0.13	0.03	0.11
Liver	0.19	0.11	0.02	0.10
Nervous	0.00	0.00	0.00	0.00
Reprod	0.00	0.00	0.00	0.00
Resp	0.02	0.01	0.00	0.01
Skin	0.19	0.11	0.02	0.10
Other	0.00	0.00	0.00	0.00

RAGS Workbook
Residential Exposure Scenario



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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (2 ft)

CAS No.	Compound	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	2.16E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		5.46E+02	5.11E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		7.10E+01	3.41E+03			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.41E+05												x	x				
79-00-5	1,1,2-Trichloroethane		2.48E+02	6.81E+02			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.52E+03											x						
75-34-3	1,1-Dichloroethane		2.49E+03	3.41E+04			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.52E+03												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.68E+03							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		4.89E+02	1.68E+03			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		3.26E+00	3.40E+01			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.11E+03											x						
107-06-2	1,2-Dichloroethane		1.56E+02	3.41E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.41E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.41E+03				x								x			x		
78-87-5	1,2-Dichloropropane		3.92E+02	1.36E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.33E+01				x													
106-99-0	1,3-Butadiene		4.17E+00	6.99E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.41E+01							x										
142-28-9	1,3-Dichloropropane		-	3.41E+03					x						x				x		
542-75-6	1,3-Dichloropropene		1.42E+02	5.11E+03			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.33E+01				x										x			
106-46-7	1,4-Dichlorobenzene		2.63E+03	1.19E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.33E+01				x													
123-91-1	1,4-Dioxane		1.08E+02	3.99E+03			x	x							x	x					
93-76-5	2,4,5-T		-	1.33E+03							x				x			x			
93-72-1	2,4,5-TP		-	1.06E+03							x					x		x			
95-95-4	2,4,5-Trichlorophenol		1.01E+06	1.33E+04											x	x					
88-06-2	2,4,6-Trichlorophenol		9.82E+02	1.33E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		3.60E+02	6.65E+01			x									x					
120-83-2	2,4-Dichlorophenol		-	3.99E+02										x							
105-67-9	2,4-Dimethylphenol		-	2.66E+03				x													
51-28-5	2,4-Dinitrophenol		-	2.66E+02								x									
121-14-2	2,4-Dinitrotoluene		3.48E+01	2.66E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	7.98E+01				x							x	x					
606-20-2	2,6-Dinitrotoluene		1.59E+01	1.33E+02			x	x								x	x				
95-57-8	2-Chlorophenol		-	8.52E+02														x			
95-48-7	2-Cresol		-	6.65E+03													x				
91-57-6	2-Methylnaphthalene		-	4.99E+02															x		
91-94-1	3,3-Dichlorobenzidine		2.40E+01	-			x							x						x	
108-39-4	3-Cresol		-	6.65E+03													x		x		
106-47-8	4-Chloroaniline		5.40E+01	6.65E+01			x	x													

Cancer	Blood	Cardiovascular

RAGS Workbook
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CITY OF PORTLAND, MAINE
RESURGAM
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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (2 ft)

106-44-5	4-Cresol		-	6.65E+02										x		x					
83-32-9	Acenaphthene		-	7.47E+03									x			x					
208-96-8	Acenaphthylene		-	7.49E+03									x			x					
67-64-1	Acetone		-	1.53E+05			x					x		x							
75-05-8	Acetonitrile		-	2.61E+05			x						x								
107-02-8	Acrolein		-	8.52E+01			x	x			x	x					x				
107-13-1	Acrylonitrile		2.63E+01	1.70E+02			x	x		x					x	x	x				
15972-60-8	Alachlor		1.93E+02	1.33E+03			x	x			x							x			
309-00-2	Aldrin		6.35E-01	3.99E+00			x			x			x	x							
107-05-1	Allyl chloride		6.76E+02	1.71E+05			x								x						
7429-90-5	Aluminum		-	1.70E+05						x					x						
120-12-7	Anthracene	0.26	-	3.48E+04		0.00					x			x	x		x				
7440-36-0	Antimony		-	6.81E+01							x										
12674-11-2	Aroclor 1016		4.93E+00	8.57E+00			x			x	x				x						
7440-38-2	Arsenic	8.80	1.37E+00	4.71E+01	6.4E-05	0.19	x		x	x			x		x	x			x		6.4E-05		0.19
1912-24-9	Atrazine		4.70E+01	1.33E+02			x	x	x		x			x			x				
7440-39-3	Barium		-	3.41E+04								x									
71-43-2	Benzene		2.58E+02	8.52E+01			x	x			x			x							
65-85-0	Benzoic acid		-	5.32E+05															x		
56-55-3	Benzo(a)anthracene	0.59	2.62E+00	5.00E+03	2.3E-06	0.00	x					x	x							2.3E-06		
50-32-8	Benzo(a)pyrene	0.46	2.62E-01	5.00E+03	1.8E-05	0.00	x					x	x							1.8E-05		
205-99-2	Benzo(b)fluoranthene		2.62E+00	5.00E+03			x					x	x									
191-24-2	Benzo(g,h,i)perylene	0.28	-	3.75E+03		0.00						x	x									
207-08-9	Benzo(k)fluoranthene		2.62E+01	5.00E+03			x					x	x									
100-44-7	Benzyl chloride		8.35E+01	3.41E+02			x					x	x	x		x						
7440-41-7	Beryllium		3.86E+05	3.41E+02			x				x	x				x	x					
111-44-4	Bis(2-chloroethyl)ether		9.80E+00	-			x															
117-81-7	Bis(2-Ethylhexyl)phthalate		7.72E+02	7.98E+03			x			x	x					x						
75-27-4	Bromodichloromethane		2.29E+02	3.41E+03			x							x	x							
75-25-2	Bromoform		1.37E+03	2.66E+03			x							x			x					
74-83-9	Bromomethane		-	2.38E+02							x				x		x					
85-68-7	Butyl benzyl phthalate		5.69E+03	2.66E+04			x			x	x			x	x							
7440-43-9	Cadmium	0.20	5.15E+05	1.07E+01	3.8E-12	0.02	x						x	x				x			3.8E-12		
86-74-8	Carbazole		5.40E+02	-			x															
75-15-0	Carbon disulfide		-	1.70E+04					x	x		x		x	x							
56-23-5	Carbon tetrachloride		2.03E+02	6.81E+02			x						x	x								
57-74-9	Chlordane		3.60E+01	7.66E+01			x			x	x		x	x								
115-28-6	Chlorendic acid		1.19E+02	-			x															
108-90-7	Chlorobenzene		-	3.41E+03							x		x	x		x						
67-66-3	Chloroform		4.57E+02	1.70E+03			x							x								
74-87-3	Chloromethane		-	4.06E+06					x	x				x	x	x						
16065-83-1	Chromium (+3)		-	2.56E+05										x								
18540-29-9	Chromium (+6)		3.05E+04	5.11E+02			x			x						x	x					
218-01-9	Chrysene		2.62E+02	2.50E+03			x	x					x	x		x		x				
7440-48-4	Cobalt		1.03E+05	5.11E+01			x	x	x	x			x			x		x	x			
7440-50-8	Copper		-	2.38E+03							x		x									
57-12-5	Cyanide		-	1.02E+02						x			x		x							
72-54-8	DDD		4.50E+01	6.65E+01			x			x	x		x	x	x	x						

RAGS Workbook
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Project Name	50 India Street
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Sample No.	Sample B-1 (2 ft)

72-55-9	DDE		3.18E+01	6.65E+01		
50-29-3	DDT		3.82E+01	7.86E+01		
53-70-3	Dibenz(a,h)anthracene		2.62E-01	3.75E+03		
132-64-9	Dibenzofuran		-	1.33E+02		
124-48-1	Dibromochloromethane		1.69E+02	3.41E+03		
84-74-2	Dibutyl phthalate		-	1.33E+04		
75-71-8	Dichlorodifluoromethane		-	3.41E+04		
84-66-2	Diethyl phthalate		-	1.06E+05		
60-57-1	Dieldrin		6.75E-01	6.65E+00		
88-85-7	Dinoseb		-	1.33E+02		
1746-01-6	Dioxin-Like Compounds - TEQ		9.98E-05	1.10E-04		
115-29-7	Endosulfan		-	7.98E+02		
72-20-8	Endrin		-	3.99E+01		
100-41-4	Ethylbenzene		1.29E+03	1.70E+04		
106-93-4	Ethylene dibromide		7.09E+00	1.53E+03		
75-00-3	Ethyl chloride		-	1.70E+03		
206-44-0	Fluoranthene	1.10	-	5.00E+03		0.00
86-73-7	Fluorene		-	4.99E+03		
76-44-8	Heptachlor		2.40E+00	1.33E+00		
1024-57-3	Heptachlor epoxide		1.19E+00	1.73E+00		
118-74-1	Hexachlorobenzene		6.75E+00	1.06E+02		
87-68-3	Hexachlorobutadiene		1.38E+02	1.33E+02		
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		1.71E+00	1.06E+03		
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		6.00E+00	7.98E+00		
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		1.15E+01	6.13E-01		
67-72-1	Hexachloroethane		2.70E+02	9.32E+01		
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		9.82E+01	3.99E+02		
193-39-5	Indeno(1,2,3-cd)pyrene		2.62E+00	5.00E+03		
7439-89-6	Iron		-	1.19E+05		
121-75-5	Malathion		-	2.66E+03		
7439-96-5	Manganese		-	4.08E+03		
7487-94-7	Mercuric chloride & other inorganic mercury compou		-	5.11E+01		
72-43-5	Methoxychlor		-	6.65E+02		
78-93-3	Methyl ethyl ketone		-	1.02E+05		
108-10-1	Methyl isobutyl ketone		-	1.36E+04		
80-62-6	Methyl methacrylate		-	2.38E+05		
1634-04-4	Methyl tert-butyl ether		7.89E+03	5.11E+03		
75-09-2	Methylene chloride		7.10E+03	1.02E+03		
7439-98-7	Molybdenum		-	8.52E+02		
106-94-5	n-Propyl bromide		-	1.86E+02		
91-20-3	Naphthalene		4.90E+06	2.50E+03		
7440-02-0	Nickel		3.56E+06	5.11E+02		
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	6.65E+03		
117-84-0	Octyl Phthalate, di-n-		-	1.60E+03		
56-38-2	Parathion		-	7.98E+02		
1336-36-3	PCBs		4.93E+00	2.45E+00		
87-86-5	Pentachlorophenol		1.99E+01	5.01E+02		
14797-73-0	Perchlorate		-	2.04E+01		

RAGS Workbook
Residential Exposure Scenario



Project Name	50 India Street
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Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (2 ft)

85-01-8	Phenanthrene	0.71	-	3.74E+03		0.00							x				
108-95-2	Phenol		-	3.99E+04										x	x	x	
129-00-0	Pyrene	0.98	-	3.75E+03		0.00							x				
7782-49-2	Selenium		-	8.52E+02				x	x			x		x	x		x
7440-22-4	Silver		-	8.52E+02													x
100-42-5	Styrene		-	3.41E+04				x			x			x	x		
127-18-4	Tetrachloroethene		6.76E+03	1.02E+03			x			x				x	x		
298-02-2	Thimet (Phorate)		-	2.66E+01											x		
108-88-3	Toluene		-	1.36E+04								x	x		x		
79-01-6	Trichloroethene		1.62E+02	8.51E+01			x			x		x	x		x		
75-69-4	Trichlorofluoromethane		-	5.11E+04				x					x				x
7440-62-2	Vanadium		-	1.19E+03				x		x	x	x					x
108-05-4	Vinyl acetate		-	1.70E+05								x					x

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario



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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (2 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			1.8E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.8E+03	5.1E+04			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.4E+02	3.4E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.4E+06												x	x				
79-00-5	1,1,2-Trichloroethane		8.3E+02	6.8E+03			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.5E+04											x						
75-34-3	1,1-Dichloroethane		8.4E+03	3.4E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.5E+04							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.6E+03	1.5E+04			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		4.7E+01	3.3E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.1E+04											x						
107-06-2	1,2-Dichloroethane		5.2E+02	3.4E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.4E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.4E+04				x								x			x		
78-87-5	1,2-Dichloropropane		1.3E+03	6.1E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.0E+02				x													
106-99-0	1,3-Butadiene		1.4E+01	7.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.4E+02							x										
142-28-9	1,3-Dichloropropane		-	3.4E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.8E+02	5.1E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.0E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.8E+03	1.2E+05			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.0E+02				x													
123-91-1	1,4-Dioxane		2.9E+02	3.1E+04			x	x							x	x					
93-76-5	2,4,5-T		-	1.0E+04						x					x			x			
93-72-1	2,4,5-TP		-	8.2E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		1.0E+06	1.0E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		2.6E+03	1.0E+03			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		9.6E+02	5.1E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	3.1E+03										x							
105-67-9	2,4-Dimethylphenol		-	2.1E+04				x													
51-28-5	2,4-Dinitrophenol		-	2.1E+03								x									
121-14-2	2,4-Dinitrotoluene		9.3E+01	2.1E+03			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	6.2E+02				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.2E+01	1.0E+03			x	x								x	x				

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (2 ft)

95-57-8	2-Chlorophenol		-	8.5E+03								x			
95-48-7	2-Cresol		-	5.1E+04							x				
91-57-6	2-Methylnaphthalene		-	3.6E+03									x		
91-94-1	3,3-Dichlorobenzidine		6.4E+01	-			x							x	
108-39-4	3-Cresol		-	5.1E+04							x		x		
106-47-8	4-Chloroaniline		1.4E+02	5.1E+02			x	x							
106-44-5	4-Cresol		-	5.1E+03							x		x		
83-32-9	Acenaphthene		-	5.4E+04						x			x		
208-96-8	Acenaphthylene		-	5.5E+04						x			x		
67-64-1	Acetone		-	1.5E+06				x		x					
75-05-8	Acetonitrile		-	2.2E+05				x		x					
107-02-8	Acrolein		-	8.5E+02			x	x					x		
107-13-1	Acrylonitrile		8.8E+01	1.7E+03			x	x			x	x	x		
15972-60-8	Alachlor		5.1E+02	1.0E+04			x	x						x	
309-00-2	Aldrin		1.7E+00	3.1E+01			x	x		x	x				
107-05-1	Allyl chloride		2.3E+03	1.4E+05			x				x				
7429-90-5	Aluminum		-	1.7E+06				x			x				
120-12-7	Anthracene	0.26	-	1.6E+05		0.00			x	x			x		
7440-36-0	Antimony		-	6.8E+02					x						
12674-11-2	Aroclor 1016		1.2E+01	6.2E+01			x		x		x				
7440-38-2	Arsenic	8.80	4.2E+00	4.3E+02	2.1E-05	0.02	x		x	x		x		x	
1912-24-9	Atrazine		1.2E+02	1.0E+03			x	x	x		x		x		
7440-39-3	Barium		-	3.4E+05						x					
71-43-2	Benzene		8.7E+02	8.5E+02			x	x			x				
65-85-0	Benzoic acid		-	4.1E+06											x
56-55-3	Benzo(a)anthracene	0.59	3.5E+01	3.7E+04	1.7E-07	0.00	x			x	x				
50-32-8	Benzo(a)pyrene	0.46	3.5E+00	3.7E+04	1.3E-06	0.00	x			x	x				
205-99-2	Benzo(b)fluoranthene		3.5E+01	3.7E+04			x			x	x				
191-24-2	Benzo(g,h,i)perylene	0.28	-	2.8E+04		0.00				x	x				
207-08-9	Benzo(k)fluoranthene		3.5E+02	3.7E+04			x			x	x				
100-44-7	Benzyl chloride		2.8E+02	3.4E+03			x			x	x	x		x	
7440-41-7	Beryllium		4.6E+05	3.4E+03			x		x	x				x	x
111-44-4	Bis(2-chloroethyl)ether		2.6E+01	-			x								
117-81-7	Bis(2-Ethylhexyl)phthalate		2.1E+03	6.2E+04			x		x	x			x		
75-27-4	Bromodichloromethane		7.7E+02	3.4E+04			x			x	x				
75-25-2	Bromoform		3.6E+03	2.1E+04			x				x			x	
74-83-9	Bromomethane		-	2.4E+03					x			x		x	
85-68-7	Butyl benzyl phthalate		1.5E+04	2.1E+05			x		x	x		x	x		
7440-43-9	Cadmium	0.20	6.2E+05	9.4E+01	3.2E-12	0.00	x					x	x		
86-74-8	Carbazole		1.4E+03	-			x								
75-15-0	Carbon disulfide		-	1.7E+05				x	x		x	x	x		
56-23-5	Carbon tetrachloride		6.8E+02	6.8E+03			x				x	x			

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (2 ft)

57-74-9	Chlordane		1.1E+02	6.7E+02			x			x	x		x	x				
115-28-6	Chlorendic acid		3.2E+02	-			x											
108-90-7	Chlorobenzene		-	3.4E+04								x	x	x		x		
67-66-3	Chloroform		1.5E+03	1.7E+04			x							x				
74-87-3	Chloromethane		-	3.4E+06				x	x					x	x	x		
16065-83-1	Chromium (+3)		-	2.6E+06										x				
18540-29-9	Chromium (+6)		9.3E+04	5.1E+03			x			x		x				x	x	
218-01-9	Chrysene		3.5E+03	1.8E+04			x	x					x	x		x	x	
7440-48-4	Cobalt		1.2E+05	5.1E+02			x	x	x	x			x			x	x	x
7440-50-8	Copper		-	2.4E+04								x		x				
57-12-5	Cyanide		-	1.0E+03							x			x		x		
72-54-8	DDD		1.2E+02	5.1E+02			x			x	x			x	x	x	x	
72-55-9	DDE		8.5E+01	5.1E+02			x			x	x			x	x		x	
50-29-3	DDT		1.2E+02	7.1E+02			x			x	x			x	x		x	
53-70-3	Dibenz(a,h)anthracene		3.5E+00	2.8E+04			x							x				
132-64-9	Dibenzofuran		-	1.0E+03										x				
124-48-1	Dibromochloromethane		5.6E+02	3.4E+04			x							x	x			
84-74-2	Dibutyl phthalate		-	1.0E+05						x	x						x	
75-71-8	Dichlorodifluoromethane		-	3.4E+05											x			
84-66-2	Diethyl phthalate		-	8.2E+05							x				x		x	
60-57-1	Dieldrin		1.8E+00	5.1E+01			x							x	x	x		
88-85-7	Dinoseb		-	1.0E+03													x	
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-04	1.0E-03			x			x	x		x	x	x	x	x	
115-29-7	Endosulfan		-	6.2E+03					x		x		x	x	x	x		
72-20-8	Endrin		-	3.1E+02						x				x	x	x		
100-41-4	Ethylbenzene		4.3E+03	1.7E+05			x			x				x	x	x		
106-93-4	Ethylene dibromide		2.4E+01	1.5E+04			x			x	x				x		x	x
75-00-3	Ethyl chloride		-	1.7E+04						x								
206-44-0	Fluoranthene	1.10	-	3.7E+04		0.00								x	x			
86-73-7	Fluorene		-	3.7E+04				x							x			x
76-44-8	Heptachlor		6.4E+00	1.0E+01			x			x				x	x			
1024-57-3	Heptachlor epoxide		3.2E+00	1.3E+01			x								x			
118-74-1	Hexachlorobenzene		1.8E+01	8.2E+02			x				x		x		x		x	
87-68-3	Hexachlorobutadiene		3.7E+02	1.0E+03			x							x	x	x		
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		4.6E+00	8.2E+03			x								x			
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.6E+01	6.2E+01			x								x	x		
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.4E+01	5.4E+00			x			x	x		x	x				
67-72-1	Hexachloroethane		7.2E+02	7.2E+02			x							x	x	x		
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		2.6E+02	3.1E+03			x									x	x	
193-39-5	Indeno(1,2,3-cd)pyrene		3.5E+01	3.7E+04			x							x	x			
7439-89-6	Iron		-	1.2E+06								x		x				
121-75-5	Malathion		-	2.1E+04											x		x	

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Remediation No.	VRAP
Sample No.	Sample B-1 (2 ft)

7439-96-5	Manganese		-	4.0E+04							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	5.1E+02						x	x				
72-43-5	Methoxychlor		-	5.1E+03				x	x			x				
78-93-3	Methyl ethyl ketone		-	1.0E+06				x								
108-10-1	Methyl isobutyl ketone		-	1.4E+05				x					x	x			
80-62-6	Methyl methacrylate		-	2.4E+06							x	x				x	x	
1634-04-4	Methyl tert-butyl ether		2.6E+04	5.1E+04			x			x			x	x	x			
75-09-2	Methylene chloride		2.4E+04	1.0E+04			x							x	x		x	
7439-98-7	Molybdenum		-	8.5E+03									x					
106-94-5	n-Propyl bromide		-	1.4E+03				x			x				x	x	x	
91-20-3	Naphthalene		5.2E+06	1.8E+04			x	x					x	x		x		
7440-02-0	Nickel		4.3E+06	5.1E+03			x						x	x			x	x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	5.1E+04										x	x			
117-84-0	Octyl Phthalate, di-n-		-	1.2E+04						x			x	x				
56-38-2	Parathion		-	6.2E+03											x			
1336-36-3	PCBs		1.2E+01	1.8E+01			x			x			x		x	x		x
87-86-5	Pentachlorophenol		4.5E+01	3.2E+03			x			x	x			x	x	x	x	
14797-73-0	Perchlorate		-	2.0E+02						x								
85-01-8	Phenanthrene	0.71	-	2.7E+04		0.00							x				x	
108-95-2	Phenol		-	3.1E+05										x	x	x		
129-00-0	Pyrene	0.98	-	2.8E+04		0.00							x					
7782-49-2	Selenium		-	8.5E+03					x	x		x		x		x	x	
7440-22-4	Silver		-	8.5E+03														x
100-42-5	Styrene		-	3.4E+05				x			x				x	x		
127-18-4	Tetrachloroethene		2.3E+04	1.0E+04			x			x					x	x		
298-02-2	Thimet (Phorate)		-	2.1E+02												x		
108-88-3	Toluene		-	1.4E+05									x	x		x		
79-01-6	Trichloroethene		1.0E+03	8.5E+02			x			x			x	x		x		
75-69-4	Trichlorofluoromethane		-	5.1E+05					x					x			x	
7440-62-2	Vanadium		-	1.2E+04				x				x	x	x			x	
108-05-4	Vinyl acetate		-	1.7E+06										x			x	

RAGS Workbook
Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (2 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	1.9E+07																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.7E+04	9.3E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.2E+03	1.5E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	1.7E+06												x	x				
79-00-5	1,1,2-Trichloroethane		5.4E+03	1.2E+04			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	1.5E+04											x						
75-34-3	1,1-Dichloroethane		7.6E+04	5.9E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	1.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	4.2E+02							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.5E+04	4.3E+02			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		5.1E+01	2.7E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	1.5E+05											x						
107-06-2	1,2-Dichloroethane		3.7E+03	5.7E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	6.2E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	5.9E+04				x								x			x		
78-87-5	1,2-Dichloropropane		8.7E+03	5.5E+03			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	2.4E+02				x													
106-99-0	1,3-Butadiene		1.3E+02	1.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	6.2E+03							x										
142-28-9	1,3-Dichloropropane		-	6.2E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.3E+03	1.2E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.2E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.0E+04	2.1E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	2.4E+02				x													
123-91-1	1,4-Dioxane		3.3E+03	7.1E+03			x	x							x	x					
93-76-5	2,4,5-T		-	2.4E+04						x					x			x			
93-72-1	2,4,5-TP		-	1.9E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		6.1E+05	2.4E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		3.0E+04	2.4E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		1.1E+04	1.2E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	7.1E+02										x							
105-67-9	2,4-Dimethylphenol		-	1.2E+04				x													
51-28-5	2,4-Dinitrophenol		-	4.8E+03								x									
121-14-2	2,4-Dinitrotoluene		1.1E+03	4.8E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	1.4E+03				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.9E+02	9.5E+02			x	x								x	x				

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Project Name	50 India Street
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Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (2 ft)

95-57-8	2-Chlorophenol		-	2.5E+03								x				
95-48-7	2-Cresol		-	2.4E+04								x				
91-57-6	2-Methylnaphthalene		-	6.0E+02									x			
91-94-1	3,3-Dichlorobenzidine		7.4E+02	-			x							x		
108-39-4	3-Cresol		-	2.4E+04								x		x		
106-47-8	4-Chloroaniline		1.7E+03	1.2E+02			x	x								
106-44-5	4-Cresol		-	2.4E+04								x		x		
83-32-9	Acenaphthene		-	9.8E+03							x			x		
208-96-8	Acenaphthylene		-	6.5E+04							x			x		
67-64-1	Acetone		-	6.2E+05				x			x					
75-05-8	Acetonitrile		-	3.2E+03				x			x					
107-02-8	Acrolein		-	1.2E+03				x	x	x				x		
107-13-1	Acrylonitrile		8.0E+02	3.1E+03			x	x		x		x	x	x		
15972-60-8	Alachlor		6.0E+03	2.4E+03			x	x		x					x	
309-00-2	Aldrin		2.0E+01	9.5E+00			x			x	x					
107-05-1	Allyl chloride		2.1E+04	1.0E+04			x				x					
7429-90-5	Aluminum		-	3.1E+05						x		x				
120-12-7	Anthracene	0.26	-	3.8E+03		0.00				x	x			x		
7440-36-0	Antimony		-	1.2E+02						x						
12674-11-2	Aroclor 1016		1.5E+02	4.6E+01			x			x		x				
7440-38-2	Arsenic	8.80	4.2E+01	8.5E+01	2.1E-06	0.10	x		x	x		x		x	x	
1912-24-9	Atrazine		1.5E+03	7.1E+02			x	x	x		x		x		x	
7440-39-3	Barium		-	6.2E+04							x					
71-43-2	Benzene		7.9E+03	1.5E+02			x	x				x				
65-85-0	Benzoic acid		-	7.2E+05												x
56-55-3	Benzo(a)anthracene	0.59	4.3E+02	1.0E+15	1.4E-08	0.00	x				x	x				
50-32-8	Benzo(a)pyrene	0.46	4.3E+01	1.0E+15	1.1E-07	0.00	x				x	x				
205-99-2	Benzo(b)fluoranthene		4.3E+02	1.0E+15			x				x	x				
191-24-2	Benzo(g,h,i)perylene	0.28	-	6.7E+04		0.00					x	x				
207-08-9	Benzo(k)fluoranthene		4.3E+03	1.0E+15			x				x	x				
100-44-7	Benzyl chloride		2.6E+03	6.2E+02			x				x	x	x		x	
7440-41-7	Beryllium		3.5E+06	6.2E+02			x			x	x				x	x
111-44-4	Bis(2-chloroethyl)ether		2.5E+02	3.6E+04			x									
117-81-7	Bis(2-Ethylhexyl)phthalate		2.4E+04	2.4E+04			x			x	x			x		
75-27-4	Bromodichloromethane		7.0E+03	6.2E+03			x				x	x				
75-25-2	Bromoform		3.7E+04	4.8E+04			x					x			x	
74-83-9	Bromomethane		-	9.3E+02					x				x		x	
85-68-7	Butyl benzyl phthalate		1.8E+05	4.8E+05			x			x	x	x				
7440-43-9	Cadmium	0.20	4.6E+06	1.9E+01	4.2E-13	0.01	x					x	x		x	
86-74-8	Carbazole		1.7E+04	-			x									
75-15-0	Carbon disulfide		-	3.1E+04					x	x		x		x	x	
56-23-5	Carbon tetrachloride		5.6E+03	2.8E+03			x				x	x				

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (2 ft)

57-74-9	Chlordane		1.1E+03	1.7E+02			x			x	x		x	x				
115-28-6	Chlorendic acid		3.7E+03	-			x											
108-90-7	Chlorobenzene		-	1.1E+05								x		x	x		x	
67-66-3	Chloroform		1.2E+04	2.9E+04			x								x			
74-87-3	Chloromethane		-	5.7E+05					x	x					x	x	x	
16065-83-1	Chromium (+3)		-	4.6E+05											x			
18540-29-9	Chromium (+6)		6.9E+05	2.8E+03			x			x		x					x	x
218-01-9	Chrysene		4.3E+04	1.3E+05			x	x					x	x		x		x
7440-48-4	Cobalt		9.3E+05	9.2E+02			x	x	x	x			x			x	x	x
7440-50-8	Copper		-	4.3E+03								x		x				
57-12-5	Cyanide		-	1.9E+03							x			x		x		
72-54-8	DDD		1.4E+03	1.2E+02			x			x	x			x	x	x	x	
72-55-9	DDE		9.8E+02	1.2E+02			x			x	x			x	x		x	
50-29-3	DDT		1.2E+03	1.4E+02			x			x	x			x	x		x	
53-70-3	Dibenz(a,h)anthracene		4.3E+01	6.7E+04			x							x				
132-64-9	Dibenzofuran		-	9.5E+02										x				
124-48-1	Dibromochloromethane		4.3E+03	6.2E+04			x							x	x			
84-74-2	Dibutyl phthalate		-	2.4E+04						x	x						x	
75-71-8	Dichlorodifluoromethane		-	6.2E+04											x			
84-66-2	Diethyl phthalate		-	1.4E+06							x				x		x	
60-57-1	Dieldrin		2.1E+01	2.4E+01			x							x	x	x		
88-85-7	Dinoseb		-	2.4E+02													x	
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-03	5.7E-03			x			x	x		x	x	x	x	x	
115-29-7	Endosulfan		-	1.4E+03					x		x		x	x	x	x		
72-20-8	Endrin		-	4.8E+02						x				x	x	x		
100-41-4	Ethylbenzene		3.9E+04	1.2E+05			x			x				x	x	x		
106-93-4	Ethylene dibromide		1.8E+02	1.7E+03			x			x	x				x		x	x
75-00-3	Ethyl chloride		-	3.1E+04						x								
206-44-0	Fluoranthene	1.10	-	8.9E+04		0.00								x	x			
86-73-7	Fluorene		-	6.1E+04				x							x			x
76-44-8	Heptachlor		7.4E+01	2.4E+01			x			x				x	x			
1024-57-3	Heptachlor epoxide		3.7E+01	3.1E+00			x								x			
118-74-1	Hexachlorobenzene		2.1E+02	1.9E+02			x				x		x		x		x	
87-68-3	Hexachlorobutadiene		4.3E+03	2.4E+02			x							x	x	x		
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		5.3E+01	1.9E+03			x								x			
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.9E+02	1.4E+02			x								x	x		
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.5E+02	2.8E+00			x			x	x		x	x				
67-72-1	Hexachloroethane		8.3E+03	2.4E+03			x							x	x	x		
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		3.0E+03	7.1E+03			x									x	x	
193-39-5	Indeno(1,2,3-cd)pyrene		4.3E+02	8.9E+04			x							x	x			
7439-89-6	Iron		-	2.2E+05								x		x				
121-75-5	Malathion		-	4.8E+03												x		x

RAGS Workbook
Excavation Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (2 ft)

7439-96-5	Manganese		-	7.4E+03							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	9.3E+02					x	x					
72-43-5	Methoxychlor		-	1.2E+03				x	x			x			
78-93-3	Methyl ethyl ketone		-	1.9E+05				x							
108-10-1	Methyl isobutyl ketone		-	2.5E+05				x				x	x		
80-62-6	Methyl methacrylate		-	4.3E+05						x	x			x	x
1634-04-4	Methyl tert-butyl ether		2.4E+05	9.3E+04			x		x			x	x	x	
75-09-2	Methylene chloride		2.2E+05	1.9E+04			x						x	x	
7439-98-7	Molybdenum		-	1.5E+03							x				
106-94-5	n-Propyl bromide		-	7.1E+02				x		x			x	x	x
91-20-3	Naphthalene		8.3E+06	1.1E+05			x	x			x		x		
7440-02-0	Nickel		3.2E+07	9.3E+02			x				x	x		x	x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	1.2E+04								x	x		
117-84-0	Octyl Phthalate, di-n-		-	2.9E+03					x			x	x		
56-38-2	Parathion		-	1.4E+03									x		
1336-36-3	PCBs		1.5E+02	6.5E+00			x		x		x			x	
87-86-5	Pentachlorophenol		6.2E+02	8.8E+02			x		x	x		x	x	x	
14797-73-0	Perchlorate		-	3.7E+01					x						
85-01-8	Phenanthrene	0.71	-	8.9E+03		0.00					x			x	
108-95-2	Phenol		-	7.1E+04								x	x	x	
129-00-0	Pyrene	0.98	-	6.7E+04		0.00					x				
7782-49-2	Selenium		-	1.5E+03				x	x		x		x	x	
7440-22-4	Silver		-	1.5E+03											x
100-42-5	Styrene		-	6.2E+05			x		x				x	x	
127-18-4	Tetrachloroethene		2.0E+05	2.7E+04			x		x				x	x	
298-02-2	Thimet (Phorate)		-	4.8E+01										x	
108-88-3	Toluene		-	2.5E+05							x	x		x	
79-01-6	Trichloroethene		9.0E+03	1.4E+02			x		x		x	x		x	
75-69-4	Trichlorofluoromethane		-	9.2E+04				x				x			x
7440-62-2	Vanadium		-	2.2E+03				x		x	x	x			x
108-05-4	Vinyl acetate		-	3.1E+05								x			x

Soil Input Sheet and
Summary of Total Incremental Lifetime Cancer Risks
and Endpoint-Specific Hazard Indices

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Input Sheet

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Exposure Point Conc No.	Sample B-1 (4 ft)

CAS No.	Compound	Soil Conc (mg/kg)
91-20-3	Naphthalene	0.74
91-57-6	2-Methylnaphthalene	1.10
85-01-8	Phenanthrene	1.80
208-96-8	Acenaphthylene	0.45
83-32-9	Acenaphthene	0.32
120-12-7	Anthracene	0.42
56-55-3	Benzo(a)anthracene	2.10
50-32-8	Benzo(a)pyrene	1.90
205-99-2	Benzo(b)fluoranthene	1.70
191-24-2	Benzo(g,h,i)perylene	1.10
207-08-9	Benzo(k)fluoranthene	2.10
218-01-9	Chrysene	2.30
53-70-3	Dibenz(a,h)anthracene	0.51
206-44-0	Fluoranthene	3.30
86-73-7	Fluorene	0.68
132-64-9	Dibenzofuran	
86-74-8	Carbazole	
117-81-7	Bis(2-Ethylhexyl)phthalate	
193-39-5	Indeno(1,2,3-cd)pyrene	1.20
129-00-0	Pyrene	3.50
7440-38-2	Arsenic	
7440-39-3	Barium	
7440-43-9	Cadmium	
	Chromium	
7439-92-1	Lead	
	Mercury (ug/g)	
7782-49-2	Selenium	
7440-22-4	Silver	
DEP2038	C5-C8 Aliphatics	
DEP2039	C9-C12 Aliphatics	490.00
DEP2040	C9-C10 Aromatics	560.00
DEP2043	C9-C18 Aliphatics	440.00
DEP2042	C19-C36 Aliphatics	530.00
DEP2041	C11-C22 Aromatics	310.00

	Residential	Park/Rec	Commercial	Construction
	ILCR			
Cancer	1.1E-04	6.7E-05	8.3E-06	6.9E-07
	HQ			
Blood	0.07	0.04	0.01	0.00
Cardio	0.00	0.00	0.00	0.00
Dev	0.00	0.00	0.00	0.00
Endo	0.00	0.00	0.00	0.00
Eye	0.00	0.00	0.00	0.00
Gastro	0.00	0.00	0.00	0.00
Immune	0.00	0.00	0.00	0.00
Kidney	0.24	0.14	0.03	0.01
Liver	0.08	0.05	0.01	0.01
Nervous	0.00	0.00	0.00	0.00
Reprod	0.00	0.00	0.00	0.00
Resp	0.00	0.00	0.00	0.00
Skin	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00

RAGS Workbook
Residential Exposure Scenario

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Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (4 ft)

CAS No.	Compound	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	2.16E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		5.46E+02	5.11E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		7.10E+01	3.41E+03			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.41E+05												x	x				
79-00-5	1,1,2-Trichloroethane		2.48E+02	6.81E+02			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.52E+03											x						
75-34-3	1,1-Dichloroethane		2.49E+03	3.41E+04			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.52E+03												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.68E+03							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		4.89E+02	1.68E+03			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		3.26E+00	3.40E+01			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.11E+03											x						
107-06-2	1,2-Dichloroethane		1.56E+02	3.41E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.41E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.41E+03				x								x			x		
78-87-5	1,2-Dichloropropane		3.92E+02	1.36E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.33E+01				x													
106-99-0	1,3-Butadiene		4.17E+00	6.99E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.41E+01							x										
142-28-9	1,3-Dichloropropane		-	3.41E+03					x						x				x		
542-75-6	1,3-Dichloropropene		1.42E+02	5.11E+03			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.33E+01				x										x			
106-46-7	1,4-Dichlorobenzene		2.63E+03	1.19E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.33E+01				x													
123-91-1	1,4-Dioxane		1.08E+02	3.99E+03			x	x							x	x					
93-76-5	2,4,5-T		-	1.33E+03							x				x			x			
93-72-1	2,4,5-TP		-	1.06E+03							x					x		x			
95-95-4	2,4,5-Trichlorophenol		1.01E+06	1.33E+04											x	x					
88-06-2	2,4,6-Trichlorophenol		9.82E+02	1.33E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		3.60E+02	6.65E+01			x									x					
120-83-2	2,4-Dichlorophenol		-	3.99E+02										x							
105-67-9	2,4-Dimethylphenol		-	2.66E+03				x													
51-28-5	2,4-Dinitrophenol		-	2.66E+02								x									
121-14-2	2,4-Dinitrotoluene		3.48E+01	2.66E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	7.98E+01				x							x	x					
606-20-2	2,6-Dinitrotoluene		1.59E+01	1.33E+02			x	x								x	x				
95-57-8	2-Chlorophenol		-	8.52E+02														x			
95-48-7	2-Cresol		-	6.65E+03													x				
91-57-6	2-Methylnaphthalene	1.10	-	4.99E+02		0.00													x		
91-94-1	3,3-Dichlorobenzidine		2.40E+01	-			x							x						x	
108-39-4	3-Cresol		-	6.65E+03													x		x		
106-47-8	4-Chloroaniline		5.40E+01	6.65E+01			x	x													

Cancer	Blood	Cardiovascular

RAGS Workbook
Residential Exposure Scenario

CITY OF PORTLAND, MAINE · RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (4 ft)

106-44-5	4-Cresol		-	6.65E+02									x		x				
83-32-9	Acenaphthene	0.32	-	7.47E+03		0.00							x			x			
208-96-8	Acenaphthylene	0.45	-	7.49E+03		0.00							x			x			
67-64-1	Acetone		-	1.53E+05				x				x		x					
75-05-8	Acetonitrile		-	2.61E+05				x					x						
107-02-8	Acrolein		-	8.52E+01				x	x							x			
107-13-1	Acrylonitrile		2.63E+01	1.70E+02			x	x		x					x	x	x		
15972-60-8	Alachlor		1.93E+02	1.33E+03			x	x			x							x	
309-00-2	Aldrin		6.35E-01	3.99E+00			x			x			x	x					
107-05-1	Allyl chloride		6.76E+02	1.71E+05			x							x					
7429-90-5	Aluminum		-	1.70E+05					x					x					
120-12-7	Anthracene	0.42	-	3.48E+04		0.00				x			x	x			x		
7440-36-0	Antimony		-	6.81E+01						x									
12674-11-2	Aroclor 1016		4.93E+00	8.57E+00			x			x	x				x				
7440-38-2	Arsenic		1.37E+00	4.71E+01			x		x	x		x	x	x				x	
1912-24-9	Atrazine		4.70E+01	1.33E+02			x	x	x		x					x		x	
7440-39-3	Barium		-	3.41E+04								x							
71-43-2	Benzene		2.58E+02	8.52E+01			x	x			x			x					
65-85-0	Benzoic acid		-	5.32E+05															x
56-55-3	Benzo(a)anthracene	2.10	2.62E+00	5.00E+03	8.0E-06	0.00	x					x	x						8.0E-06
50-32-8	Benzo(a)pyrene	1.90	2.62E-01	5.00E+03	7.2E-05	0.00	x					x	x						7.2E-05
205-99-2	Benzo(b)fluoranthene	1.70	2.62E+00	5.00E+03	6.5E-06	0.00	x					x	x						6.5E-06
191-24-2	Benzo(g,h,i)perylene	1.10	-	3.75E+03		0.00						x	x						
207-08-9	Benzo(k)fluoranthene	2.10	2.62E+01	5.00E+03	8.0E-07	0.00	x					x	x						8.0E-07
100-44-7	Benzyl chloride		8.35E+01	3.41E+02			x					x	x	x		x			
7440-41-7	Beryllium		3.86E+05	3.41E+02			x		x	x						x	x		
111-44-4	Bis(2-chloroethyl)ether		9.80E+00	-			x												
117-81-7	Bis(2-Ethylhexyl)phthalate		7.72E+02	7.98E+03			x			x	x				x				
75-27-4	Bromodichloromethane		2.29E+02	3.41E+03			x					x	x						
75-25-2	Bromoform		1.37E+03	2.66E+03			x						x			x			
74-83-9	Bromomethane		-	2.38E+02					x					x		x			
85-68-7	Butyl benzyl phthalate		5.69E+03	2.66E+04			x			x	x		x	x					
7440-43-9	Cadmium		5.15E+05	1.07E+01			x				x	x				x			
86-74-8	Carbazole		5.40E+02	-			x												
75-15-0	Carbon disulfide		-	1.70E+04					x	x		x	x	x					
56-23-5	Carbon tetrachloride		2.03E+02	6.81E+02			x					x	x						
57-74-9	Chlordane		3.60E+01	7.66E+01			x			x	x	x	x						
115-28-6	Chlorendic acid		1.19E+02	-			x												
108-90-7	Chlorobenzene		-	3.41E+03					x		x	x		x					
67-66-3	Chloroform		4.57E+02	1.70E+03			x						x						
74-87-3	Chloromethane		-	4.06E+06						x	x		x	x					
16065-83-1	Chromium (+3)		-	2.56E+05									x						
18540-29-9	Chromium (+6)		3.05E+04	5.11E+02			x			x					x	x			
218-01-9	Chrysene	2.30	2.62E+02	2.50E+03	8.8E-08	0.00	x	x					x	x		x		x		8.8E-08	0.00	
7440-48-4	Cobalt		1.03E+05	5.11E+01			x	x	x	x			x			x		x	x			
7440-50-8	Copper		-	2.38E+03							x		x									
57-12-5	Cyanide		-	1.02E+02						x			x			x						
72-54-8	DDD		4.50E+01	6.65E+01			x			x	x		x	x	x	x						

RAGS Workbook
Residential Exposure Scenario



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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (4 ft)

72-55-9	DDE		3.18E+01	6.65E+01			x			x	x			x	x		x					
50-29-3	DDT		3.82E+01	7.86E+01			x			x	x			x	x		x					
53-70-3	Dibenz(a,h)anthracene	0.51	2.62E-01	3.75E+03	1.9E-05	0.00	x							x							1.9E-05	
132-64-9	Dibenzofuran		-	1.33E+02										x								
124-48-1	Dibromochloromethane		1.69E+02	3.41E+03			x							x	x							
84-74-2	Dibutyl phthalate		-	1.33E+04						x	x						x					
75-71-8	Dichlorodifluoromethane		-	3.41E+04											x							
84-66-2	Diethyl phthalate		-	1.06E+05							x				x		x					
60-57-1	Dieldrin		6.75E-01	6.65E+00			x							x	x	x						
88-85-7	Dinoseb		-	1.33E+02													x					
1746-01-6	Dioxin-Like Compounds - TEQ		9.98E-05	1.10E-04			x			x	x			x	x	x	x					
115-29-7	Endosulfan		-	7.98E+02					x		x			x	x	x	x					
72-20-8	Endrin		-	3.99E+01						x				x	x	x						
100-41-4	Ethylbenzene		1.29E+03	1.70E+04			x			x				x	x	x						
106-93-4	Ethylene dibromide		7.09E+00	1.53E+03			x			x	x				x		x	x				
75-00-3	Ethyl chloride		-	1.70E+03						x												
206-44-0	Fluoranthene	3.30	-	5.00E+03		0.00								x	x							
86-73-7	Fluorene	0.68	-	4.99E+03		0.00		x							x			x				0.00	
76-44-8	Heptachlor		2.40E+00	1.33E+00			x			x				x	x							
1024-57-3	Heptachlor epoxide		1.19E+00	1.73E+00			x								x							
118-74-1	Hexachlorobenzene		6.75E+00	1.06E+02			x				x			x			x					
87-68-3	Hexachlorobutadiene		1.38E+02	1.33E+02			x							x	x	x						
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		1.71E+00	1.06E+03			x								x							
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		6.00E+00	7.98E+00			x								x	x						
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		1.15E+01	6.13E-01			x			x	x			x	x							
67-72-1	Hexachloroethane		2.70E+02	9.32E+01			x							x	x	x						
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		9.82E+01	3.99E+02			x									x	x					
193-39-5	Indeno(1,2,3-cd)pyrene	1.20	2.62E+00	5.00E+03	4.6E-06	0.00	x							x	x						4.6E-06	
7439-89-6	Iron		-	1.19E+05								x		x								
121-75-5	Malathion		-	2.66E+03												x		x				
7439-96-5	Manganese		-	4.08E+03												x						
7487-94-7	Mercuric chloride & other inorganic mercury compou		-	5.11E+01								x	x									
72-43-5	Methoxychlor		-	6.65E+02						x	x			x			x					
78-93-3	Methyl ethyl ketone		-	1.02E+05						x												
108-10-1	Methyl isobutyl ketone		-	1.36E+04						x				x	x							
80-62-6	Methyl methacrylate		-	2.38E+05								x	x					x	x			
1634-04-4	Methyl tert-butyl ether		7.89E+03	5.11E+03			x				x			x	x	x						
75-09-2	Methylene chloride		7.10E+03	1.02E+03			x								x	x		x				
7439-98-7	Molybdenum		-	8.52E+02										x								
106-94-5	n-Propyl bromide		-	1.86E+02						x		x				x	x	x				
91-20-3	Naphthalene	0.74	4.90E+06	2.50E+03	1.5E-12	0.00	x	x						x	x		x		x		1.5E-12	0.00
7440-02-0	Nickel		3.56E+06	5.11E+02			x							x	x				x	x		
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	6.65E+03											x	x						
117-84-0	Octyl Phthalate, di-n-		-	1.60E+03							x			x	x							
56-38-2	Parathion		-	7.98E+02												x						
1336-36-3	PCBs		4.93E+00	2.45E+00			x				x				x	x			x			
87-86-5	Pentachlorophenol		1.99E+01	5.01E+02			x			x	x			x	x	x	x	x				
14797-73-0	Perchlorate		-	2.04E+01							x											

RAGS Workbook
Residential Exposure Scenario



Reviewed for Code Compliance
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Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (4 ft)

85-01-8	Phenanthrene	1.80	-	3.74E+03		0.00
108-95-2	Phenol		-	3.99E+04		
129-00-0	Pyrene	3.50	-	3.75E+03		0.00
7782-49-2	Selenium		-	8.52E+02		
7440-22-4	Silver		-	8.52E+02		
100-42-5	Styrene		-	3.41E+04		
127-18-4	Tetrachloroethene		6.76E+03	1.02E+03		
298-02-2	Thimet (Phorate)		-	2.66E+01		
108-88-3	Toluene		-	1.36E+04		
79-01-6	Trichloroethene		1.62E+02	8.51E+01		
75-69-4	Trichlorofluoromethane		-	5.11E+04		
7440-62-2	Vanadium		-	1.19E+03		
108-05-4	Vinyl acetate		-	1.70E+05		

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (4 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			1.8E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.8E+03	5.1E+04			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.4E+02	3.4E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.4E+06												x	x				
79-00-5	1,1,2-Trichloroethane		8.3E+02	6.8E+03			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.5E+04											x						
75-34-3	1,1-Dichloroethane		8.4E+03	3.4E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.5E+04							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.6E+03	1.5E+04			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		4.7E+01	3.3E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.1E+04											x						
107-06-2	1,2-Dichloroethane		5.2E+02	3.4E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.4E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.4E+04				x								x			x		
78-87-5	1,2-Dichloropropane		1.3E+03	6.1E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.0E+02				x													
106-99-0	1,3-Butadiene		1.4E+01	7.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.4E+02							x										
142-28-9	1,3-Dichloropropane		-	3.4E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.8E+02	5.1E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.0E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.8E+03	1.2E+05			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.0E+02				x													
123-91-1	1,4-Dioxane		2.9E+02	3.1E+04			x	x							x	x					
93-76-5	2,4,5-T		-	1.0E+04						x					x			x			
93-72-1	2,4,5-TP		-	8.2E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		1.0E+06	1.0E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		2.6E+03	1.0E+03			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		9.6E+02	5.1E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	3.1E+03										x							
105-67-9	2,4-Dimethylphenol		-	2.1E+04				x													
51-28-5	2,4-Dinitrophenol		-	2.1E+03								x									
121-14-2	2,4-Dinitrotoluene		9.3E+01	2.1E+03			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	6.2E+02				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.2E+01	1.0E+03			x	x								x	x				

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario



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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (4 ft)

95-57-8	2-Chlorophenol		-	8.5E+03								x			
95-48-7	2-Cresol		-	5.1E+04							x				
91-57-6	2-Methylnaphthalene	1.10	-	3.6E+03		0.00							x		
91-94-1	3,3-Dichlorobenzidine		6.4E+01	-			x							x	
108-39-4	3-Cresol		-	5.1E+04							x		x		
106-47-8	4-Chloroaniline		1.4E+02	5.1E+02			x	x							
106-44-5	4-Cresol		-	5.1E+03							x		x		
83-32-9	Acenaphthene	0.32	-	5.4E+04		0.00				x			x		
208-96-8	Acenaphthylene	0.45	-	5.5E+04		0.00				x			x		
67-64-1	Acetone		-	1.5E+06				x		x					
75-05-8	Acetonitrile		-	2.2E+05				x							
107-02-8	Acrolein		-	8.5E+02				x	x				x		
107-13-1	Acrylonitrile		8.8E+01	1.7E+03			x	x			x	x	x		
15972-60-8	Alachlor		5.1E+02	1.0E+04			x	x		x				x	
309-00-2	Aldrin		1.7E+00	3.1E+01			x		x		x	x			
107-05-1	Allyl chloride		2.3E+03	1.4E+05			x						x		
7429-90-5	Aluminum		-	1.7E+06					x				x		
120-12-7	Anthracene	0.42	-	1.6E+05		0.00				x		x		x	
7440-36-0	Antimony		-	6.8E+02						x					
12674-11-2	Aroclor 1016		1.2E+01	6.2E+01			x		x	x			x		
7440-38-2	Arsenic		4.2E+00	4.3E+02			x		x	x		x		x	
1912-24-9	Atrazine		1.2E+02	1.0E+03			x	x	x		x			x	
7440-39-3	Barium		-	3.4E+05							x				
71-43-2	Benzene		8.7E+02	8.5E+02			x	x			x				
65-85-0	Benzoic acid		-	4.1E+06											x
56-55-3	Benzo(a)anthracene	2.10	3.5E+01	3.7E+04	6.0E-07	0.00		x			x	x			
50-32-8	Benzo(a)pyrene	1.90	3.5E+00	3.7E+04	5.4E-06	0.00		x			x	x			
205-99-2	Benzo(b)fluoranthene	1.70	3.5E+01	3.7E+04	4.8E-07	0.00		x			x	x			
191-24-2	Benzo(g,h,i)perylene	1.10	-	2.8E+04		0.00					x	x			
207-08-9	Benzo(k)fluoranthene	2.10	3.5E+02	3.7E+04	6.0E-08	0.00		x			x	x			
100-44-7	Benzyl chloride		2.8E+02	3.4E+03				x			x	x	x		x
7440-41-7	Beryllium		4.6E+05	3.4E+03				x		x	x			x	x
111-44-4	Bis(2-chloroethyl)ether		2.6E+01	-				x							
117-81-7	Bis(2-Ethylhexyl)phthalate		2.1E+03	6.2E+04				x		x	x			x	
75-27-4	Bromodichloromethane		7.7E+02	3.4E+04				x			x	x			
75-25-2	Bromoform		3.6E+03	2.1E+04				x				x			x
74-83-9	Bromomethane		-	2.4E+03					x				x		x
85-68-7	Butyl benzyl phthalate		1.5E+04	2.1E+05				x		x	x	x			
7440-43-9	Cadmium		6.2E+05	9.4E+01				x		x	x				x
86-74-8	Carbazole		1.4E+03	-				x							
75-15-0	Carbon disulfide		-	1.7E+05					x			x	x		
56-23-5	Carbon tetrachloride		6.8E+02	6.8E+03				x			x	x			

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario



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Inspections Division
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Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (4 ft)

57-74-9	Chlordane		1.1E+02	6.7E+02			x			x	x		x	x			
115-28-6	Chlorendic acid		3.2E+02	-			x										
108-90-7	Chlorobenzene		-	3.4E+04								x	x	x		x	
67-66-3	Chloroform		1.5E+03	1.7E+04			x						x				
74-87-3	Chloromethane		-	3.4E+06				x	x				x	x	x		
16065-83-1	Chromium (+3)		-	2.6E+06									x				
18540-29-9	Chromium (+6)		9.3E+04	5.1E+03			x			x		x			x	x	
218-01-9	Chrysene	2.30	3.5E+03	1.8E+04	6.5E-09	0.00	x	x					x	x		x		x	
7440-48-4	Cobalt		1.2E+05	5.1E+02			x	x	x	x			x			x		x	x
7440-50-8	Copper		-	2.4E+04								x		x					
57-12-5	Cyanide		-	1.0E+03							x			x		x			
72-54-8	DDD		1.2E+02	5.1E+02			x			x	x			x	x	x	x		
72-55-9	DDE		8.5E+01	5.1E+02			x			x	x			x	x		x		
50-29-3	DDT		1.2E+02	7.1E+02			x			x	x			x	x		x		
53-70-3	Dibenz(a,h)anthracene	0.51	3.5E+00	2.8E+04	1.5E-06	0.00	x							x					
132-64-9	Dibenzofuran		-	1.0E+03										x					
124-48-1	Dibromochloromethane		5.6E+02	3.4E+04			x							x	x				
84-74-2	Dibutyl phthalate		-	1.0E+05						x	x						x		
75-71-8	Dichlorodifluoromethane		-	3.4E+05											x				
84-66-2	Diethyl phthalate		-	8.2E+05							x				x		x		
60-57-1	Dieldrin		1.8E+00	5.1E+01			x							x	x	x			
88-85-7	Dinoseb		-	1.0E+03													x		
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-04	1.0E-03			x			x	x		x	x	x	x	x		
115-29-7	Endosulfan		-	6.2E+03					x		x		x	x	x	x			
72-20-8	Endrin		-	3.1E+02						x				x	x	x			
100-41-4	Ethylbenzene		4.3E+03	1.7E+05			x			x				x	x	x			
106-93-4	Ethylene dibromide		2.4E+01	1.5E+04			x			x	x				x		x	x	
75-00-3	Ethyl chloride		-	1.7E+04						x									
206-44-0	Fluoranthene	3.30	-	3.7E+04		0.00								x	x				
86-73-7	Fluorene	0.68	-	3.7E+04		0.00		x							x			x	
76-44-8	Heptachlor		6.4E+00	1.0E+01			x			x				x	x				
1024-57-3	Heptachlor epoxide		3.2E+00	1.3E+01			x								x				
118-74-1	Hexachlorobenzene		1.8E+01	8.2E+02			x				x		x		x		x		
87-68-3	Hexachlorobutadiene		3.7E+02	1.0E+03			x							x	x	x			
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		4.6E+00	8.2E+03			x								x				
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.6E+01	6.2E+01			x								x	x			
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.4E+01	5.4E+00			x			x	x			x	x				
67-72-1	Hexachloroethane		7.2E+02	7.2E+02			x							x	x	x			
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		2.6E+02	3.1E+03			x									x	x		
193-39-5	Indeno(1,2,3-cd)pyrene	1.20	3.5E+01	3.7E+04	3.4E-07	0.00	x							x	x				
7439-89-6	Iron		-	1.2E+06								x		x					
121-75-5	Malathion		-	2.1E+04												x		x	

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (4 ft)

7439-96-5	Manganese		-	4.0E+04							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	5.1E+02						x	x				
72-43-5	Methoxychlor		-	5.1E+03					x	x				x	
78-93-3	Methyl ethyl ketone		-	1.0E+06					x						
108-10-1	Methyl isobutyl ketone		-	1.4E+05					x						
80-62-6	Methyl methacrylate		-	2.4E+06						x	x				
1634-04-4	Methyl tert-butyl ether		2.6E+04	5.1E+04			x				x	x	x		
75-09-2	Methylene chloride		2.4E+04	1.0E+04			x					x	x		x
7439-98-7	Molybdenum		-	8.5E+03							x				
106-94-5	n-Propyl bromide		-	1.4E+03				x					x	x	x
91-20-3	Naphthalene	0.74	5.2E+06	1.8E+04	1.4E-12	0.00	x	x					x	x		x		x	
7440-02-0	Nickel		4.3E+06	5.1E+03			x						x	x			x	x	
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	5.1E+04								x	x						
117-84-0	Octyl Phthalate, di-n-		-	1.2E+04					x			x	x						
56-38-2	Parathion		-	6.2E+03										x					
1336-36-3	PCBs		1.2E+01	1.8E+01			x			x				x	x		x		
87-86-5	Pentachlorophenol		4.5E+01	3.2E+03			x		x	x			x	x	x	x	x		
14797-73-0	Perchlorate		-	2.0E+02						x									
85-01-8	Phenanthrene	1.80	-	2.7E+04		0.00							x				x		
108-95-2	Phenol		-	3.1E+05										x	x	x			
129-00-0	Pyrene	3.50	-	2.8E+04		0.00							x						
7782-49-2	Selenium		-	8.5E+03					x	x		x		x		x	x		x	
7440-22-4	Silver		-	8.5E+03															x	
100-42-5	Styrene		-	3.4E+05				x			x					x	x			
127-18-4	Tetrachloroethene		2.3E+04	1.0E+04			x			x						x	x			
298-02-2	Thimet (Phorate)		-	2.1E+02													x			
108-88-3	Toluene		-	1.4E+05									x	x			x			
79-01-6	Trichloroethene		1.0E+03	8.5E+02			x			x			x	x			x			
75-69-4	Trichlorofluoromethane		-	5.1E+05					x					x				x		
7440-62-2	Vanadium		-	1.2E+04				x				x	x	x				x		
108-05-4	Vinyl acetate		-	1.7E+06										x				x		

RAGS Workbook
Excavation Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (4 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	1.9E+07																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.7E+04	9.3E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.2E+03	1.5E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	1.7E+06												x	x				
79-00-5	1,1,2-Trichloroethane		5.4E+03	1.2E+04			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	1.5E+04											x						
75-34-3	1,1-Dichloroethane		7.6E+04	5.9E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	1.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	4.2E+02							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.5E+04	4.3E+02			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		5.1E+01	2.7E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	1.5E+05											x						
107-06-2	1,2-Dichloroethane		3.7E+03	5.7E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	6.2E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	5.9E+04				x								x			x		
78-87-5	1,2-Dichloropropane		8.7E+03	5.5E+03			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	2.4E+02				x													
106-99-0	1,3-Butadiene		1.3E+02	1.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	6.2E+03							x										
142-28-9	1,3-Dichloropropane		-	6.2E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.3E+03	1.2E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.2E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.0E+04	2.1E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	2.4E+02				x													
123-91-1	1,4-Dioxane		3.3E+03	7.1E+03			x	x							x	x					
93-76-5	2,4,5-T		-	2.4E+04						x					x			x			
93-72-1	2,4,5-TP		-	1.9E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		6.1E+05	2.4E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		3.0E+04	2.4E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		1.1E+04	1.2E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	7.1E+02										x							
105-67-9	2,4-Dimethylphenol		-	1.2E+04				x													
51-28-5	2,4-Dinitrophenol		-	4.8E+03								x									
121-14-2	2,4-Dinitrotoluene		1.1E+03	4.8E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	1.4E+03				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.9E+02	9.5E+02			x	x								x	x				

RAGS Workbook
Excavation Worker Exposure Scenario



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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (4 ft)

95-57-8	2-Chlorophenol		-	2.5E+03								x				
95-48-7	2-Cresol		-	2.4E+04							x					
91-57-6	2-Methylnaphthalene	1.10	-	6.0E+02		0.00							x			
91-94-1	3,3-Dichlorobenzidine		7.4E+02	-			x							x		
108-39-4	3-Cresol		-	2.4E+04							x		x			
106-47-8	4-Chloroaniline		1.7E+03	1.2E+02			x	x								
106-44-5	4-Cresol		-	2.4E+04							x		x			
83-32-9	Acenaphthene	0.32	-	9.8E+03		0.00				x			x			
208-96-8	Acenaphthylene	0.45	-	6.5E+04		0.00				x			x			
67-64-1	Acetone		-	6.2E+05				x		x						
75-05-8	Acetonitrile		-	3.2E+03				x			x					
107-02-8	Acrolein		-	1.2E+03				x	x				x			
107-13-1	Acrylonitrile		8.0E+02	3.1E+03			x	x				x	x	x		
15972-60-8	Alachlor		6.0E+03	2.4E+03			x	x						x		
309-00-2	Aldrin		2.0E+01	9.5E+00			x				x	x				
107-05-1	Allyl chloride		2.1E+04	1.0E+04			x						x			
7429-90-5	Aluminum		-	3.1E+05									x			
120-12-7	Anthracene	0.42	-	3.8E+03		0.00				x		x	x			
7440-36-0	Antimony		-	1.2E+02						x						
12674-11-2	Aroclor 1016		1.5E+02	4.6E+01			x			x			x			
7440-38-2	Arsenic		4.2E+01	8.5E+01			x		x	x		x	x			
1912-24-9	Atrazine		1.5E+03	7.1E+02			x	x	x		x			x		x
7440-39-3	Barium		-	6.2E+04								x				
71-43-2	Benzene		7.9E+03	1.5E+02			x	x				x		x		
65-85-0	Benzoic acid		-	7.2E+05												x
56-55-3	Benzo(a)anthracene	2.10	4.3E+02	1.0E+15	4.9E-08	0.00						x	x			
50-32-8	Benzo(a)pyrene	1.90	4.3E+01	1.0E+15	4.4E-07	0.00						x	x			
205-99-2	Benzo(b)fluoranthene	1.70	4.3E+02	1.0E+15	4.0E-08	0.00						x	x			
191-24-2	Benzo(g,h,i)perylene	1.10	-	6.7E+04		0.00						x	x			
207-08-9	Benzo(k)fluoranthene	2.10	4.3E+03	1.0E+15	4.9E-09	0.00	x						x	x			
100-44-7	Benzyl chloride		2.6E+03	6.2E+02			x						x	x	x		x
7440-41-7	Beryllium		3.5E+06	6.2E+02			x				x	x				x	x
111-44-4	Bis(2-chloroethyl)ether		2.5E+02	3.6E+04			x										
117-81-7	Bis(2-Ethylhexyl)phthalate		2.4E+04	2.4E+04			x			x	x				x		
75-27-4	Bromodichloromethane		7.0E+03	6.2E+03			x						x	x			
75-25-2	Bromoform		3.7E+04	4.8E+04			x							x			x
74-83-9	Bromomethane		-	9.3E+02						x					x		x
85-68-7	Butyl benzyl phthalate		1.8E+05	4.8E+05			x			x	x			x	x		
7440-43-9	Cadmium		4.6E+06	1.9E+01			x					x	x				x
86-74-8	Carbazole		1.7E+04	-			x										
75-15-0	Carbon disulfide		-	3.1E+04					x	x		x		x	x		
56-23-5	Carbon tetrachloride		5.6E+03	2.8E+03			x						x	x			

RAGS Workbook
Excavation Worker Exposure Scenario



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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (4 ft)

57-74-9	Chlordane		1.1E+03	1.7E+02			x			x	x		x	x			
115-28-6	Chlorendic acid		3.7E+03	-			x										
108-90-7	Chlorobenzene		-	1.1E+05								x	x	x		x	
67-66-3	Chloroform		1.2E+04	2.9E+04			x						x				
74-87-3	Chloromethane		-	5.7E+05				x	x				x	x	x		
16065-83-1	Chromium (+3)		-	4.6E+05									x				
18540-29-9	Chromium (+6)		6.9E+05	2.8E+03			x			x		x			x	x	
218-01-9	Chrysene	2.30	4.3E+04	1.3E+05	5.4E-10	0.00	x	x					x	x		x		x	
7440-48-4	Cobalt		9.3E+05	9.2E+02			x	x	x	x			x			x		x	x
7440-50-8	Copper		-	4.3E+03								x		x					
57-12-5	Cyanide		-	1.9E+03							x			x		x			
72-54-8	DDD		1.4E+03	1.2E+02			x			x	x			x	x	x	x		
72-55-9	DDE		9.8E+02	1.2E+02			x			x	x			x	x		x		
50-29-3	DDT		1.2E+03	1.4E+02			x			x	x			x	x		x		
53-70-3	Dibenz(a,h)anthracene	0.51	4.3E+01	6.7E+04	1.2E-07	0.00	x							x					
132-64-9	Dibenzofuran		-	9.5E+02										x					
124-48-1	Dibromochloromethane		4.3E+03	6.2E+04			x							x	x				
84-74-2	Dibutyl phthalate		-	2.4E+04						x	x						x		
75-71-8	Dichlorodifluoromethane		-	6.2E+04											x				
84-66-2	Diethyl phthalate		-	1.4E+06							x				x		x		
60-57-1	Dieldrin		2.1E+01	2.4E+01			x							x	x	x			
88-85-7	Dinoseb		-	2.4E+02													x		
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-03	5.7E-03			x			x	x		x	x	x	x	x		
115-29-7	Endosulfan		-	1.4E+03					x		x		x	x	x	x			
72-20-8	Endrin		-	4.8E+02						x				x	x	x			
100-41-4	Ethylbenzene		3.9E+04	1.2E+05			x			x				x	x	x			
106-93-4	Ethylene dibromide		1.8E+02	1.7E+03			x			x	x				x		x	x	
75-00-3	Ethyl chloride		-	3.1E+04						x									
206-44-0	Fluoranthene	3.30	-	8.9E+04		0.00								x	x				
86-73-7	Fluorene	0.68	-	6.1E+04		0.00		x							x			x	
76-44-8	Heptachlor		7.4E+01	2.4E+01			x			x				x	x				
1024-57-3	Heptachlor epoxide		3.7E+01	3.1E+00			x								x				
118-74-1	Hexachlorobenzene		2.1E+02	1.9E+02			x				x		x		x		x		
87-68-3	Hexachlorobutadiene		4.3E+03	2.4E+02			x							x	x	x			
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		5.3E+01	1.9E+03			x								x				
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.9E+02	1.4E+02			x								x	x			
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.5E+02	2.8E+00			x			x	x		x	x					
67-72-1	Hexachloroethane		8.3E+03	2.4E+03			x							x	x	x			
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		3.0E+03	7.1E+03			x									x	x		
193-39-5	Indeno(1,2,3-cd)pyrene	1.20	4.3E+02	8.9E+04	2.8E-08	0.00	x							x	x				
7439-89-6	Iron		-	2.2E+05								x		x					
121-75-5	Malathion		-	4.8E+03												x		x	

RAGS Workbook
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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-1 (4 ft)

7439-96-5	Manganese		-	7.4E+03							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	9.3E+02					x	x					
72-43-5	Methoxychlor		-	1.2E+03				x	x			x			
78-93-3	Methyl ethyl ketone		-	1.9E+05				x							
108-10-1	Methyl isobutyl ketone		-	2.5E+05				x				x	x		
80-62-6	Methyl methacrylate		-	4.3E+05						x	x			x	x
1634-04-4	Methyl tert-butyl ether		2.4E+05	9.3E+04			x		x			x	x	x	
75-09-2	Methylene chloride		2.2E+05	1.9E+04			x						x	x	
7439-98-7	Molybdenum		-	1.5E+03							x				
106-94-5	n-Propyl bromide		-	7.1E+02				x			x			x	x
91-20-3	Naphthalene	0.74	8.3E+06	1.1E+05	9.0E-13	0.00	x	x				x	x		x		x		
7440-02-0	Nickel		3.2E+07	9.3E+02			x					x	x			x	x	
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	1.2E+04									x	x				
117-84-0	Octyl Phthalate, di-n-		-	2.9E+03					x			x	x					
56-38-2	Parathion		-	1.4E+03										x				
1336-36-3	PCBs		1.5E+02	6.5E+00			x		x			x			x	x		x	
87-86-5	Pentachlorophenol		6.2E+02	8.8E+02			x		x	x			x	x	x	x	x		
14797-73-0	Perchlorate		-	3.7E+01					x										
85-01-8	Phenanthrene	1.80	-	8.9E+03		0.00						x				x			
108-95-2	Phenol		-	7.1E+04									x	x	x				
129-00-0	Pyrene	3.50	-	6.7E+04		0.00						x							
7782-49-2	Selenium		-	1.5E+03				x	x		x			x	x		x		
7440-22-4	Silver		-	1.5E+03													x		
100-42-5	Styrene		-	6.2E+05				x		x				x	x				
127-18-4	Tetrachloroethene		2.0E+05	2.7E+04			x		x					x	x				
298-02-2	Thimet (Phorate)		-	4.8E+01											x				
108-88-3	Toluene		-	2.5E+05								x	x		x				
79-01-6	Trichloroethene		9.0E+03	1.4E+02			x		x			x	x		x				
75-69-4	Trichlorofluoromethane		-	9.2E+04				x					x				x		
7440-62-2	Vanadium		-	2.2E+03				x			x	x	x				x		
108-05-4	Vinyl acetate		-	3.1E+05									x				x		

Soil Input Sheet and
Summary of Total Incremental Lifetime Cancer Risks
and Endpoint-Specific Hazard Indices

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Input Sheet

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Exposure Point Conc No.	Sample B-2 (5 ft)

CAS No.	Compound	Soil Conc (mg/kg)
91-20-3	Naphthalene	2.00
91-57-6	2-Methylnaphthalene	0.79
85-01-8	Phenanthrene	
208-96-8	Acenaphthylene	
83-32-9	Acenaphthene	
120-12-7	Anthracene	
56-55-3	Benzo(a)anthracene	
50-32-8	Benzo(a)pyrene	
205-99-2	Benzo(b)fluoranthene	
191-24-2	Benzo(g,h,i)perylene	
207-08-9	Benzo(k)fluoranthene	
218-01-9	Chrysene	
53-70-3	Dibenz(a,h)anthracene	
206-44-0	Fluoranthene	
86-73-7	Fluorene	
132-64-9	Dibenzofuran	
86-74-8	Carbazole	
117-81-7	Bis(2-Ethylhexyl)phthalate	
193-39-5	Indeno(1,2,3-cd)pyrene	
129-00-0	Pyrene	
7440-38-2	Arsenic	
7440-39-3	Barium	
7440-43-9	Cadmium	
	Chromium	
7439-92-1	Lead	
	Mercury (ug/g)	
7782-49-2	Selenium	
7440-22-4	Silver	
DEP2038	C5-C8 Aliphatics	
DEP2039	C9-C12 Aliphatics	70.00
DEP2040	C9-C10 Aromatics	72.00
DEP2043	C9-C18 Aliphatics	240.00
DEP2042	C19-C36 Aliphatics	330.00
DEP2041	C11-C22 Aromatics	170.00

	Residential	Park/Rec	Commercial	Construction
	ILCR			
Cancer	4.1E-12	2.4E-12	3.8E-12	2.4E-12
	HQ			
Blood	0.02	0.01	0.00	0.00
Cardio	0.00	0.00	0.00	0.00
Dev	0.00	0.00	0.00	0.00
Endo	0.00	0.00	0.00	0.00
Eye	0.00	0.00	0.00	0.00
Gastro	0.00	0.00	0.00	0.00
Immune	0.00	0.00	0.00	0.00
Kidney	0.07	0.04	0.01	0.00
Liver	0.03	0.02	0.00	0.00
Nervous	0.00	0.00	0.00	0.00
Reprod	0.00	0.00	0.00	0.00
Resp	0.00	0.00	0.00	0.00
Skin	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00

RAGS Workbook
Residential Exposure Scenario

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Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-2 (5 ft)

CAS No.	Compound	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	2.16E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		5.46E+02	5.11E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		7.10E+01	3.41E+03			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.41E+05												x	x				
79-00-5	1,1,2-Trichloroethane		2.48E+02	6.81E+02			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.52E+03											x						
75-34-3	1,1-Dichloroethane		2.49E+03	3.41E+04			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.52E+03												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.68E+03							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		4.89E+02	1.68E+03			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		3.26E+00	3.40E+01			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.11E+03											x						
107-06-2	1,2-Dichloroethane		1.56E+02	3.41E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.41E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.41E+03				x								x			x		
78-87-5	1,2-Dichloropropane		3.92E+02	1.36E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.33E+01				x													
106-99-0	1,3-Butadiene		4.17E+00	6.99E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.41E+01							x										
142-28-9	1,3-Dichloropropane		-	3.41E+03					x						x				x		
542-75-6	1,3-Dichloropropene		1.42E+02	5.11E+03			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.33E+01				x										x			
106-46-7	1,4-Dichlorobenzene		2.63E+03	1.19E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.33E+01				x													
123-91-1	1,4-Dioxane		1.08E+02	3.99E+03			x	x							x	x					
93-76-5	2,4,5-T		-	1.33E+03						x					x			x			
93-72-1	2,4,5-TP		-	1.06E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		1.01E+06	1.33E+04											x	x					
88-06-2	2,4,6-Trichlorophenol		9.82E+02	1.33E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		3.60E+02	6.65E+01			x									x					
120-83-2	2,4-Dichlorophenol		-	3.99E+02										x							
105-67-9	2,4-Dimethylphenol		-	2.66E+03				x													
51-28-5	2,4-Dinitrophenol		-	2.66E+02								x									
121-14-2	2,4-Dinitrotoluene		3.48E+01	2.66E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	7.98E+01				x							x	x					
606-20-2	2,6-Dinitrotoluene		1.59E+01	1.33E+02			x	x								x	x				
95-57-8	2-Chlorophenol		-	8.52E+02														x			
95-48-7	2-Cresol		-	6.65E+03													x				
91-57-6	2-Methylnaphthalene	0.79	-	4.99E+02		0.00													x		
91-94-1	3,3-Dichlorobenzidine		2.40E+01	-			x							x						x	
108-39-4	3-Cresol		-	6.65E+03													x		x		
106-47-8	4-Chloroaniline		5.40E+01	6.65E+01			x	x													

Cancer	Blood	Cardiovascular

RAGS Workbook
Residential Exposure Scenario

CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-2 (5 ft)

106-44-5	4-Cresol		-	6.65E+02										x		x					
83-32-9	Acenaphthene		-	7.47E+03									x			x					
208-96-8	Acenaphthylene		-	7.49E+03									x			x					
67-64-1	Acetone		-	1.53E+05			x					x		x							
75-05-8	Acetonitrile		-	2.61E+05			x						x								
107-02-8	Acrolein		-	8.52E+01			x	x			x	x					x				
107-13-1	Acrylonitrile		2.63E+01	1.70E+02		x	x		x						x	x	x				
15972-60-8	Alachlor		1.93E+02	1.33E+03		x	x			x		x						x			
309-00-2	Aldrin		6.35E-01	3.99E+00		x			x				x	x							
107-05-1	Allyl chloride		6.76E+02	1.71E+05		x								x							
7429-90-5	Aluminum		-	1.70E+05					x					x							
120-12-7	Anthracene		-	3.48E+04						x			x	x			x				
7440-36-0	Antimony		-	6.81E+01						x											
12674-11-2	Aroclor 1016		4.93E+00	8.57E+00		x			x	x						x					
7440-38-2	Arsenic		1.37E+00	4.71E+01		x		x	x			x		x	x				x		
1912-24-9	Atrazine		4.70E+01	1.33E+02		x	x	x		x			x				x		x		
7440-39-3	Barium		-	3.41E+04									x								
71-43-2	Benzene		2.58E+02	8.52E+01		x	x						x			x					
65-85-0	Benzoic acid		-	5.32E+05																	x
56-55-3	Benzo(a)anthracene		2.62E+00	5.00E+03		x							x	x							
50-32-8	Benzo(a)pyrene		2.62E-01	5.00E+03		x							x	x							
205-99-2	Benzo(b)fluoranthene		2.62E+00	5.00E+03		x							x	x							
191-24-2	Benzo(g,h,i)perylene		-	3.75E+03									x	x							
207-08-9	Benzo(k)fluoranthene		2.62E+01	5.00E+03		x							x	x							
100-44-7	Benzyl chloride		8.35E+01	3.41E+02		x							x	x	x		x				
7440-41-7	Beryllium		3.86E+05	3.41E+02		x					x	x					x	x			
111-44-4	Bis(2-chloroethyl)ether		9.80E+00	-		x															
117-81-7	Bis(2-Ethylhexyl)phthalate		7.72E+02	7.98E+03		x			x	x						x					
75-27-4	Bromodichloromethane		2.29E+02	3.41E+03		x							x	x							
75-25-2	Bromoform		1.37E+03	2.66E+03		x								x			x				
74-83-9	Bromomethane		-	2.38E+02							x				x		x				
85-68-7	Butyl benzyl phthalate		5.69E+03	2.66E+04		x			x	x				x	x						
7440-43-9	Cadmium		5.15E+05	1.07E+01		x						x	x				x				
86-74-8	Carbazole		5.40E+02	-		x															
75-15-0	Carbon disulfide		-	1.70E+04				x	x		x			x	x						
56-23-5	Carbon tetrachloride		2.03E+02	6.81E+02		x							x	x							
57-74-9	Chlordane		3.60E+01	7.66E+01		x			x	x			x	x							
115-28-6	Chlorendic acid		1.19E+02	-		x															
108-90-7	Chlorobenzene		-	3.41E+03							x		x	x		x					
67-66-3	Chloroform		4.57E+02	1.70E+03		x								x							
74-87-3	Chloromethane		-	4.06E+06				x	x					x	x	x					
16065-83-1	Chromium (+3)		-	2.56E+05										x							
18540-29-9	Chromium (+6)		3.05E+04	5.11E+02		x			x			x				x	x				
218-01-9	Chrysene		2.62E+02	2.50E+03		x	x						x	x		x		x			
7440-48-4	Cobalt		1.03E+05	5.11E+01		x	x	x	x				x			x		x	x		
7440-50-8	Copper		-	2.38E+03								x		x							
57-12-5	Cyanide		-	1.02E+02						x				x		x					
72-54-8	DDD		4.50E+01	6.65E+01		x			x	x				x	x	x	x				

RAGS Workbook
Residential Exposure Scenario

CITY OF PORTLAND, MAINE — RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-2 (5 ft)

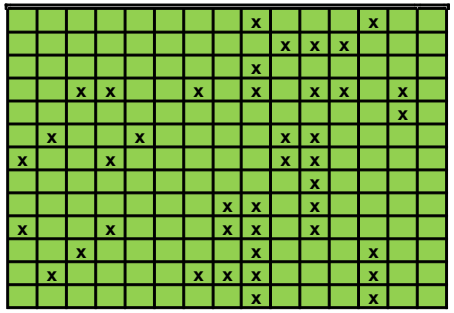
72-55-9	DDE		3.18E+01	6.65E+01			x			x	x			x	x		x						
50-29-3	DDT		3.82E+01	7.86E+01			x			x	x			x	x		x						
53-70-3	Dibenz(a,h)anthracene		2.62E-01	3.75E+03			x							x									
132-64-9	Dibenzofuran		-	1.33E+02										x									
124-48-1	Dibromochloromethane		1.69E+02	3.41E+03			x							x	x								
84-74-2	Dibutyl phthalate		-	1.33E+04						x	x						x						
75-71-8	Dichlorodifluoromethane		-	3.41E+04											x								
84-66-2	Diethyl phthalate		-	1.06E+05							x				x		x						
60-57-1	Dieldrin		6.75E-01	6.65E+00			x							x	x	x							
88-85-7	Dinoseb		-	1.33E+02													x						
1746-01-6	Dioxin-Like Compounds - TEQ		9.98E-05	1.10E-04			x			x	x			x	x	x	x						
115-29-7	Endosulfan		-	7.98E+02					x		x			x	x	x	x						
72-20-8	Endrin		-	3.99E+01						x				x	x	x							
100-41-4	Ethylbenzene		1.29E+03	1.70E+04			x			x				x	x	x							
106-93-4	Ethylene dibromide		7.09E+00	1.53E+03			x			x	x				x		x	x					
75-00-3	Ethyl chloride		-	1.70E+03						x													
206-44-0	Fluoranthene		-	5.00E+03										x	x								
86-73-7	Fluorene		-	4.99E+03				x							x			x					
76-44-8	Heptachlor		2.40E+00	1.33E+00			x			x				x	x								
1024-57-3	Heptachlor epoxide		1.19E+00	1.73E+00			x								x								
118-74-1	Hexachlorobenzene		6.75E+00	1.06E+02			x				x			x			x						
87-68-3	Hexachlorobutadiene		1.38E+02	1.33E+02			x							x	x	x							
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		1.71E+00	1.06E+03			x								x								
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		6.00E+00	7.98E+00			x								x	x							
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		1.15E+01	6.13E-01			x			x	x			x	x								
67-72-1	Hexachloroethane		2.70E+02	9.32E+01			x							x	x	x							
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		9.82E+01	3.99E+02			x									x	x						
193-39-5	Indeno(1,2,3-cd)pyrene		2.62E+00	5.00E+03			x							x	x								
7439-89-6	Iron		-	1.19E+05								x		x									
121-75-5	Malathion		-	2.66E+03												x		x					
7439-96-5	Manganese		-	4.08E+03												x							
7487-94-7	Mercuric chloride & other inorganic mercury compou		-	5.11E+01								x		x									
72-43-5	Methoxychlor		-	6.65E+02						x	x			x			x						
78-93-3	Methyl ethyl ketone		-	1.02E+05						x													
108-10-1	Methyl isobutyl ketone		-	1.36E+04						x				x	x								
80-62-6	Methyl methacrylate		-	2.38E+05								x	x					x	x				
1634-04-4	Methyl tert-butyl ether		7.89E+03	5.11E+03			x				x			x	x	x							
75-09-2	Methylene chloride		7.10E+03	1.02E+03			x								x	x		x					
7439-98-7	Molybdenum		-	8.52E+02										x									
106-94-5	n-Propyl bromide		-	1.86E+02						x		x				x	x	x					
91-20-3	Naphthalene	2.00	4.90E+06	2.50E+03	4.1E-12	0.00	x	x						x	x		x		x			4.1E-12	0.00	
7440-02-0	Nickel		3.56E+06	5.11E+02			x							x	x				x	x			
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	6.65E+03												x	x						
117-84-0	Octyl Phthalate, di-n-		-	1.60E+03							x			x	x								
56-38-2	Parathion		-	7.98E+02												x							
1336-36-3	PCBs		4.93E+00	2.45E+00			x				x					x	x		x				
87-86-5	Pentachlorophenol		1.99E+01	5.01E+02			x			x	x			x	x	x	x	x					
14797-73-0	Perchlorate		-	2.04E+01							x												

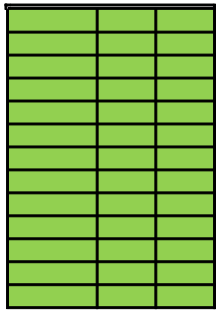
RAGS Workbook
Residential Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-2 (5 ft)

85-01-8	Phenanthrene		-	3.74E+03		
108-95-2	Phenol		-	3.99E+04		
129-00-0	Pyrene		-	3.75E+03		
7782-49-2	Selenium		-	8.52E+02		
7440-22-4	Silver		-	8.52E+02		
100-42-5	Styrene		-	3.41E+04		
127-18-4	Tetrachloroethene		6.76E+03	1.02E+03		
298-02-2	Thimet (Phorate)		-	2.66E+01		
108-88-3	Toluene		-	1.36E+04		
79-01-6	Trichloroethene		1.62E+02	8.51E+01		
75-69-4	Trichlorofluoromethane		-	5.11E+04		
7440-62-2	Vanadium		-	1.19E+03		
108-05-4	Vinyl acetate		-	1.70E+05		





RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-2 (5 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			1.8E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.8E+03	5.1E+04			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.4E+02	3.4E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.4E+06												x	x				
79-00-5	1,1,2-Trichloroethane		8.3E+02	6.8E+03			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.5E+04											x						
75-34-3	1,1-Dichloroethane		8.4E+03	3.4E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.5E+04							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.6E+03	1.5E+04			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		4.7E+01	3.3E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.1E+04											x						
107-06-2	1,2-Dichloroethane		5.2E+02	3.4E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.4E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.4E+04				x								x			x		
78-87-5	1,2-Dichloropropane		1.3E+03	6.1E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.0E+02				x													
106-99-0	1,3-Butadiene		1.4E+01	7.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.4E+02							x										
142-28-9	1,3-Dichloropropane		-	3.4E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.8E+02	5.1E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.0E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.8E+03	1.2E+05			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.0E+02				x													
123-91-1	1,4-Dioxane		2.9E+02	3.1E+04			x	x							x	x					
93-76-5	2,4,5-T		-	1.0E+04						x					x			x			
93-72-1	2,4,5-TP		-	8.2E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		1.0E+06	1.0E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		2.6E+03	1.0E+03			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		9.6E+02	5.1E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	3.1E+03										x							
105-67-9	2,4-Dimethylphenol		-	2.1E+04				x													
51-28-5	2,4-Dinitrophenol		-	2.1E+03								x									
121-14-2	2,4-Dinitrotoluene		9.3E+01	2.1E+03			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	6.2E+02				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.2E+01	1.0E+03			x	x								x	x				

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
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Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-2 (5 ft)

95-57-8	2-Chlorophenol		-	8.5E+03								x				
95-48-7	2-Cresol		-	5.1E+04							x					
91-57-6	2-Methylnaphthalene	0.79	-	3.6E+03		0.00							x			
91-94-1	3,3-Dichlorobenzidine		6.4E+01	-			x							x		
108-39-4	3-Cresol		-	5.1E+04							x		x			
106-47-8	4-Chloroaniline		1.4E+02	5.1E+02			x	x								
106-44-5	4-Cresol		-	5.1E+03							x		x			
83-32-9	Acenaphthene		-	5.4E+04						x			x			
208-96-8	Acenaphthylene		-	5.5E+04						x			x			
67-64-1	Acetone		-	1.5E+06				x			x					
75-05-8	Acetonitrile		-	2.2E+05				x		x						
107-02-8	Acrolein		-	8.5E+02			x	x					x			
107-13-1	Acrylonitrile		8.8E+01	1.7E+03			x	x			x	x	x			
15972-60-8	Alachlor		5.1E+02	1.0E+04			x	x						x		
309-00-2	Aldrin		1.7E+00	3.1E+01			x			x	x					
107-05-1	Allyl chloride		2.3E+03	1.4E+05			x					x				
7429-90-5	Aluminum		-	1.7E+06								x				
120-12-7	Anthracene		-	1.6E+05					x		x		x			
7440-36-0	Antimony		-	6.8E+02					x							
12674-11-2	Aroclor 1016		1.2E+01	6.2E+01			x		x			x				
7440-38-2	Arsenic		4.2E+00	4.3E+02			x	x		x				x		
1912-24-9	Atrazine		1.2E+02	1.0E+03			x	x	x		x		x		x	
7440-39-3	Barium		-	3.4E+05							x					
71-43-2	Benzene		8.7E+02	8.5E+02			x	x				x				
65-85-0	Benzoic acid		-	4.1E+06												x
56-55-3	Benzo(a)anthracene		3.5E+01	3.7E+04			x				x	x				
50-32-8	Benzo(a)pyrene		3.5E+00	3.7E+04			x				x	x				
205-99-2	Benzo(b)fluoranthene		3.5E+01	3.7E+04			x				x	x				
191-24-2	Benzo(g,h,i)perylene		-	2.8E+04							x	x				
207-08-9	Benzo(k)fluoranthene		3.5E+02	3.7E+04			x				x	x				
100-44-7	Benzyl chloride		2.8E+02	3.4E+03			x				x	x	x		x	
7440-41-7	Beryllium		4.6E+05	3.4E+03			x			x	x				x	x
111-44-4	Bis(2-chloroethyl)ether		2.6E+01	-			x									
117-81-7	Bis(2-Ethylhexyl)phthalate		2.1E+03	6.2E+04			x		x	x				x		
75-27-4	Bromodichloromethane		7.7E+02	3.4E+04			x				x	x				
75-25-2	Bromoform		3.6E+03	2.1E+04			x					x			x	
74-83-9	Bromomethane		-	2.4E+03					x				x		x	
85-68-7	Butyl benzyl phthalate		1.5E+04	2.1E+05			x		x	x			x	x		
7440-43-9	Cadmium		6.2E+05	9.4E+01			x				x	x			x	
86-74-8	Carbazole		1.4E+03	-			x									
75-15-0	Carbon disulfide		-	1.7E+05					x	x			x	x		
56-23-5	Carbon tetrachloride		6.8E+02	6.8E+03			x				x	x				

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

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Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-2 (5 ft)

57-74-9	Chlordane		1.1E+02	6.7E+02			x			x	x		x	x				
115-28-6	Chlorendic acid		3.2E+02	-			x											
108-90-7	Chlorobenzene		-	3.4E+04								x	x	x		x		
67-66-3	Chloroform		1.5E+03	1.7E+04			x							x				
74-87-3	Chloromethane		-	3.4E+06				x	x					x	x	x		
16065-83-1	Chromium (+3)		-	2.6E+06										x				
18540-29-9	Chromium (+6)		9.3E+04	5.1E+03			x			x		x				x	x	
218-01-9	Chrysene		3.5E+03	1.8E+04			x	x					x	x		x	x	
7440-48-4	Cobalt		1.2E+05	5.1E+02			x	x	x	x			x			x	x	x
7440-50-8	Copper		-	2.4E+04								x		x				
57-12-5	Cyanide		-	1.0E+03							x			x		x		
72-54-8	DDD		1.2E+02	5.1E+02			x			x	x			x	x	x	x	
72-55-9	DDE		8.5E+01	5.1E+02			x			x	x			x	x		x	
50-29-3	DDT		1.2E+02	7.1E+02			x			x	x			x	x		x	
53-70-3	Dibenz(a,h)anthracene		3.5E+00	2.8E+04			x							x				
132-64-9	Dibenzofuran		-	1.0E+03										x				
124-48-1	Dibromochloromethane		5.6E+02	3.4E+04			x							x	x			
84-74-2	Dibutyl phthalate		-	1.0E+05						x	x						x	
75-71-8	Dichlorodifluoromethane		-	3.4E+05											x			
84-66-2	Diethyl phthalate		-	8.2E+05							x			x		x		
60-57-1	Dieldrin		1.8E+00	5.1E+01			x							x	x	x		
88-85-7	Dinoseb		-	1.0E+03													x	
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-04	1.0E-03			x			x	x		x	x	x	x	x	
115-29-7	Endosulfan		-	6.2E+03					x		x		x	x	x	x		
72-20-8	Endrin		-	3.1E+02						x				x	x	x		
100-41-4	Ethylbenzene		4.3E+03	1.7E+05			x			x				x	x	x		
106-93-4	Ethylene dibromide		2.4E+01	1.5E+04			x			x	x				x		x	x
75-00-3	Ethyl chloride		-	1.7E+04						x								
206-44-0	Fluoranthene		-	3.7E+04										x	x			
86-73-7	Fluorene		-	3.7E+04				x							x			x
76-44-8	Heptachlor		6.4E+00	1.0E+01			x			x				x	x			
1024-57-3	Heptachlor epoxide		3.2E+00	1.3E+01			x								x			
118-74-1	Hexachlorobenzene		1.8E+01	8.2E+02			x				x		x		x		x	
87-68-3	Hexachlorobutadiene		3.7E+02	1.0E+03			x							x	x	x		
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		4.6E+00	8.2E+03			x								x			
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.6E+01	6.2E+01			x								x	x		
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.4E+01	5.4E+00			x			x	x		x	x				
67-72-1	Hexachloroethane		7.2E+02	7.2E+02			x							x	x	x		
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		2.6E+02	3.1E+03			x									x	x	
193-39-5	Indeno(1,2,3-cd)pyrene		3.5E+01	3.7E+04			x							x	x			
7439-89-6	Iron		-	1.2E+06								x		x				
121-75-5	Malathion		-	2.1E+04												x		x

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
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Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-2 (5 ft)

7439-96-5	Manganese		-	4.0E+04							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	5.1E+02						x	x				
72-43-5	Methoxychlor		-	5.1E+03					x	x				x	
78-93-3	Methyl ethyl ketone		-	1.0E+06					x						
108-10-1	Methyl isobutyl ketone		-	1.4E+05					x						
80-62-6	Methyl methacrylate		-	2.4E+06						x	x				
1634-04-4	Methyl tert-butyl ether		2.6E+04	5.1E+04			x			x	x	x			
75-09-2	Methylene chloride		2.4E+04	1.0E+04			x				x	x		x	
7439-98-7	Molybdenum		-	8.5E+03						x					
106-94-5	n-Propyl bromide		-	1.4E+03				x				x	x	x	
91-20-3	Naphthalene	2.00	5.2E+06	1.8E+04	3.8E-12	0.00	x	x				x	x		x		x	
7440-02-0	Nickel		4.3E+06	5.1E+03			x					x	x			x	x	
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	5.1E+04							x	x					
117-84-0	Octyl Phthalate, di-n-		-	1.2E+04					x			x	x				
56-38-2	Parathion		-	6.2E+03									x				
1336-36-3	PCBs		1.2E+01	1.8E+01			x			x			x	x		x	
87-86-5	Pentachlorophenol		4.5E+01	3.2E+03			x		x	x		x	x	x	x		
14797-73-0	Perchlorate		-	2.0E+02						x							
85-01-8	Phenanthrene		-	2.7E+04								x				x	
108-95-2	Phenol		-	3.1E+05									x	x	x		
129-00-0	Pyrene		-	2.8E+04								x					
7782-49-2	Selenium		-	8.5E+03				x	x		x			x	x		x	
7440-22-4	Silver		-	8.5E+03													x	
100-42-5	Styrene		-	3.4E+05				x		x				x	x			
127-18-4	Tetrachloroethene		2.3E+04	1.0E+04			x		x					x	x			
298-02-2	Thimet (Phorate)		-	2.1E+02											x			
108-88-3	Toluene		-	1.4E+05								x	x		x			
79-01-6	Trichloroethene		1.0E+03	8.5E+02			x		x			x	x		x			
75-69-4	Trichlorofluoromethane		-	5.1E+05					x				x			x		
7440-62-2	Vanadium		-	1.2E+04				x			x	x	x			x		
108-05-4	Vinyl acetate		-	1.7E+06									x			x		

RAGS Workbook
Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-2 (5 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	1.9E+07																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.7E+04	9.3E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.2E+03	1.5E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	1.7E+06												x	x				
79-00-5	1,1,2-Trichloroethane		5.4E+03	1.2E+04			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	1.5E+04											x						
75-34-3	1,1-Dichloroethane		7.6E+04	5.9E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	1.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	4.2E+02							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.5E+04	4.3E+02			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		5.1E+01	2.7E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	1.5E+05											x						
107-06-2	1,2-Dichloroethane		3.7E+03	5.7E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	6.2E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	5.9E+04				x								x			x		
78-87-5	1,2-Dichloropropane		8.7E+03	5.5E+03			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	2.4E+02				x													
106-99-0	1,3-Butadiene		1.3E+02	1.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	6.2E+03							x										
142-28-9	1,3-Dichloropropane		-	6.2E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.3E+03	1.2E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.2E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.0E+04	2.1E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	2.4E+02				x													
123-91-1	1,4-Dioxane		3.3E+03	7.1E+03			x	x							x	x					
93-76-5	2,4,5-T		-	2.4E+04						x					x			x			
93-72-1	2,4,5-TP		-	1.9E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		6.1E+05	2.4E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		3.0E+04	2.4E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		1.1E+04	1.2E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	7.1E+02										x							
105-67-9	2,4-Dimethylphenol		-	1.2E+04				x													
51-28-5	2,4-Dinitrophenol		-	4.8E+03								x									
121-14-2	2,4-Dinitrotoluene		1.1E+03	4.8E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	1.4E+03				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.9E+02	9.5E+02			x	x								x	x				

RAGS Workbook
Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-2 (5 ft)

95-57-8	2-Chlorophenol		-	2.5E+03								x			
95-48-7	2-Cresol		-	2.4E+04							x				
91-57-6	2-Methylnaphthalene	0.79	-	6.0E+02		0.00							x		
91-94-1	3,3-Dichlorobenzidine		7.4E+02	-			x							x	
108-39-4	3-Cresol		-	2.4E+04							x		x		
106-47-8	4-Chloroaniline		1.7E+03	1.2E+02			x	x							
106-44-5	4-Cresol		-	2.4E+04							x		x		
83-32-9	Acenaphthene		-	9.8E+03						x			x		
208-96-8	Acenaphthylene		-	6.5E+04						x			x		
67-64-1	Acetone		-	6.2E+05				x			x				
75-05-8	Acetonitrile		-	3.2E+03				x							
107-02-8	Acrolein		-	1.2E+03				x	x				x		
107-13-1	Acrylonitrile		8.0E+02	3.1E+03			x	x				x	x	x	
15972-60-8	Alachlor		6.0E+03	2.4E+03			x	x						x	
309-00-2	Aldrin		2.0E+01	9.5E+00			x				x	x			
107-05-1	Allyl chloride		2.1E+04	1.0E+04			x						x		
7429-90-5	Aluminum		-	3.1E+05									x		
120-12-7	Anthracene		-	3.8E+03							x	x			
7440-36-0	Antimony		-	1.2E+02											
12674-11-2	Aroclor 1016		1.5E+02	4.6E+01			x						x		
7440-38-2	Arsenic		4.2E+01	8.5E+01			x							x	
1912-24-9	Atrazine		1.5E+03	7.1E+02			x							x	
7440-39-3	Barium		-	6.2E+04											
71-43-2	Benzene		7.9E+03	1.5E+02			x	x							
65-85-0	Benzoic acid		-	7.2E+05											x
56-55-3	Benzo(a)anthracene		4.3E+02	1.0E+15			x								
50-32-8	Benzo(a)pyrene		4.3E+01	1.0E+15			x								
205-99-2	Benzo(b)fluoranthene		4.3E+02	1.0E+15			x								
191-24-2	Benzo(g,h,i)perylene		-	6.7E+04											
207-08-9	Benzo(k)fluoranthene		4.3E+03	1.0E+15			x								
100-44-7	Benzyl chloride		2.6E+03	6.2E+02			x								
7440-41-7	Beryllium		3.5E+06	6.2E+02			x								
111-44-4	Bis(2-chloroethyl)ether		2.5E+02	3.6E+04			x								
117-81-7	Bis(2-Ethylhexyl)phthalate		2.4E+04	2.4E+04			x								
75-27-4	Bromodichloromethane		7.0E+03	6.2E+03			x								
75-25-2	Bromoform		3.7E+04	4.8E+04			x								
74-83-9	Bromomethane		-	9.3E+02											
85-68-7	Butyl benzyl phthalate		1.8E+05	4.8E+05			x								
7440-43-9	Cadmium		4.6E+06	1.9E+01			x								
86-74-8	Carbazole		1.7E+04	-			x								
75-15-0	Carbon disulfide		-	3.1E+04											
56-23-5	Carbon tetrachloride		5.6E+03	2.8E+03			x								

RAGS Workbook
Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-2 (5 ft)

57-74-9	Chlordane		1.1E+03	1.7E+02			x			x	x			x	x				
115-28-6	Chlorendic acid		3.7E+03	-			x												
108-90-7	Chlorobenzene		-	1.1E+05								x		x	x		x		
67-66-3	Chloroform		1.2E+04	2.9E+04			x								x				
74-87-3	Chloromethane		-	5.7E+05					x	x					x	x	x		
16065-83-1	Chromium (+3)		-	4.6E+05											x				
18540-29-9	Chromium (+6)		6.9E+05	2.8E+03			x			x		x					x	x	
218-01-9	Chrysene		4.3E+04	1.3E+05			x	x					x	x		x		x	
7440-48-4	Cobalt		9.3E+05	9.2E+02			x	x	x	x			x			x		x	x
7440-50-8	Copper		-	4.3E+03								x		x					
57-12-5	Cyanide		-	1.9E+03							x			x		x			
72-54-8	DDD		1.4E+03	1.2E+02			x			x	x			x	x	x	x		
72-55-9	DDE		9.8E+02	1.2E+02			x			x	x			x	x		x		
50-29-3	DDT		1.2E+03	1.4E+02			x			x	x			x	x		x		
53-70-3	Dibenz(a,h)anthracene		4.3E+01	6.7E+04			x							x					
132-64-9	Dibenzofuran		-	9.5E+02										x					
124-48-1	Dibromochloromethane		4.3E+03	6.2E+04			x							x	x				
84-74-2	Dibutyl phthalate		-	2.4E+04						x	x						x		
75-71-8	Dichlorodifluoromethane		-	6.2E+04											x				
84-66-2	Diethyl phthalate		-	1.4E+06							x				x		x		
60-57-1	Dieldrin		2.1E+01	2.4E+01			x							x	x	x			
88-85-7	Dinoseb		-	2.4E+02													x		
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-03	5.7E-03			x			x	x		x	x	x	x	x		
115-29-7	Endosulfan		-	1.4E+03					x		x		x	x	x	x			
72-20-8	Endrin		-	4.8E+02						x				x	x	x			
100-41-4	Ethylbenzene		3.9E+04	1.2E+05			x			x				x	x	x			
106-93-4	Ethylene dibromide		1.8E+02	1.7E+03			x			x	x				x		x	x	
75-00-3	Ethyl chloride		-	3.1E+04						x									
206-44-0	Fluoranthene		-	8.9E+04										x	x				
86-73-7	Fluorene		-	6.1E+04				x							x			x	
76-44-8	Heptachlor		7.4E+01	2.4E+01			x			x				x	x				
1024-57-3	Heptachlor epoxide		3.7E+01	3.1E+00			x								x				
118-74-1	Hexachlorobenzene		2.1E+02	1.9E+02			x				x		x		x		x		
87-68-3	Hexachlorobutadiene		4.3E+03	2.4E+02			x							x	x	x			
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		5.3E+01	1.9E+03			x								x				
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.9E+02	1.4E+02			x								x	x			
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.5E+02	2.8E+00			x			x	x		x	x					
67-72-1	Hexachloroethane		8.3E+03	2.4E+03			x							x	x	x			
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		3.0E+03	7.1E+03			x									x	x		
193-39-5	Indeno(1,2,3-cd)pyrene		4.3E+02	8.9E+04			x							x	x				
7439-89-6	Iron		-	2.2E+05								x		x					
121-75-5	Malathion		-	4.8E+03												x		x	

RAGS Workbook
Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-2 (5 ft)

7439-96-5	Manganese		-	7.4E+03							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	9.3E+02						x	x				
72-43-5	Methoxychlor		-	1.2E+03					x	x				x			
78-93-3	Methyl ethyl ketone		-	1.9E+05					x								
108-10-1	Methyl isobutyl ketone		-	2.5E+05					x					x	x		
80-62-6	Methyl methacrylate		-	4.3E+05							x	x				x	x
1634-04-4	Methyl tert-butyl ether		2.4E+05	9.3E+04			x			x			x	x	x		
75-09-2	Methylene chloride		2.2E+05	1.9E+04			x							x	x		x
7439-98-7	Molybdenum		-	1.5E+03									x				
106-94-5	n-Propyl bromide		-	7.1E+02					x			x			x	x	x
91-20-3	Naphthalene	2.00	8.3E+06	1.1E+05	2.4E-12	0.00	x	x					x	x		x		x
7440-02-0	Nickel		3.2E+07	9.3E+02			x						x	x			x	x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	1.2E+04										x	x		
117-84-0	Octyl Phthalate, di-n-		-	2.9E+03						x			x	x			
56-38-2	Parathion		-	1.4E+03											x		
1336-36-3	PCBs		1.5E+02	6.5E+00			x			x			x		x	x		x
87-86-5	Pentachlorophenol		6.2E+02	8.8E+02			x			x	x			x	x	x	x	x
14797-73-0	Perchlorate		-	3.7E+01						x								
85-01-8	Phenanthrene		-	8.9E+03									x				x	
108-95-2	Phenol		-	7.1E+04										x	x	x		
129-00-0	Pyrene		-	6.7E+04									x					
7782-49-2	Selenium		-	1.5E+03				x	x		x		x		x	x		x
7440-22-4	Silver		-	1.5E+03														x
100-42-5	Styrene		-	6.2E+05				x		x				x	x			
127-18-4	Tetrachloroethene		2.0E+05	2.7E+04			x		x					x	x			
298-02-2	Thimet (Phorate)		-	4.8E+01											x			
108-88-3	Toluene		-	2.5E+05								x	x		x			
79-01-6	Trichloroethene		9.0E+03	1.4E+02			x		x			x	x		x			
75-69-4	Trichlorofluoromethane		-	9.2E+04				x					x				x	
7440-62-2	Vanadium		-	2.2E+03				x			x	x	x				x	
108-05-4	Vinyl acetate		-	3.1E+05									x				x	

Soil Input Sheet and
Summary of Total Incremental Lifetime Cancer Risks
and Endpoint-Specific Hazard Indices

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Input Sheet

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Exposure Point Conc No.	Sample B-3 (1 ft)

CAS No.	Compound	Soil Conc (mg/kg)
	Napthalene	
91-57-6	2-Methylnaphthalene	
85-01-8	Phenanthrene	
208-96-8	Acenaphthylene	
83-32-9	Acenaphthene	
120-12-7	Anthracene	
56-55-3	Benzo(a)anthracene	
50-32-8	Benzo(a)pyrene	
	Benzo(b)fluoranthene	
191-24-2	Benzo(g,h,i)perylene	
	Benzo(k)fluoranthene	
	Chrysene	
	Dibenzo(a,h)anthracene	
206-44-0	Fluoranthene	
86-73-7	Fluorene	
132-64-9	Dibenzofuran	
86-74-8	Carbazole	
117-81-7	Bis(2-Ethylhexyl)Phthalate	
	Indeno(1,2,3-cd)pyrene	
129-00-0	Pyrene	
7440-38-2	Arsenic	13.00
7440-39-3	Barium	
7440-43-9	Cadmium	74.80
	Chromium	33.40
7439-92-1	Lead	256.00
	Mercury (ug/g)	0.21
	Selenium	
7440-22-4	Silver	

	Residential	Park/Rec	Commercial	Construction
	ILCR			
Cancer	9.5E-05	5.7E-05	3.1E-05	3.1E-06
	HQ			
Blood	0.00	0.00	0.00	0.00
Cardio	0.28	0.17	0.03	0.15
Dev	0.28	0.17	0.03	0.15
Endo	0.00	0.00	0.00	0.00
Eye	0.00	0.00	0.00	0.00
Gastro	0.28	0.17	0.03	0.15
Immune	7.00	4.20	0.79	3.90
Kidney	7.30	4.40	0.82	4.00
Liver	0.28	0.17	0.03	0.15
Nervous	0.00	0.00	0.00	0.00
Reprod	0.00	0.00	0.00	0.00
Resp	7.00	4.20	0.79	3.90
Skin	0.28	0.17	0.03	0.15
Other	0.00	0.00	0.00	0.00

RAGS Workbook
Residential Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-3 (1 ft)

CAS No.	Compound	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	2.16E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		5.46E+02	5.11E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		7.10E+01	3.41E+03			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.41E+05												x	x				
79-00-5	1,1,2-Trichloroethane		2.48E+02	6.81E+02			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.52E+03											x						
75-34-3	1,1-Dichloroethane		2.49E+03	3.41E+04			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.52E+03												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.68E+03							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		4.89E+02	1.68E+03			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		3.26E+00	3.40E+01			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.11E+03											x						
107-06-2	1,2-Dichloroethane		1.56E+02	3.41E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.41E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.41E+03				x								x			x		
78-87-5	1,2-Dichloropropane		3.92E+02	1.36E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.33E+01				x													
106-99-0	1,3-Butadiene		4.17E+00	6.99E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.41E+01							x										
142-28-9	1,3-Dichloropropane		-	3.41E+03					x						x				x		
542-75-6	1,3-Dichloropropene		1.42E+02	5.11E+03			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.33E+01				x										x			
106-46-7	1,4-Dichlorobenzene		2.63E+03	1.19E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.33E+01				x													
123-91-1	1,4-Dioxane		1.08E+02	3.99E+03			x	x							x	x					
93-76-5	2,4,5-T		-	1.33E+03							x				x			x			
93-72-1	2,4,5-TP		-	1.06E+03							x					x		x			
95-95-4	2,4,5-Trichlorophenol		1.01E+06	1.33E+04											x	x					
88-06-2	2,4,6-Trichlorophenol		9.82E+02	1.33E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		3.60E+02	6.65E+01			x									x					
120-83-2	2,4-Dichlorophenol		-	3.99E+02										x							
105-67-9	2,4-Dimethylphenol		-	2.66E+03				x													
51-28-5	2,4-Dinitrophenol		-	2.66E+02								x									
121-14-2	2,4-Dinitrotoluene		3.48E+01	2.66E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	7.98E+01				x							x	x					
606-20-2	2,6-Dinitrotoluene		1.59E+01	1.33E+02			x	x								x	x				
95-57-8	2-Chlorophenol		-	8.52E+02														x			
95-48-7	2-Cresol		-	6.65E+03													x				
91-57-6	2-Methylnaphthalene		-	4.99E+02															x		
91-94-1	3,3-Dichlorobenzidine		2.40E+01	-			x							x						x	
108-39-4	3-Cresol		-	6.65E+03													x		x		
106-47-8	4-Chloroaniline		5.40E+01	6.65E+01			x	x													

Cancer	Blood	Cardiovascular

RAGS Workbook
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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-3 (1 ft)

106-44-5	4-Cresol		-	6.65E+02									x		x				
83-32-9	Acenaphthene		-	7.47E+03								x			x				
208-96-8	Acenaphthylene		-	7.49E+03								x			x				
67-64-1	Acetone		-	1.53E+05			x						x						
75-05-8	Acetonitrile		-	2.61E+05			x						x						
107-02-8	Acrolein		-	8.52E+01			x	x			x	x					x		
107-13-1	Acrylonitrile		2.63E+01	1.70E+02			x	x						x	x	x			
15972-60-8	Alachlor		1.93E+02	1.33E+03			x	x			x						x		
309-00-2	Aldrin		6.35E-01	3.99E+00			x				x	x							
107-05-1	Allyl chloride		6.76E+02	1.71E+05			x						x						
7429-90-5	Aluminum		-	1.70E+05					x				x						
120-12-7	Anthracene		-	3.48E+04						x		x	x		x				
7440-36-0	Antimony		-	6.81E+01						x									
12674-11-2	Aroclor 1016		4.93E+00	8.57E+00			x		x	x			x						
7440-38-2	Arsenic	13.00	1.37E+00	4.71E+01	9.5E-05	0.28	x		x	x		x		x	x			x	
1912-24-9	Atrazine		4.70E+01	1.33E+02			x	x	x		x				x		x		
7440-39-3	Barium		-	3.41E+04								x							
71-43-2	Benzene		2.58E+02	8.52E+01			x	x			x			x					
65-85-0	Benzoic acid		-	5.32E+05															x
56-55-3	Benzo(a)anthracene		2.62E+00	5.00E+03			x					x	x						
50-32-8	Benzo(a)pyrene		2.62E-01	5.00E+03			x					x	x						
205-99-2	Benzo(b)fluoranthene		2.62E+00	5.00E+03			x					x	x						
191-24-2	Benzo(g,h,i)perylene		-	3.75E+03								x	x						
207-08-9	Benzo(k)fluoranthene		2.62E+01	5.00E+03			x					x	x						
100-44-7	Benzyl chloride		8.35E+01	3.41E+02			x					x	x	x		x			
7440-41-7	Beryllium		3.86E+05	3.41E+02			x				x	x				x	x		
111-44-4	Bis(2-chloroethyl)ether		9.80E+00	-			x												
117-81-7	Bis(2-Ethylhexyl)phthalate		7.72E+02	7.98E+03			x		x	x					x				
75-27-4	Bromodichloromethane		2.29E+02	3.41E+03			x					x	x						
75-25-2	Bromoform		1.37E+03	2.66E+03			x						x			x			
74-83-9	Bromomethane		-	2.38E+02							x			x		x			
85-68-7	Butyl benzyl phthalate		5.69E+03	2.66E+04			x		x	x			x	x					
7440-43-9	Cadmium	74.80	5.15E+05	1.07E+01	1.5E-09	6.98	x					x	x			x			
86-74-8	Carbazole		5.40E+02	-			x												
75-15-0	Carbon disulfide		-	1.70E+04					x	x			x	x					
56-23-5	Carbon tetrachloride		2.03E+02	6.81E+02			x					x	x						
57-74-9	Chlordane		3.60E+01	7.66E+01			x		x	x		x	x						
115-28-6	Chlorendic acid		1.19E+02	-			x												
108-90-7	Chlorobenzene		-	3.41E+03							x		x	x		x			
67-66-3	Chloroform		4.57E+02	1.70E+03			x							x					
74-87-3	Chloromethane		-	4.06E+06					x	x				x	x	x			
16065-83-1	Chromium (+3)		-	2.56E+05										x					
18540-29-9	Chromium (+6)		3.05E+04	5.11E+02			x			x					x	x			
218-01-9	Chrysene		2.62E+02	2.50E+03			x	x			x	x		x		x			
7440-48-4	Cobalt		1.03E+05	5.11E+01			x	x	x	x		x			x		x	x	
7440-50-8	Copper		-	2.38E+03							x		x						
57-12-5	Cyanide		-	1.02E+02						x			x		x				
72-54-8	DDD		4.50E+01	6.65E+01			x			x		x	x	x	x				

RAGS Workbook
Residential Exposure Scenario

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Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-3 (1 ft)

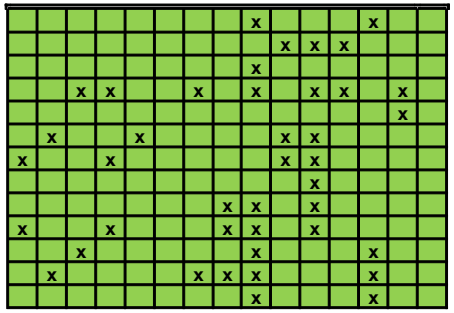
72-55-9	DDE		3.18E+01	6.65E+01			x			x	x			x	x		x		
50-29-3	DDT		3.82E+01	7.86E+01			x			x	x			x	x		x		
53-70-3	Dibenz(a,h)anthracene		2.62E-01	3.75E+03			x							x					
132-64-9	Dibenzofuran		-	1.33E+02										x					
124-48-1	Dibromochloromethane		1.69E+02	3.41E+03			x							x	x				
84-74-2	Dibutyl phthalate		-	1.33E+04						x	x						x		
75-71-8	Dichlorodifluoromethane		-	3.41E+04											x				
84-66-2	Diethyl phthalate		-	1.06E+05							x				x		x		
60-57-1	Dieldrin		6.75E-01	6.65E+00			x							x	x	x			
88-85-7	Dinoseb		-	1.33E+02													x		
1746-01-6	Dioxin-Like Compounds - TEQ		9.98E-05	1.10E-04			x			x	x			x	x	x	x		
115-29-7	Endosulfan		-	7.98E+02					x		x			x	x	x	x		
72-20-8	Endrin		-	3.99E+01						x				x	x	x			
100-41-4	Ethylbenzene		1.29E+03	1.70E+04			x			x				x	x	x			
106-93-4	Ethylene dibromide		7.09E+00	1.53E+03			x			x	x				x		x	x	
75-00-3	Ethyl chloride		-	1.70E+03						x									
206-44-0	Fluoranthene		-	5.00E+03										x	x				
86-73-7	Fluorene		-	4.99E+03				x							x			x	
76-44-8	Heptachlor		2.40E+00	1.33E+00			x			x	x				x				
1024-57-3	Heptachlor epoxide		1.19E+00	1.73E+00			x								x				
118-74-1	Hexachlorobenzene		6.75E+00	1.06E+02			x			x				x			x		
87-68-3	Hexachlorobutadiene		1.38E+02	1.33E+02			x							x	x	x			
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		1.71E+00	1.06E+03			x								x				
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		6.00E+00	7.98E+00			x								x	x			
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		1.15E+01	6.13E-01			x			x	x			x	x				
67-72-1	Hexachloroethane		2.70E+02	9.32E+01			x							x	x	x			
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		9.82E+01	3.99E+02			x									x	x		
193-39-5	Indeno(1,2,3-cd)pyrene		2.62E+00	5.00E+03			x							x	x				
7439-89-6	Iron		-	1.19E+05								x		x					
121-75-5	Malathion		-	2.66E+03												x		x	
7439-96-5	Manganese		-	4.08E+03												x			
7487-94-7	Mercuric chloride & other inorganic mercury compou		-	5.11E+01								x		x					
72-43-5	Methoxychlor		-	6.65E+02						x	x			x			x		
78-93-3	Methyl ethyl ketone		-	1.02E+05						x									
108-10-1	Methyl isobutyl ketone		-	1.36E+04						x				x	x				
80-62-6	Methyl methacrylate		-	2.38E+05								x	x					x	x
1634-04-4	Methyl tert-butyl ether		7.89E+03	5.11E+03			x				x			x	x	x			
75-09-2	Methylene chloride		7.10E+03	1.02E+03			x								x	x		x	
7439-98-7	Molybdenum		-	8.52E+02										x					
106-94-5	n-Propyl bromide		-	1.86E+02						x		x				x	x	x	
91-20-3	Naphthalene		4.90E+06	2.50E+03			x	x						x	x		x		
7440-02-0	Nickel		3.56E+06	5.11E+02			x							x	x			x	x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	6.65E+03											x	x			
117-84-0	Octyl Phthalate, di-n-		-	1.60E+03							x			x	x				
56-38-2	Parathion		-	7.98E+02											x				
1336-36-3	PCBs		4.93E+00	2.45E+00			x			x				x	x			x	
87-86-5	Pentachlorophenol		1.99E+01	5.01E+02			x			x	x			x	x	x	x		
14797-73-0	Perchlorate		-	2.04E+01						x									

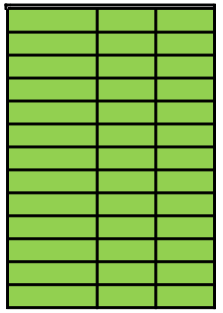
RAGS Workbook
Residential Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-3 (1 ft)

85-01-8	Phenanthrene		-	3.74E+03		
108-95-2	Phenol		-	3.99E+04		
129-00-0	Pyrene		-	3.75E+03		
7782-49-2	Selenium		-	8.52E+02		
7440-22-4	Silver		-	8.52E+02		
100-42-5	Styrene		-	3.41E+04		
127-18-4	Tetrachloroethene		6.76E+03	1.02E+03		
298-02-2	Thimet (Phorate)		-	2.66E+01		
108-88-3	Toluene		-	1.36E+04		
79-01-6	Trichloroethene		1.62E+02	8.51E+01		
75-69-4	Trichlorofluoromethane		-	5.11E+04		
7440-62-2	Vanadium		-	1.19E+03		
108-05-4	Vinyl acetate		-	1.70E+05		





RAGS Workbook
Outdoor Commercial Worker Exposure Scenario



Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-3 (1 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			1.8E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.8E+03	5.1E+04			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.4E+02	3.4E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.4E+06												x	x				
79-00-5	1,1,2-Trichloroethane		8.3E+02	6.8E+03			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.5E+04											x						
75-34-3	1,1-Dichloroethane		8.4E+03	3.4E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.5E+04							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.6E+03	1.5E+04			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		4.7E+01	3.3E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.1E+04											x						
107-06-2	1,2-Dichloroethane		5.2E+02	3.4E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.4E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.4E+04				x								x			x		
78-87-5	1,2-Dichloropropane		1.3E+03	6.1E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.0E+02				x													
106-99-0	1,3-Butadiene		1.4E+01	7.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.4E+02							x										
142-28-9	1,3-Dichloropropane		-	3.4E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.8E+02	5.1E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.0E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.8E+03	1.2E+05			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.0E+02				x													
123-91-1	1,4-Dioxane		2.9E+02	3.1E+04			x	x							x	x					
93-76-5	2,4,5-T		-	1.0E+04						x					x			x			
93-72-1	2,4,5-TP		-	8.2E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		1.0E+06	1.0E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		2.6E+03	1.0E+03			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		9.6E+02	5.1E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	3.1E+03										x							
105-67-9	2,4-Dimethylphenol		-	2.1E+04				x													
51-28-5	2,4-Dinitrophenol		-	2.1E+03								x									
121-14-2	2,4-Dinitrotoluene		9.3E+01	2.1E+03			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	6.2E+02				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.2E+01	1.0E+03			x	x								x	x				

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-3 (1 ft)

95-57-8	2-Chlorophenol		-	8.5E+03								x			
95-48-7	2-Cresol		-	5.1E+04								x			
91-57-6	2-Methylnaphthalene		-	3.6E+03									x		
91-94-1	3,3-Dichlorobenzidine		6.4E+01	-			x							x	
108-39-4	3-Cresol		-	5.1E+04							x		x		
106-47-8	4-Chloroaniline		1.4E+02	5.1E+02			x	x							
106-44-5	4-Cresol		-	5.1E+03							x		x		
83-32-9	Acenaphthene		-	5.4E+04						x			x		
208-96-8	Acenaphthylene		-	5.5E+04						x			x		
67-64-1	Acetone		-	1.5E+06				x			x				
75-05-8	Acetonitrile		-	2.2E+05				x							
107-02-8	Acrolein		-	8.5E+02			x	x					x		
107-13-1	Acrylonitrile		8.8E+01	1.7E+03			x	x				x	x	x	
15972-60-8	Alachlor		5.1E+02	1.0E+04			x	x						x	
309-00-2	Aldrin		1.7E+00	3.1E+01			x				x	x			
107-05-1	Allyl chloride		2.3E+03	1.4E+05			x						x		
7429-90-5	Aluminum		-	1.7E+06									x		
120-12-7	Anthracene		-	1.6E+05				x			x	x		x	
7440-36-0	Antimony		-	6.8E+02				x							
12674-11-2	Aroclor 1016		1.2E+01	6.2E+01			x	x					x		
7440-38-2	Arsenic	13.00	4.2E+00	4.3E+02	3.1E-05	0.03	x		x	x		x		x	x	
1912-24-9	Atrazine		1.2E+02	1.0E+03			x	x	x		x			x	
7440-39-3	Barium		-	3.4E+05							x				
71-43-2	Benzene		8.7E+02	8.5E+02			x	x					x		
65-85-0	Benzoic acid		-	4.1E+06											x
56-55-3	Benzo(a)anthracene		3.5E+01	3.7E+04			x				x	x			
50-32-8	Benzo(a)pyrene		3.5E+00	3.7E+04			x				x	x			
205-99-2	Benzo(b)fluoranthene		3.5E+01	3.7E+04			x				x	x			
191-24-2	Benzo(g,h,i)perylene		-	2.8E+04							x	x			
207-08-9	Benzo(k)fluoranthene		3.5E+02	3.7E+04			x				x	x			
100-44-7	Benzyl chloride		2.8E+02	3.4E+03			x				x	x	x	x	
7440-41-7	Beryllium		4.6E+05	3.4E+03			x		x	x				x	x
111-44-4	Bis(2-chloroethyl)ether		2.6E+01	-			x								
117-81-7	Bis(2-Ethylhexyl)phthalate		2.1E+03	6.2E+04			x		x	x			x		
75-27-4	Bromodichloromethane		7.7E+02	3.4E+04			x				x	x			
75-25-2	Bromoform		3.6E+03	2.1E+04			x					x		x	
74-83-9	Bromomethane		-	2.4E+03					x				x	x	
85-68-7	Butyl benzyl phthalate		1.5E+04	2.1E+05			x		x	x		x	x		
7440-43-9	Cadmium	74.80	6.2E+05	9.4E+01	1.2E-09	0.79	x					x	x	x	
86-74-8	Carbazole		1.4E+03	-			x								
75-15-0	Carbon disulfide		-	1.7E+05				x	x		x		x	x	
56-23-5	Carbon tetrachloride		6.8E+02	6.8E+03			x					x	x		

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Project Name	50 India Street
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Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-3 (1 ft)

57-74-9	Chlordane		1.1E+02	6.7E+02			x			x	x		x	x			
115-28-6	Chlorendic acid		3.2E+02	-			x										
108-90-7	Chlorobenzene		-	3.4E+04								x	x	x		x	
67-66-3	Chloroform		1.5E+03	1.7E+04			x						x				
74-87-3	Chloromethane		-	3.4E+06				x	x				x	x	x		
16065-83-1	Chromium (+3)		-	2.6E+06									x				
18540-29-9	Chromium (+6)		9.3E+04	5.1E+03			x			x		x			x	x	
218-01-9	Chrysene		3.5E+03	1.8E+04			x	x				x	x		x	x	
7440-48-4	Cobalt		1.2E+05	5.1E+02			x	x	x	x		x			x	x	x
7440-50-8	Copper		-	2.4E+04								x	x				
57-12-5	Cyanide		-	1.0E+03							x		x		x		
72-54-8	DDD		1.2E+02	5.1E+02			x			x	x		x	x	x	x	
72-55-9	DDE		8.5E+01	5.1E+02			x			x	x		x	x		x	
50-29-3	DDT		1.2E+02	7.1E+02			x			x	x		x	x		x	
53-70-3	Dibenz(a,h)anthracene		3.5E+00	2.8E+04			x						x				
132-64-9	Dibenzofuran		-	1.0E+03									x				
124-48-1	Dibromochloromethane		5.6E+02	3.4E+04			x						x	x			
84-74-2	Dibutyl phthalate		-	1.0E+05						x	x					x	
75-71-8	Dichlorodifluoromethane		-	3.4E+05										x			
84-66-2	Diethyl phthalate		-	8.2E+05							x			x		x	
60-57-1	Dieldrin		1.8E+00	5.1E+01			x						x	x	x		
88-85-7	Dinoseb		-	1.0E+03												x	
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-04	1.0E-03			x			x	x	x	x	x	x	x	
115-29-7	Endosulfan		-	6.2E+03					x		x		x	x	x	x	
72-20-8	Endrin		-	3.1E+02						x			x	x	x		
100-41-4	Ethylbenzene		4.3E+03	1.7E+05			x			x			x	x	x		
106-93-4	Ethylene dibromide		2.4E+01	1.5E+04			x			x	x			x		x	x
75-00-3	Ethyl chloride		-	1.7E+04						x							
206-44-0	Fluoranthene		-	3.7E+04									x	x			
86-73-7	Fluorene		-	3.7E+04				x						x			x
76-44-8	Heptachlor		6.4E+00	1.0E+01			x			x			x	x			
1024-57-3	Heptachlor epoxide		3.2E+00	1.3E+01			x							x			
118-74-1	Hexachlorobenzene		1.8E+01	8.2E+02			x				x		x		x		
87-68-3	Hexachlorobutadiene		3.7E+02	1.0E+03			x						x	x	x		
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		4.6E+00	8.2E+03			x							x			
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.6E+01	6.2E+01			x							x	x		
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.4E+01	5.4E+00			x			x	x		x	x			
67-72-1	Hexachloroethane		7.2E+02	7.2E+02			x						x	x	x		
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		2.6E+02	3.1E+03			x								x	x	
193-39-5	Indeno(1,2,3-cd)pyrene		3.5E+01	3.7E+04			x						x	x			
7439-89-6	Iron		-	1.2E+06								x	x				
121-75-5	Malathion		-	2.1E+04											x		x

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Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-3 (1 ft)

7439-96-5	Manganese		-	4.0E+04							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	5.1E+02						x	x				
72-43-5	Methoxychlor		-	5.1E+03				x	x			x				
78-93-3	Methyl ethyl ketone		-	1.0E+06				x								
108-10-1	Methyl isobutyl ketone		-	1.4E+05				x				x	x			
80-62-6	Methyl methacrylate		-	2.4E+06							x	x			x	x
1634-04-4	Methyl tert-butyl ether		2.6E+04	5.1E+04			x			x			x	x	x		
75-09-2	Methylene chloride		2.4E+04	1.0E+04			x							x	x		x	
7439-98-7	Molybdenum		-	8.5E+03									x				
106-94-5	n-Propyl bromide		-	1.4E+03				x			x				x	x	x	
91-20-3	Naphthalene		5.2E+06	1.8E+04			x	x					x	x		x		x	
7440-02-0	Nickel		4.3E+06	5.1E+03			x						x	x			x	x	
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	5.1E+04										x	x				
117-84-0	Octyl Phthalate, di-n-		-	1.2E+04						x			x	x					
56-38-2	Parathion		-	6.2E+03											x				
1336-36-3	PCBs		1.2E+01	1.8E+01			x			x			x		x	x		x	
87-86-5	Pentachlorophenol		4.5E+01	3.2E+03			x			x	x			x	x	x	x	x	
14797-73-0	Perchlorate		-	2.0E+02						x									
85-01-8	Phenanthrene		-	2.7E+04									x				x		
108-95-2	Phenol		-	3.1E+05										x	x	x			
129-00-0	Pyrene		-	2.8E+04									x						
7782-49-2	Selenium		-	8.5E+03				x	x		x		x		x	x		x	
7440-22-4	Silver		-	8.5E+03														x	
100-42-5	Styrene		-	3.4E+05			x			x				x	x				
127-18-4	Tetrachloroethene		2.3E+04	1.0E+04			x			x				x	x				
298-02-2	Thimet (Phorate)		-	2.1E+02											x				
108-88-3	Toluene		-	1.4E+05									x	x		x			
79-01-6	Trichloroethene		1.0E+03	8.5E+02			x			x			x	x		x			
75-69-4	Trichlorofluoromethane		-	5.1E+05				x						x			x		
7440-62-2	Vanadium		-	1.2E+04				x			x	x	x				x		
108-05-4	Vinyl acetate		-	1.7E+06									x				x		

RAGS Workbook
Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-3 (1 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	1.9E+07																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.7E+04	9.3E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.2E+03	1.5E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	1.7E+06												x	x				
79-00-5	1,1,2-Trichloroethane		5.4E+03	1.2E+04			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	1.5E+04											x						
75-34-3	1,1-Dichloroethane		7.6E+04	5.9E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	1.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	4.2E+02							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.5E+04	4.3E+02			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		5.1E+01	2.7E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	1.5E+05											x						
107-06-2	1,2-Dichloroethane		3.7E+03	5.7E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	6.2E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	5.9E+04				x								x			x		
78-87-5	1,2-Dichloropropane		8.7E+03	5.5E+03			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	2.4E+02				x													
106-99-0	1,3-Butadiene		1.3E+02	1.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	6.2E+03							x										
142-28-9	1,3-Dichloropropane		-	6.2E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.3E+03	1.2E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.2E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.0E+04	2.1E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	2.4E+02				x													
123-91-1	1,4-Dioxane		3.3E+03	7.1E+03			x	x							x	x					
93-76-5	2,4,5-T		-	2.4E+04						x					x			x			
93-72-1	2,4,5-TP		-	1.9E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		6.1E+05	2.4E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		3.0E+04	2.4E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		1.1E+04	1.2E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	7.1E+02										x							
105-67-9	2,4-Dimethylphenol		-	1.2E+04				x													
51-28-5	2,4-Dinitrophenol		-	4.8E+03								x									
121-14-2	2,4-Dinitrotoluene		1.1E+03	4.8E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	1.4E+03				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.9E+02	9.5E+02			x	x								x	x				

RAGS Workbook
Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-3 (1 ft)

95-57-8	2-Chlorophenol		-	2.5E+03								x			
95-48-7	2-Cresol		-	2.4E+04							x				
91-57-6	2-Methylnaphthalene		-	6.0E+02									x		
91-94-1	3,3-Dichlorobenzidine		7.4E+02	-			x							x	
108-39-4	3-Cresol		-	2.4E+04							x		x		
106-47-8	4-Chloroaniline		1.7E+03	1.2E+02			x	x							
106-44-5	4-Cresol		-	2.4E+04							x		x		
83-32-9	Acenaphthene		-	9.8E+03						x			x		
208-96-8	Acenaphthylene		-	6.5E+04						x			x		
67-64-1	Acetone		-	6.2E+05				x		x					
75-05-8	Acetonitrile		-	3.2E+03				x							
107-02-8	Acrolein		-	1.2E+03			x	x					x		
107-13-1	Acrylonitrile		8.0E+02	3.1E+03			x	x			x	x	x		
15972-60-8	Alachlor		6.0E+03	2.4E+03			x	x						x	
309-00-2	Aldrin		2.0E+01	9.5E+00			x	x		x	x				
107-05-1	Allyl chloride		2.1E+04	1.0E+04			x	x				x			
7429-90-5	Aluminum		-	3.1E+05				x				x			
120-12-7	Anthracene		-	3.8E+03				x		x	x		x		
7440-36-0	Antimony		-	1.2E+02				x							
12674-11-2	Aroclor 1016		1.5E+02	4.6E+01			x	x	x			x			
7440-38-2	Arsenic	13.00	4.2E+01	8.5E+01	3.1E-06	0.15	x		x	x		x	x	x	
1912-24-9	Atrazine		1.5E+03	7.1E+02			x	x	x		x			x	
7440-39-3	Barium		-	6.2E+04						x					
71-43-2	Benzene		7.9E+03	1.5E+02			x	x			x				
65-85-0	Benzoic acid		-	7.2E+05											x
56-55-3	Benzo(a)anthracene		4.3E+02	1.0E+15			x			x	x				
50-32-8	Benzo(a)pyrene		4.3E+01	1.0E+15			x			x	x				
205-99-2	Benzo(b)fluoranthene		4.3E+02	1.0E+15			x			x	x				
191-24-2	Benzo(g,h,i)perylene		-	6.7E+04						x	x				
207-08-9	Benzo(k)fluoranthene		4.3E+03	1.0E+15			x			x	x				
100-44-7	Benzyl chloride		2.6E+03	6.2E+02			x			x	x	x		x	
7440-41-7	Beryllium		3.5E+06	6.2E+02			x		x	x				x	x
111-44-4	Bis(2-chloroethyl)ether		2.5E+02	3.6E+04			x								
117-81-7	Bis(2-Ethylhexyl)phthalate		2.4E+04	2.4E+04			x		x	x			x		
75-27-4	Bromodichloromethane		7.0E+03	6.2E+03			x			x	x				
75-25-2	Bromoform		3.7E+04	4.8E+04			x				x			x	
74-83-9	Bromomethane		-	9.3E+02					x			x		x	
85-68-7	Butyl benzyl phthalate		1.8E+05	4.8E+05			x		x	x	x	x			
7440-43-9	Cadmium	74.80	4.6E+06	1.9E+01	1.6E-10	3.86	x					x	x		
86-74-8	Carbazole		1.7E+04	-			x								
75-15-0	Carbon disulfide		-	3.1E+04				x	x		x		x	x	
56-23-5	Carbon tetrachloride		5.6E+03	2.8E+03			x					x	x		

RAGS Workbook
Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-3 (1 ft)

57-74-9	Chlordane		1.1E+03	1.7E+02			x			x	x			x	x			
115-28-6	Chlorendic acid		3.7E+03	-			x											
108-90-7	Chlorobenzene		-	1.1E+05								x		x	x		x	
67-66-3	Chloroform		1.2E+04	2.9E+04			x								x			
74-87-3	Chloromethane		-	5.7E+05				x	x						x	x	x	
16065-83-1	Chromium (+3)		-	4.6E+05											x			
18540-29-9	Chromium (+6)		6.9E+05	2.8E+03			x			x		x					x	x
218-01-9	Chrysene		4.3E+04	1.3E+05			x	x					x	x		x		x
7440-48-4	Cobalt		9.3E+05	9.2E+02			x	x	x	x			x			x		x
7440-50-8	Copper		-	4.3E+03								x		x				
57-12-5	Cyanide		-	1.9E+03							x			x		x		
72-54-8	DDD		1.4E+03	1.2E+02			x			x	x			x	x	x	x	
72-55-9	DDE		9.8E+02	1.2E+02			x			x	x			x	x		x	
50-29-3	DDT		1.2E+03	1.4E+02			x			x	x			x	x		x	
53-70-3	Dibenz(a,h)anthracene		4.3E+01	6.7E+04			x							x				
132-64-9	Dibenzofuran		-	9.5E+02										x				
124-48-1	Dibromochloromethane		4.3E+03	6.2E+04			x							x	x			
84-74-2	Dibutyl phthalate		-	2.4E+04						x	x						x	
75-71-8	Dichlorodifluoromethane		-	6.2E+04											x			
84-66-2	Diethyl phthalate		-	1.4E+06							x				x		x	
60-57-1	Dieldrin		2.1E+01	2.4E+01			x							x	x	x		
88-85-7	Dinoseb		-	2.4E+02													x	
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-03	5.7E-03			x			x	x		x	x	x	x	x	
115-29-7	Endosulfan		-	1.4E+03					x		x		x	x	x	x		
72-20-8	Endrin		-	4.8E+02						x				x	x	x		
100-41-4	Ethylbenzene		3.9E+04	1.2E+05			x			x				x	x	x		
106-93-4	Ethylene dibromide		1.8E+02	1.7E+03			x			x	x				x		x	x
75-00-3	Ethyl chloride		-	3.1E+04						x								
206-44-0	Fluoranthene		-	8.9E+04										x	x			
86-73-7	Fluorene		-	6.1E+04				x							x			x
76-44-8	Heptachlor		7.4E+01	2.4E+01			x			x				x	x			
1024-57-3	Heptachlor epoxide		3.7E+01	3.1E+00			x								x			
118-74-1	Hexachlorobenzene		2.1E+02	1.9E+02			x				x		x		x		x	
87-68-3	Hexachlorobutadiene		4.3E+03	2.4E+02			x							x	x	x		
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		5.3E+01	1.9E+03			x								x			
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.9E+02	1.4E+02			x								x	x		
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.5E+02	2.8E+00			x			x	x			x	x			
67-72-1	Hexachloroethane		8.3E+03	2.4E+03			x							x	x	x		
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		3.0E+03	7.1E+03			x									x	x	
193-39-5	Indeno(1,2,3-cd)pyrene		4.3E+02	8.9E+04			x							x	x			
7439-89-6	Iron		-	2.2E+05								x		x				
121-75-5	Malathion		-	4.8E+03												x		x

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Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-3 (1 ft)

7439-96-5	Manganese		-	7.4E+03							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	9.3E+02					x	x					
72-43-5	Methoxychlor		-	1.2E+03				x	x			x	x		
78-93-3	Methyl ethyl ketone		-	1.9E+05				x							
108-10-1	Methyl isobutyl ketone		-	2.5E+05				x				x	x		
80-62-6	Methyl methacrylate		-	4.3E+05						x	x			x	x
1634-04-4	Methyl tert-butyl ether		2.4E+05	9.3E+04			x		x			x	x	x	
75-09-2	Methylene chloride		2.2E+05	1.9E+04			x						x	x	
7439-98-7	Molybdenum		-	1.5E+03							x				
106-94-5	n-Propyl bromide		-	7.1E+02				x		x			x	x	x
91-20-3	Naphthalene		8.3E+06	1.1E+05			x	x			x	x		x	
7440-02-0	Nickel		3.2E+07	9.3E+02			x				x	x		x	x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	1.2E+04								x	x		
117-84-0	Octyl Phthalate, di-n-		-	2.9E+03				x				x	x		
56-38-2	Parathion		-	1.4E+03									x		
1336-36-3	PCBs		1.5E+02	6.5E+00			x		x				x	x	x
87-86-5	Pentachlorophenol		6.2E+02	8.8E+02			x	x	x			x	x	x	x
14797-73-0	Perchlorate		-	3.7E+01					x						
85-01-8	Phenanthrene		-	8.9E+03							x			x	
108-95-2	Phenol		-	7.1E+04								x	x	x	
129-00-0	Pyrene		-	6.7E+04							x				
7782-49-2	Selenium		-	1.5E+03			x	x		x		x		x	x
7440-22-4	Silver		-	1.5E+03											x
100-42-5	Styrene		-	6.2E+05		x			x				x	x	
127-18-4	Tetrachloroethene		2.0E+05	2.7E+04		x		x					x	x	
298-02-2	Thimet (Phorate)		-	4.8E+01										x	
108-88-3	Toluene		-	2.5E+05							x	x		x	
79-01-6	Trichloroethene		9.0E+03	1.4E+02		x		x			x	x		x	
75-69-4	Trichlorofluoromethane		-	9.2E+04			x					x			x
7440-62-2	Vanadium		-	2.2E+03		x				x	x	x			x
108-05-4	Vinyl acetate		-	3.1E+05								x			x

Soil Input Sheet and
Summary of Total Incremental Lifetime Cancer Risks
and Endpoint-Specific Hazard Indices

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Input Sheet

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Exposure Point Conc No.	Sample B-4 (1.5 ft)

CAS No.	Compound	Soil Conc (mg/kg)
	Napthalene	0.00
91-57-6	2-Methylnaphthalene	
85-01-8	Phenanthrene	
208-96-8	Acenaphthylene	
83-32-9	Acenaphthene	
120-12-7	Anthracene	
56-55-3	Benzo(a)anthracene	
50-32-8	Benzo(a)pyrene	
	Benzo(b)fluoranthene	
191-24-2	Benzo(g,h,i)perylene	
	Benzo(k)fluoranthene	
	Chrysene	
	Dibenzo(a,h)anthracene	
206-44-0	Fluoranthene	
86-73-7	Fluorene	
132-64-9	Dibenzofuran	
86-74-8	Carbazole	
117-81-7	Bis(2-Ethylhexyl)Phthalate	
	Indeno(1,2,3-cd)pyrene	
129-00-0	Pyrene	
7440-38-2	Arsenic	17.40
7440-39-3	Barium	
7440-43-9	Cadmium	0.47
	Chromium	25.00
7439-92-1	Lead	235.00
	Mercury (ug/g)	2.18
	Selenium	
7440-22-4	Silver	

	Residential	Park/Rec	Commercial	Construction
	ILCR			
Cancer	1.3E-04	7.6E-05	4.1E-05	4.1E-06
	HQ			
Blood	0.00	0.00	0.00	0.00
Cardio	0.37	0.22	0.04	0.20
Dev	0.37	0.22	0.04	0.20
Endo	0.00	0.00	0.00	0.00
Eye	0.00	0.00	0.00	0.00
Gastro	0.37	0.22	0.04	0.20
Immune	0.04	0.03	0.01	0.02
Kidney	0.41	0.25	0.05	0.23
Liver	0.37	0.22	0.04	0.20
Nervous	0.00	0.00	0.00	0.00
Reprod	0.00	0.00	0.00	0.00
Resp	0.04	0.03	0.01	0.02
Skin	0.37	0.22	0.04	0.20
Other	0.00	0.00	0.00	0.00

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-4 (1.5 ft)

CAS No.	Compound	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	2.16E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		5.46E+02	5.11E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		7.10E+01	3.41E+03			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.41E+05												x	x				
79-00-5	1,1,2-Trichloroethane		2.48E+02	6.81E+02			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.52E+03											x						
75-34-3	1,1-Dichloroethane		2.49E+03	3.41E+04			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.52E+03												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.68E+03							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		4.89E+02	1.68E+03			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		3.26E+00	3.40E+01			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.11E+03											x						
107-06-2	1,2-Dichloroethane		1.56E+02	3.41E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.41E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.41E+03				x								x			x		
78-87-5	1,2-Dichloropropane		3.92E+02	1.36E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.33E+01				x													
106-99-0	1,3-Butadiene		4.17E+00	6.99E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.41E+01							x										
142-28-9	1,3-Dichloropropane		-	3.41E+03					x						x				x		
542-75-6	1,3-Dichloropropene		1.42E+02	5.11E+03			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.33E+01				x										x			
106-46-7	1,4-Dichlorobenzene		2.63E+03	1.19E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.33E+01				x													
123-91-1	1,4-Dioxane		1.08E+02	3.99E+03			x	x							x	x					
93-76-5	2,4,5-T		-	1.33E+03							x				x			x			
93-72-1	2,4,5-TP		-	1.06E+03							x					x		x			
95-95-4	2,4,5-Trichlorophenol		1.01E+06	1.33E+04											x	x					
88-06-2	2,4,6-Trichlorophenol		9.82E+02	1.33E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		3.60E+02	6.65E+01			x									x					
120-83-2	2,4-Dichlorophenol		-	3.99E+02										x							
105-67-9	2,4-Dimethylphenol		-	2.66E+03				x													
51-28-5	2,4-Dinitrophenol		-	2.66E+02								x									
121-14-2	2,4-Dinitrotoluene		3.48E+01	2.66E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	7.98E+01				x							x	x					
606-20-2	2,6-Dinitrotoluene		1.59E+01	1.33E+02			x	x								x	x				
95-57-8	2-Chlorophenol		-	8.52E+02														x			
95-48-7	2-Cresol		-	6.65E+03													x				
91-57-6	2-Methylnaphthalene		-	4.99E+02															x		
91-94-1	3,3-Dichlorobenzidine		2.40E+01	-			x							x						x	
108-39-4	3-Cresol		-	6.65E+03													x		x		
106-47-8	4-Chloroaniline		5.40E+01	6.65E+01			x	x													

Cancer	Blood	Cardiovascular

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Project Name	50 India Street
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Remediation No.	VRAP
Sample No.	Sample B-4 (1.5 ft)

106-44-5	4-Cresol		-	6.65E+02										x		x					
83-32-9	Acenaphthene		-	7.47E+03									x			x					
208-96-8	Acenaphthylene		-	7.49E+03									x			x					
67-64-1	Acetone		-	1.53E+05			x					x		x							
75-05-8	Acetonitrile		-	2.61E+05			x						x								
107-02-8	Acrolein		-	8.52E+01			x	x			x	x					x				
107-13-1	Acrylonitrile		2.63E+01	1.70E+02			x	x		x					x	x	x				
15972-60-8	Alachlor		1.93E+02	1.33E+03			x	x			x							x			
309-00-2	Aldrin		6.35E-01	3.99E+00			x			x			x	x							
107-05-1	Allyl chloride		6.76E+02	1.71E+05			x								x						
7429-90-5	Aluminum		-	1.70E+05						x					x						
120-12-7	Anthracene		-	3.48E+04							x			x	x		x				
7440-36-0	Antimony		-	6.81E+01							x										
12674-11-2	Aroclor 1016		4.93E+00	8.57E+00			x			x	x				x						
7440-38-2	Arsenic	17.40	1.37E+00	4.71E+01	1.3E-04	0.37	x		x	x			x		x	x			x		1.3E-04		0.37
1912-24-9	Atrazine		4.70E+01	1.33E+02			x	x	x		x		x				x		x		
7440-39-3	Barium		-	3.41E+04								x									
71-43-2	Benzene		2.58E+02	8.52E+01			x	x			x				x						
65-85-0	Benzoic acid		-	5.32E+05																x	
56-55-3	Benzo(a)anthracene		2.62E+00	5.00E+03			x					x	x								
50-32-8	Benzo(a)pyrene		2.62E-01	5.00E+03			x					x	x								
205-99-2	Benzo(b)fluoranthene		2.62E+00	5.00E+03			x					x	x								
191-24-2	Benzo(g,h,i)perylene		-	3.75E+03								x	x								
207-08-9	Benzo(k)fluoranthene		2.62E+01	5.00E+03			x					x	x								
100-44-7	Benzyl chloride		8.35E+01	3.41E+02			x					x	x	x		x					
7440-41-7	Beryllium		3.86E+05	3.41E+02			x				x	x				x	x				
111-44-4	Bis(2-chloroethyl)ether		9.80E+00	-			x														
117-81-7	Bis(2-Ethylhexyl)phthalate		7.72E+02	7.98E+03			x			x	x					x					
75-27-4	Bromodichloromethane		2.29E+02	3.41E+03			x					x	x								
75-25-2	Bromoform		1.37E+03	2.66E+03			x						x				x				
74-83-9	Bromomethane		-	2.38E+02							x				x		x				
85-68-7	Butyl benzyl phthalate		5.69E+03	2.66E+04			x			x	x			x	x						
7440-43-9	Cadmium	0.47	5.15E+05	1.07E+01	9.1E-12	0.04	x						x	x			x				9.1E-12		
86-74-8	Carbazole		5.40E+02	-			x														
75-15-0	Carbon disulfide		-	1.70E+04					x	x		x		x	x						
56-23-5	Carbon tetrachloride		2.03E+02	6.81E+02			x					x	x								
57-74-9	Chlordane		3.60E+01	7.66E+01			x			x	x		x	x							
115-28-6	Chlorendic acid		1.19E+02	-			x														
108-90-7	Chlorobenzene		-	3.41E+03							x		x	x		x					
67-66-3	Chloroform		4.57E+02	1.70E+03			x							x							
74-87-3	Chloromethane		-	4.06E+06					x	x				x	x	x					
16065-83-1	Chromium (+3)		-	2.56E+05										x							
18540-29-9	Chromium (+6)		3.05E+04	5.11E+02			x			x						x	x				
218-01-9	Chrysene		2.62E+02	2.50E+03			x	x				x	x		x		x				
7440-48-4	Cobalt		1.03E+05	5.11E+01			x	x	x	x			x		x		x	x			
7440-50-8	Copper		-	2.38E+03							x		x								
57-12-5	Cyanide		-	1.02E+02						x			x		x						
72-54-8	DDD		4.50E+01	6.65E+01			x			x	x		x	x	x	x					

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Residential Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-4 (1.5 ft)

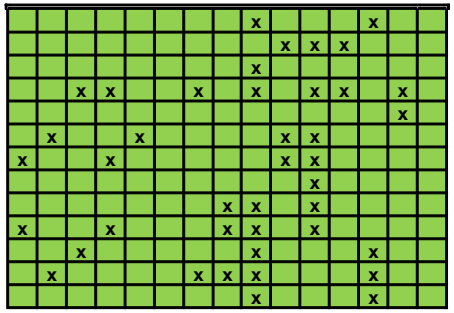
72-55-9	DDE		3.18E+01	6.65E+01			x			x	x			x	x		x		
50-29-3	DDT		3.82E+01	7.86E+01			x			x	x			x	x		x		
53-70-3	Dibenz(a,h)anthracene		2.62E-01	3.75E+03			x							x					
132-64-9	Dibenzofuran		-	1.33E+02										x					
124-48-1	Dibromochloromethane		1.69E+02	3.41E+03			x							x	x				
84-74-2	Dibutyl phthalate		-	1.33E+04						x	x						x		
75-71-8	Dichlorodifluoromethane		-	3.41E+04											x				
84-66-2	Diethyl phthalate		-	1.06E+05							x				x		x		
60-57-1	Dieldrin		6.75E-01	6.65E+00			x							x	x	x			
88-85-7	Dinoseb		-	1.33E+02													x		
1746-01-6	Dioxin-Like Compounds - TEQ		9.98E-05	1.10E-04			x			x	x			x	x	x	x		
115-29-7	Endosulfan		-	7.98E+02					x		x			x	x	x	x		
72-20-8	Endrin		-	3.99E+01						x				x	x	x			
100-41-4	Ethylbenzene		1.29E+03	1.70E+04			x			x				x	x	x			
106-93-4	Ethylene dibromide		7.09E+00	1.53E+03			x			x	x				x		x	x	
75-00-3	Ethyl chloride		-	1.70E+03						x									
206-44-0	Fluoranthene		-	5.00E+03										x	x				
86-73-7	Fluorene		-	4.99E+03				x							x			x	
76-44-8	Heptachlor		2.40E+00	1.33E+00			x			x				x	x				
1024-57-3	Heptachlor epoxide		1.19E+00	1.73E+00			x								x				
118-74-1	Hexachlorobenzene		6.75E+00	1.06E+02			x				x			x			x		
87-68-3	Hexachlorobutadiene		1.38E+02	1.33E+02			x							x	x	x			
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		1.71E+00	1.06E+03			x								x				
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		6.00E+00	7.98E+00			x								x	x			
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		1.15E+01	6.13E-01			x			x	x			x	x				
67-72-1	Hexachloroethane		2.70E+02	9.32E+01			x							x	x	x			
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		9.82E+01	3.99E+02			x									x	x		
193-39-5	Indeno(1,2,3-cd)pyrene		2.62E+00	5.00E+03			x							x	x				
7439-89-6	Iron		-	1.19E+05								x		x					
121-75-5	Malathion		-	2.66E+03												x		x	
7439-96-5	Manganese		-	4.08E+03												x			
7487-94-7	Mercuric chloride & other inorganic mercury compou		-	5.11E+01									x	x					
72-43-5	Methoxychlor		-	6.65E+02						x	x			x			x		
78-93-3	Methyl ethyl ketone		-	1.02E+05						x									
108-10-1	Methyl isobutyl ketone		-	1.36E+04						x				x	x				
80-62-6	Methyl methacrylate		-	2.38E+05								x	x					x	x
1634-04-4	Methyl tert-butyl ether		7.89E+03	5.11E+03			x				x			x	x	x			
75-09-2	Methylene chloride		7.10E+03	1.02E+03			x								x	x		x	
7439-98-7	Molybdenum		-	8.52E+02										x					
106-94-5	n-Propyl bromide		-	1.86E+02						x		x				x	x	x	
91-20-3	Naphthalene		4.90E+06	2.50E+03			x	x						x	x		x		
7440-02-0	Nickel		3.56E+06	5.11E+02			x							x	x			x	x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	6.65E+03											x	x			
117-84-0	Octyl Phthalate, di-n-		-	1.60E+03							x			x	x				
56-38-2	Parathion		-	7.98E+02												x			
1336-36-3	PCBs		4.93E+00	2.45E+00			x			x					x	x		x	
87-86-5	Pentachlorophenol		1.99E+01	5.01E+02			x			x	x			x	x	x	x		
14797-73-0	Perchlorate		-	2.04E+01						x									

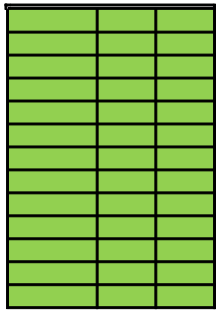
RAGS Workbook
Residential Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-4 (1.5 ft)

85-01-8	Phenanthrene		-	3.74E+03		
108-95-2	Phenol		-	3.99E+04		
129-00-0	Pyrene		-	3.75E+03		
7782-49-2	Selenium		-	8.52E+02		
7440-22-4	Silver		-	8.52E+02		
100-42-5	Styrene		-	3.41E+04		
127-18-4	Tetrachloroethene		6.76E+03	1.02E+03		
298-02-2	Thimet (Phorate)		-	2.66E+01		
108-88-3	Toluene		-	1.36E+04		
79-01-6	Trichloroethene		1.62E+02	8.51E+01		
75-69-4	Trichlorofluoromethane		-	5.11E+04		
7440-62-2	Vanadium		-	1.19E+03		
108-05-4	Vinyl acetate		-	1.70E+05		





RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

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Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-4 (1.5 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			1.8E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.8E+03	5.1E+04			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.4E+02	3.4E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.4E+06												x	x				
79-00-5	1,1,2-Trichloroethane		8.3E+02	6.8E+03			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.5E+04											x						
75-34-3	1,1-Dichloroethane		8.4E+03	3.4E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.5E+04							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.6E+03	1.5E+04			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		4.7E+01	3.3E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.1E+04											x						
107-06-2	1,2-Dichloroethane		5.2E+02	3.4E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.4E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.4E+04				x								x			x		
78-87-5	1,2-Dichloropropane		1.3E+03	6.1E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.0E+02				x													
106-99-0	1,3-Butadiene		1.4E+01	7.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.4E+02							x										
142-28-9	1,3-Dichloropropane		-	3.4E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.8E+02	5.1E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.0E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.8E+03	1.2E+05			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.0E+02				x													
123-91-1	1,4-Dioxane		2.9E+02	3.1E+04			x	x							x	x					
93-76-5	2,4,5-T		-	1.0E+04						x					x			x			
93-72-1	2,4,5-TP		-	8.2E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		1.0E+06	1.0E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		2.6E+03	1.0E+03			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		9.6E+02	5.1E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	3.1E+03										x							
105-67-9	2,4-Dimethylphenol		-	2.1E+04				x													
51-28-5	2,4-Dinitrophenol		-	2.1E+03								x									
121-14-2	2,4-Dinitrotoluene		9.3E+01	2.1E+03			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	6.2E+02				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.2E+01	1.0E+03			x	x								x	x				

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-4 (1.5 ft)

95-57-8	2-Chlorophenol		-	8.5E+03								x			
95-48-7	2-Cresol		-	5.1E+04								x			
91-57-6	2-Methylnaphthalene		-	3.6E+03									x		
91-94-1	3,3-Dichlorobenzidine		6.4E+01	-			x							x	
108-39-4	3-Cresol		-	5.1E+04							x		x		
106-47-8	4-Chloroaniline		1.4E+02	5.1E+02			x	x							
106-44-5	4-Cresol		-	5.1E+03							x		x		
83-32-9	Acenaphthene		-	5.4E+04						x			x		
208-96-8	Acenaphthylene		-	5.5E+04						x			x		
67-64-1	Acetone		-	1.5E+06				x			x				
75-05-8	Acetonitrile		-	2.2E+05				x							
107-02-8	Acrolein		-	8.5E+02			x	x	x				x		
107-13-1	Acrylonitrile		8.8E+01	1.7E+03			x	x			x	x	x		
15972-60-8	Alachlor		5.1E+02	1.0E+04			x	x						x	
309-00-2	Aldrin		1.7E+00	3.1E+01			x	x		x	x				
107-05-1	Allyl chloride		2.3E+03	1.4E+05			x	x				x			
7429-90-5	Aluminum		-	1.7E+06				x				x			
120-12-7	Anthracene		-	1.6E+05				x		x	x		x		
7440-36-0	Antimony		-	6.8E+02				x							
12674-11-2	Aroclor 1016		1.2E+01	6.2E+01			x	x	x			x			
7440-38-2	Arsenic	17.40	4.2E+00	4.3E+02	4.1E-05	0.04	x		x	x		x	x	x	
1912-24-9	Atrazine		1.2E+02	1.0E+03			x	x	x		x			x	
7440-39-3	Barium		-	3.4E+05						x					
71-43-2	Benzene		8.7E+02	8.5E+02			x	x			x				
65-85-0	Benzoic acid		-	4.1E+06											x
56-55-3	Benzo(a)anthracene		3.5E+01	3.7E+04			x			x	x				
50-32-8	Benzo(a)pyrene		3.5E+00	3.7E+04			x			x	x				
205-99-2	Benzo(b)fluoranthene		3.5E+01	3.7E+04			x			x	x				
191-24-2	Benzo(g,h,i)perylene		-	2.8E+04						x	x				
207-08-9	Benzo(k)fluoranthene		3.5E+02	3.7E+04			x			x	x				
100-44-7	Benzyl chloride		2.8E+02	3.4E+03			x			x	x	x	x		
7440-41-7	Beryllium		4.6E+05	3.4E+03			x		x	x			x	x	
111-44-4	Bis(2-chloroethyl)ether		2.6E+01	-			x								
117-81-7	Bis(2-Ethylhexyl)phthalate		2.1E+03	6.2E+04			x		x	x			x		
75-27-4	Bromodichloromethane		7.7E+02	3.4E+04			x			x	x				
75-25-2	Bromoform		3.6E+03	2.1E+04			x				x			x	
74-83-9	Bromomethane		-	2.4E+03					x			x		x	
85-68-7	Butyl benzyl phthalate		1.5E+04	2.1E+05			x		x	x		x	x		
7440-43-9	Cadmium	0.47	6.2E+05	9.4E+01	7.6E-12	0.00	x					x	x		
86-74-8	Carbazole		1.4E+03	-			x								
75-15-0	Carbon disulfide		-	1.7E+05				x	x		x		x	x	
56-23-5	Carbon tetrachloride		6.8E+02	6.8E+03			x					x	x		

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-4 (1.5 ft)

57-74-9	Chlordane		1.1E+02	6.7E+02			x			x	x		x	x			
115-28-6	Chlorendic acid		3.2E+02	-			x										
108-90-7	Chlorobenzene		-	3.4E+04							x		x	x		x	
67-66-3	Chloroform		1.5E+03	1.7E+04			x							x			
74-87-3	Chloromethane		-	3.4E+06				x	x					x	x	x	
16065-83-1	Chromium (+3)		-	2.6E+06										x			
18540-29-9	Chromium (+6)		9.3E+04	5.1E+03			x			x			x			x	x
218-01-9	Chrysene		3.5E+03	1.8E+04			x	x						x	x		
7440-48-4	Cobalt		1.2E+05	5.1E+02			x	x	x	x			x			x	x
7440-50-8	Copper		-	2.4E+04							x		x				
57-12-5	Cyanide		-	1.0E+03						x			x		x		
72-54-8	DDD		1.2E+02	5.1E+02			x			x	x		x	x	x	x	
72-55-9	DDE		8.5E+01	5.1E+02			x			x	x		x	x		x	
50-29-3	DDT		1.2E+02	7.1E+02			x			x	x		x	x		x	
53-70-3	Dibenz(a,h)anthracene		3.5E+00	2.8E+04			x						x				
132-64-9	Dibenzofuran		-	1.0E+03									x				
124-48-1	Dibromochloromethane		5.6E+02	3.4E+04			x						x	x			
84-74-2	Dibutyl phthalate		-	1.0E+05						x	x					x	
75-71-8	Dichlorodifluoromethane		-	3.4E+05										x			
84-66-2	Diethyl phthalate		-	8.2E+05						x				x		x	
60-57-1	Dieldrin		1.8E+00	5.1E+01			x						x	x	x		
88-85-7	Dinoseb		-	1.0E+03												x	
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-04	1.0E-03			x			x	x		x	x	x	x	
115-29-7	Endosulfan		-	6.2E+03					x		x		x	x	x		
72-20-8	Endrin		-	3.1E+02						x			x	x	x		
100-41-4	Ethylbenzene		4.3E+03	1.7E+05			x			x			x	x	x		
106-93-4	Ethylene dibromide		2.4E+01	1.5E+04			x			x	x			x		x	x
75-00-3	Ethyl chloride		-	1.7E+04						x							
206-44-0	Fluoranthene		-	3.7E+04									x	x			
86-73-7	Fluorene		-	3.7E+04				x						x			x
76-44-8	Heptachlor		6.4E+00	1.0E+01			x			x			x	x			
1024-57-3	Heptachlor epoxide		3.2E+00	1.3E+01			x							x			
118-74-1	Hexachlorobenzene		1.8E+01	8.2E+02			x				x		x		x		
87-68-3	Hexachlorobutadiene		3.7E+02	1.0E+03			x						x	x	x		
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		4.6E+00	8.2E+03			x							x			
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.6E+01	6.2E+01			x							x	x		
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.4E+01	5.4E+00			x			x	x		x	x			
67-72-1	Hexachloroethane		7.2E+02	7.2E+02			x						x	x	x		
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		2.6E+02	3.1E+03			x								x	x	
193-39-5	Indeno(1,2,3-cd)pyrene		3.5E+01	3.7E+04			x						x	x			
7439-89-6	Iron		-	1.2E+06								x	x				
121-75-5	Malathion		-	2.1E+04											x		x

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-4 (1.5 ft)

7439-96-5	Manganese		-	4.0E+04							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	5.1E+02						x	x				
72-43-5	Methoxychlor		-	5.1E+03				x	x			x				
78-93-3	Methyl ethyl ketone		-	1.0E+06				x								
108-10-1	Methyl isobutyl ketone		-	1.4E+05				x				x	x			
80-62-6	Methyl methacrylate		-	2.4E+06						x	x				x	x
1634-04-4	Methyl tert-butyl ether		2.6E+04	5.1E+04			x					x	x	x		
75-09-2	Methylene chloride		2.4E+04	1.0E+04			x						x	x	x	
7439-98-7	Molybdenum		-	8.5E+03								x				
106-94-5	n-Propyl bromide		-	1.4E+03				x			x			x	x	x
91-20-3	Naphthalene		5.2E+06	1.8E+04			x	x			x	x		x		x
7440-02-0	Nickel		4.3E+06	5.1E+03			x				x	x				x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	5.1E+04									x	x		
117-84-0	Octyl Phthalate, di-n-		-	1.2E+04					x			x	x			
56-38-2	Parathion		-	6.2E+03										x		
1336-36-3	PCBs		1.2E+01	1.8E+01			x				x			x	x	
87-86-5	Pentachlorophenol		4.5E+01	3.2E+03			x		x	x		x	x	x	x	x
14797-73-0	Perchlorate		-	2.0E+02					x							
85-01-8	Phenanthrene		-	2.7E+04								x				x
108-95-2	Phenol		-	3.1E+05									x	x	x	
129-00-0	Pyrene		-	2.8E+04								x				
7782-49-2	Selenium		-	8.5E+03				x	x		x			x	x	
7440-22-4	Silver		-	8.5E+03												x
100-42-5	Styrene		-	3.4E+05			x			x				x	x	
127-18-4	Tetrachloroethene		2.3E+04	1.0E+04			x			x				x	x	
298-02-2	Thimet (Phorate)		-	2.1E+02											x	
108-88-3	Toluene		-	1.4E+05								x	x		x	
79-01-6	Trichloroethene		1.0E+03	8.5E+02			x			x		x	x		x	
75-69-4	Trichlorofluoromethane		-	5.1E+05				x					x			x
7440-62-2	Vanadium		-	1.2E+04				x			x	x	x			x
108-05-4	Vinyl acetate		-	1.7E+06									x			x

RAGS Workbook
Excavation Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-4 (1.5 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	1.9E+07																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.7E+04	9.3E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.2E+03	1.5E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	1.7E+06												x	x				
79-00-5	1,1,2-Trichloroethane		5.4E+03	1.2E+04			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	1.5E+04											x						
75-34-3	1,1-Dichloroethane		7.6E+04	5.9E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	1.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	4.2E+02							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.5E+04	4.3E+02			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		5.1E+01	2.7E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	1.5E+05											x						
107-06-2	1,2-Dichloroethane		3.7E+03	5.7E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	6.2E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	5.9E+04				x								x			x		
78-87-5	1,2-Dichloropropane		8.7E+03	5.5E+03			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	2.4E+02				x													
106-99-0	1,3-Butadiene		1.3E+02	1.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	6.2E+03							x										
142-28-9	1,3-Dichloropropane		-	6.2E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.3E+03	1.2E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.2E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.0E+04	2.1E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	2.4E+02				x													
123-91-1	1,4-Dioxane		3.3E+03	7.1E+03			x	x							x	x					
93-76-5	2,4,5-T		-	2.4E+04						x					x			x			
93-72-1	2,4,5-TP		-	1.9E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		6.1E+05	2.4E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		3.0E+04	2.4E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		1.1E+04	1.2E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	7.1E+02										x							
105-67-9	2,4-Dimethylphenol		-	1.2E+04				x													
51-28-5	2,4-Dinitrophenol		-	4.8E+03								x									
121-14-2	2,4-Dinitrotoluene		1.1E+03	4.8E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	1.4E+03				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.9E+02	9.5E+02			x	x								x	x				

RAGS Workbook
Excavation Worker Exposure Scenario



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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-4 (1.5 ft)

95-57-8	2-Chlorophenol		-	2.5E+03								x				
95-48-7	2-Cresol		-	2.4E+04								x				
91-57-6	2-Methylnaphthalene		-	6.0E+02									x			
91-94-1	3,3-Dichlorobenzidine		7.4E+02	-			x							x		
108-39-4	3-Cresol		-	2.4E+04								x		x		
106-47-8	4-Chloroaniline		1.7E+03	1.2E+02			x	x								
106-44-5	4-Cresol		-	2.4E+04								x		x		
83-32-9	Acenaphthene		-	9.8E+03							x			x		
208-96-8	Acenaphthylene		-	6.5E+04							x			x		
67-64-1	Acetone		-	6.2E+05				x			x					
75-05-8	Acetonitrile		-	3.2E+03				x			x					
107-02-8	Acrolein		-	1.2E+03				x	x	x				x		
107-13-1	Acrylonitrile		8.0E+02	3.1E+03			x	x		x		x	x	x		
15972-60-8	Alachlor		6.0E+03	2.4E+03			x	x		x					x	
309-00-2	Aldrin		2.0E+01	9.5E+00			x			x	x					
107-05-1	Allyl chloride		2.1E+04	1.0E+04			x				x					
7429-90-5	Aluminum		-	3.1E+05						x		x				
120-12-7	Anthracene		-	3.8E+03					x		x	x		x		
7440-36-0	Antimony		-	1.2E+02					x							
12674-11-2	Aroclor 1016		1.5E+02	4.6E+01			x		x			x				
7440-38-2	Arsenic	17.40	4.2E+01	8.5E+01	4.1E-06	0.20	x		x	x		x		x	x	
1912-24-9	Atrazine		1.5E+03	7.1E+02			x	x	x		x		x		x	
7440-39-3	Barium		-	6.2E+04							x					
71-43-2	Benzene		7.9E+03	1.5E+02			x	x				x				
65-85-0	Benzoic acid		-	7.2E+05												x
56-55-3	Benzo(a)anthracene		4.3E+02	1.0E+15			x				x	x				
50-32-8	Benzo(a)pyrene		4.3E+01	1.0E+15			x				x	x				
205-99-2	Benzo(b)fluoranthene		4.3E+02	1.0E+15			x				x	x				
191-24-2	Benzo(g,h,i)perylene		-	6.7E+04							x	x				
207-08-9	Benzo(k)fluoranthene		4.3E+03	1.0E+15			x				x	x				
100-44-7	Benzyl chloride		2.6E+03	6.2E+02			x				x	x	x		x	
7440-41-7	Beryllium		3.5E+06	6.2E+02			x			x	x				x	x
111-44-4	Bis(2-chloroethyl)ether		2.5E+02	3.6E+04			x									
117-81-7	Bis(2-Ethylhexyl)phthalate		2.4E+04	2.4E+04			x			x	x			x		
75-27-4	Bromodichloromethane		7.0E+03	6.2E+03			x				x	x				
75-25-2	Bromoform		3.7E+04	4.8E+04			x					x			x	
74-83-9	Bromomethane		-	9.3E+02						x			x		x	
85-68-7	Butyl benzyl phthalate		1.8E+05	4.8E+05			x			x	x	x				
7440-43-9	Cadmium	0.47	4.6E+06	1.9E+01	1.0E-12	0.02	x						x	x		
86-74-8	Carbazole		1.7E+04	-			x									
75-15-0	Carbon disulfide		-	3.1E+04					x	x		x		x	x	
56-23-5	Carbon tetrachloride		5.6E+03	2.8E+03			x						x	x		

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Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-4 (1.5 ft)

57-74-9	Chlordane		1.1E+03	1.7E+02			x			x	x			x	x				
115-28-6	Chlorendic acid		3.7E+03	-			x												
108-90-7	Chlorobenzene		-	1.1E+05								x		x	x		x		
67-66-3	Chloroform		1.2E+04	2.9E+04			x								x				
74-87-3	Chloromethane		-	5.7E+05					x	x					x	x	x		
16065-83-1	Chromium (+3)		-	4.6E+05											x				
18540-29-9	Chromium (+6)		6.9E+05	2.8E+03			x			x		x					x	x	
218-01-9	Chrysene		4.3E+04	1.3E+05			x	x					x	x		x		x	
7440-48-4	Cobalt		9.3E+05	9.2E+02			x	x	x	x			x			x		x	x
7440-50-8	Copper		-	4.3E+03								x		x					
57-12-5	Cyanide		-	1.9E+03							x			x		x			
72-54-8	DDD		1.4E+03	1.2E+02			x			x	x			x	x	x	x		
72-55-9	DDE		9.8E+02	1.2E+02			x			x	x			x	x		x		
50-29-3	DDT		1.2E+03	1.4E+02			x			x	x			x	x		x		
53-70-3	Dibenz(a,h)anthracene		4.3E+01	6.7E+04			x							x					
132-64-9	Dibenzofuran		-	9.5E+02										x					
124-48-1	Dibromochloromethane		4.3E+03	6.2E+04			x							x	x				
84-74-2	Dibutyl phthalate		-	2.4E+04						x	x						x		
75-71-8	Dichlorodifluoromethane		-	6.2E+04											x				
84-66-2	Diethyl phthalate		-	1.4E+06							x				x		x		
60-57-1	Dieldrin		2.1E+01	2.4E+01			x							x	x	x			
88-85-7	Dinoseb		-	2.4E+02													x		
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-03	5.7E-03			x			x	x		x	x	x	x	x		
115-29-7	Endosulfan		-	1.4E+03					x		x		x	x	x	x			
72-20-8	Endrin		-	4.8E+02						x				x	x	x			
100-41-4	Ethylbenzene		3.9E+04	1.2E+05			x			x				x	x	x			
106-93-4	Ethylene dibromide		1.8E+02	1.7E+03			x			x	x				x		x	x	
75-00-3	Ethyl chloride		-	3.1E+04						x									
206-44-0	Fluoranthene		-	8.9E+04										x	x				
86-73-7	Fluorene		-	6.1E+04				x							x			x	
76-44-8	Heptachlor		7.4E+01	2.4E+01			x			x				x	x				
1024-57-3	Heptachlor epoxide		3.7E+01	3.1E+00			x								x				
118-74-1	Hexachlorobenzene		2.1E+02	1.9E+02			x				x		x		x		x		
87-68-3	Hexachlorobutadiene		4.3E+03	2.4E+02			x							x	x	x			
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		5.3E+01	1.9E+03			x								x				
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.9E+02	1.4E+02			x								x	x			
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.5E+02	2.8E+00			x			x	x		x	x					
67-72-1	Hexachloroethane		8.3E+03	2.4E+03			x							x	x	x			
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		3.0E+03	7.1E+03			x									x	x		
193-39-5	Indeno(1,2,3-cd)pyrene		4.3E+02	8.9E+04			x							x	x				
7439-89-6	Iron		-	2.2E+05								x		x					
121-75-5	Malathion		-	4.8E+03												x		x	

RAGS Workbook
Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-4 (1.5 ft)

7439-96-5	Manganese		-	7.4E+03							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	9.3E+02					x	x					
72-43-5	Methoxychlor		-	1.2E+03				x	x			x	x		
78-93-3	Methyl ethyl ketone		-	1.9E+05				x							
108-10-1	Methyl isobutyl ketone		-	2.5E+05				x				x	x		
80-62-6	Methyl methacrylate		-	4.3E+05						x	x			x	x
1634-04-4	Methyl tert-butyl ether		2.4E+05	9.3E+04			x		x			x	x	x	
75-09-2	Methylene chloride		2.2E+05	1.9E+04			x						x	x	
7439-98-7	Molybdenum		-	1.5E+03							x				
106-94-5	n-Propyl bromide		-	7.1E+02				x		x			x	x	x
91-20-3	Naphthalene		8.3E+06	1.1E+05			x	x			x	x		x	
7440-02-0	Nickel		3.2E+07	9.3E+02			x				x	x		x	x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	1.2E+04								x	x		
117-84-0	Octyl Phthalate, di-n-		-	2.9E+03				x				x	x		
56-38-2	Parathion		-	1.4E+03									x		
1336-36-3	PCBs		1.5E+02	6.5E+00			x		x				x	x	x
87-86-5	Pentachlorophenol		6.2E+02	8.8E+02			x		x	x		x	x	x	
14797-73-0	Perchlorate		-	3.7E+01					x						
85-01-8	Phenanthrene		-	8.9E+03							x			x	
108-95-2	Phenol		-	7.1E+04								x	x	x	
129-00-0	Pyrene		-	6.7E+04							x				
7782-49-2	Selenium		-	1.5E+03			x	x		x		x		x	x
7440-22-4	Silver		-	1.5E+03											x
100-42-5	Styrene		-	6.2E+05		x			x				x	x	
127-18-4	Tetrachloroethene		2.0E+05	2.7E+04		x			x				x	x	
298-02-2	Thimet (Phorate)		-	4.8E+01										x	
108-88-3	Toluene		-	2.5E+05							x	x		x	
79-01-6	Trichloroethene		9.0E+03	1.4E+02		x			x		x	x		x	
75-69-4	Trichlorofluoromethane		-	9.2E+04				x				x			x
7440-62-2	Vanadium		-	2.2E+03		x				x	x	x			x
108-05-4	Vinyl acetate		-	3.1E+05								x			x

Soil Input Sheet and
Summary of Total Incremental Lifetime Cancer Risks
and Endpoint-Specific Hazard Indices

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Date: 04/11/17

Input Sheet

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Exposure Point Conc No.	Sample B-5 (9.5 ft)

CAS No.	Compound	Soil Conc (mg/kg)
74-83-9	Bromomethane	
100-41-4	Ethylbenzene	
	1,2,3-Trichloropropane	
	Isopropylbenzene	
	N-Propylbenzene	
	1,3,5-Trimethylbenzene	
	tert-Buytlbenzene	
	sec-Buytlbenzene	
	P-Isopropyltoluene	
	N-Butlybenzene	
	1,2,4-Trimethylbenzene	
	Napthalene	
67-64-1	Acetone	0.03
	2-Butanone (MEK)	
	m+p-Xylenes	
	Total Xylenes	
75-15-0	Carbon Disulfide	0.00
117-81-7	Bis(2-Ethylhexyl)Phthalate	
	Indeno(1,2,3-cd)pyrene	
129-00-0	Pyrene	
7440-38-2	Arsenic	
7440-39-3	Barium	
7440-43-9	Cadmium	
	Chromium	
7439-92-1	Lead	
	Mercury (ug/g)	
	Selenium	
7440-22-4	Silver	
DEP2038	C5-C8 Aliphatics	
DEP2039	C9-C12 Aliphatics	
DEP2040	C9-C10 Aromatics	
DEP2043	C9-C18 Aliphatics	1200.00
DEP2042	C19-C36 Aliphatics	100.00
DEP2041	C11-C22 Aromatics	620.00
85-01-8	Phenanthrene	2.60
120-12-7	Anthracene	0.45
86-73-7	Fluorene	5.80

	Residential	Park/Rec	Commercial	Construction
	ILCR			
Cancer	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	HQ			
Blood	0.09	0.06	0.01	0.01
Cardio	0.00	0.00	0.00	0.00
Dev	0.00	0.00	0.00	0.00
Endo	0.00	0.00	0.00	0.00
Eye	0.00	0.00	0.00	0.00
Gastro	0.00	0.00	0.00	0.00
Immune	0.00	0.00	0.00	0.00
Kidney	0.17	0.10	0.02	0.01
Liver	0.09	0.06	0.01	0.01
Nervous	0.00	0.00	0.00	0.00
Reprod	0.00	0.00	0.00	0.00
Resp	0.00	0.00	0.00	0.00
Skin	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00

RAGS Workbook
Residential Exposure Scenario



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Inspections Division
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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-5 (9.5 ft)

CAS No.	Compound	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	2.16E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		5.46E+02	5.11E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		7.10E+01	3.41E+03			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.41E+05												x	x				
79-00-5	1,1,2-Trichloroethane		2.48E+02	6.81E+02			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.52E+03											x						
75-34-3	1,1-Dichloroethane		2.49E+03	3.41E+04			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.52E+03												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.68E+03							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		4.89E+02	1.68E+03			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		3.26E+00	3.40E+01			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.11E+03											x						
107-06-2	1,2-Dichloroethane		1.56E+02	3.41E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.41E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.41E+03				x								x			x		
78-87-5	1,2-Dichloropropane		3.92E+02	1.36E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.33E+01				x													
106-99-0	1,3-Butadiene		4.17E+00	6.99E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.41E+01							x										
142-28-9	1,3-Dichloropropane		-	3.41E+03					x						x				x		
542-75-6	1,3-Dichloropropene		1.42E+02	5.11E+03			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.33E+01				x										x			
106-46-7	1,4-Dichlorobenzene		2.63E+03	1.19E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.33E+01				x													
123-91-1	1,4-Dioxane		1.08E+02	3.99E+03			x	x							x	x					
93-76-5	2,4,5-T		-	1.33E+03							x				x			x			
93-72-1	2,4,5-TP		-	1.06E+03							x					x		x			
95-95-4	2,4,5-Trichlorophenol		1.01E+06	1.33E+04											x	x					
88-06-2	2,4,6-Trichlorophenol		9.82E+02	1.33E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		3.60E+02	6.65E+01			x									x					
120-83-2	2,4-Dichlorophenol		-	3.99E+02										x							
105-67-9	2,4-Dimethylphenol		-	2.66E+03				x													
51-28-5	2,4-Dinitrophenol		-	2.66E+02								x									
121-14-2	2,4-Dinitrotoluene		3.48E+01	2.66E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	7.98E+01				x							x	x					
606-20-2	2,6-Dinitrotoluene		1.59E+01	1.33E+02			x	x								x	x				
95-57-8	2-Chlorophenol		-	8.52E+02														x			
95-48-7	2-Cresol		-	6.65E+03													x				
91-57-6	2-Methylnaphthalene		-	4.99E+02															x		
91-94-1	3,3-Dichlorobenzidine		2.40E+01	-			x							x						x	
108-39-4	3-Cresol		-	6.65E+03													x		x		
106-47-8	4-Chloroaniline		5.40E+01	6.65E+01			x	x													

Cancer	Blood	Cardiovascular

RAGS Workbook
Residential Exposure Scenario



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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-5 (9.5 ft)

106-44-5	4-Cresol		-	6.65E+02									x		x			
83-32-9	Acenaphthene		-	7.47E+03								x			x			
208-96-8	Acenaphthylene		-	7.49E+03								x			x			
67-64-1	Acetone	0.03	-	1.53E+05		0.00		x					x		x				0.00	
75-05-8	Acetonitrile		-	2.61E+05				x					x							
107-02-8	Acrolein		-	8.52E+01				x	x							x				
107-13-1	Acrylonitrile		2.63E+01	1.70E+02			x	x		x					x	x	x			
15972-60-8	Alachlor		1.93E+02	1.33E+03			x	x			x			x				x		
309-00-2	Aldrin		6.35E-01	3.99E+00			x			x			x	x						
107-05-1	Allyl chloride		6.76E+02	1.71E+05			x								x					
7429-90-5	Aluminum		-	1.70E+05						x					x					
120-12-7	Anthracene	0.45	-	3.48E+04		0.00					x			x	x		x			
7440-36-0	Antimony		-	6.81E+01							x									
12674-11-2	Aroclor 1016		4.93E+00	8.57E+00			x			x	x				x					
7440-38-2	Arsenic		1.37E+00	4.71E+01			x		x	x		x		x	x			x		
1912-24-9	Atrazine		4.70E+01	1.33E+02			x	x	x		x					x		x		
7440-39-3	Barium		-	3.41E+04								x								
71-43-2	Benzene		2.58E+02	8.52E+01			x	x			x				x					
65-85-0	Benzoic acid		-	5.32E+05																x
56-55-3	Benzo(a)anthracene		2.62E+00	5.00E+03			x					x	x							
50-32-8	Benzo(a)pyrene		2.62E-01	5.00E+03			x					x	x							
205-99-2	Benzo(b)fluoranthene		2.62E+00	5.00E+03			x					x	x							
191-24-2	Benzo(g,h,i)perylene		-	3.75E+03								x	x							
207-08-9	Benzo(k)fluoranthene		2.62E+01	5.00E+03			x					x	x							
100-44-7	Benzyl chloride		8.35E+01	3.41E+02			x					x	x	x		x				
7440-41-7	Beryllium		3.86E+05	3.41E+02			x			x	x					x	x			
111-44-4	Bis(2-chloroethyl)ether		9.80E+00	-			x													
117-81-7	Bis(2-Ethylhexyl)phthalate		7.72E+02	7.98E+03			x			x	x					x				
75-27-4	Bromodichloromethane		2.29E+02	3.41E+03			x					x	x							
75-25-2	Bromoform		1.37E+03	2.66E+03			x						x			x				
74-83-9	Bromomethane		-	2.38E+02						x				x		x				
85-68-7	Butyl benzyl phthalate		5.69E+03	2.66E+04			x			x	x		x	x						
7440-43-9	Cadmium		5.15E+05	1.07E+01			x					x	x				x			
86-74-8	Carbazole		5.40E+02	-			x													
75-15-0	Carbon disulfide	0.00	-	1.70E+04		0.00			x	x		x			x	x				0.00
56-23-5	Carbon tetrachloride		2.03E+02	6.81E+02			x					x	x							
57-74-9	Chlordane		3.60E+01	7.66E+01			x			x	x		x	x						
115-28-6	Chlorendic acid		1.19E+02	-			x													
108-90-7	Chlorobenzene		-	3.41E+03						x		x	x		x					
67-66-3	Chloroform		4.57E+02	1.70E+03			x						x							
74-87-3	Chloromethane		-	4.06E+06					x	x			x	x	x					
16065-83-1	Chromium (+3)		-	2.56E+05									x							
18540-29-9	Chromium (+6)		3.05E+04	5.11E+02			x			x					x	x				
218-01-9	Chrysene		2.62E+02	2.50E+03			x	x			x	x		x		x				
7440-48-4	Cobalt		1.03E+05	5.11E+01			x	x	x	x		x			x		x	x		
7440-50-8	Copper		-	2.38E+03							x		x							
57-12-5	Cyanide		-	1.02E+02						x			x		x					
72-54-8	DDD		4.50E+01	6.65E+01			x			x	x		x	x	x	x				

RAGS Workbook
Residential Exposure Scenario



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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-5 (9.5 ft)

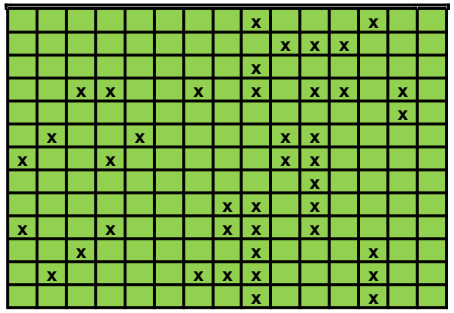
72-55-9	DDE		3.18E+01	6.65E+01			x			x	x			x	x		x					
50-29-3	DDT		3.82E+01	7.86E+01			x			x	x			x	x		x					
53-70-3	Dibenz(a,h)anthracene		2.62E-01	3.75E+03			x								x							
132-64-9	Dibenzofuran		-	1.33E+02											x							
124-48-1	Dibromochloromethane		1.69E+02	3.41E+03			x							x	x							
84-74-2	Dibutyl phthalate		-	1.33E+04						x	x						x					
75-71-8	Dichlorodifluoromethane		-	3.41E+04											x							
84-66-2	Diethyl phthalate		-	1.06E+05							x				x		x					
60-57-1	Dieldrin		6.75E-01	6.65E+00			x							x	x	x						
88-85-7	Dinoseb		-	1.33E+02													x					
1746-01-6	Dioxin-Like Compounds - TEQ		9.98E-05	1.10E-04			x			x	x			x	x	x	x					
115-29-7	Endosulfan		-	7.98E+02					x		x			x	x	x	x					
72-20-8	Endrin		-	3.99E+01						x				x	x	x						
100-41-4	Ethylbenzene		1.29E+03	1.70E+04			x			x				x	x	x						
106-93-4	Ethylene dibromide		7.09E+00	1.53E+03			x			x	x				x		x	x				
75-00-3	Ethyl chloride		-	1.70E+03						x												
206-44-0	Fluoranthene		-	5.00E+03										x	x							
86-73-7	Fluorene	5.80	-	4.99E+03		0.00		x							x			x			0.00	
76-44-8	Heptachlor		2.40E+00	1.33E+00			x			x				x	x							
1024-57-3	Heptachlor epoxide		1.19E+00	1.73E+00			x								x							
118-74-1	Hexachlorobenzene		6.75E+00	1.06E+02			x				x			x			x					
87-68-3	Hexachlorobutadiene		1.38E+02	1.33E+02			x							x	x	x						
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		1.71E+00	1.06E+03			x								x							
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		6.00E+00	7.98E+00			x								x	x						
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		1.15E+01	6.13E-01			x			x	x			x	x							
67-72-1	Hexachloroethane		2.70E+02	9.32E+01			x							x	x	x						
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		9.82E+01	3.99E+02			x									x	x					
193-39-5	Indeno(1,2,3-cd)pyrene		2.62E+00	5.00E+03			x							x	x							
7439-89-6	Iron		-	1.19E+05								x		x								
121-75-5	Malathion		-	2.66E+03												x		x				
7439-96-5	Manganese		-	4.08E+03												x						
7487-94-7	Mercuric chloride & other inorganic mercury compou		-	5.11E+01									x	x								
72-43-5	Methoxychlor		-	6.65E+02						x	x			x			x					
78-93-3	Methyl ethyl ketone		-	1.02E+05						x												
108-10-1	Methyl isobutyl ketone		-	1.36E+04						x				x	x							
80-62-6	Methyl methacrylate		-	2.38E+05								x	x					x	x			
1634-04-4	Methyl tert-butyl ether		7.89E+03	5.11E+03			x				x			x	x	x						
75-09-2	Methylene chloride		7.10E+03	1.02E+03			x								x	x		x				
7439-98-7	Molybdenum		-	8.52E+02										x								
106-94-5	n-Propyl bromide		-	1.86E+02						x		x				x	x	x				
91-20-3	Naphthalene		4.90E+06	2.50E+03			x	x					x	x		x		x				
7440-02-0	Nickel		3.56E+06	5.11E+02			x						x	x				x	x			
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	6.65E+03											x	x						
117-84-0	Octyl Phthalate, di-n-		-	1.60E+03							x			x	x							
56-38-2	Parathion		-	7.98E+02												x						
1336-36-3	PCBs		4.93E+00	2.45E+00			x				x				x	x			x			
87-86-5	Pentachlorophenol		1.99E+01	5.01E+02			x			x	x			x	x	x	x	x				
14797-73-0	Perchlorate		-	2.04E+01						x												

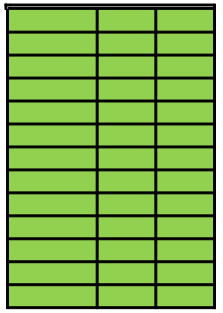
RAGS Workbook
Residential Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-5 (9.5 ft)

85-01-8	Phenanthrene	2.60	-	3.74E+03		0.00
108-95-2	Phenol		-	3.99E+04		
129-00-0	Pyrene		-	3.75E+03		
7782-49-2	Selenium		-	8.52E+02		
7440-22-4	Silver		-	8.52E+02		
100-42-5	Styrene		-	3.41E+04		
127-18-4	Tetrachloroethene		6.76E+03	1.02E+03		
298-02-2	Thimet (Phorate)		-	2.66E+01		
108-88-3	Toluene		-	1.36E+04		
79-01-6	Trichloroethene		1.62E+02	8.51E+01		
75-69-4	Trichlorofluoromethane		-	5.11E+04		
7440-62-2	Vanadium		-	1.19E+03		
108-05-4	Vinyl acetate		-	1.70E+05		





RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-5 (9.5 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			1.8E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.8E+03	5.1E+04			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.4E+02	3.4E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.4E+06												x	x				
79-00-5	1,1,2-Trichloroethane		8.3E+02	6.8E+03			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.5E+04											x						
75-34-3	1,1-Dichloroethane		8.4E+03	3.4E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.5E+04							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.6E+03	1.5E+04			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		4.7E+01	3.3E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.1E+04											x						
107-06-2	1,2-Dichloroethane		5.2E+02	3.4E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.4E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.4E+04				x								x			x		
78-87-5	1,2-Dichloropropane		1.3E+03	6.1E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.0E+02				x													
106-99-0	1,3-Butadiene		1.4E+01	7.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.4E+02							x										
142-28-9	1,3-Dichloropropane		-	3.4E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.8E+02	5.1E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.0E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.8E+03	1.2E+05			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.0E+02				x													
123-91-1	1,4-Dioxane		2.9E+02	3.1E+04			x	x							x	x					
93-76-5	2,4,5-T		-	1.0E+04						x					x			x			
93-72-1	2,4,5-TP		-	8.2E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		1.0E+06	1.0E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		2.6E+03	1.0E+03			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		9.6E+02	5.1E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	3.1E+03										x							
105-67-9	2,4-Dimethylphenol		-	2.1E+04				x													
51-28-5	2,4-Dinitrophenol		-	2.1E+03								x									
121-14-2	2,4-Dinitrotoluene		9.3E+01	2.1E+03			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	6.2E+02				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.2E+01	1.0E+03			x	x								x	x				

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
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Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-5 (9.5 ft)

95-57-8	2-Chlorophenol		-	8.5E+03								x				
95-48-7	2-Cresol		-	5.1E+04								x				
91-57-6	2-Methylnaphthalene		-	3.6E+03									x			
91-94-1	3,3-Dichlorobenzidine		6.4E+01	-			x			x					x	
108-39-4	3-Cresol		-	5.1E+04								x		x		
106-47-8	4-Chloroaniline		1.4E+02	5.1E+02			x	x								
106-44-5	4-Cresol		-	5.1E+03								x		x		
83-32-9	Acenaphthene		-	5.4E+04							x			x		
208-96-8	Acenaphthylene		-	5.5E+04							x			x		
67-64-1	Acetone	0.03	-	1.5E+06		0.00		x			x					
75-05-8	Acetonitrile		-	2.2E+05				x			x					
107-02-8	Acrolein		-	8.5E+02				x	x	x				x		
107-13-1	Acrylonitrile		8.8E+01	1.7E+03			x	x		x		x	x	x		
15972-60-8	Alachlor		5.1E+02	1.0E+04			x	x			x				x	
309-00-2	Aldrin		1.7E+00	3.1E+01			x		x			x	x			
107-05-1	Allyl chloride		2.3E+03	1.4E+05			x					x				
7429-90-5	Aluminum		-	1.7E+06					x			x				
120-12-7	Anthracene	0.45	-	1.6E+05		0.00				x		x	x		x	
7440-36-0	Antimony		-	6.8E+02						x						
12674-11-2	Aroclor 1016		1.2E+01	6.2E+01			x		x	x			x			
7440-38-2	Arsenic		4.2E+00	4.3E+02			x		x	x		x	x		x	
1912-24-9	Atrazine		1.2E+02	1.0E+03			x	x	x		x			x	x	
7440-39-3	Barium		-	3.4E+05								x				
71-43-2	Benzene		8.7E+02	8.5E+02			x	x			x		x			
65-85-0	Benzoic acid		-	4.1E+06												x
56-55-3	Benzo(a)anthracene		3.5E+01	3.7E+04			x					x	x			
50-32-8	Benzo(a)pyrene		3.5E+00	3.7E+04			x					x	x			
205-99-2	Benzo(b)fluoranthene		3.5E+01	3.7E+04			x					x	x			
191-24-2	Benzo(g,h,i)perylene		-	2.8E+04								x	x			
207-08-9	Benzo(k)fluoranthene		3.5E+02	3.7E+04			x					x	x			
100-44-7	Benzyl chloride		2.8E+02	3.4E+03			x					x	x	x	x	
7440-41-7	Beryllium		4.6E+05	3.4E+03			x			x	x				x	x
111-44-4	Bis(2-chloroethyl)ether		2.6E+01	-			x									
117-81-7	Bis(2-Ethylhexyl)phthalate		2.1E+03	6.2E+04			x		x	x				x		
75-27-4	Bromodichloromethane		7.7E+02	3.4E+04			x					x	x			
75-25-2	Bromoform		3.6E+03	2.1E+04			x						x		x	
74-83-9	Bromomethane		-	2.4E+03						x				x	x	
85-68-7	Butyl benzyl phthalate		1.5E+04	2.1E+05			x		x	x			x	x		
7440-43-9	Cadmium		6.2E+05	9.4E+01			x				x	x			x	
86-74-8	Carbazole		1.4E+03	-			x									
75-15-0	Carbon disulfide	0.00	-	1.7E+05		0.00			x	x		x		x	x	
56-23-5	Carbon tetrachloride		6.8E+02	6.8E+03			x					x	x			

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-5 (9.5 ft)

57-74-9	Chlordane		1.1E+02	6.7E+02			x			x	x		x	x			
115-28-6	Chlorendic acid		3.2E+02	-			x										
108-90-7	Chlorobenzene		-	3.4E+04								x	x	x		x	
67-66-3	Chloroform		1.5E+03	1.7E+04			x						x				
74-87-3	Chloromethane		-	3.4E+06				x	x				x	x	x		
16065-83-1	Chromium (+3)		-	2.6E+06									x				
18540-29-9	Chromium (+6)		9.3E+04	5.1E+03			x			x		x			x	x	
218-01-9	Chrysene		3.5E+03	1.8E+04			x	x				x	x		x	x	
7440-48-4	Cobalt		1.2E+05	5.1E+02			x	x	x	x		x			x	x	x
7440-50-8	Copper		-	2.4E+04								x	x				
57-12-5	Cyanide		-	1.0E+03							x		x		x		
72-54-8	DDD		1.2E+02	5.1E+02			x			x	x		x	x	x	x	
72-55-9	DDE		8.5E+01	5.1E+02			x			x	x		x	x		x	
50-29-3	DDT		1.2E+02	7.1E+02			x			x	x		x	x		x	
53-70-3	Dibenz(a,h)anthracene		3.5E+00	2.8E+04			x						x				
132-64-9	Dibenzofuran		-	1.0E+03									x				
124-48-1	Dibromochloromethane		5.6E+02	3.4E+04			x						x	x			
84-74-2	Dibutyl phthalate		-	1.0E+05						x	x					x	
75-71-8	Dichlorodifluoromethane		-	3.4E+05										x			
84-66-2	Diethyl phthalate		-	8.2E+05							x			x		x	
60-57-1	Dieldrin		1.8E+00	5.1E+01			x						x	x	x		
88-85-7	Dinoseb		-	1.0E+03												x	
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-04	1.0E-03			x			x	x		x	x	x	x	
115-29-7	Endosulfan		-	6.2E+03					x		x		x	x	x	x	
72-20-8	Endrin		-	3.1E+02						x			x	x	x		
100-41-4	Ethylbenzene		4.3E+03	1.7E+05			x			x			x	x	x		
106-93-4	Ethylene dibromide		2.4E+01	1.5E+04			x			x	x			x		x	x
75-00-3	Ethyl chloride		-	1.7E+04						x							
206-44-0	Fluoranthene		-	3.7E+04									x	x			
86-73-7	Fluorene	5.80	-	3.7E+04		0.00		x						x			x
76-44-8	Heptachlor		6.4E+00	1.0E+01			x			x			x	x			
1024-57-3	Heptachlor epoxide		3.2E+00	1.3E+01			x							x			
118-74-1	Hexachlorobenzene		1.8E+01	8.2E+02			x				x		x		x		
87-68-3	Hexachlorobutadiene		3.7E+02	1.0E+03			x						x	x	x		
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		4.6E+00	8.2E+03			x							x			
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.6E+01	6.2E+01			x							x	x		
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.4E+01	5.4E+00			x			x	x		x	x			
67-72-1	Hexachloroethane		7.2E+02	7.2E+02			x						x	x	x		
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		2.6E+02	3.1E+03			x								x	x	
193-39-5	Indeno(1,2,3-cd)pyrene		3.5E+01	3.7E+04			x						x	x			
7439-89-6	Iron		-	1.2E+06								x	x				
121-75-5	Malathion		-	2.1E+04											x		x

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-5 (9.5 ft)

7439-96-5	Manganese		-	4.0E+04							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	5.1E+02						x	x				
72-43-5	Methoxychlor		-	5.1E+03				x	x			x				
78-93-3	Methyl ethyl ketone		-	1.0E+06				x								
108-10-1	Methyl isobutyl ketone		-	1.4E+05				x				x	x			
80-62-6	Methyl methacrylate		-	2.4E+06						x	x				x	x
1634-04-4	Methyl tert-butyl ether		2.6E+04	5.1E+04			x					x	x	x		
75-09-2	Methylene chloride		2.4E+04	1.0E+04			x						x	x	x	
7439-98-7	Molybdenum		-	8.5E+03								x				
106-94-5	n-Propyl bromide		-	1.4E+03				x			x			x	x	x
91-20-3	Naphthalene		5.2E+06	1.8E+04			x	x			x	x		x		x
7440-02-0	Nickel		4.3E+06	5.1E+03			x				x	x				x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	5.1E+04									x	x		
117-84-0	Octyl Phthalate, di-n-		-	1.2E+04					x			x	x			
56-38-2	Parathion		-	6.2E+03										x		
1336-36-3	PCBs		1.2E+01	1.8E+01			x				x			x	x	
87-86-5	Pentachlorophenol		4.5E+01	3.2E+03			x		x	x		x	x	x	x	x
14797-73-0	Perchlorate		-	2.0E+02					x							
85-01-8	Phenanthrene	2.60	-	2.7E+04		0.00						x				x
108-95-2	Phenol		-	3.1E+05									x	x	x	
129-00-0	Pyrene		-	2.8E+04								x				
7782-49-2	Selenium		-	8.5E+03				x	x		x			x	x	
7440-22-4	Silver		-	8.5E+03												x
100-42-5	Styrene		-	3.4E+05				x		x				x	x	
127-18-4	Tetrachloroethene		2.3E+04	1.0E+04			x		x					x	x	
298-02-2	Thimet (Phorate)		-	2.1E+02											x	
108-88-3	Toluene		-	1.4E+05								x	x		x	
79-01-6	Trichloroethene		1.0E+03	8.5E+02			x		x			x	x		x	
75-69-4	Trichlorofluoromethane		-	5.1E+05					x				x			x
7440-62-2	Vanadium		-	1.2E+04				x		x	x	x				x
108-05-4	Vinyl acetate		-	1.7E+06								x				x

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Remediation No.	VRAP
Sample No.	Sample B-5 (9.5 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	1.9E+07																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.7E+04	9.3E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.2E+03	1.5E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	1.7E+06												x	x				
79-00-5	1,1,2-Trichloroethane		5.4E+03	1.2E+04			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	1.5E+04											x						
75-34-3	1,1-Dichloroethane		7.6E+04	5.9E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	1.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	4.2E+02							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.5E+04	4.3E+02			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		5.1E+01	2.7E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	1.5E+05											x						
107-06-2	1,2-Dichloroethane		3.7E+03	5.7E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	6.2E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	5.9E+04				x								x			x		
78-87-5	1,2-Dichloropropane		8.7E+03	5.5E+03			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	2.4E+02				x													
106-99-0	1,3-Butadiene		1.3E+02	1.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	6.2E+03							x										
142-28-9	1,3-Dichloropropane		-	6.2E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.3E+03	1.2E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.2E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.0E+04	2.1E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	2.4E+02				x													
123-91-1	1,4-Dioxane		3.3E+03	7.1E+03			x	x							x	x					
93-76-5	2,4,5-T		-	2.4E+04						x					x			x			
93-72-1	2,4,5-TP		-	1.9E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		6.1E+05	2.4E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		3.0E+04	2.4E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		1.1E+04	1.2E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	7.1E+02										x							
105-67-9	2,4-Dimethylphenol		-	1.2E+04				x													
51-28-5	2,4-Dinitrophenol		-	4.8E+03								x									
121-14-2	2,4-Dinitrotoluene		1.1E+03	4.8E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	1.4E+03				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.9E+02	9.5E+02			x	x								x	x				

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-5 (9.5 ft)

95-57-8	2-Chlorophenol		-	2.5E+03								x				
95-48-7	2-Cresol		-	2.4E+04							x					
91-57-6	2-Methylnaphthalene		-	6.0E+02									x			
91-94-1	3,3-Dichlorobenzidine		7.4E+02	-			x							x		
108-39-4	3-Cresol		-	2.4E+04							x		x			
106-47-8	4-Chloroaniline		1.7E+03	1.2E+02			x	x								
106-44-5	4-Cresol		-	2.4E+04							x		x			
83-32-9	Acenaphthene		-	9.8E+03						x			x			
208-96-8	Acenaphthylene		-	6.5E+04						x			x			
67-64-1	Acetone	0.03	-	6.2E+05		0.00		x			x					
75-05-8	Acetonitrile		-	3.2E+03				x								
107-02-8	Acrolein		-	1.2E+03				x	x	x			x			
107-13-1	Acrylonitrile		8.0E+02	3.1E+03			x	x			x	x	x			
15972-60-8	Alachlor		6.0E+03	2.4E+03			x	x		x				x		
309-00-2	Aldrin		2.0E+01	9.5E+00			x		x		x	x				
107-05-1	Allyl chloride		2.1E+04	1.0E+04			x						x			
7429-90-5	Aluminum		-	3.1E+05					x				x			
120-12-7	Anthracene	0.45	-	3.8E+03		0.00				x	x			x		
7440-36-0	Antimony		-	1.2E+02						x						
12674-11-2	Aroclor 1016		1.5E+02	4.6E+01			x		x	x			x			
7440-38-2	Arsenic		4.2E+01	8.5E+01			x		x	x	x	x			x	
1912-24-9	Atrazine		1.5E+03	7.1E+02			x	x	x		x			x	x	
7440-39-3	Barium		-	6.2E+04							x					
71-43-2	Benzene		7.9E+03	1.5E+02			x	x			x		x			
65-85-0	Benzoic acid		-	7.2E+05												x
56-55-3	Benzo(a)anthracene		4.3E+02	1.0E+15			x				x	x				
50-32-8	Benzo(a)pyrene		4.3E+01	1.0E+15			x				x	x				
205-99-2	Benzo(b)fluoranthene		4.3E+02	1.0E+15			x				x	x				
191-24-2	Benzo(g,h,i)perylene		-	6.7E+04							x	x				
207-08-9	Benzo(k)fluoranthene		4.3E+03	1.0E+15			x				x	x				
100-44-7	Benzyl chloride		2.6E+03	6.2E+02			x				x	x	x		x	
7440-41-7	Beryllium		3.5E+06	6.2E+02			x			x	x				x	x
111-44-4	Bis(2-chloroethyl)ether		2.5E+02	3.6E+04			x									
117-81-7	Bis(2-Ethylhexyl)phthalate		2.4E+04	2.4E+04			x		x	x				x		
75-27-4	Bromodichloromethane		7.0E+03	6.2E+03			x				x	x				
75-25-2	Bromoform		3.7E+04	4.8E+04			x					x			x	
74-83-9	Bromomethane		-	9.3E+02						x			x		x	
85-68-7	Butyl benzyl phthalate		1.8E+05	4.8E+05			x		x	x		x	x			
7440-43-9	Cadmium		4.6E+06	1.9E+01			x				x	x			x	
86-74-8	Carbazole		1.7E+04	-			x									
75-15-0	Carbon disulfide	0.00	-	3.1E+04		0.00			x	x		x	x			
56-23-5	Carbon tetrachloride		5.6E+03	2.8E+03			x				x	x				

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Project Name	50 India Street
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Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-5 (9.5 ft)

57-74-9	Chlordane		1.1E+03	1.7E+02			x			x	x		x	x			
115-28-6	Chlorendic acid		3.7E+03	-			x										
108-90-7	Chlorobenzene		-	1.1E+05								x	x	x			
67-66-3	Chloroform		1.2E+04	2.9E+04			x						x				
74-87-3	Chloromethane		-	5.7E+05				x	x				x	x	x		
16065-83-1	Chromium (+3)		-	4.6E+05									x				
18540-29-9	Chromium (+6)		6.9E+05	2.8E+03			x			x		x			x	x	
218-01-9	Chrysene		4.3E+04	1.3E+05			x	x				x	x		x	x	
7440-48-4	Cobalt		9.3E+05	9.2E+02			x	x	x	x		x			x	x	x
7440-50-8	Copper		-	4.3E+03								x	x				
57-12-5	Cyanide		-	1.9E+03						x			x		x		
72-54-8	DDD		1.4E+03	1.2E+02			x			x	x		x	x	x	x	
72-55-9	DDE		9.8E+02	1.2E+02			x			x	x		x	x		x	
50-29-3	DDT		1.2E+03	1.4E+02			x			x	x		x	x		x	
53-70-3	Dibenz(a,h)anthracene		4.3E+01	6.7E+04			x						x				
132-64-9	Dibenzofuran		-	9.5E+02									x				
124-48-1	Dibromochloromethane		4.3E+03	6.2E+04			x						x	x			
84-74-2	Dibutyl phthalate		-	2.4E+04						x	x					x	
75-71-8	Dichlorodifluoromethane		-	6.2E+04										x			
84-66-2	Diethyl phthalate		-	1.4E+06							x			x		x	
60-57-1	Dieldrin		2.1E+01	2.4E+01			x						x	x	x		
88-85-7	Dinoseb		-	2.4E+02												x	
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-03	5.7E-03			x			x	x	x	x	x	x	x	
115-29-7	Endosulfan		-	1.4E+03				x		x		x	x	x	x		
72-20-8	Endrin		-	4.8E+02						x			x	x	x		
100-41-4	Ethylbenzene		3.9E+04	1.2E+05			x			x			x	x	x		
106-93-4	Ethylene dibromide		1.8E+02	1.7E+03			x			x	x			x		x	x
75-00-3	Ethyl chloride		-	3.1E+04						x							
206-44-0	Fluoranthene		-	8.9E+04									x	x			
86-73-7	Fluorene	5.80	-	6.1E+04		0.00		x						x			x
76-44-8	Heptachlor		7.4E+01	2.4E+01			x			x			x	x			
1024-57-3	Heptachlor epoxide		3.7E+01	3.1E+00			x							x			
118-74-1	Hexachlorobenzene		2.1E+02	1.9E+02			x				x		x		x		
87-68-3	Hexachlorobutadiene		4.3E+03	2.4E+02			x						x	x	x		
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		5.3E+01	1.9E+03			x							x			
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.9E+02	1.4E+02			x							x	x		
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.5E+02	2.8E+00			x			x	x		x	x			
67-72-1	Hexachloroethane		8.3E+03	2.4E+03			x						x	x	x		
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		3.0E+03	7.1E+03			x								x	x	
193-39-5	Indeno(1,2,3-cd)pyrene		4.3E+02	8.9E+04			x						x	x			
7439-89-6	Iron		-	2.2E+05								x	x				
121-75-5	Malathion		-	4.8E+03											x		x

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-5 (9.5 ft)

7439-96-5	Manganese		-	7.4E+03							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	9.3E+02					x	x					
72-43-5	Methoxychlor		-	1.2E+03				x	x			x			
78-93-3	Methyl ethyl ketone		-	1.9E+05				x							
108-10-1	Methyl isobutyl ketone		-	2.5E+05				x				x	x		
80-62-6	Methyl methacrylate		-	4.3E+05						x	x			x	x
1634-04-4	Methyl tert-butyl ether		2.4E+05	9.3E+04			x		x			x	x	x	
75-09-2	Methylene chloride		2.2E+05	1.9E+04			x						x	x	
7439-98-7	Molybdenum		-	1.5E+03							x				
106-94-5	n-Propyl bromide		-	7.1E+02				x		x			x	x	x
91-20-3	Naphthalene		8.3E+06	1.1E+05			x	x			x		x		
7440-02-0	Nickel		3.2E+07	9.3E+02			x				x	x		x	x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	1.2E+04								x	x		
117-84-0	Octyl Phthalate, di-n-		-	2.9E+03					x			x	x		
56-38-2	Parathion		-	1.4E+03									x		
1336-36-3	PCBs		1.5E+02	6.5E+00			x		x		x			x	
87-86-5	Pentachlorophenol		6.2E+02	8.8E+02			x		x	x		x	x	x	
14797-73-0	Perchlorate		-	3.7E+01					x						
85-01-8	Phenanthrene	2.60	-	8.9E+03		0.00					x			x	
108-95-2	Phenol		-	7.1E+04								x	x	x	
129-00-0	Pyrene		-	6.7E+04							x				
7782-49-2	Selenium		-	1.5E+03				x	x		x		x	x	
7440-22-4	Silver		-	1.5E+03											x
100-42-5	Styrene		-	6.2E+05			x		x				x	x	
127-18-4	Tetrachloroethene		2.0E+05	2.7E+04			x		x				x	x	
298-02-2	Thimet (Phorate)		-	4.8E+01										x	
108-88-3	Toluene		-	2.5E+05							x	x		x	
79-01-6	Trichloroethene		9.0E+03	1.4E+02			x		x		x	x		x	
75-69-4	Trichlorofluoromethane		-	9.2E+04				x				x			x
7440-62-2	Vanadium		-	2.2E+03				x		x	x	x			x
108-05-4	Vinyl acetate		-	3.1E+05								x			x

Soil Input Sheet and
Summary of Total Incremental Lifetime Cancer Risks
and Endpoint-Specific Hazard Indices

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Input Sheet

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Exposure Point Conc No.	Sample B-6 (4 ft)

CAS No.	Compound	Soil Conc (mg/kg)
74-83-9	Bromomethane	0.160
100-41-4	Ethylbenzene	0.091
	1,2,3-Trichloropropane	
	Isopropylbenzene	0.230
	N-Propylbenzene	0.440
	1,3,5-Trimethylbenzene	0.530
	tert-Buytlbenzene	0.096
	sec-Buytlbenzene	0.470
	P-Isopropyltoluene	0.280
	N-Butlybenzene	0.370
	1,2,4-Trimethylbenzene	3.200
67-64-1	Acetone	0.200
	2-Butanone (MEK)	0.068
	m+p-Xylenes	
	Total Xylenes	0.440
75-15-0	Carbon Disulfide	0.00
7440-38-2	Arsenic	11.00
7440-43-9	Cadmium	0.21
	Chromium	24.80
7439-92-1	Lead	122.00
	Mercury (ug/g)	0.29
91-20-3	Naphthalene	3.60
91-57-6	2-Methylnaphthalene	3.20
85-01-8	Phenanthrene	24.00
208-96-8	Acenaphthylene	1.00
83-32-9	Acenaphthene	2.60
120-12-7	Anthracene	5.00
56-55-3	Benzo(a)anthracene	6.90
50-32-8	Benzo(a)pyrene	6.60
205-99-2	Benzo(b)fluoranthene	6.50
191-24-2	Benzo(g,h,i)perylene	4.10
207-08-9	Benzo(k)fluoranthene	5.70
218-01-9	Chrysene	7.80
53-70-3	Dibenz(a,h)anthracene	1.40
206-44-0	Fluoranthene	20.00
86-73-7	Fluorene	3.80
193-39-5	Indeno(1,2,3-cd)pyrene	4.40
129-00-0	Pyrene	19.00
DEP2043	C9-C18 Aliphatics	660.00
DEP2042	C19-C36 Aliphatics	1600.00
DEP2041	C11-C22 Aromatics	1100.00

	Residential	Park/Rec	Commercial	Construction
	ILCR			
Cancer	4.6E-04	2.7E-04	5.4E-05	4.9E-06
	HQ			
Blood	0.06	0.03	0.01	0.00
Cardio	0.23	0.14	0.03	0.13
Dev	0.23	0.14	0.03	0.13
Endo	0.00	0.00	0.00	0.00
Eye	0.00	0.00	0.00	0.00
Gastro	0.23	0.14	0.03	0.13
Immune	0.02	0.01	0.00	0.01
Kidney	0.57	0.34	0.07	0.16
Liver	0.30	0.18	0.04	0.14
Nervous	0.01	0.00	0.00	0.00
Reprod	0.00	0.00	0.00	0.00
Resp	0.04	0.02	0.00	0.02
Skin	0.23	0.14	0.03	0.13
Other	0.00	0.00	0.00	0.00

RAGS Workbook
Residential Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-6 (4 ft)

CAS No.	Compound	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	2.16E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		5.46E+02	5.11E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		7.10E+01	3.41E+03			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.41E+05												x	x				
79-00-5	1,1,2-Trichloroethane		2.48E+02	6.81E+02			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.52E+03											x						
75-34-3	1,1-Dichloroethane		2.49E+03	3.41E+04			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.52E+03												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.68E+03							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		4.89E+02	1.68E+03			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		3.26E+00	3.40E+01			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.11E+03											x						
107-06-2	1,2-Dichloroethane		1.56E+02	3.41E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.41E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.41E+03				x								x			x		
78-87-5	1,2-Dichloropropane		3.92E+02	1.36E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.33E+01				x													
106-99-0	1,3-Butadiene		4.17E+00	6.99E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.41E+01							x										
142-28-9	1,3-Dichloropropane		-	3.41E+03					x						x				x		
542-75-6	1,3-Dichloropropene		1.42E+02	5.11E+03			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.33E+01				x										x			
106-46-7	1,4-Dichlorobenzene		2.63E+03	1.19E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.33E+01				x													
123-91-1	1,4-Dioxane		1.08E+02	3.99E+03			x	x							x	x					
93-76-5	2,4,5-T		-	1.33E+03							x				x			x			
93-72-1	2,4,5-TP		-	1.06E+03							x					x		x			
95-95-4	2,4,5-Trichlorophenol		1.01E+06	1.33E+04											x	x					
88-06-2	2,4,6-Trichlorophenol		9.82E+02	1.33E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		3.60E+02	6.65E+01			x									x					
120-83-2	2,4-Dichlorophenol		-	3.99E+02										x							
105-67-9	2,4-Dimethylphenol		-	2.66E+03				x													
51-28-5	2,4-Dinitrophenol		-	2.66E+02								x									
121-14-2	2,4-Dinitrotoluene		3.48E+01	2.66E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	7.98E+01				x							x	x					
606-20-2	2,6-Dinitrotoluene		1.59E+01	1.33E+02			x	x								x	x				
95-57-8	2-Chlorophenol		-	8.52E+02														x			
95-48-7	2-Cresol		-	6.65E+03													x				
91-57-6	2-Methylnaphthalene	3.20	-	4.99E+02		0.01													x		
91-94-1	3,3-Dichlorobenzidine		2.40E+01	-			x							x						x	
108-39-4	3-Cresol		-	6.65E+03													x		x		
106-47-8	4-Chloroaniline		5.40E+01	6.65E+01			x	x													

Cancer	Blood	Cardiovascular

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Sample No.	Sample B-6 (4 ft)

106-44-5	4-Cresol		-	6.65E+02									x		x				
83-32-9	Acenaphthene	2.60	-	7.47E+03		0.00							x			x			
208-96-8	Acenaphthylene	1.00	-	7.49E+03		0.00							x			x			
67-64-1	Acetone	0.20	-	1.53E+05		0.00		x					x		x				0.00	
75-05-8	Acetonitrile		-	2.61E+05				x					x							
107-02-8	Acrolein		-	8.52E+01				x	x			x	x			x				
107-13-1	Acrylonitrile		2.63E+01	1.70E+02			x	x		x					x	x	x			
15972-60-8	Alachlor		1.93E+02	1.33E+03			x	x		x		x						x		
309-00-2	Aldrin		6.35E-01	3.99E+00			x			x		x	x							
107-05-1	Allyl chloride		6.76E+02	1.71E+05			x								x					
7429-90-5	Aluminum		-	1.70E+05						x					x					
120-12-7	Anthracene	5.00	-	3.48E+04		0.00					x			x	x		x			
7440-36-0	Antimony		-	6.81E+01							x									
12674-11-2	Aroclor 1016		4.93E+00	8.57E+00			x			x	x				x					
7440-38-2	Arsenic	11.00	1.37E+00	4.71E+01	8.0E-05	0.23	x		x	x		x		x	x			x	8.0E-05		0.23
1912-24-9	Atrazine		4.70E+01	1.33E+02			x	x	x		x					x		x		
7440-39-3	Barium		-	3.41E+04								x								
71-43-2	Benzene		2.58E+02	8.52E+01			x	x			x				x					
65-85-0	Benzoic acid		-	5.32E+05																x
56-55-3	Benzo(a)anthracene	6.90	2.62E+00	5.00E+03	2.6E-05	0.00	x					x	x						2.6E-05	
50-32-8	Benzo(a)pyrene	6.60	2.62E-01	5.00E+03	2.5E-04	0.00	x					x	x						2.5E-04	
205-99-2	Benzo(b)fluoranthene	6.50	2.62E+00	5.00E+03	2.5E-05	0.00	x					x	x						2.5E-05	
191-24-2	Benzo(g,h,i)perylene	4.10	-	3.75E+03		0.00						x	x							
207-08-9	Benzo(k)fluoranthene	5.70	2.62E+01	5.00E+03	2.2E-06	0.00	x					x	x						2.2E-06	
100-44-7	Benzyl chloride		8.35E+01	3.41E+02			x					x	x	x		x				
7440-41-7	Beryllium		3.86E+05	3.41E+02			x			x	x					x	x			
111-44-4	Bis(2-chloroethyl)ether		9.80E+00	-			x													
117-81-7	Bis(2-Ethylhexyl)phthalate		7.72E+02	7.98E+03			x			x	x					x				
75-27-4	Bromodichloromethane		2.29E+02	3.41E+03			x					x	x							
75-25-2	Bromoform		1.37E+03	2.66E+03			x						x			x				
74-83-9	Bromomethane	0.16	-	2.38E+02		0.00					x			x		x				
85-68-7	Butyl benzyl phthalate		5.69E+03	2.66E+04			x			x	x		x	x						
7440-43-9	Cadmium	0.21	5.15E+05	1.07E+01	4.1E-12	0.02	x					x	x				x		4.1E-12	
86-74-8	Carbazole		5.40E+02	-			x													
75-15-0	Carbon disulfide	0.00	-	1.70E+04		0.00			x	x		x			x	x					0.00
56-23-5	Carbon tetrachloride		2.03E+02	6.81E+02			x						x	x						
57-74-9	Chlordane		3.60E+01	7.66E+01			x			x	x		x	x						
115-28-6	Chlorendic acid		1.19E+02	-			x													
108-90-7	Chlorobenzene		-	3.41E+03						x		x	x		x					
67-66-3	Chloroform		4.57E+02	1.70E+03			x						x							
74-87-3	Chloromethane		-	4.06E+06					x	x			x	x	x					
16065-83-1	Chromium (+3)		-	2.56E+05									x							
18540-29-9	Chromium (+6)		3.05E+04	5.11E+02			x			x					x	x				
218-01-9	Chrysene	7.80	2.62E+02	2.50E+03	3.0E-07	0.00	x	x					x	x		x		x			3.0E-07	0.00	
7440-48-4	Cobalt		1.03E+05	5.11E+01			x	x	x	x			x			x		x	x				
7440-50-8	Copper		-	2.38E+03							x		x										
57-12-5	Cyanide		-	1.02E+02								x			x								
72-54-8	DDD		4.50E+01	6.65E+01			x			x	x		x	x	x	x							

RAGS Workbook
Residential Exposure Scenario



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Project Name	50 India Street
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Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-6 (4 ft)

72-55-9	DDE		3.18E+01	6.65E+01			x			x	x			x	x				
50-29-3	DDT		3.82E+01	7.86E+01			x			x	x			x	x				
53-70-3	Dibenz(a,h)anthracene	1.40	2.62E-01	3.75E+03	5.3E-05	0.00	x							x					5.3E-05		
132-64-9	Dibenzofuran		-	1.33E+02										x							
124-48-1	Dibromochloromethane		1.69E+02	3.41E+03			x							x	x						
84-74-2	Dibutyl phthalate		-	1.33E+04						x	x						x				
75-71-8	Dichlorodifluoromethane		-	3.41E+04											x						
84-66-2	Diethyl phthalate		-	1.06E+05							x				x		x				
60-57-1	Dieldrin		6.75E-01	6.65E+00			x							x	x	x					
88-85-7	Dinoseb		-	1.33E+02													x				
1746-01-6	Dioxin-Like Compounds - TEQ		9.98E-05	1.10E-04			x			x	x			x	x	x	x				
115-29-7	Endosulfan		-	7.98E+02					x		x			x	x	x	x				
72-20-8	Endrin		-	3.99E+01						x				x	x	x					
100-41-4	Ethylbenzene	0.09	1.29E+03	1.70E+04	7.1E-10	0.00	x			x				x	x	x			7.1E-10		
106-93-4	Ethylene dibromide		7.09E+00	1.53E+03			x			x	x				x		x	x			
75-00-3	Ethyl chloride		-	1.70E+03						x											
206-44-0	Fluoranthene	20.00	-	5.00E+03		0.00								x	x						
86-73-7	Fluorene	3.80	-	4.99E+03		0.00		x							x			x		0.00	
76-44-8	Heptachlor		2.40E+00	1.33E+00			x			x				x	x						
1024-57-3	Heptachlor epoxide		1.19E+00	1.73E+00			x								x						
118-74-1	Hexachlorobenzene		6.75E+00	1.06E+02			x				x			x			x				
87-68-3	Hexachlorobutadiene		1.38E+02	1.33E+02			x							x	x	x					
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		1.71E+00	1.06E+03			x								x						
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		6.00E+00	7.98E+00			x								x	x					
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		1.15E+01	6.13E-01			x			x	x			x	x						
67-72-1	Hexachloroethane		2.70E+02	9.32E+01			x							x	x	x					
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		9.82E+01	3.99E+02			x									x	x				
193-39-5	Indeno(1,2,3-cd)pyrene	4.40	2.62E+00	5.00E+03	1.7E-05	0.00	x							x	x					1.7E-05	
7439-89-6	Iron		-	1.19E+05								x		x							
121-75-5	Malathion		-	2.66E+03												x		x			
7439-96-5	Manganese		-	4.08E+03												x					
7487-94-7	Mercuric chloride & other inorganic mercury compou		-	5.11E+01								x	x								
72-43-5	Methoxychlor		-	6.65E+02						x	x			x			x				
78-93-3	Methyl ethyl ketone		-	1.02E+05						x											
108-10-1	Methyl isobutyl ketone		-	1.36E+04						x				x	x						
80-62-6	Methyl methacrylate		-	2.38E+05								x	x					x	x		
1634-04-4	Methyl tert-butyl ether		7.89E+03	5.11E+03			x				x			x	x	x					
75-09-2	Methylene chloride		7.10E+03	1.02E+03			x								x	x		x			
7439-98-7	Molybdenum		-	8.52E+02										x							
106-94-5	n-Propyl bromide		-	1.86E+02						x		x				x	x	x			
91-20-3	Naphthalene	3.60	4.90E+06	2.50E+03	7.3E-12	0.00	x	x					x	x		x		x		7.3E-12	0.00
7440-02-0	Nickel		3.56E+06	5.11E+02			x						x	x				x	x		
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	6.65E+03											x	x					
117-84-0	Octyl Phthalate, di-n-		-	1.60E+03							x			x	x						
56-38-2	Parathion		-	7.98E+02												x					
1336-36-3	PCBs		4.93E+00	2.45E+00			x				x				x	x		x			
87-86-5	Pentachlorophenol		1.99E+01	5.01E+02			x			x	x			x	x	x	x				
14797-73-0	Perchlorate		-	2.04E+01						x											

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Remediation No.	VRAP
Sample No.	Sample B-6 (4 ft)

85-01-8	Phenanthrene	24.00	-	3.74E+03		0.01							x			x		
108-95-2	Phenol		-	3.99E+04										x	x	x		
129-00-0	Pyrene	19.00	-	3.75E+03		0.01							x					
7782-49-2	Selenium		-	8.52E+02					x	x		x		x	x		x	
7440-22-4	Silver		-	8.52E+02													x	
100-42-5	Styrene		-	3.41E+04				x			x			x	x			
127-18-4	Tetrachloroethene		6.76E+03	1.02E+03			x			x				x	x			
298-02-2	Thimet (Phorate)		-	2.66E+01											x			
108-88-3	Toluene		-	1.36E+04								x	x		x			
79-01-6	Trichloroethene		1.62E+02	8.51E+01			x			x		x	x		x			
75-69-4	Trichlorofluoromethane		-	5.11E+04				x					x				x	
7440-62-2	Vanadium		-	1.19E+03				x			x	x	x				x	
108-05-4	Vinyl acetate		-	1.70E+05									x				x	

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario



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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-6 (4 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			1.8E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.8E+03	5.1E+04			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.4E+02	3.4E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.4E+06												x	x				
79-00-5	1,1,2-Trichloroethane		8.3E+02	6.8E+03			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.5E+04											x						
75-34-3	1,1-Dichloroethane		8.4E+03	3.4E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.5E+04							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.6E+03	1.5E+04			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		4.7E+01	3.3E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.1E+04											x						
107-06-2	1,2-Dichloroethane		5.2E+02	3.4E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.4E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.4E+04				x								x			x		
78-87-5	1,2-Dichloropropane		1.3E+03	6.1E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.0E+02				x													
106-99-0	1,3-Butadiene		1.4E+01	7.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.4E+02							x										
142-28-9	1,3-Dichloropropane		-	3.4E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.8E+02	5.1E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.0E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.8E+03	1.2E+05			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.0E+02				x													
123-91-1	1,4-Dioxane		2.9E+02	3.1E+04			x	x							x	x					
93-76-5	2,4,5-T		-	1.0E+04						x					x			x			
93-72-1	2,4,5-TP		-	8.2E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		1.0E+06	1.0E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		2.6E+03	1.0E+03			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		9.6E+02	5.1E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	3.1E+03										x							
105-67-9	2,4-Dimethylphenol		-	2.1E+04				x													
51-28-5	2,4-Dinitrophenol		-	2.1E+03								x									
121-14-2	2,4-Dinitrotoluene		9.3E+01	2.1E+03			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	6.2E+02				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.2E+01	1.0E+03			x	x								x	x				

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-6 (4 ft)

95-57-8	2-Chlorophenol		-	8.5E+03								x			
95-48-7	2-Cresol		-	5.1E+04							x				
91-57-6	2-Methylnaphthalene	3.20	-	3.6E+03		0.00							x		
91-94-1	3,3-Dichlorobenzidine		6.4E+01	-			x							x	
108-39-4	3-Cresol		-	5.1E+04							x		x		
106-47-8	4-Chloroaniline		1.4E+02	5.1E+02			x	x							
106-44-5	4-Cresol		-	5.1E+03							x		x		
83-32-9	Acenaphthene	2.60	-	5.4E+04		0.00				x			x		
208-96-8	Acenaphthylene	1.00	-	5.5E+04		0.00				x			x		
67-64-1	Acetone	0.20	-	1.5E+06		0.00		x		x					
75-05-8	Acetonitrile		-	2.2E+05				x		x					
107-02-8	Acrolein		-	8.5E+02				x	x				x		
107-13-1	Acrylonitrile		8.8E+01	1.7E+03			x	x				x	x	x	
15972-60-8	Alachlor		5.1E+02	1.0E+04			x	x		x				x	
309-00-2	Aldrin		1.7E+00	3.1E+01			x		x		x	x			
107-05-1	Allyl chloride		2.3E+03	1.4E+05			x					x			
7429-90-5	Aluminum		-	1.7E+06					x			x			
120-12-7	Anthracene	5.00	-	1.6E+05		0.00				x	x		x		
7440-36-0	Antimony		-	6.8E+02						x					
12674-11-2	Aroclor 1016		1.2E+01	6.2E+01			x		x	x		x			
7440-38-2	Arsenic	11.00	4.2E+00	4.3E+02	2.6E-05	0.03	x		x	x		x	x	x	
1912-24-9	Atrazine		1.2E+02	1.0E+03			x	x	x		x			x	
7440-39-3	Barium		-	3.4E+05											
71-43-2	Benzene		8.7E+02	8.5E+02			x	x			x				
65-85-0	Benzoic acid		-	4.1E+06											x
56-55-3	Benzo(a)anthracene	6.90	3.5E+01	3.7E+04	2.0E-06	0.00		x		x	x				
50-32-8	Benzo(a)pyrene	6.60	3.5E+00	3.7E+04	1.9E-05	0.00		x		x	x				
205-99-2	Benzo(b)fluoranthene	6.50	3.5E+01	3.7E+04	1.8E-06	0.00		x		x	x				
191-24-2	Benzo(g,h,i)perylene	4.10	-	2.8E+04		0.00				x	x				
207-08-9	Benzo(k)fluoranthene	5.70	3.5E+02	3.7E+04	1.6E-07	0.00	x			x	x				
100-44-7	Benzyl chloride		2.8E+02	3.4E+03			x			x	x	x		x	
7440-41-7	Beryllium		4.6E+05	3.4E+03			x		x					x	x
111-44-4	Bis(2-chloroethyl)ether		2.6E+01	-			x								
117-81-7	Bis(2-Ethylhexyl)phthalate		2.1E+03	6.2E+04			x		x	x			x		
75-27-4	Bromodichloromethane		7.7E+02	3.4E+04			x				x	x			
75-25-2	Bromoform		3.6E+03	2.1E+04			x					x		x	
74-83-9	Bromomethane	0.16	-	2.4E+03		0.00			x				x		
85-68-7	Butyl benzyl phthalate		1.5E+04	2.1E+05			x			x	x	x			
7440-43-9	Cadmium	0.21	6.2E+05	9.4E+01	3.4E-12	0.00	x							x	
86-74-8	Carbazole		1.4E+03	-			x								
75-15-0	Carbon disulfide	0.00	-	1.7E+05		0.00			x	x		x	x		
56-23-5	Carbon tetrachloride		6.8E+02	6.8E+03			x				x	x			

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Remediation No.	VRAP
Sample No.	Sample B-6 (4 ft)

57-74-9	Chlordane		1.1E+02	6.7E+02			x			x	x			x	x		
115-28-6	Chlorendic acid		3.2E+02	-			x										
108-90-7	Chlorobenzene		-	3.4E+04								x		x	x		
67-66-3	Chloroform		1.5E+03	1.7E+04			x							x			
74-87-3	Chloromethane		-	3.4E+06					x	x				x	x	x	
16065-83-1	Chromium (+3)		-	2.6E+06										x			
18540-29-9	Chromium (+6)		9.3E+04	5.1E+03			x			x		x				x	x
218-01-9	Chrysene	7.80	3.5E+03	1.8E+04	2.2E-08	0.00	x	x					x	x		x		x
7440-48-4	Cobalt		1.2E+05	5.1E+02			x	x	x	x			x			x	x	x
7440-50-8	Copper		-	2.4E+04								x		x				
57-12-5	Cyanide		-	1.0E+03							x			x		x		
72-54-8	DDD		1.2E+02	5.1E+02			x			x	x			x	x	x	x	
72-55-9	DDE		8.5E+01	5.1E+02			x			x	x			x	x		x	
50-29-3	DDT		1.2E+02	7.1E+02			x			x	x			x	x		x	
53-70-3	Dibenz(a,h)anthracene	1.40	3.5E+00	2.8E+04	4.0E-06	0.00	x							x				
132-64-9	Dibenzofuran		-	1.0E+03										x				
124-48-1	Dibromochloromethane		5.6E+02	3.4E+04			x							x	x			
84-74-2	Dibutyl phthalate		-	1.0E+05						x	x						x	
75-71-8	Dichlorodifluoromethane		-	3.4E+05											x			
84-66-2	Diethyl phthalate		-	8.2E+05							x				x		x	
60-57-1	Dieldrin		1.8E+00	5.1E+01			x							x	x	x		
88-85-7	Dinoseb		-	1.0E+03													x	
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-04	1.0E-03			x			x	x		x	x	x	x	x	
115-29-7	Endosulfan		-	6.2E+03					x		x		x	x	x	x		
72-20-8	Endrin		-	3.1E+02						x				x	x	x		
100-41-4	Ethylbenzene	0.09	4.3E+03	1.7E+05	2.1E-10	0.00	x			x				x	x	x		
106-93-4	Ethylene dibromide		2.4E+01	1.5E+04			x			x	x				x		x	x
75-00-3	Ethyl chloride		-	1.7E+04						x								
206-44-0	Fluoranthene	20.00	-	3.7E+04		0.00								x	x			
86-73-7	Fluorene	3.80	-	3.7E+04		0.00		x							x			x
76-44-8	Heptachlor		6.4E+00	1.0E+01			x			x				x	x			
1024-57-3	Heptachlor epoxide		3.2E+00	1.3E+01			x								x			
118-74-1	Hexachlorobenzene		1.8E+01	8.2E+02			x				x		x		x		x	
87-68-3	Hexachlorobutadiene		3.7E+02	1.0E+03			x							x	x	x		
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		4.6E+00	8.2E+03			x								x			
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.6E+01	6.2E+01			x								x	x		
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.4E+01	5.4E+00			x			x	x		x	x				
67-72-1	Hexachloroethane		7.2E+02	7.2E+02			x							x	x	x		
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		2.6E+02	3.1E+03			x									x	x	
193-39-5	Indeno(1,2,3-cd)pyrene	4.40	3.5E+01	3.7E+04	1.3E-06	0.00	x							x	x			
7439-89-6	Iron		-	1.2E+06								x		x				
121-75-5	Malathion		-	2.1E+04												x		x

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Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-6 (4 ft)

7439-96-5	Manganese		-	4.0E+04							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	5.1E+02						x	x				
72-43-5	Methoxychlor		-	5.1E+03					x	x				x	
78-93-3	Methyl ethyl ketone		-	1.0E+06					x						
108-10-1	Methyl isobutyl ketone		-	1.4E+05					x				x	x	
80-62-6	Methyl methacrylate		-	2.4E+06							x	x			
1634-04-4	Methyl tert-butyl ether		2.6E+04	5.1E+04			x				x	x	x		
75-09-2	Methylene chloride		2.4E+04	1.0E+04			x					x	x		x
7439-98-7	Molybdenum		-	8.5E+03							x				
106-94-5	n-Propyl bromide		-	1.4E+03				x					x	x	x
91-20-3	Naphthalene	3.60	5.2E+06	1.8E+04	6.9E-12	0.00	x	x					x	x		x		x		
7440-02-0	Nickel		4.3E+06	5.1E+03			x						x	x			x	x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	5.1E+04								x	x					
117-84-0	Octyl Phthalate, di-n-		-	1.2E+04					x			x	x					
56-38-2	Parathion		-	6.2E+03										x				
1336-36-3	PCBs		1.2E+01	1.8E+01			x			x				x	x		x	
87-86-5	Pentachlorophenol		4.5E+01	3.2E+03			x		x	x		x	x	x	x	x		
14797-73-0	Perchlorate		-	2.0E+02						x								
85-01-8	Phenanthrene	24.00	-	2.7E+04		0.00						x				x		
108-95-2	Phenol		-	3.1E+05									x	x	x			
129-00-0	Pyrene	19.00	-	2.8E+04		0.00						x						
7782-49-2	Selenium		-	8.5E+03					x	x		x		x	x		x	
7440-22-4	Silver		-	8.5E+03													x	
100-42-5	Styrene		-	3.4E+05				x			x				x	x			
127-18-4	Tetrachloroethene		2.3E+04	1.0E+04			x			x					x	x			
298-02-2	Thimet (Phorate)		-	2.1E+02												x			
108-88-3	Toluene		-	1.4E+05									x	x		x			
79-01-6	Trichloroethene		1.0E+03	8.5E+02			x			x			x	x		x			
75-69-4	Trichlorofluoromethane		-	5.1E+05					x					x			x		
7440-62-2	Vanadium		-	1.2E+04				x			x	x	x				x		
108-05-4	Vinyl acetate		-	1.7E+06									x				x		

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Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-6 (4 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	1.9E+07																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.7E+04	9.3E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.2E+03	1.5E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	1.7E+06												x	x				
79-00-5	1,1,2-Trichloroethane		5.4E+03	1.2E+04			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	1.5E+04											x						
75-34-3	1,1-Dichloroethane		7.6E+04	5.9E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	1.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	4.2E+02							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.5E+04	4.3E+02			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		5.1E+01	2.7E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	1.5E+05											x						
107-06-2	1,2-Dichloroethane		3.7E+03	5.7E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	6.2E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	5.9E+04				x								x			x		
78-87-5	1,2-Dichloropropane		8.7E+03	5.5E+03			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	2.4E+02				x													
106-99-0	1,3-Butadiene		1.3E+02	1.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	6.2E+03							x										
142-28-9	1,3-Dichloropropane		-	6.2E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.3E+03	1.2E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.2E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.0E+04	2.1E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	2.4E+02				x													
123-91-1	1,4-Dioxane		3.3E+03	7.1E+03			x	x							x	x					
93-76-5	2,4,5-T		-	2.4E+04						x					x			x			
93-72-1	2,4,5-TP		-	1.9E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		6.1E+05	2.4E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		3.0E+04	2.4E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		1.1E+04	1.2E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	7.1E+02										x							
105-67-9	2,4-Dimethylphenol		-	1.2E+04				x													
51-28-5	2,4-Dinitrophenol		-	4.8E+03								x									
121-14-2	2,4-Dinitrotoluene		1.1E+03	4.8E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	1.4E+03				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.9E+02	9.5E+02			x	x								x	x				

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Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-6 (4 ft)

95-57-8	2-Chlorophenol		-	2.5E+03								x			
95-48-7	2-Cresol		-	2.4E+04							x				
91-57-6	2-Methylnaphthalene	3.20	-	6.0E+02		0.01							x		
91-94-1	3,3-Dichlorobenzidine		7.4E+02	-			x							x	
108-39-4	3-Cresol		-	2.4E+04							x		x		
106-47-8	4-Chloroaniline		1.7E+03	1.2E+02			x	x							
106-44-5	4-Cresol		-	2.4E+04							x		x		
83-32-9	Acenaphthene	2.60	-	9.8E+03		0.00				x			x		
208-96-8	Acenaphthylene	1.00	-	6.5E+04		0.00				x			x		
67-64-1	Acetone	0.20	-	6.2E+05		0.00		x		x					
75-05-8	Acetonitrile		-	3.2E+03				x		x					
107-02-8	Acrolein		-	1.2E+03				x	x				x		
107-13-1	Acrylonitrile		8.0E+02	3.1E+03			x	x				x	x	x	
15972-60-8	Alachlor		6.0E+03	2.4E+03			x	x			x			x	
309-00-2	Aldrin		2.0E+01	9.5E+00			x		x		x	x			
107-05-1	Allyl chloride		2.1E+04	1.0E+04			x					x			
7429-90-5	Aluminum		-	3.1E+05					x			x			
120-12-7	Anthracene	5.00	-	3.8E+03		0.00			x		x	x			
7440-36-0	Antimony		-	1.2E+02					x						
12674-11-2	Aroclor 1016		1.5E+02	4.6E+01			x		x			x			
7440-38-2	Arsenic	11.00	4.2E+01	8.5E+01	2.6E-06	0.13	x		x	x		x		x	
1912-24-9	Atrazine		1.5E+03	7.1E+02			x	x	x		x			x	
7440-39-3	Barium		-	6.2E+04							x				
71-43-2	Benzene		7.9E+03	1.5E+02			x	x			x				
65-85-0	Benzoic acid		-	7.2E+05											x
56-55-3	Benzo(a)anthracene	6.90	4.3E+02	1.0E+15	1.6E-07	0.00	x				x	x			
50-32-8	Benzo(a)pyrene	6.60	4.3E+01	1.0E+15	1.5E-06	0.00	x				x	x			
205-99-2	Benzo(b)fluoranthene	6.50	4.3E+02	1.0E+15	1.5E-07	0.00	x				x	x			
191-24-2	Benzo(g,h,i)perylene	4.10	-	6.7E+04		0.00					x	x			
207-08-9	Benzo(k)fluoranthene	5.70	4.3E+03	1.0E+15	1.3E-08	0.00	x				x	x			
100-44-7	Benzyl chloride		2.6E+03	6.2E+02			x				x	x	x		x
7440-41-7	Beryllium		3.5E+06	6.2E+02			x		x	x				x	x
111-44-4	Bis(2-chloroethyl)ether		2.5E+02	3.6E+04			x								
117-81-7	Bis(2-Ethylhexyl)phthalate		2.4E+04	2.4E+04			x		x	x				x	
75-27-4	Bromodichloromethane		7.0E+03	6.2E+03			x				x	x			
75-25-2	Bromoform		3.7E+04	4.8E+04			x					x			x
74-83-9	Bromomethane	0.16	-	9.3E+02		0.00			x			x		x	
85-68-7	Butyl benzyl phthalate		1.8E+05	4.8E+05			x		x	x		x	x		
7440-43-9	Cadmium	0.21	4.6E+06	1.9E+01	4.5E-13	0.01	x				x	x			x
86-74-8	Carbazole		1.7E+04	-			x								
75-15-0	Carbon disulfide	0.00	-	3.1E+04		0.00			x	x		x	x	x	
56-23-5	Carbon tetrachloride		5.6E+03	2.8E+03			x				x	x			

RAGS Workbook
Excavation Worker Exposure Scenario



Reviewed for Code Compliance
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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-6 (4 ft)

57-74-9	Chlordane		1.1E+03	1.7E+02			x			x	x		x	x			
115-28-6	Chlorendic acid		3.7E+03	-			x										
108-90-7	Chlorobenzene		-	1.1E+05								x	x	x		x	
67-66-3	Chloroform		1.2E+04	2.9E+04			x						x				
74-87-3	Chloromethane		-	5.7E+05				x	x				x	x	x		
16065-83-1	Chromium (+3)		-	4.6E+05									x				
18540-29-9	Chromium (+6)		6.9E+05	2.8E+03			x			x		x			x	x	
218-01-9	Chrysene	7.80	4.3E+04	1.3E+05	1.8E-09	0.00	x	x					x	x		x		x	
7440-48-4	Cobalt		9.3E+05	9.2E+02			x	x	x	x			x			x		x	x
7440-50-8	Copper		-	4.3E+03								x		x					
57-12-5	Cyanide		-	1.9E+03							x			x		x			
72-54-8	DDD		1.4E+03	1.2E+02			x			x	x			x	x	x	x		
72-55-9	DDE		9.8E+02	1.2E+02			x			x	x			x	x		x		
50-29-3	DDT		1.2E+03	1.4E+02			x			x	x			x	x		x		
53-70-3	Dibenz(a,h)anthracene	1.40	4.3E+01	6.7E+04	3.3E-07	0.00	x							x					
132-64-9	Dibenzofuran		-	9.5E+02										x					
124-48-1	Dibromochloromethane		4.3E+03	6.2E+04			x							x	x				
84-74-2	Dibutyl phthalate		-	2.4E+04						x	x						x		
75-71-8	Dichlorodifluoromethane		-	6.2E+04											x				
84-66-2	Diethyl phthalate		-	1.4E+06							x				x		x		
60-57-1	Dieldrin		2.1E+01	2.4E+01			x							x	x	x			
88-85-7	Dinoseb		-	2.4E+02													x		
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-03	5.7E-03			x			x	x		x	x	x	x	x		
115-29-7	Endosulfan		-	1.4E+03					x		x		x	x	x	x			
72-20-8	Endrin		-	4.8E+02						x				x	x	x			
100-41-4	Ethylbenzene	0.09	3.9E+04	1.2E+05	2.3E-11	0.00	x			x				x	x	x			
106-93-4	Ethylene dibromide		1.8E+02	1.7E+03			x			x	x				x		x	x	
75-00-3	Ethyl chloride		-	3.1E+04						x									
206-44-0	Fluoranthene	20.00	-	8.9E+04		0.00								x	x				
86-73-7	Fluorene	3.80	-	6.1E+04		0.00		x							x			x	
76-44-8	Heptachlor		7.4E+01	2.4E+01			x			x				x	x				
1024-57-3	Heptachlor epoxide		3.7E+01	3.1E+00			x								x				
118-74-1	Hexachlorobenzene		2.1E+02	1.9E+02			x				x		x		x		x		
87-68-3	Hexachlorobutadiene		4.3E+03	2.4E+02			x							x	x	x			
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		5.3E+01	1.9E+03			x								x				
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.9E+02	1.4E+02			x								x	x			
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.5E+02	2.8E+00			x			x	x			x	x				
67-72-1	Hexachloroethane		8.3E+03	2.4E+03			x							x	x	x			
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		3.0E+03	7.1E+03			x									x	x		
193-39-5	Indeno(1,2,3-cd)pyrene	4.40	4.3E+02	8.9E+04	1.0E-07	0.00	x							x	x				
7439-89-6	Iron		-	2.2E+05								x		x					
121-75-5	Malathion		-	4.8E+03												x		x	

RAGS Workbook
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Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-6 (4 ft)

7439-96-5	Manganese		-	7.4E+03							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	9.3E+02						x	x				
72-43-5	Methoxychlor		-	1.2E+03					x	x				x	
78-93-3	Methyl ethyl ketone		-	1.9E+05					x						
108-10-1	Methyl isobutyl ketone		-	2.5E+05					x						
80-62-6	Methyl methacrylate		-	4.3E+05							x	x			
1634-04-4	Methyl tert-butyl ether		2.4E+05	9.3E+04			x			x			x	x	x
75-09-2	Methylene chloride		2.2E+05	1.9E+04			x					x	x		x
7439-98-7	Molybdenum		-	1.5E+03							x				
106-94-5	n-Propyl bromide		-	7.1E+02					x				x	x	x
91-20-3	Naphthalene	3.60	8.3E+06	1.1E+05	4.4E-12	0.00	x	x				x	x		x		x
7440-02-0	Nickel		3.2E+07	9.3E+02			x					x	x			x	x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	1.2E+04								x	x				
117-84-0	Octyl Phthalate, di-n-		-	2.9E+03					x			x	x				
56-38-2	Parathion		-	1.4E+03									x				
1336-36-3	PCBs		1.5E+02	6.5E+00			x			x			x	x		x	
87-86-5	Pentachlorophenol		6.2E+02	8.8E+02			x		x	x		x	x	x	x	x	
14797-73-0	Perchlorate		-	3.7E+01						x							
85-01-8	Phenanthrene	24.00	-	8.9E+03		0.00						x				x	
108-95-2	Phenol		-	7.1E+04									x	x	x		
129-00-0	Pyrene	19.00	-	6.7E+04		0.00						x					
7782-49-2	Selenium		-	1.5E+03					x	x		x		x	x		x
7440-22-4	Silver		-	1.5E+03													x
100-42-5	Styrene		-	6.2E+05				x		x				x	x		
127-18-4	Tetrachloroethene		2.0E+05	2.7E+04			x		x					x	x		
298-02-2	Thimet (Phorate)		-	4.8E+01											x		
108-88-3	Toluene		-	2.5E+05								x	x		x		
79-01-6	Trichloroethene		9.0E+03	1.4E+02			x		x			x	x		x		
75-69-4	Trichlorofluoromethane		-	9.2E+04					x				x			x	
7440-62-2	Vanadium		-	2.2E+03				x		x	x	x	x			x	
108-05-4	Vinyl acetate		-	3.1E+05								x				x	

Soil Input Sheet and
Summary of Total Incremental Lifetime Cancer Risks
and Endpoint-Specific Hazard Indices

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Input Sheet

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Exposure Point Conc No.	Sample B-7 (2 ft)

CAS No.	Compound	Soil Conc (mg/kg)
	Napthalene	
91-57-6	2-Methylnaphthalene	
85-01-8	Phenanthrene	
208-96-8	Acenaphthylene	
83-32-9	Acenaphthene	
120-12-7	Anthracene	
56-55-3	Benzo(a)anthracene	
50-32-8	Benzo(a)pyrene	
	Benzo(b)fluoranthene	
191-24-2	Benzo(g,h,i)perylene	
	Benzo(k)fluoranthene	
	Chrysene	
	Dibenzo(a,h)anthracene	
206-44-0	Fluoranthene	
86-73-7	Fluorene	
132-64-9	Dibenzofuran	
86-74-8	Carbazole	
117-81-7	Bis(2-Ethylhexyl)Phthalate	
	Indeno(1,2,3-cd)pyrene	
129-00-0	Pyrene	
7440-38-2	Arsenic	11.90
7440-39-3	Barium	
7440-43-9	Cadmium	1.07
	Chromium	25.30
7439-92-1	Lead	399.00
	Mercury (ug/g)	0.76
	Selenium	
7440-22-4	Silver	

	Residential	Park/Rec	Commercial	Construction
	ILCR			
Cancer	8.7E-05	5.2E-05	2.8E-05	2.8E-06
	HQ			
Blood	0.00	0.00	0.00	0.00
Cardio	0.25	0.15	0.03	0.14
Dev	0.25	0.15	0.03	0.14
Endo	0.00	0.00	0.00	0.00
Eye	0.00	0.00	0.00	0.00
Gastro	0.25	0.15	0.03	0.14
Immune	0.10	0.06	0.01	0.06
Kidney	0.35	0.21	0.04	0.20
Liver	0.25	0.15	0.03	0.14
Nervous	0.00	0.00	0.00	0.00
Reprod	0.00	0.00	0.00	0.00
Resp	0.10	0.06	0.01	0.06
Skin	0.25	0.15	0.03	0.14
Other	0.00	0.00	0.00	0.00

RAGS Workbook
Residential Exposure Scenario

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Inspections Division
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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (2 ft)

CAS No.	Compound	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	2.16E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		5.46E+02	5.11E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		7.10E+01	3.41E+03			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.41E+05												x	x				
79-00-5	1,1,2-Trichloroethane		2.48E+02	6.81E+02			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.52E+03											x						
75-34-3	1,1-Dichloroethane		2.49E+03	3.41E+04			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.52E+03												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.68E+03							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		4.89E+02	1.68E+03			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		3.26E+00	3.40E+01			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.11E+03											x						
107-06-2	1,2-Dichloroethane		1.56E+02	3.41E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.41E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.41E+03				x								x			x		
78-87-5	1,2-Dichloropropane		3.92E+02	1.36E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.33E+01				x													
106-99-0	1,3-Butadiene		4.17E+00	6.99E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.41E+01							x										
142-28-9	1,3-Dichloropropane		-	3.41E+03					x						x				x		
542-75-6	1,3-Dichloropropene		1.42E+02	5.11E+03			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.33E+01				x										x			
106-46-7	1,4-Dichlorobenzene		2.63E+03	1.19E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.33E+01				x													
123-91-1	1,4-Dioxane		1.08E+02	3.99E+03			x	x							x	x					
93-76-5	2,4,5-T		-	1.33E+03							x				x			x			
93-72-1	2,4,5-TP		-	1.06E+03							x					x		x			
95-95-4	2,4,5-Trichlorophenol		1.01E+06	1.33E+04											x	x					
88-06-2	2,4,6-Trichlorophenol		9.82E+02	1.33E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		3.60E+02	6.65E+01			x									x					
120-83-2	2,4-Dichlorophenol		-	3.99E+02										x							
105-67-9	2,4-Dimethylphenol		-	2.66E+03				x													
51-28-5	2,4-Dinitrophenol		-	2.66E+02								x									
121-14-2	2,4-Dinitrotoluene		3.48E+01	2.66E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	7.98E+01				x							x	x					
606-20-2	2,6-Dinitrotoluene		1.59E+01	1.33E+02			x	x								x	x				
95-57-8	2-Chlorophenol		-	8.52E+02														x			
95-48-7	2-Cresol		-	6.65E+03													x				
91-57-6	2-Methylnaphthalene		-	4.99E+02															x		
91-94-1	3,3-Dichlorobenzidine		2.40E+01	-			x							x						x	
108-39-4	3-Cresol		-	6.65E+03													x		x		
106-47-8	4-Chloroaniline		5.40E+01	6.65E+01			x	x													

Cancer	Blood	Cardiovascular

RAGS Workbook
Residential Exposure Scenario

CITY OF PORTLAND, MAINE
RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (2 ft)

106-44-5	4-Cresol		-	6.65E+02										x		x					
83-32-9	Acenaphthene		-	7.47E+03									x			x					
208-96-8	Acenaphthylene		-	7.49E+03									x			x					
67-64-1	Acetone		-	1.53E+05			x					x		x							
75-05-8	Acetonitrile		-	2.61E+05			x						x								
107-02-8	Acrolein		-	8.52E+01			x	x			x	x					x				
107-13-1	Acrylonitrile		2.63E+01	1.70E+02			x	x		x					x	x	x				
15972-60-8	Alachlor		1.93E+02	1.33E+03			x	x			x							x			
309-00-2	Aldrin		6.35E-01	3.99E+00			x			x			x	x							
107-05-1	Allyl chloride		6.76E+02	1.71E+05			x								x						
7429-90-5	Aluminum		-	1.70E+05						x					x						
120-12-7	Anthracene		-	3.48E+04							x			x	x		x				
7440-36-0	Antimony		-	6.81E+01							x										
12674-11-2	Aroclor 1016		4.93E+00	8.57E+00			x			x	x				x						
7440-38-2	Arsenic	11.90	1.37E+00	4.71E+01	8.7E-05	0.25	x		x	x			x		x	x			x		
1912-24-9	Atrazine		4.70E+01	1.33E+02			x	x	x		x			x			x				
7440-39-3	Barium		-	3.41E+04								x									
71-43-2	Benzene		2.58E+02	8.52E+01			x	x			x			x							
65-85-0	Benzoic acid		-	5.32E+05																	x
56-55-3	Benzo(a)anthracene		2.62E+00	5.00E+03			x					x	x								
50-32-8	Benzo(a)pyrene		2.62E-01	5.00E+03			x					x	x								
205-99-2	Benzo(b)fluoranthene		2.62E+00	5.00E+03			x					x	x								
191-24-2	Benzo(g,h,i)perylene		-	3.75E+03								x	x								
207-08-9	Benzo(k)fluoranthene		2.62E+01	5.00E+03			x					x	x								
100-44-7	Benzyl chloride		8.35E+01	3.41E+02			x					x	x	x		x					
7440-41-7	Beryllium		3.86E+05	3.41E+02			x				x	x				x	x				
111-44-4	Bis(2-chloroethyl)ether		9.80E+00	-			x														
117-81-7	Bis(2-Ethylhexyl)phthalate		7.72E+02	7.98E+03			x			x	x					x					
75-27-4	Bromodichloromethane		2.29E+02	3.41E+03			x					x	x								
75-25-2	Bromoform		1.37E+03	2.66E+03			x						x			x					
74-83-9	Bromomethane		-	2.38E+02							x			x		x					
85-68-7	Butyl benzyl phthalate		5.69E+03	2.66E+04			x			x	x			x	x						
7440-43-9	Cadmium	1.07	5.15E+05	1.07E+01	2.1E-11	0.10	x						x	x				x			2.1E-11	
86-74-8	Carbazole		5.40E+02	-			x														
75-15-0	Carbon disulfide		-	1.70E+04					x	x		x		x	x						
56-23-5	Carbon tetrachloride		2.03E+02	6.81E+02			x					x	x								
57-74-9	Chlordane		3.60E+01	7.66E+01			x			x	x		x	x							
115-28-6	Chlorendic acid		1.19E+02	-			x														
108-90-7	Chlorobenzene		-	3.41E+03							x		x	x		x					
67-66-3	Chloroform		4.57E+02	1.70E+03			x							x							
74-87-3	Chloromethane		-	4.06E+06					x	x				x	x	x					
16065-83-1	Chromium (+3)		-	2.56E+05										x							
18540-29-9	Chromium (+6)		3.05E+04	5.11E+02			x			x						x	x				
218-01-9	Chrysene		2.62E+02	2.50E+03			x	x					x	x		x		x			
7440-48-4	Cobalt		1.03E+05	5.11E+01			x	x	x	x			x			x		x	x		
7440-50-8	Copper		-	2.38E+03							x		x								
57-12-5	Cyanide		-	1.02E+02						x			x		x						
72-54-8	DDD		4.50E+01	6.65E+01			x			x	x		x	x	x	x					

RAGS Workbook
Residential Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (2 ft)

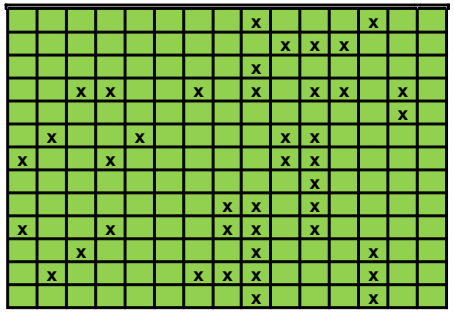
72-55-9	DDE		3.18E+01	6.65E+01			x			x	x			x	x		x						
50-29-3	DDT		3.82E+01	7.86E+01			x			x	x			x	x		x						
53-70-3	Dibenz(a,h)anthracene		2.62E-01	3.75E+03			x							x									
132-64-9	Dibenzofuran		-	1.33E+02										x									
124-48-1	Dibromochloromethane		1.69E+02	3.41E+03			x							x	x								
84-74-2	Dibutyl phthalate		-	1.33E+04						x	x						x						
75-71-8	Dichlorodifluoromethane		-	3.41E+04											x								
84-66-2	Diethyl phthalate		-	1.06E+05							x				x		x						
60-57-1	Dieldrin		6.75E-01	6.65E+00			x							x	x	x							
88-85-7	Dinoseb		-	1.33E+02													x						
1746-01-6	Dioxin-Like Compounds - TEQ		9.98E-05	1.10E-04			x			x	x			x	x	x	x						
115-29-7	Endosulfan		-	7.98E+02					x		x			x	x	x	x						
72-20-8	Endrin		-	3.99E+01						x				x	x	x							
100-41-4	Ethylbenzene		1.29E+03	1.70E+04			x			x				x	x	x							
106-93-4	Ethylene dibromide		7.09E+00	1.53E+03			x			x	x				x		x	x					
75-00-3	Ethyl chloride		-	1.70E+03						x													
206-44-0	Fluoranthene		-	5.00E+03										x	x								
86-73-7	Fluorene		-	4.99E+03				x							x			x					
76-44-8	Heptachlor		2.40E+00	1.33E+00			x			x				x	x								
1024-57-3	Heptachlor epoxide		1.19E+00	1.73E+00			x								x								
118-74-1	Hexachlorobenzene		6.75E+00	1.06E+02			x				x			x			x						
87-68-3	Hexachlorobutadiene		1.38E+02	1.33E+02			x							x	x	x							
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		1.71E+00	1.06E+03			x								x								
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		6.00E+00	7.98E+00			x								x	x							
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		1.15E+01	6.13E-01			x			x	x			x	x								
67-72-1	Hexachloroethane		2.70E+02	9.32E+01			x							x	x	x							
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		9.82E+01	3.99E+02			x									x	x						
193-39-5	Indeno(1,2,3-cd)pyrene		2.62E+00	5.00E+03			x							x	x								
7439-89-6	Iron		-	1.19E+05								x		x									
121-75-5	Malathion		-	2.66E+03												x		x					
7439-96-5	Manganese		-	4.08E+03												x							
7487-94-7	Mercuric chloride & other inorganic mercury compou		-	5.11E+01									x	x									
72-43-5	Methoxychlor		-	6.65E+02						x	x			x			x						
78-93-3	Methyl ethyl ketone		-	1.02E+05						x													
108-10-1	Methyl isobutyl ketone		-	1.36E+04						x				x	x								
80-62-6	Methyl methacrylate		-	2.38E+05								x	x					x	x				
1634-04-4	Methyl tert-butyl ether		7.89E+03	5.11E+03			x				x			x	x	x							
75-09-2	Methylene chloride		7.10E+03	1.02E+03			x								x	x		x					
7439-98-7	Molybdenum		-	8.52E+02										x									
106-94-5	n-Propyl bromide		-	1.86E+02						x		x				x	x	x					
91-20-3	Naphthalene		4.90E+06	2.50E+03			x	x					x	x		x		x					
7440-02-0	Nickel		3.56E+06	5.11E+02			x						x	x				x	x				
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	6.65E+03											x	x							
117-84-0	Octyl Phthalate, di-n-		-	1.60E+03							x			x	x								
56-38-2	Parathion		-	7.98E+02												x							
1336-36-3	PCBs		4.93E+00	2.45E+00			x			x			x			x	x		x				
87-86-5	Pentachlorophenol		1.99E+01	5.01E+02			x			x	x			x	x	x	x	x					
14797-73-0	Perchlorate		-	2.04E+01							x												

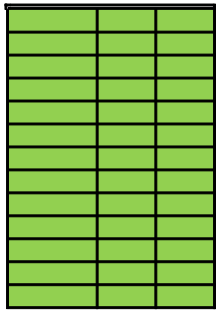
RAGS Workbook
Residential Exposure Scenario

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Project Name	50 India Street
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Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (2 ft)

85-01-8	Phenanthrene		-	3.74E+03		
108-95-2	Phenol		-	3.99E+04		
129-00-0	Pyrene		-	3.75E+03		
7782-49-2	Selenium		-	8.52E+02		
7440-22-4	Silver		-	8.52E+02		
100-42-5	Styrene		-	3.41E+04		
127-18-4	Tetrachloroethene		6.76E+03	1.02E+03		
298-02-2	Thimet (Phorate)		-	2.66E+01		
108-88-3	Toluene		-	1.36E+04		
79-01-6	Trichloroethene		1.62E+02	8.51E+01		
75-69-4	Trichlorofluoromethane		-	5.11E+04		
7440-62-2	Vanadium		-	1.19E+03		
108-05-4	Vinyl acetate		-	1.70E+05		





RAGS Workbook
Outdoor Commercial Worker Exposure Scenario



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Remediation No.	VRAP
Sample No.	Sample B-7 (2 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			1.8E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.8E+03	5.1E+04			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.4E+02	3.4E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.4E+06												x	x				
79-00-5	1,1,2-Trichloroethane		8.3E+02	6.8E+03			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.5E+04											x						
75-34-3	1,1-Dichloroethane		8.4E+03	3.4E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.5E+04							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.6E+03	1.5E+04			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		4.7E+01	3.3E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.1E+04											x						
107-06-2	1,2-Dichloroethane		5.2E+02	3.4E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.4E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.4E+04				x								x			x		
78-87-5	1,2-Dichloropropane		1.3E+03	6.1E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.0E+02				x													
106-99-0	1,3-Butadiene		1.4E+01	7.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.4E+02							x										
142-28-9	1,3-Dichloropropane		-	3.4E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.8E+02	5.1E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.0E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.8E+03	1.2E+05			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.0E+02				x													
123-91-1	1,4-Dioxane		2.9E+02	3.1E+04			x	x							x	x					
93-76-5	2,4,5-T		-	1.0E+04						x					x			x			
93-72-1	2,4,5-TP		-	8.2E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		1.0E+06	1.0E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		2.6E+03	1.0E+03			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		9.6E+02	5.1E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	3.1E+03										x							
105-67-9	2,4-Dimethylphenol		-	2.1E+04				x													
51-28-5	2,4-Dinitrophenol		-	2.1E+03								x									
121-14-2	2,4-Dinitrotoluene		9.3E+01	2.1E+03			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	6.2E+02				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.2E+01	1.0E+03			x	x								x	x				

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Sample No.	Sample B-7 (2 ft)

95-57-8	2-Chlorophenol		-	8.5E+03		
95-48-7	2-Cresol		-	5.1E+04		
91-57-6	2-Methylnaphthalene		-	3.6E+03		
91-94-1	3,3-Dichlorobenzidine		6.4E+01	-		
108-39-4	3-Cresol		-	5.1E+04		
106-47-8	4-Chloroaniline		1.4E+02	5.1E+02		
106-44-5	4-Cresol		-	5.1E+03		
83-32-9	Acenaphthene		-	5.4E+04		
208-96-8	Acenaphthylene		-	5.5E+04		
67-64-1	Acetone		-	1.5E+06		
75-05-8	Acetonitrile		-	2.2E+05		
107-02-8	Acrolein		-	8.5E+02		
107-13-1	Acrylonitrile		8.8E+01	1.7E+03		
15972-60-8	Alachlor		5.1E+02	1.0E+04		
309-00-2	Aldrin		1.7E+00	3.1E+01		
107-05-1	Allyl chloride		2.3E+03	1.4E+05		
7429-90-5	Aluminum		-	1.7E+06		
120-12-7	Anthracene		-	1.6E+05		
7440-36-0	Antimony		-	6.8E+02		
12674-11-2	Aroclor 1016		1.2E+01	6.2E+01		
7440-38-2	Arsenic	11.90	4.2E+00	4.3E+02	2.8E-05	0.03
1912-24-9	Atrazine		1.2E+02	1.0E+03		
7440-39-3	Barium		-	3.4E+05		
71-43-2	Benzene		8.7E+02	8.5E+02		
65-85-0	Benzoic acid		-	4.1E+06		
56-55-3	Benzo(a)anthracene		3.5E+01	3.7E+04		
50-32-8	Benzo(a)pyrene		3.5E+00	3.7E+04		
205-99-2	Benzo(b)fluoranthene		3.5E+01	3.7E+04		
191-24-2	Benzo(g,h,i)perylene		-	2.8E+04		
207-08-9	Benzo(k)fluoranthene		3.5E+02	3.7E+04		
100-44-7	Benzyl chloride		2.8E+02	3.4E+03		
7440-41-7	Beryllium		4.6E+05	3.4E+03		
111-44-4	Bis(2-chloroethyl)ether		2.6E+01	-		
117-81-7	Bis(2-Ethylhexyl)phthalate		2.1E+03	6.2E+04		
75-27-4	Bromodichloromethane		7.7E+02	3.4E+04		
75-25-2	Bromoform		3.6E+03	2.1E+04		
74-83-9	Bromomethane		-	2.4E+03		
85-68-7	Butyl benzyl phthalate		1.5E+04	2.1E+05		
7440-43-9	Cadmium	1.07	6.2E+05	9.4E+01	1.7E-11	0.01
86-74-8	Carbazole		1.4E+03	-		
75-15-0	Carbon disulfide		-	1.7E+05		
56-23-5	Carbon tetrachloride		6.8E+02	6.8E+03		

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Sample No.	Sample B-7 (2 ft)

57-74-9	Chlordane		1.1E+02	6.7E+02			x			x	x		x	x			
115-28-6	Chlorendic acid		3.2E+02	-			x										
108-90-7	Chlorobenzene		-	3.4E+04							x		x	x		x	
67-66-3	Chloroform		1.5E+03	1.7E+04			x							x			
74-87-3	Chloromethane		-	3.4E+06				x	x					x	x	x	
16065-83-1	Chromium (+3)		-	2.6E+06										x			
18540-29-9	Chromium (+6)		9.3E+04	5.1E+03			x			x			x			x	x
218-01-9	Chrysene		3.5E+03	1.8E+04			x	x						x	x		
7440-48-4	Cobalt		1.2E+05	5.1E+02			x	x	x	x			x			x	x
7440-50-8	Copper		-	2.4E+04								x		x			
57-12-5	Cyanide		-	1.0E+03							x			x			
72-54-8	DDD		1.2E+02	5.1E+02			x			x	x		x	x	x	x	
72-55-9	DDE		8.5E+01	5.1E+02			x			x	x		x	x		x	
50-29-3	DDT		1.2E+02	7.1E+02			x			x	x		x	x		x	
53-70-3	Dibenz(a,h)anthracene		3.5E+00	2.8E+04			x						x				
132-64-9	Dibenzofuran		-	1.0E+03									x				
124-48-1	Dibromochloromethane		5.6E+02	3.4E+04			x						x	x			
84-74-2	Dibutyl phthalate		-	1.0E+05						x	x					x	
75-71-8	Dichlorodifluoromethane		-	3.4E+05										x			
84-66-2	Diethyl phthalate		-	8.2E+05							x			x		x	
60-57-1	Dieldrin		1.8E+00	5.1E+01			x						x	x	x		
88-85-7	Dinoseb		-	1.0E+03												x	
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-04	1.0E-03			x			x	x		x	x	x	x	
115-29-7	Endosulfan		-	6.2E+03					x		x		x	x	x	x	
72-20-8	Endrin		-	3.1E+02						x			x	x	x		
100-41-4	Ethylbenzene		4.3E+03	1.7E+05			x			x			x	x	x		
106-93-4	Ethylene dibromide		2.4E+01	1.5E+04			x			x	x			x		x	x
75-00-3	Ethyl chloride		-	1.7E+04						x							
206-44-0	Fluoranthene		-	3.7E+04									x	x			
86-73-7	Fluorene		-	3.7E+04				x						x			x
76-44-8	Heptachlor		6.4E+00	1.0E+01			x			x			x	x			
1024-57-3	Heptachlor epoxide		3.2E+00	1.3E+01			x							x			
118-74-1	Hexachlorobenzene		1.8E+01	8.2E+02			x				x		x		x		
87-68-3	Hexachlorobutadiene		3.7E+02	1.0E+03			x						x	x	x		
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		4.6E+00	8.2E+03			x							x			
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.6E+01	6.2E+01			x							x	x		
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.4E+01	5.4E+00			x			x	x		x	x			
67-72-1	Hexachloroethane		7.2E+02	7.2E+02			x						x	x	x		
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		2.6E+02	3.1E+03			x								x	x	
193-39-5	Indeno(1,2,3-cd)pyrene		3.5E+01	3.7E+04			x						x	x			
7439-89-6	Iron		-	1.2E+06								x		x			
121-75-5	Malathion		-	2.1E+04											x		x

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Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (2 ft)

7439-96-5	Manganese		-	4.0E+04							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	5.1E+02						x	x				
72-43-5	Methoxychlor		-	5.1E+03				x	x			x				
78-93-3	Methyl ethyl ketone		-	1.0E+06				x								
108-10-1	Methyl isobutyl ketone		-	1.4E+05				x				x	x			
80-62-6	Methyl methacrylate		-	2.4E+06						x	x				x	x
1634-04-4	Methyl tert-butyl ether		2.6E+04	5.1E+04			x					x	x	x		
75-09-2	Methylene chloride		2.4E+04	1.0E+04			x						x	x	x	
7439-98-7	Molybdenum		-	8.5E+03								x				
106-94-5	n-Propyl bromide		-	1.4E+03				x			x			x	x	x
91-20-3	Naphthalene		5.2E+06	1.8E+04			x	x			x	x		x		x
7440-02-0	Nickel		4.3E+06	5.1E+03			x				x	x				x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	5.1E+04									x	x		
117-84-0	Octyl Phthalate, di-n-		-	1.2E+04					x			x	x			
56-38-2	Parathion		-	6.2E+03										x		
1336-36-3	PCBs		1.2E+01	1.8E+01			x				x			x	x	
87-86-5	Pentachlorophenol		4.5E+01	3.2E+03			x		x	x		x	x	x	x	x
14797-73-0	Perchlorate		-	2.0E+02					x							
85-01-8	Phenanthrene		-	2.7E+04								x				x
108-95-2	Phenol		-	3.1E+05									x	x	x	
129-00-0	Pyrene		-	2.8E+04								x				
7782-49-2	Selenium		-	8.5E+03				x	x		x			x	x	
7440-22-4	Silver		-	8.5E+03												x
100-42-5	Styrene		-	3.4E+05			x			x				x	x	
127-18-4	Tetrachloroethene		2.3E+04	1.0E+04			x			x				x	x	
298-02-2	Thimet (Phorate)		-	2.1E+02											x	
108-88-3	Toluene		-	1.4E+05							x	x			x	
79-01-6	Trichloroethene		1.0E+03	8.5E+02			x			x	x	x				
75-69-4	Trichlorofluoromethane		-	5.1E+05				x				x				x
7440-62-2	Vanadium		-	1.2E+04				x		x	x	x				x
108-05-4	Vinyl acetate		-	1.7E+06								x				x

RAGS Workbook
Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (2 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	1.9E+07																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.7E+04	9.3E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.2E+03	1.5E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	1.7E+06												x	x				
79-00-5	1,1,2-Trichloroethane		5.4E+03	1.2E+04			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	1.5E+04											x						
75-34-3	1,1-Dichloroethane		7.6E+04	5.9E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	1.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	4.2E+02							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.5E+04	4.3E+02			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		5.1E+01	2.7E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	1.5E+05											x						
107-06-2	1,2-Dichloroethane		3.7E+03	5.7E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	6.2E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	5.9E+04				x								x			x		
78-87-5	1,2-Dichloropropane		8.7E+03	5.5E+03			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	2.4E+02				x													
106-99-0	1,3-Butadiene		1.3E+02	1.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	6.2E+03							x										
142-28-9	1,3-Dichloropropane		-	6.2E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.3E+03	1.2E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.2E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.0E+04	2.1E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	2.4E+02				x													
123-91-1	1,4-Dioxane		3.3E+03	7.1E+03			x	x							x	x					
93-76-5	2,4,5-T		-	2.4E+04						x					x			x			
93-72-1	2,4,5-TP		-	1.9E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		6.1E+05	2.4E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		3.0E+04	2.4E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		1.1E+04	1.2E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	7.1E+02										x							
105-67-9	2,4-Dimethylphenol		-	1.2E+04				x													
51-28-5	2,4-Dinitrophenol		-	4.8E+03								x									
121-14-2	2,4-Dinitrotoluene		1.1E+03	4.8E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	1.4E+03				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.9E+02	9.5E+02			x	x								x	x				

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Project Name	50 India Street
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Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (2 ft)

95-57-8	2-Chlorophenol		-	2.5E+03								x				
95-48-7	2-Cresol		-	2.4E+04								x				
91-57-6	2-Methylnaphthalene		-	6.0E+02									x			
91-94-1	3,3-Dichlorobenzidine		7.4E+02	-			x							x		
108-39-4	3-Cresol		-	2.4E+04								x		x		
106-47-8	4-Chloroaniline		1.7E+03	1.2E+02			x	x								
106-44-5	4-Cresol		-	2.4E+04								x		x		
83-32-9	Acenaphthene		-	9.8E+03							x			x		
208-96-8	Acenaphthylene		-	6.5E+04							x			x		
67-64-1	Acetone		-	6.2E+05				x			x					
75-05-8	Acetonitrile		-	3.2E+03				x			x					
107-02-8	Acrolein		-	1.2E+03				x	x	x				x		
107-13-1	Acrylonitrile		8.0E+02	3.1E+03			x	x		x		x	x	x		
15972-60-8	Alachlor		6.0E+03	2.4E+03			x	x			x				x	
309-00-2	Aldrin		2.0E+01	9.5E+00			x			x	x					
107-05-1	Allyl chloride		2.1E+04	1.0E+04			x				x					
7429-90-5	Aluminum		-	3.1E+05							x					
120-12-7	Anthracene		-	3.8E+03					x		x	x		x		
7440-36-0	Antimony		-	1.2E+02					x							
12674-11-2	Aroclor 1016		1.5E+02	4.6E+01			x		x			x				
7440-38-2	Arsenic	11.90	4.2E+01	8.5E+01	2.8E-06	0.14	x		x	x		x		x	x	
1912-24-9	Atrazine		1.5E+03	7.1E+02			x	x	x		x		x		x	
7440-39-3	Barium		-	6.2E+04							x					
71-43-2	Benzene		7.9E+03	1.5E+02			x	x			x					
65-85-0	Benzoic acid		-	7.2E+05												x
56-55-3	Benzo(a)anthracene		4.3E+02	1.0E+15			x				x	x				
50-32-8	Benzo(a)pyrene		4.3E+01	1.0E+15			x				x	x				
205-99-2	Benzo(b)fluoranthene		4.3E+02	1.0E+15			x				x	x				
191-24-2	Benzo(g,h,i)perylene		-	6.7E+04							x	x				
207-08-9	Benzo(k)fluoranthene		4.3E+03	1.0E+15			x				x	x				
100-44-7	Benzyl chloride		2.6E+03	6.2E+02			x				x	x	x		x	
7440-41-7	Beryllium		3.5E+06	6.2E+02			x		x	x				x	x	
111-44-4	Bis(2-chloroethyl)ether		2.5E+02	3.6E+04			x									
117-81-7	Bis(2-Ethylhexyl)phthalate		2.4E+04	2.4E+04			x			x	x			x		
75-27-4	Bromodichloromethane		7.0E+03	6.2E+03			x				x	x				
75-25-2	Bromoform		3.7E+04	4.8E+04			x					x			x	
74-83-9	Bromomethane		-	9.3E+02						x			x		x	
85-68-7	Butyl benzyl phthalate		1.8E+05	4.8E+05			x			x	x	x				
7440-43-9	Cadmium	1.07	4.6E+06	1.9E+01	2.3E-12	0.06	x					x	x			
86-74-8	Carbazole		1.7E+04	-			x									
75-15-0	Carbon disulfide		-	3.1E+04					x	x		x		x	x	
56-23-5	Carbon tetrachloride		5.6E+03	2.8E+03			x					x	x			

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Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (2 ft)

57-74-9	Chlordane		1.1E+03	1.7E+02			x			x	x			x	x				
115-28-6	Chlorendic acid		3.7E+03	-			x												
108-90-7	Chlorobenzene		-	1.1E+05								x		x	x		x		
67-66-3	Chloroform		1.2E+04	2.9E+04			x								x				
74-87-3	Chloromethane		-	5.7E+05					x	x					x	x	x		
16065-83-1	Chromium (+3)		-	4.6E+05											x				
18540-29-9	Chromium (+6)		6.9E+05	2.8E+03			x			x		x					x	x	
218-01-9	Chrysene		4.3E+04	1.3E+05			x	x					x	x		x		x	
7440-48-4	Cobalt		9.3E+05	9.2E+02			x	x	x	x			x			x		x	x
7440-50-8	Copper		-	4.3E+03								x		x					
57-12-5	Cyanide		-	1.9E+03							x			x		x			
72-54-8	DDD		1.4E+03	1.2E+02			x			x	x			x	x	x	x		
72-55-9	DDE		9.8E+02	1.2E+02			x			x	x			x	x		x		
50-29-3	DDT		1.2E+03	1.4E+02			x			x	x			x	x		x		
53-70-3	Dibenz(a,h)anthracene		4.3E+01	6.7E+04			x							x					
132-64-9	Dibenzofuran		-	9.5E+02										x					
124-48-1	Dibromochloromethane		4.3E+03	6.2E+04			x							x	x				
84-74-2	Dibutyl phthalate		-	2.4E+04						x	x						x		
75-71-8	Dichlorodifluoromethane		-	6.2E+04											x				
84-66-2	Diethyl phthalate		-	1.4E+06							x				x		x		
60-57-1	Dieldrin		2.1E+01	2.4E+01			x							x	x	x			
88-85-7	Dinoseb		-	2.4E+02													x		
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-03	5.7E-03			x			x	x		x	x	x	x	x		
115-29-7	Endosulfan		-	1.4E+03					x		x		x	x	x	x			
72-20-8	Endrin		-	4.8E+02						x				x	x	x			
100-41-4	Ethylbenzene		3.9E+04	1.2E+05			x			x				x	x	x			
106-93-4	Ethylene dibromide		1.8E+02	1.7E+03			x			x	x				x		x	x	
75-00-3	Ethyl chloride		-	3.1E+04						x									
206-44-0	Fluoranthene		-	8.9E+04										x	x				
86-73-7	Fluorene		-	6.1E+04				x							x			x	
76-44-8	Heptachlor		7.4E+01	2.4E+01			x			x				x	x				
1024-57-3	Heptachlor epoxide		3.7E+01	3.1E+00			x								x				
118-74-1	Hexachlorobenzene		2.1E+02	1.9E+02			x				x		x		x		x		
87-68-3	Hexachlorobutadiene		4.3E+03	2.4E+02			x							x	x	x			
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		5.3E+01	1.9E+03			x								x				
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.9E+02	1.4E+02			x								x	x			
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.5E+02	2.8E+00			x			x	x		x	x					
67-72-1	Hexachloroethane		8.3E+03	2.4E+03			x							x	x	x			
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		3.0E+03	7.1E+03			x									x	x		
193-39-5	Indeno(1,2,3-cd)pyrene		4.3E+02	8.9E+04			x							x	x				
7439-89-6	Iron		-	2.2E+05								x		x					
121-75-5	Malathion		-	4.8E+03												x		x	

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (2 ft)

7439-96-5	Manganese		-	7.4E+03							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	9.3E+02					x	x					
72-43-5	Methoxychlor		-	1.2E+03				x	x			x	x		
78-93-3	Methyl ethyl ketone		-	1.9E+05				x							
108-10-1	Methyl isobutyl ketone		-	2.5E+05				x				x	x		
80-62-6	Methyl methacrylate		-	4.3E+05						x	x			x	x
1634-04-4	Methyl tert-butyl ether		2.4E+05	9.3E+04			x		x			x	x	x	
75-09-2	Methylene chloride		2.2E+05	1.9E+04			x						x	x	
7439-98-7	Molybdenum		-	1.5E+03							x				
106-94-5	n-Propyl bromide		-	7.1E+02				x		x			x	x	x
91-20-3	Naphthalene		8.3E+06	1.1E+05			x	x			x	x		x	
7440-02-0	Nickel		3.2E+07	9.3E+02			x				x	x		x	x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	1.2E+04								x	x		
117-84-0	Octyl Phthalate, di-n-		-	2.9E+03				x				x	x		
56-38-2	Parathion		-	1.4E+03									x		
1336-36-3	PCBs		1.5E+02	6.5E+00			x		x				x	x	x
87-86-5	Pentachlorophenol		6.2E+02	8.8E+02			x	x	x			x	x	x	x
14797-73-0	Perchlorate		-	3.7E+01					x						
85-01-8	Phenanthrene		-	8.9E+03							x			x	
108-95-2	Phenol		-	7.1E+04								x	x	x	
129-00-0	Pyrene		-	6.7E+04							x				
7782-49-2	Selenium		-	1.5E+03			x	x		x		x		x	x
7440-22-4	Silver		-	1.5E+03											x
100-42-5	Styrene		-	6.2E+05		x			x				x	x	
127-18-4	Tetrachloroethene		2.0E+05	2.7E+04		x		x					x	x	
298-02-2	Thimet (Phorate)		-	4.8E+01										x	
108-88-3	Toluene		-	2.5E+05							x	x		x	
79-01-6	Trichloroethene		9.0E+03	1.4E+02		x		x			x	x		x	
75-69-4	Trichlorofluoromethane		-	9.2E+04			x					x			x
7440-62-2	Vanadium		-	2.2E+03		x				x	x	x			x
108-05-4	Vinyl acetate		-	3.1E+05								x			x

Soil Input Sheet and
Summary of Total Incremental Lifetime Cancer Risks
and Endpoint-Specific Hazard Indices



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Input Sheet

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Exposure Point Conc No.	Sample B-7 (4 ft)

CAS No.	Compound	Soil Conc (mg/kg)
	Napthalene	1.70
91-57-6	2-Methylnaphthalene	1.30
85-01-8	Phenanthrene	3.20
208-96-8	Acenaphthylene	
83-32-9	Acenaphthene	
120-12-7	Anthracene	0.76
56-55-3	Benzo(a)anthracene	1.00
50-32-8	Benzo(a)pyrene	0.84
	Benzo(b)fluoranthene	0.77
191-24-2	Benzo(g,h,i)perylene	0.54
	Benzo(k)fluoranthene	0.82
	Chrysene	1.10
	Dibenzo(a,h)anthracene	
206-44-0	Fluoranthene	2.00
86-73-7	Fluorene	1.60
132-64-9	Dibenzofuran	
86-74-8	Carbazole	
117-81-7	Bis(2-Ethylhexyl)Phthalate	
	Indeno(1,2,3-cd)pyrene	0.45
129-00-0	Pyrene	2.00
7440-38-2	Arsenic	
7440-39-3	Barium	
7440-43-9	Cadmium	
	Chromium	
7439-92-1	Lead	
	Mercury (ug/g)	
	Selenium	
7440-22-4	Silver	
DEP2043	C9-C18 Aliphatics	500.00
DEP2042	C19-C36 Aliphatics	58.00
DEP2041	C11-C22 Aromatics	220.00

	Residential	Park/Rec	Commercial	Construction
	ILCR			
Cancer	3.6E-05	2.2E-05	2.7E-06	2.2E-07
	HQ			
Blood	0.04	0.02	0.00	0.00
Cardio	0.00	0.00	0.00	0.00
Dev	0.00	0.00	0.00	0.00
Endo	0.00	0.00	0.00	0.00
Eye	0.00	0.00	0.00	0.00
Gastro	0.00	0.00	0.00	0.00
Immune	0.00	0.00	0.00	0.00
Kidney	0.06	0.04	0.01	0.00
Liver	0.04	0.02	0.01	0.00
Nervous	0.00	0.00	0.00	0.00
Reprod	0.00	0.00	0.00	0.00
Resp	0.00	0.00	0.00	0.00
Skin	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00

RAGS Workbook
Residential Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (4 ft)

CAS No.	Compound	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	2.16E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		5.46E+02	5.11E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		7.10E+01	3.41E+03			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.41E+05												x	x				
79-00-5	1,1,2-Trichloroethane		2.48E+02	6.81E+02			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.52E+03											x						
75-34-3	1,1-Dichloroethane		2.49E+03	3.41E+04			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.52E+03												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.68E+03							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		4.89E+02	1.68E+03			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		3.26E+00	3.40E+01			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.11E+03											x						
107-06-2	1,2-Dichloroethane		1.56E+02	3.41E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.41E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.41E+03				x								x			x		
78-87-5	1,2-Dichloropropane		3.92E+02	1.36E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.33E+01				x													
106-99-0	1,3-Butadiene		4.17E+00	6.99E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.41E+01							x										
142-28-9	1,3-Dichloropropane		-	3.41E+03					x						x				x		
542-75-6	1,3-Dichloropropene		1.42E+02	5.11E+03			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.33E+01				x										x			
106-46-7	1,4-Dichlorobenzene		2.63E+03	1.19E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.33E+01				x													
123-91-1	1,4-Dioxane		1.08E+02	3.99E+03			x	x							x	x					
93-76-5	2,4,5-T		-	1.33E+03							x				x			x			
93-72-1	2,4,5-TP		-	1.06E+03							x					x		x			
95-95-4	2,4,5-Trichlorophenol		1.01E+06	1.33E+04											x	x					
88-06-2	2,4,6-Trichlorophenol		9.82E+02	1.33E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		3.60E+02	6.65E+01			x									x					
120-83-2	2,4-Dichlorophenol		-	3.99E+02										x							
105-67-9	2,4-Dimethylphenol		-	2.66E+03				x													
51-28-5	2,4-Dinitrophenol		-	2.66E+02								x									
121-14-2	2,4-Dinitrotoluene		3.48E+01	2.66E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	7.98E+01				x							x	x					
606-20-2	2,6-Dinitrotoluene		1.59E+01	1.33E+02			x	x								x	x				
95-57-8	2-Chlorophenol		-	8.52E+02														x			
95-48-7	2-Cresol		-	6.65E+03													x				
91-57-6	2-Methylnaphthalene	1.30	-	4.99E+02		0.00													x		
91-94-1	3,3-Dichlorobenzidine		2.40E+01	-			x							x						x	
108-39-4	3-Cresol		-	6.65E+03													x		x		
106-47-8	4-Chloroaniline		5.40E+01	6.65E+01			x	x													

Cancer	Blood	Cardiovascular

RAGS Workbook
Residential Exposure Scenario



Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (4 ft)

106-44-5	4-Cresol		-	6.65E+02									x		x				
83-32-9	Acenaphthene		-	7.47E+03								x			x				
208-96-8	Acenaphthylene		-	7.49E+03								x			x				
67-64-1	Acetone		-	1.53E+05				x			x		x						
75-05-8	Acetonitrile		-	2.61E+05								x							
107-02-8	Acrolein		-	8.52E+01						x	x				x				
107-13-1	Acrylonitrile		2.63E+01	1.70E+02									x	x	x				
15972-60-8	Alachlor		1.93E+02	1.33E+03				x			x					x			
309-00-2	Aldrin		6.35E-01	3.99E+00							x	x							
107-05-1	Allyl chloride		6.76E+02	1.71E+05									x						
7429-90-5	Aluminum		-	1.70E+05									x						
120-12-7	Anthracene	0.76	-	3.48E+04		0.00				x		x			x				
7440-36-0	Antimony		-	6.81E+01						x									
12674-11-2	Aroclor 1016		4.93E+00	8.57E+00						x			x						
7440-38-2	Arsenic		1.37E+00	4.71E+01				x		x		x							
1912-24-9	Atrazine		4.70E+01	1.33E+02						x				x		x			
7440-39-3	Barium		-	3.41E+04								x							
71-43-2	Benzene		2.58E+02	8.52E+01						x			x						
65-85-0	Benzoic acid		-	5.32E+05															x
56-55-3	Benzo(a)anthracene	1.00	2.62E+00	5.00E+03	3.8E-06	0.00						x	x						3.8E-06
50-32-8	Benzo(a)pyrene	0.84	2.62E-01	5.00E+03	3.2E-05	0.00						x	x						3.2E-05
205-99-2	Benzo(b)fluoranthene		2.62E+00	5.00E+03								x	x						
191-24-2	Benzo(g,h,i)perylene	0.54	-	3.75E+03		0.00						x	x						
207-08-9	Benzo(k)fluoranthene		2.62E+01	5.00E+03								x	x						
100-44-7	Benzyl chloride		8.35E+01	3.41E+02								x	x	x		x			
7440-41-7	Beryllium		3.86E+05	3.41E+02						x	x					x	x		
111-44-4	Bis(2-chloroethyl)ether		9.80E+00	-															
117-81-7	Bis(2-Ethylhexyl)phthalate		7.72E+02	7.98E+03						x	x				x				
75-27-4	Bromodichloromethane		2.29E+02	3.41E+03								x	x						
75-25-2	Bromoform		1.37E+03	2.66E+03									x			x			
74-83-9	Bromomethane		-	2.38E+02						x				x		x			
85-68-7	Butyl benzyl phthalate		5.69E+03	2.66E+04						x	x			x	x				
7440-43-9	Cadmium		5.15E+05	1.07E+01								x	x				x		
86-74-8	Carbazole		5.40E+02	-															
75-15-0	Carbon disulfide		-	1.70E+04						x				x	x				
56-23-5	Carbon tetrachloride		2.03E+02	6.81E+02								x	x						
57-74-9	Chlordane		3.60E+01	7.66E+01								x	x						
115-28-6	Chlorendic acid		1.19E+02	-															
108-90-7	Chlorobenzene		-	3.41E+03						x		x	x		x				
67-66-3	Chloroform		4.57E+02	1.70E+03									x						
74-87-3	Chloromethane		-	4.06E+06									x	x	x				
16065-83-1	Chromium (+3)		-	2.56E+05									x						
18540-29-9	Chromium (+6)		3.05E+04	5.11E+02						x					x	x			
218-01-9	Chrysene		2.62E+02	2.50E+03								x	x		x		x		
7440-48-4	Cobalt		1.03E+05	5.11E+01								x			x		x	x	
7440-50-8	Copper		-	2.38E+03						x		x							
57-12-5	Cyanide		-	1.02E+02								x			x				
72-54-8	DDD		4.50E+01	6.65E+01								x	x	x	x				

RAGS Workbook
Residential Exposure Scenario

CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (4 ft)

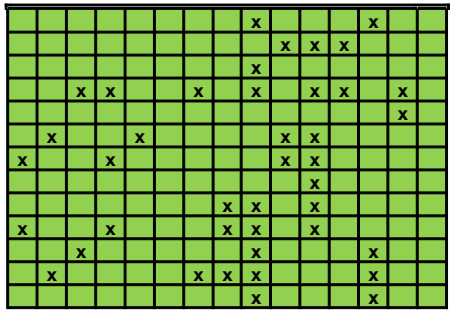
72-55-9	DDE		3.18E+01	6.65E+01			x			x	x			x	x		x					
50-29-3	DDT		3.82E+01	7.86E+01			x			x	x			x	x		x					
53-70-3	Dibenz(a,h)anthracene		2.62E-01	3.75E+03			x							x								
132-64-9	Dibenzofuran		-	1.33E+02										x								
124-48-1	Dibromochloromethane		1.69E+02	3.41E+03			x							x	x							
84-74-2	Dibutyl phthalate		-	1.33E+04						x	x						x					
75-71-8	Dichlorodifluoromethane		-	3.41E+04											x							
84-66-2	Diethyl phthalate		-	1.06E+05							x				x		x					
60-57-1	Dieldrin		6.75E-01	6.65E+00			x							x	x	x						
88-85-7	Dinoseb		-	1.33E+02													x					
1746-01-6	Dioxin-Like Compounds - TEQ		9.98E-05	1.10E-04			x			x	x			x	x	x	x					
115-29-7	Endosulfan		-	7.98E+02					x		x			x	x	x	x					
72-20-8	Endrin		-	3.99E+01						x				x	x	x						
100-41-4	Ethylbenzene		1.29E+03	1.70E+04			x			x				x	x	x						
106-93-4	Ethylene dibromide		7.09E+00	1.53E+03			x			x	x				x		x	x				
75-00-3	Ethyl chloride		-	1.70E+03						x												
206-44-0	Fluoranthene	2.00	-	5.00E+03		0.00								x	x							
86-73-7	Fluorene	1.60	-	4.99E+03		0.00		x							x			x				0.00	
76-44-8	Heptachlor		2.40E+00	1.33E+00			x			x				x	x							
1024-57-3	Heptachlor epoxide		1.19E+00	1.73E+00			x								x							
118-74-1	Hexachlorobenzene		6.75E+00	1.06E+02			x				x			x			x					
87-68-3	Hexachlorobutadiene		1.38E+02	1.33E+02			x							x	x	x						
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		1.71E+00	1.06E+03			x								x							
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		6.00E+00	7.98E+00			x								x	x						
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		1.15E+01	6.13E-01			x			x	x			x	x							
67-72-1	Hexachloroethane		2.70E+02	9.32E+01			x							x	x	x						
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		9.82E+01	3.99E+02			x									x	x					
193-39-5	Indeno(1,2,3-cd)pyrene		2.62E+00	5.00E+03			x							x	x							
7439-89-6	Iron		-	1.19E+05								x		x								
121-75-5	Malathion		-	2.66E+03												x		x				
7439-96-5	Manganese		-	4.08E+03												x						
7487-94-7	Mercuric chloride & other inorganic mercury compou		-	5.11E+01								x		x								
72-43-5	Methoxychlor		-	6.65E+02						x	x			x			x					
78-93-3	Methyl ethyl ketone		-	1.02E+05						x												
108-10-1	Methyl isobutyl ketone		-	1.36E+04						x				x	x							
80-62-6	Methyl methacrylate		-	2.38E+05								x	x					x	x			
1634-04-4	Methyl tert-butyl ether		7.89E+03	5.11E+03			x				x			x	x	x						
75-09-2	Methylene chloride		7.10E+03	1.02E+03			x								x	x		x				
7439-98-7	Molybdenum		-	8.52E+02										x								
106-94-5	n-Propyl bromide		-	1.86E+02						x		x				x	x	x				
91-20-3	Naphthalene		4.90E+06	2.50E+03			x	x					x	x		x		x				
7440-02-0	Nickel		3.56E+06	5.11E+02			x						x	x				x	x			
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	6.65E+03											x	x						
117-84-0	Octyl Phthalate, di-n-		-	1.60E+03							x			x	x							
56-38-2	Parathion		-	7.98E+02												x						
1336-36-3	PCBs		4.93E+00	2.45E+00			x				x				x	x			x			
87-86-5	Pentachlorophenol		1.99E+01	5.01E+02			x			x	x			x	x	x	x	x				
14797-73-0	Perchlorate		-	2.04E+01						x												

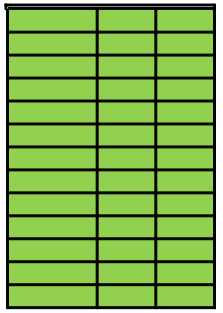
RAGS Workbook
Residential Exposure Scenario

CITY OF PORTLAND, MAINE RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (4 ft)

85-01-8	Phenanthrene	3.20	-	3.74E+03		0.00
108-95-2	Phenol		-	3.99E+04		
129-00-0	Pyrene	2.00	-	3.75E+03		0.00
7782-49-2	Selenium		-	8.52E+02		
7440-22-4	Silver		-	8.52E+02		
100-42-5	Styrene		-	3.41E+04		
127-18-4	Tetrachloroethene		6.76E+03	1.02E+03		
298-02-2	Thimet (Phorate)		-	2.66E+01		
108-88-3	Toluene		-	1.36E+04		
79-01-6	Trichloroethene		1.62E+02	8.51E+01		
75-69-4	Trichlorofluoromethane		-	5.11E+04		
7440-62-2	Vanadium		-	1.19E+03		
108-05-4	Vinyl acetate		-	1.70E+05		





RAGS Workbook
Outdoor Commercial Worker Exposure Scenario



Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (4 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			1.8E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.8E+03	5.1E+04			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.4E+02	3.4E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.4E+06												x	x				
79-00-5	1,1,2-Trichloroethane		8.3E+02	6.8E+03			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.5E+04											x						
75-34-3	1,1-Dichloroethane		8.4E+03	3.4E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.5E+04							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.6E+03	1.5E+04			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		4.7E+01	3.3E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.1E+04											x						
107-06-2	1,2-Dichloroethane		5.2E+02	3.4E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.4E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.4E+04				x								x			x		
78-87-5	1,2-Dichloropropane		1.3E+03	6.1E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.0E+02				x													
106-99-0	1,3-Butadiene		1.4E+01	7.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.4E+02							x										
142-28-9	1,3-Dichloropropane		-	3.4E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.8E+02	5.1E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.0E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.8E+03	1.2E+05			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.0E+02				x													
123-91-1	1,4-Dioxane		2.9E+02	3.1E+04			x	x							x	x					
93-76-5	2,4,5-T		-	1.0E+04						x					x			x			
93-72-1	2,4,5-TP		-	8.2E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		1.0E+06	1.0E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		2.6E+03	1.0E+03			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		9.6E+02	5.1E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	3.1E+03										x							
105-67-9	2,4-Dimethylphenol		-	2.1E+04				x													
51-28-5	2,4-Dinitrophenol		-	2.1E+03								x									
121-14-2	2,4-Dinitrotoluene		9.3E+01	2.1E+03			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	6.2E+02				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.2E+01	1.0E+03			x	x								x	x				

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario



Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (4 ft)

95-57-8	2-Chlorophenol		-	8.5E+03								x			
95-48-7	2-Cresol		-	5.1E+04							x				
91-57-6	2-Methylnaphthalene	1.30	-	3.6E+03		0.00							x		
91-94-1	3,3-Dichlorobenzidine		6.4E+01	-			x							x	
108-39-4	3-Cresol		-	5.1E+04							x		x		
106-47-8	4-Chloroaniline		1.4E+02	5.1E+02			x	x							
106-44-5	4-Cresol		-	5.1E+03							x		x		
83-32-9	Acenaphthene		-	5.4E+04						x			x		
208-96-8	Acenaphthylene		-	5.5E+04						x			x		
67-64-1	Acetone		-	1.5E+06				x			x				
75-05-8	Acetonitrile		-	2.2E+05				x							
107-02-8	Acrolein		-	8.5E+02			x	x					x		
107-13-1	Acrylonitrile		8.8E+01	1.7E+03			x	x				x	x	x	
15972-60-8	Alachlor		5.1E+02	1.0E+04			x	x						x	
309-00-2	Aldrin		1.7E+00	3.1E+01			x			x	x				
107-05-1	Allyl chloride		2.3E+03	1.4E+05			x					x			
7429-90-5	Aluminum		-	1.7E+06								x			
120-12-7	Anthracene	0.76	-	1.6E+05		0.00				x	x			x	
7440-36-0	Antimony		-	6.8E+02						x					
12674-11-2	Aroclor 1016		1.2E+01	6.2E+01			x			x		x			
7440-38-2	Arsenic		4.2E+00	4.3E+02			x		x		x			x	
1912-24-9	Atrazine		1.2E+02	1.0E+03			x	x	x		x		x		
7440-39-3	Barium		-	3.4E+05							x				
71-43-2	Benzene		8.7E+02	8.5E+02			x	x				x			
65-85-0	Benzoic acid		-	4.1E+06											x
56-55-3	Benzo(a)anthracene	1.00	3.5E+01	3.7E+04	2.8E-07	0.00		x			x	x			
50-32-8	Benzo(a)pyrene	0.84	3.5E+00	3.7E+04	2.4E-06	0.00		x			x	x			
205-99-2	Benzo(b)fluoranthene		3.5E+01	3.7E+04				x			x	x			
191-24-2	Benzo(g,h,i)perylene	0.54	-	2.8E+04		0.00					x	x			
207-08-9	Benzo(k)fluoranthene		3.5E+02	3.7E+04			x				x	x			
100-44-7	Benzyl chloride		2.8E+02	3.4E+03			x				x	x	x		x
7440-41-7	Beryllium		4.6E+05	3.4E+03			x			x	x			x	x
111-44-4	Bis(2-chloroethyl)ether		2.6E+01	-			x								
117-81-7	Bis(2-Ethylhexyl)phthalate		2.1E+03	6.2E+04			x		x	x			x		
75-27-4	Bromodichloromethane		7.7E+02	3.4E+04			x				x	x			
75-25-2	Bromoform		3.6E+03	2.1E+04			x					x		x	
74-83-9	Bromomethane		-	2.4E+03					x			x		x	
85-68-7	Butyl benzyl phthalate		1.5E+04	2.1E+05			x		x	x		x	x		
7440-43-9	Cadmium		6.2E+05	9.4E+01			x				x	x		x	
86-74-8	Carbazole		1.4E+03	-			x								
75-15-0	Carbon disulfide		-	1.7E+05					x	x		x	x		
56-23-5	Carbon tetrachloride		6.8E+02	6.8E+03			x				x	x			

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario



Reviewed for Code Compliance
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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (4 ft)

57-74-9	Chlordane		1.1E+02	6.7E+02			x			x	x		x	x			
115-28-6	Chlorendic acid		3.2E+02	-			x										
108-90-7	Chlorobenzene		-	3.4E+04								x	x	x		x	
67-66-3	Chloroform		1.5E+03	1.7E+04			x						x				
74-87-3	Chloromethane		-	3.4E+06				x	x				x	x	x		
16065-83-1	Chromium (+3)		-	2.6E+06									x				
18540-29-9	Chromium (+6)		9.3E+04	5.1E+03			x			x		x			x	x	
218-01-9	Chrysene		3.5E+03	1.8E+04			x	x				x	x		x	x	
7440-48-4	Cobalt		1.2E+05	5.1E+02			x	x	x	x		x			x	x	x
7440-50-8	Copper		-	2.4E+04								x	x				
57-12-5	Cyanide		-	1.0E+03						x			x		x		
72-54-8	DDD		1.2E+02	5.1E+02			x			x	x		x	x	x	x	
72-55-9	DDE		8.5E+01	5.1E+02			x			x	x		x	x		x	
50-29-3	DDT		1.2E+02	7.1E+02			x			x	x		x	x		x	
53-70-3	Dibenz(a,h)anthracene		3.5E+00	2.8E+04			x						x				
132-64-9	Dibenzofuran		-	1.0E+03									x				
124-48-1	Dibromochloromethane		5.6E+02	3.4E+04			x						x	x			
84-74-2	Dibutyl phthalate		-	1.0E+05						x	x					x	
75-71-8	Dichlorodifluoromethane		-	3.4E+05										x			
84-66-2	Diethyl phthalate		-	8.2E+05						x				x		x	
60-57-1	Dieldrin		1.8E+00	5.1E+01			x						x	x	x		
88-85-7	Dinoseb		-	1.0E+03												x	
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-04	1.0E-03			x			x	x	x	x	x	x	x	
115-29-7	Endosulfan		-	6.2E+03					x		x		x	x	x	x	
72-20-8	Endrin		-	3.1E+02						x			x	x	x		
100-41-4	Ethylbenzene		4.3E+03	1.7E+05			x			x			x	x	x		
106-93-4	Ethylene dibromide		2.4E+01	1.5E+04			x			x	x			x		x	x
75-00-3	Ethyl chloride		-	1.7E+04						x							
206-44-0	Fluoranthene	2.00	-	3.7E+04		0.00							x	x			
86-73-7	Fluorene	1.60	-	3.7E+04		0.00		x						x			x
76-44-8	Heptachlor		6.4E+00	1.0E+01			x			x			x	x			
1024-57-3	Heptachlor epoxide		3.2E+00	1.3E+01			x							x			
118-74-1	Hexachlorobenzene		1.8E+01	8.2E+02			x				x		x		x		
87-68-3	Hexachlorobutadiene		3.7E+02	1.0E+03			x						x	x	x		
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		4.6E+00	8.2E+03			x							x			
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.6E+01	6.2E+01			x							x	x		
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.4E+01	5.4E+00			x			x	x		x	x			
67-72-1	Hexachloroethane		7.2E+02	7.2E+02			x						x	x	x		
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		2.6E+02	3.1E+03			x								x	x	
193-39-5	Indeno(1,2,3-cd)pyrene		3.5E+01	3.7E+04			x						x	x			
7439-89-6	Iron		-	1.2E+06								x	x				
121-75-5	Malathion		-	2.1E+04											x		x

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (4 ft)

7439-96-5	Manganese		-	4.0E+04							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	5.1E+02						x	x				
72-43-5	Methoxychlor		-	5.1E+03				x	x			x				
78-93-3	Methyl ethyl ketone		-	1.0E+06				x								
108-10-1	Methyl isobutyl ketone		-	1.4E+05				x				x	x			
80-62-6	Methyl methacrylate		-	2.4E+06						x	x				x	x
1634-04-4	Methyl tert-butyl ether		2.6E+04	5.1E+04			x					x	x	x		
75-09-2	Methylene chloride		2.4E+04	1.0E+04			x						x	x	x	
7439-98-7	Molybdenum		-	8.5E+03								x				
106-94-5	n-Propyl bromide		-	1.4E+03				x			x			x	x	x
91-20-3	Naphthalene		5.2E+06	1.8E+04			x	x				x	x		x	
7440-02-0	Nickel		4.3E+06	5.1E+03			x					x	x		x	x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	5.1E+04									x	x		
117-84-0	Octyl Phthalate, di-n-		-	1.2E+04					x			x	x			
56-38-2	Parathion		-	6.2E+03										x		
1336-36-3	PCBs		1.2E+01	1.8E+01			x				x			x	x	x
87-86-5	Pentachlorophenol		4.5E+01	3.2E+03			x		x	x		x	x	x	x	
14797-73-0	Perchlorate		-	2.0E+02					x							
85-01-8	Phenanthrene	3.20	-	2.7E+04		0.00						x			x	
108-95-2	Phenol		-	3.1E+05									x	x	x	
129-00-0	Pyrene	2.00	-	2.8E+04		0.00						x				
7782-49-2	Selenium		-	8.5E+03				x	x		x		x	x		x
7440-22-4	Silver		-	8.5E+03												x
100-42-5	Styrene		-	3.4E+05				x		x				x	x	
127-18-4	Tetrachloroethene		2.3E+04	1.0E+04			x		x					x	x	
298-02-2	Thimet (Phorate)		-	2.1E+02											x	
108-88-3	Toluene		-	1.4E+05							x	x			x	
79-01-6	Trichloroethene		1.0E+03	8.5E+02			x		x		x	x			x	
75-69-4	Trichlorofluoromethane		-	5.1E+05					x			x				x
7440-62-2	Vanadium		-	1.2E+04				x		x	x	x				x
108-05-4	Vinyl acetate		-	1.7E+06								x				x

RAGS Workbook
Excavation Worker Exposure Scenario

CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
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Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (4 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	1.9E+07																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.7E+04	9.3E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.2E+03	1.5E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	1.7E+06												x	x				
79-00-5	1,1,2-Trichloroethane		5.4E+03	1.2E+04			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	1.5E+04											x						
75-34-3	1,1-Dichloroethane		7.6E+04	5.9E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	1.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	4.2E+02							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.5E+04	4.3E+02			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		5.1E+01	2.7E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	1.5E+05											x						
107-06-2	1,2-Dichloroethane		3.7E+03	5.7E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	6.2E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	5.9E+04				x								x			x		
78-87-5	1,2-Dichloropropane		8.7E+03	5.5E+03			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	2.4E+02				x													
106-99-0	1,3-Butadiene		1.3E+02	1.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	6.2E+03							x										
142-28-9	1,3-Dichloropropane		-	6.2E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.3E+03	1.2E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.2E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.0E+04	2.1E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	2.4E+02				x													
123-91-1	1,4-Dioxane		3.3E+03	7.1E+03			x	x							x	x					
93-76-5	2,4,5-T		-	2.4E+04						x					x			x			
93-72-1	2,4,5-TP		-	1.9E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		6.1E+05	2.4E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		3.0E+04	2.4E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		1.1E+04	1.2E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	7.1E+02										x							
105-67-9	2,4-Dimethylphenol		-	1.2E+04				x													
51-28-5	2,4-Dinitrophenol		-	4.8E+03								x									
121-14-2	2,4-Dinitrotoluene		1.1E+03	4.8E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	1.4E+03				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.9E+02	9.5E+02			x	x								x	x				

RAGS Workbook
Excavation Worker Exposure Scenario

CITY OF PORTLAND, MAINE · RESURGAM
Reviewed for Code Compliance
Inspections Division
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Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (4 ft)

95-57-8	2-Chlorophenol		-	2.5E+03								x				
95-48-7	2-Cresol		-	2.4E+04							x					
91-57-6	2-Methylnaphthalene	1.30	-	6.0E+02		0.00							x			
91-94-1	3,3-Dichlorobenzidine		7.4E+02	-			x							x		
108-39-4	3-Cresol		-	2.4E+04							x		x			
106-47-8	4-Chloroaniline		1.7E+03	1.2E+02			x	x								
106-44-5	4-Cresol		-	2.4E+04							x		x			
83-32-9	Acenaphthene		-	9.8E+03						x			x			
208-96-8	Acenaphthylene		-	6.5E+04						x			x			
67-64-1	Acetone		-	6.2E+05				x			x					
75-05-8	Acetonitrile		-	3.2E+03				x								
107-02-8	Acrolein		-	1.2E+03				x	x	x			x			
107-13-1	Acrylonitrile		8.0E+02	3.1E+03			x	x				x	x	x		
15972-60-8	Alachlor		6.0E+03	2.4E+03			x	x		x					x	
309-00-2	Aldrin		2.0E+01	9.5E+00			x		x			x	x			
107-05-1	Allyl chloride		2.1E+04	1.0E+04			x						x			
7429-90-5	Aluminum		-	3.1E+05					x				x			
120-12-7	Anthracene	0.76	-	3.8E+03		0.00				x		x	x			
7440-36-0	Antimony		-	1.2E+02						x						
12674-11-2	Aroclor 1016		1.5E+02	4.6E+01			x		x	x			x			
7440-38-2	Arsenic		4.2E+01	8.5E+01			x		x		x	x			x	
1912-24-9	Atrazine		1.5E+03	7.1E+02			x	x	x	x		x		x		
7440-39-3	Barium		-	6.2E+04							x					
71-43-2	Benzene		7.9E+03	1.5E+02			x	x			x		x			
65-85-0	Benzoic acid		-	7.2E+05												x
56-55-3	Benzo(a)anthracene	1.00	4.3E+02	1.0E+15	2.3E-08	0.00					x	x				
50-32-8	Benzo(a)pyrene	0.84	4.3E+01	1.0E+15	2.0E-07	0.00					x	x				
205-99-2	Benzo(b)fluoranthene		4.3E+02	1.0E+15			x				x	x				
191-24-2	Benzo(g,h,i)perylene	0.54	-	6.7E+04		0.00					x	x				
207-08-9	Benzo(k)fluoranthene		4.3E+03	1.0E+15			x				x	x				
100-44-7	Benzyl chloride		2.6E+03	6.2E+02			x				x	x	x		x	
7440-41-7	Beryllium		3.5E+06	6.2E+02			x			x	x				x	x
111-44-4	Bis(2-chloroethyl)ether		2.5E+02	3.6E+04			x									
117-81-7	Bis(2-Ethylhexyl)phthalate		2.4E+04	2.4E+04			x		x	x				x		
75-27-4	Bromodichloromethane		7.0E+03	6.2E+03			x				x	x				
75-25-2	Bromoform		3.7E+04	4.8E+04			x					x			x	
74-83-9	Bromomethane		-	9.3E+02						x			x		x	
85-68-7	Butyl benzyl phthalate		1.8E+05	4.8E+05			x		x	x		x	x			
7440-43-9	Cadmium		4.6E+06	1.9E+01			x				x	x			x	
86-74-8	Carbazole		1.7E+04	-			x									
75-15-0	Carbon disulfide		-	3.1E+04					x	x		x	x	x		
56-23-5	Carbon tetrachloride		5.6E+03	2.8E+03			x				x	x				

RAGS Workbook
Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (4 ft)

57-74-9	Chlordane		1.1E+03	1.7E+02			x			x	x		x	x				
115-28-6	Chlorendic acid		3.7E+03	-			x											
108-90-7	Chlorobenzene		-	1.1E+05								x		x	x		x	
67-66-3	Chloroform		1.2E+04	2.9E+04			x								x			
74-87-3	Chloromethane		-	5.7E+05				x	x						x	x	x	
16065-83-1	Chromium (+3)		-	4.6E+05											x			
18540-29-9	Chromium (+6)		6.9E+05	2.8E+03			x			x		x					x	x
218-01-9	Chrysene		4.3E+04	1.3E+05			x	x					x	x		x		x
7440-48-4	Cobalt		9.3E+05	9.2E+02			x	x	x	x			x			x		x
7440-50-8	Copper		-	4.3E+03								x		x				
57-12-5	Cyanide		-	1.9E+03							x			x		x		
72-54-8	DDD		1.4E+03	1.2E+02			x			x	x			x	x	x	x	
72-55-9	DDE		9.8E+02	1.2E+02			x			x	x			x	x		x	
50-29-3	DDT		1.2E+03	1.4E+02			x			x	x			x	x		x	
53-70-3	Dibenz(a,h)anthracene		4.3E+01	6.7E+04			x							x				
132-64-9	Dibenzofuran		-	9.5E+02										x				
124-48-1	Dibromochloromethane		4.3E+03	6.2E+04			x							x	x			
84-74-2	Dibutyl phthalate		-	2.4E+04						x	x						x	
75-71-8	Dichlorodifluoromethane		-	6.2E+04											x			
84-66-2	Diethyl phthalate		-	1.4E+06							x				x		x	
60-57-1	Dieldrin		2.1E+01	2.4E+01			x							x	x	x		
88-85-7	Dinoseb		-	2.4E+02													x	
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-03	5.7E-03			x			x	x		x	x	x	x	x	
115-29-7	Endosulfan		-	1.4E+03					x		x		x	x	x	x		
72-20-8	Endrin		-	4.8E+02						x				x	x	x		
100-41-4	Ethylbenzene		3.9E+04	1.2E+05			x			x				x	x	x		
106-93-4	Ethylene dibromide		1.8E+02	1.7E+03			x			x	x				x		x	x
75-00-3	Ethyl chloride		-	3.1E+04						x								
206-44-0	Fluoranthene	2.00	-	8.9E+04		0.00								x	x			
86-73-7	Fluorene	1.60	-	6.1E+04		0.00		x							x			x
76-44-8	Heptachlor		7.4E+01	2.4E+01			x			x				x	x			
1024-57-3	Heptachlor epoxide		3.7E+01	3.1E+00			x								x			
118-74-1	Hexachlorobenzene		2.1E+02	1.9E+02			x				x		x		x		x	
87-68-3	Hexachlorobutadiene		4.3E+03	2.4E+02			x							x	x	x		
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		5.3E+01	1.9E+03			x								x			
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.9E+02	1.4E+02			x								x	x		
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.5E+02	2.8E+00			x			x	x		x	x				
67-72-1	Hexachloroethane		8.3E+03	2.4E+03			x							x	x	x		
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		3.0E+03	7.1E+03			x									x	x	
193-39-5	Indeno(1,2,3-cd)pyrene		4.3E+02	8.9E+04			x							x	x			
7439-89-6	Iron		-	2.2E+05								x		x				
121-75-5	Malathion		-	4.8E+03												x		x

RAGS Workbook
Excavation Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-7 (4 ft)

7439-96-5	Manganese		-	7.4E+03							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	9.3E+02						x	x				
72-43-5	Methoxychlor		-	1.2E+03					x	x				x	
78-93-3	Methyl ethyl ketone		-	1.9E+05					x						
108-10-1	Methyl isobutyl ketone		-	2.5E+05					x						
80-62-6	Methyl methacrylate		-	4.3E+05							x	x			
1634-04-4	Methyl tert-butyl ether		2.4E+05	9.3E+04			x			x			x	x	x
75-09-2	Methylene chloride		2.2E+05	1.9E+04			x					x	x		x
7439-98-7	Molybdenum		-	1.5E+03							x				
106-94-5	n-Propyl bromide		-	7.1E+02					x		x			x	x
91-20-3	Naphthalene		8.3E+06	1.1E+05			x	x			x	x		x	
7440-02-0	Nickel		3.2E+07	9.3E+02			x				x	x		x	x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	1.2E+04								x	x		
117-84-0	Octyl Phthalate, di-n-		-	2.9E+03					x			x	x		
56-38-2	Parathion		-	1.4E+03									x		
1336-36-3	PCBs		1.5E+02	6.5E+00			x		x				x	x	x
87-86-5	Pentachlorophenol		6.2E+02	8.8E+02			x		x	x		x	x	x	x
14797-73-0	Perchlorate		-	3.7E+01					x						
85-01-8	Phenanthrene	3.20	-	8.9E+03		0.00					x				x
108-95-2	Phenol		-	7.1E+04								x	x	x	
129-00-0	Pyrene	2.00	-	6.7E+04		0.00					x				
7782-49-2	Selenium		-	1.5E+03				x	x		x		x	x	x
7440-22-4	Silver		-	1.5E+03											x
100-42-5	Styrene		-	6.2E+05			x		x			x	x		
127-18-4	Tetrachloroethene		2.0E+05	2.7E+04			x		x			x	x		
298-02-2	Thimet (Phorate)		-	4.8E+01									x		
108-88-3	Toluene		-	2.5E+05						x	x		x		
79-01-6	Trichloroethene		9.0E+03	1.4E+02			x		x	x	x		x		
75-69-4	Trichlorofluoromethane		-	9.2E+04				x			x			x	
7440-62-2	Vanadium		-	2.2E+03				x		x	x			x	
108-05-4	Vinyl acetate		-	3.1E+05							x			x	

Soil Input Sheet and
Summary of Total Incremental Lifetime Cancer Risks
and Endpoint-Specific Hazard Indices

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Input Sheet

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Exposure Point Conc No.	Sample B-8 (4 ft)

CAS No.	Compound	Soil Conc (mg/kg)
91-20-3	Naphthalene	5.10
91-57-6	2-Methylnaphthalene	1.50
85-01-8	Phenanthrene	0.51
208-96-8	Acenaphthylene	
83-32-9	Acenaphthene	
120-12-7	Anthracene	
56-55-3	Benzo(a)anthracene	
50-32-8	Benzo(a)pyrene	
205-99-2	Benzo(b)fluoranthene	
191-24-2	Benzo(g,h,i)perylene	
207-08-9	Benzo(k)fluoranthene	
218-01-9	Chrysene	
53-70-3	Dibenz(a,h)anthracene	
206-44-0	Fluoranthene	0.51
86-73-7	Fluorene	
132-64-9	Dibenzofuran	
86-74-8	Carbazole	
117-81-7	Bis(2-Ethylhexyl)phthalate	
193-39-5	Indeno(1,2,3-cd)pyrene	
129-00-0	Pyrene	
7440-38-2	Arsenic	
7440-39-3	Barium	
7440-43-9	Cadmium	
	Chromium	
7439-92-1	Lead	
	Mercury (ug/g)	
7782-49-2	Selenium	
7440-22-4	Silver	
DEP2038	C5-C8 Aliphatics	
DEP2039	C9-C12 Aliphatics	180.00
DEP2040	C9-C10 Aromatics	190.00
DEP2043	C9-C18 Aliphatics	220.00
DEP2042	C19-C36 Aliphatics	680.00
DEP2041	C11-C22 Aromatics	270.00

	Residential	Park/Rec	Commercial	Construction
	ILCR			
Cancer	1.0E-11	6.2E-12	9.7E-12	6.2E-12
	HQ			
Blood	0.03	0.02	0.00	0.00
Cardio	0.00	0.00	0.00	0.00
Dev	0.00	0.00	0.00	0.00
Endo	0.00	0.00	0.00	0.00
Eye	0.00	0.00	0.00	0.00
Gastro	0.00	0.00	0.00	0.00
Immune	0.00	0.00	0.00	0.00
Kidney	0.13	0.08	0.02	0.01
Liver	0.03	0.02	0.00	0.00
Nervous	0.00	0.00	0.00	0.00
Reprod	0.00	0.00	0.00	0.00
Resp	0.01	0.00	0.00	0.00
Skin	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00

RAGS Workbook
Residential Exposure Scenario

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Inspections Division
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Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-8 (4 ft)

CAS No.	Compound	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	2.16E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		5.46E+02	5.11E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		7.10E+01	3.41E+03			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.41E+05												x	x				
79-00-5	1,1,2-Trichloroethane		2.48E+02	6.81E+02			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.52E+03											x						
75-34-3	1,1-Dichloroethane		2.49E+03	3.41E+04			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.52E+03												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.68E+03							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		4.89E+02	1.68E+03			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		3.26E+00	3.40E+01			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.11E+03											x						
107-06-2	1,2-Dichloroethane		1.56E+02	3.41E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.41E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.41E+03				x								x			x		
78-87-5	1,2-Dichloropropane		3.92E+02	1.36E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.33E+01				x													
106-99-0	1,3-Butadiene		4.17E+00	6.99E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.41E+01							x										
142-28-9	1,3-Dichloropropane		-	3.41E+03					x						x				x		
542-75-6	1,3-Dichloropropene		1.42E+02	5.11E+03			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.33E+01				x										x			
106-46-7	1,4-Dichlorobenzene		2.63E+03	1.19E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.33E+01				x													
123-91-1	1,4-Dioxane		1.08E+02	3.99E+03			x	x							x	x					
93-76-5	2,4,5-T		-	1.33E+03							x				x			x			
93-72-1	2,4,5-TP		-	1.06E+03							x					x		x			
95-95-4	2,4,5-Trichlorophenol		1.01E+06	1.33E+04											x	x					
88-06-2	2,4,6-Trichlorophenol		9.82E+02	1.33E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		3.60E+02	6.65E+01			x									x					
120-83-2	2,4-Dichlorophenol		-	3.99E+02										x							
105-67-9	2,4-Dimethylphenol		-	2.66E+03				x													
51-28-5	2,4-Dinitrophenol		-	2.66E+02								x									
121-14-2	2,4-Dinitrotoluene		3.48E+01	2.66E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	7.98E+01				x							x	x					
606-20-2	2,6-Dinitrotoluene		1.59E+01	1.33E+02			x	x								x	x				
95-57-8	2-Chlorophenol		-	8.52E+02														x			
95-48-7	2-Cresol		-	6.65E+03													x				
91-57-6	2-Methylnaphthalene	1.50	-	4.99E+02		0.00													x		
91-94-1	3,3-Dichlorobenzidine		2.40E+01	-			x							x						x	
108-39-4	3-Cresol		-	6.65E+03													x		x		
106-47-8	4-Chloroaniline		5.40E+01	6.65E+01			x	x													

Cancer	Blood	Cardiovascular

RAGS Workbook
Residential Exposure Scenario



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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-8 (4 ft)

106-44-5	4-Cresol		-	6.65E+02		
83-32-9	Acenaphthene		-	7.47E+03		
208-96-8	Acenaphthylene		-	7.49E+03		
67-64-1	Acetone		-	1.53E+05		
75-05-8	Acetonitrile		-	2.61E+05		
107-02-8	Acrolein		-	8.52E+01		
107-13-1	Acrylonitrile		2.63E+01	1.70E+02		
15972-60-8	Alachlor		1.93E+02	1.33E+03		
309-00-2	Aldrin		6.35E-01	3.99E+00		
107-05-1	Allyl chloride		6.76E+02	1.71E+05		
7429-90-5	Aluminum		-	1.70E+05		
120-12-7	Anthracene		-	3.48E+04		
7440-36-0	Antimony		-	6.81E+01		
12674-11-2	Aroclor 1016		4.93E+00	8.57E+00		
7440-38-2	Arsenic		1.37E+00	4.71E+01		
1912-24-9	Atrazine		4.70E+01	1.33E+02		
7440-39-3	Barium		-	3.41E+04		
71-43-2	Benzene		2.58E+02	8.52E+01		
65-85-0	Benzoic acid		-	5.32E+05		
56-55-3	Benzo(a)anthracene		2.62E+00	5.00E+03		
50-32-8	Benzo(a)pyrene		2.62E-01	5.00E+03		
205-99-2	Benzo(b)fluoranthene		2.62E+00	5.00E+03		
191-24-2	Benzo(g,h,i)perylene		-	3.75E+03		
207-08-9	Benzo(k)fluoranthene		2.62E+01	5.00E+03		
100-44-7	Benzyl chloride		8.35E+01	3.41E+02		
7440-41-7	Beryllium		3.86E+05	3.41E+02		
111-44-4	Bis(2-chloroethyl)ether		9.80E+00	-		
117-81-7	Bis(2-Ethylhexyl)phthalate		7.72E+02	7.98E+03		
75-27-4	Bromodichloromethane		2.29E+02	3.41E+03		
75-25-2	Bromoform		1.37E+03	2.66E+03		
74-83-9	Bromomethane		-	2.38E+02		
85-68-7	Butyl benzyl phthalate		5.69E+03	2.66E+04		
7440-43-9	Cadmium		5.15E+05	1.07E+01		
86-74-8	Carbazole		5.40E+02	-		
75-15-0	Carbon disulfide		-	1.70E+04		
56-23-5	Carbon tetrachloride		2.03E+02	6.81E+02		
57-74-9	Chlordane		3.60E+01	7.66E+01		
115-28-6	Chlorendic acid		1.19E+02	-		
108-90-7	Chlorobenzene		-	3.41E+03		
67-66-3	Chloroform		4.57E+02	1.70E+03		
74-87-3	Chloromethane		-	4.06E+06		
16065-83-1	Chromium (+3)		-	2.56E+05		
18540-29-9	Chromium (+6)		3.05E+04	5.11E+02		
218-01-9	Chrysene		2.62E+02	2.50E+03		
7440-48-4	Cobalt		1.03E+05	5.11E+01		
7440-50-8	Copper		-	2.38E+03		
57-12-5	Cyanide		-	1.02E+02		
72-54-8	DDD		4.50E+01	6.65E+01		

RAGS Workbook
Residential Exposure Scenario



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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-8 (4 ft)

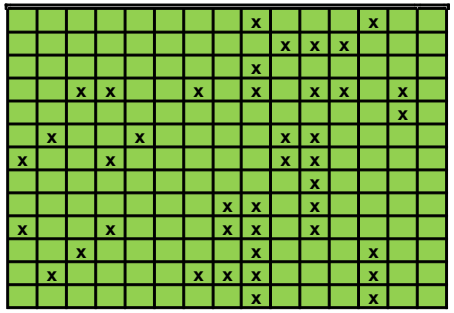
72-55-9	DDE		3.18E+01	6.65E+01			x			x	x			x	x		x					
50-29-3	DDT		3.82E+01	7.86E+01			x			x	x			x	x		x					
53-70-3	Dibenz(a,h)anthracene		2.62E-01	3.75E+03			x							x								
132-64-9	Dibenzofuran		-	1.33E+02										x								
124-48-1	Dibromochloromethane		1.69E+02	3.41E+03			x							x	x							
84-74-2	Dibutyl phthalate		-	1.33E+04						x	x						x					
75-71-8	Dichlorodifluoromethane		-	3.41E+04											x							
84-66-2	Diethyl phthalate		-	1.06E+05							x				x		x					
60-57-1	Dieldrin		6.75E-01	6.65E+00			x							x	x	x						
88-85-7	Dinoseb		-	1.33E+02													x					
1746-01-6	Dioxin-Like Compounds - TEQ		9.98E-05	1.10E-04			x			x	x			x	x	x	x					
115-29-7	Endosulfan		-	7.98E+02					x		x			x	x	x	x					
72-20-8	Endrin		-	3.99E+01						x				x	x	x						
100-41-4	Ethylbenzene		1.29E+03	1.70E+04			x			x				x	x	x						
106-93-4	Ethylene dibromide		7.09E+00	1.53E+03			x			x	x				x		x	x				
75-00-3	Ethyl chloride		-	1.70E+03						x												
206-44-0	Fluoranthene	0.51	-	5.00E+03		0.00								x	x							
86-73-7	Fluorene		-	4.99E+03				x							x			x				
76-44-8	Heptachlor		2.40E+00	1.33E+00			x			x				x	x							
1024-57-3	Heptachlor epoxide		1.19E+00	1.73E+00			x								x							
118-74-1	Hexachlorobenzene		6.75E+00	1.06E+02			x				x			x			x					
87-68-3	Hexachlorobutadiene		1.38E+02	1.33E+02			x							x	x	x						
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		1.71E+00	1.06E+03			x								x							
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		6.00E+00	7.98E+00			x								x	x						
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		1.15E+01	6.13E-01			x			x	x			x	x							
67-72-1	Hexachloroethane		2.70E+02	9.32E+01			x							x	x	x						
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		9.82E+01	3.99E+02			x									x	x					
193-39-5	Indeno(1,2,3-cd)pyrene		2.62E+00	5.00E+03			x							x	x							
7439-89-6	Iron		-	1.19E+05								x		x								
121-75-5	Malathion		-	2.66E+03												x		x				
7439-96-5	Manganese		-	4.08E+03												x						
7487-94-7	Mercuric chloride & other inorganic mercury compou		-	5.11E+01									x	x								
72-43-5	Methoxychlor		-	6.65E+02						x	x			x			x					
78-93-3	Methyl ethyl ketone		-	1.02E+05						x												
108-10-1	Methyl isobutyl ketone		-	1.36E+04						x				x	x							
80-62-6	Methyl methacrylate		-	2.38E+05								x	x					x	x			
1634-04-4	Methyl tert-butyl ether		7.89E+03	5.11E+03			x				x			x	x	x						
75-09-2	Methylene chloride		7.10E+03	1.02E+03			x								x	x		x				
7439-98-7	Molybdenum		-	8.52E+02										x								
106-94-5	n-Propyl bromide		-	1.86E+02						x		x				x	x	x				
91-20-3	Naphthalene	5.10	4.90E+06	2.50E+03	1.0E-11	0.00	x	x					x	x		x		x			1.0E-11	0.00	
7440-02-0	Nickel		3.56E+06	5.11E+02			x						x	x				x	x			
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	6.65E+03											x	x						
117-84-0	Octyl Phthalate, di-n-		-	1.60E+03							x			x	x							
56-38-2	Parathion		-	7.98E+02												x						
1336-36-3	PCBs		4.93E+00	2.45E+00			x				x				x	x			x			
87-86-5	Pentachlorophenol		1.99E+01	5.01E+02			x			x	x			x	x	x	x	x				
14797-73-0	Perchlorate		-	2.04E+01							x											

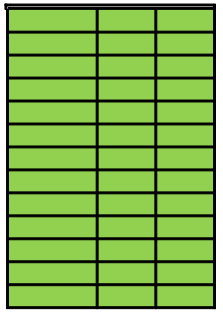
RAGS Workbook
Residential Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-8 (4 ft)

85-01-8	Phenanthrene	0.51	-	3.74E+03		0.00
108-95-2	Phenol		-	3.99E+04		
129-00-0	Pyrene		-	3.75E+03		
7782-49-2	Selenium		-	8.52E+02		
7440-22-4	Silver		-	8.52E+02		
100-42-5	Styrene		-	3.41E+04		
127-18-4	Tetrachloroethene		6.76E+03	1.02E+03		
298-02-2	Thimet (Phorate)		-	2.66E+01		
108-88-3	Toluene		-	1.36E+04		
79-01-6	Trichloroethene		1.62E+02	8.51E+01		
75-69-4	Trichlorofluoromethane		-	5.11E+04		
7440-62-2	Vanadium		-	1.19E+03		
108-05-4	Vinyl acetate		-	1.70E+05		





RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-8 (4 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			1.8E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.8E+03	5.1E+04			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.4E+02	3.4E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.4E+06												x	x				
79-00-5	1,1,2-Trichloroethane		8.3E+02	6.8E+03			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.5E+04											x						
75-34-3	1,1-Dichloroethane		8.4E+03	3.4E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.5E+04							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.6E+03	1.5E+04			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		4.7E+01	3.3E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.1E+04											x						
107-06-2	1,2-Dichloroethane		5.2E+02	3.4E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.4E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.4E+04				x								x			x		
78-87-5	1,2-Dichloropropane		1.3E+03	6.1E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.0E+02				x													
106-99-0	1,3-Butadiene		1.4E+01	7.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.4E+02							x										
142-28-9	1,3-Dichloropropane		-	3.4E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.8E+02	5.1E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.0E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.8E+03	1.2E+05			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.0E+02				x													
123-91-1	1,4-Dioxane		2.9E+02	3.1E+04			x	x							x	x					
93-76-5	2,4,5-T		-	1.0E+04						x					x			x			
93-72-1	2,4,5-TP		-	8.2E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		1.0E+06	1.0E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		2.6E+03	1.0E+03			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		9.6E+02	5.1E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	3.1E+03										x							
105-67-9	2,4-Dimethylphenol		-	2.1E+04				x													
51-28-5	2,4-Dinitrophenol		-	2.1E+03								x									
121-14-2	2,4-Dinitrotoluene		9.3E+01	2.1E+03			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	6.2E+02				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.2E+01	1.0E+03			x	x								x	x				

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
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Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-8 (4 ft)

95-57-8	2-Chlorophenol		-	8.5E+03								x				
95-48-7	2-Cresol		-	5.1E+04							x					
91-57-6	2-Methylnaphthalene	1.50	-	3.6E+03		0.00							x			
91-94-1	3,3-Dichlorobenzidine		6.4E+01	-			x							x		
108-39-4	3-Cresol		-	5.1E+04							x		x			
106-47-8	4-Chloroaniline		1.4E+02	5.1E+02			x	x								
106-44-5	4-Cresol		-	5.1E+03							x		x			
83-32-9	Acenaphthene		-	5.4E+04						x			x			
208-96-8	Acenaphthylene		-	5.5E+04						x			x			
67-64-1	Acetone		-	1.5E+06				x			x					
75-05-8	Acetonitrile		-	2.2E+05				x		x						
107-02-8	Acrolein		-	8.5E+02				x	x				x			
107-13-1	Acrylonitrile		8.8E+01	1.7E+03			x	x				x	x	x		
15972-60-8	Alachlor		5.1E+02	1.0E+04			x	x			x				x	
309-00-2	Aldrin		1.7E+00	3.1E+01			x		x			x	x			
107-05-1	Allyl chloride		2.3E+03	1.4E+05			x					x				
7429-90-5	Aluminum		-	1.7E+06					x			x				
120-12-7	Anthracene		-	1.6E+05					x		x	x				
7440-36-0	Antimony		-	6.8E+02					x							
12674-11-2	Aroclor 1016		1.2E+01	6.2E+01			x		x			x				
7440-38-2	Arsenic		4.2E+00	4.3E+02			x	x			x		x	x		
1912-24-9	Atrazine		1.2E+02	1.0E+03			x	x	x		x			x		
7440-39-3	Barium		-	3.4E+05								x				
71-43-2	Benzene		8.7E+02	8.5E+02			x	x			x		x			
65-85-0	Benzoic acid		-	4.1E+06												x
56-55-3	Benzo(a)anthracene		3.5E+01	3.7E+04			x					x	x			
50-32-8	Benzo(a)pyrene		3.5E+00	3.7E+04			x					x	x			
205-99-2	Benzo(b)fluoranthene		3.5E+01	3.7E+04			x					x	x			
191-24-2	Benzo(g,h,i)perylene		-	2.8E+04								x	x			
207-08-9	Benzo(k)fluoranthene		3.5E+02	3.7E+04			x					x	x			
100-44-7	Benzyl chloride		2.8E+02	3.4E+03			x					x	x	x		
7440-41-7	Beryllium		4.6E+05	3.4E+03			x			x	x				x	x
111-44-4	Bis(2-chloroethyl)ether		2.6E+01	-			x									
117-81-7	Bis(2-Ethylhexyl)phthalate		2.1E+03	6.2E+04			x		x	x				x		
75-27-4	Bromodichloromethane		7.7E+02	3.4E+04			x					x	x			
75-25-2	Bromoform		3.6E+03	2.1E+04			x						x		x	
74-83-9	Bromomethane		-	2.4E+03						x				x	x	
85-68-7	Butyl benzyl phthalate		1.5E+04	2.1E+05			x		x	x			x	x		
7440-43-9	Cadmium		6.2E+05	9.4E+01			x				x	x			x	
86-74-8	Carbazole		1.4E+03	-			x									
75-15-0	Carbon disulfide		-	1.7E+05					x	x		x	x	x		
56-23-5	Carbon tetrachloride		6.8E+02	6.8E+03			x					x	x			

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-8 (4 ft)

57-74-9	Chlordane		1.1E+02	6.7E+02			x			x	x						
115-28-6	Chlorendic acid		3.2E+02	-			x										
108-90-7	Chlorobenzene		-	3.4E+04								x		x	x		x		
67-66-3	Chloroform		1.5E+03	1.7E+04			x							x					
74-87-3	Chloromethane		-	3.4E+06				x	x					x	x	x			
16065-83-1	Chromium (+3)		-	2.6E+06										x					
18540-29-9	Chromium (+6)		9.3E+04	5.1E+03			x			x		x				x	x		
218-01-9	Chrysene		3.5E+03	1.8E+04			x	x					x	x		x		x	
7440-48-4	Cobalt		1.2E+05	5.1E+02			x	x	x	x			x			x		x	x
7440-50-8	Copper		-	2.4E+04								x		x					
57-12-5	Cyanide		-	1.0E+03							x			x		x			
72-54-8	DDD		1.2E+02	5.1E+02			x			x	x			x	x	x	x		
72-55-9	DDE		8.5E+01	5.1E+02			x			x	x			x	x		x		
50-29-3	DDT		1.2E+02	7.1E+02			x			x	x			x	x		x		
53-70-3	Dibenz(a,h)anthracene		3.5E+00	2.8E+04			x							x					
132-64-9	Dibenzofuran		-	1.0E+03										x					
124-48-1	Dibromochloromethane		5.6E+02	3.4E+04			x							x	x				
84-74-2	Dibutyl phthalate		-	1.0E+05						x	x						x		
75-71-8	Dichlorodifluoromethane		-	3.4E+05										x					
84-66-2	Diethyl phthalate		-	8.2E+05							x			x		x			
60-57-1	Dieldrin		1.8E+00	5.1E+01			x							x	x	x			
88-85-7	Dinoseb		-	1.0E+03													x		
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-04	1.0E-03			x			x	x		x	x	x	x	x		
115-29-7	Endosulfan		-	6.2E+03					x		x		x	x	x	x			
72-20-8	Endrin		-	3.1E+02						x				x	x	x			
100-41-4	Ethylbenzene		4.3E+03	1.7E+05			x			x				x	x	x			
106-93-4	Ethylene dibromide		2.4E+01	1.5E+04			x			x	x				x		x	x	
75-00-3	Ethyl chloride		-	1.7E+04						x									
206-44-0	Fluoranthene	0.51	-	3.7E+04		0.00								x	x				
86-73-7	Fluorene		-	3.7E+04				x							x			x	
76-44-8	Heptachlor		6.4E+00	1.0E+01			x			x				x	x				
1024-57-3	Heptachlor epoxide		3.2E+00	1.3E+01			x								x				
118-74-1	Hexachlorobenzene		1.8E+01	8.2E+02			x				x		x		x		x		
87-68-3	Hexachlorobutadiene		3.7E+02	1.0E+03			x							x	x	x			
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		4.6E+00	8.2E+03			x								x				
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.6E+01	6.2E+01			x								x	x			
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.4E+01	5.4E+00			x			x	x		x	x					
67-72-1	Hexachloroethane		7.2E+02	7.2E+02			x							x	x	x			
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		2.6E+02	3.1E+03			x									x	x		
193-39-5	Indeno(1,2,3-cd)pyrene		3.5E+01	3.7E+04			x							x	x				
7439-89-6	Iron		-	1.2E+06								x		x					
121-75-5	Malathion		-	2.1E+04												x		x	

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-8 (4 ft)

7439-96-5	Manganese		-	4.0E+04							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	5.1E+02						x	x				
72-43-5	Methoxychlor		-	5.1E+03					x	x				x	
78-93-3	Methyl ethyl ketone		-	1.0E+06					x						
108-10-1	Methyl isobutyl ketone		-	1.4E+05					x				x	x	
80-62-6	Methyl methacrylate		-	2.4E+06							x	x			
1634-04-4	Methyl tert-butyl ether		2.6E+04	5.1E+04			x			x	x	x			
75-09-2	Methylene chloride		2.4E+04	1.0E+04			x				x	x		x	
7439-98-7	Molybdenum		-	8.5E+03						x					
106-94-5	n-Propyl bromide		-	1.4E+03				x				x	x	x	
91-20-3	Naphthalene	5.10	5.2E+06	1.8E+04	9.7E-12	0.00	x	x				x	x	x	
7440-02-0	Nickel		4.3E+06	5.1E+03			x					x	x	x	
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	5.1E+04							x	x			
117-84-0	Octyl Phthalate, di-n-		-	1.2E+04					x		x	x			
56-38-2	Parathion		-	6.2E+03								x			
1336-36-3	PCBs		1.2E+01	1.8E+01			x			x		x	x		x
87-86-5	Pentachlorophenol		4.5E+01	3.2E+03			x		x	x	x	x	x	x	
14797-73-0	Perchlorate		-	2.0E+02						x					
85-01-8	Phenanthrene	0.51	-	2.7E+04		0.00					x			x	
108-95-2	Phenol		-	3.1E+05								x	x	x	
129-00-0	Pyrene		-	2.8E+04							x				
7782-49-2	Selenium		-	8.5E+03				x	x		x		x	x	
7440-22-4	Silver		-	8.5E+03											x
100-42-5	Styrene		-	3.4E+05			x			x				x	x
127-18-4	Tetrachloroethene		2.3E+04	1.0E+04			x			x				x	x
298-02-2	Thimet (Phorate)		-	2.1E+02										x	
108-88-3	Toluene		-	1.4E+05							x	x		x	
79-01-6	Trichloroethene		1.0E+03	8.5E+02			x			x	x			x	
75-69-4	Trichlorofluoromethane		-	5.1E+05					x						
7440-62-2	Vanadium		-	1.2E+04				x	x	x				x	
108-05-4	Vinyl acetate		-	1.7E+06						x				x	

RAGS Workbook
Excavation Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-8 (4 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	1.9E+07																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.7E+04	9.3E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.2E+03	1.5E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	1.7E+06												x	x				
79-00-5	1,1,2-Trichloroethane		5.4E+03	1.2E+04			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	1.5E+04											x						
75-34-3	1,1-Dichloroethane		7.6E+04	5.9E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	1.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	4.2E+02							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.5E+04	4.3E+02			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		5.1E+01	2.7E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	1.5E+05											x						
107-06-2	1,2-Dichloroethane		3.7E+03	5.7E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	6.2E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	5.9E+04				x								x			x		
78-87-5	1,2-Dichloropropane		8.7E+03	5.5E+03			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	2.4E+02				x													
106-99-0	1,3-Butadiene		1.3E+02	1.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	6.2E+03							x										
142-28-9	1,3-Dichloropropane		-	6.2E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.3E+03	1.2E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.2E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.0E+04	2.1E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	2.4E+02				x													
123-91-1	1,4-Dioxane		3.3E+03	7.1E+03			x	x							x	x					
93-76-5	2,4,5-T		-	2.4E+04						x					x			x			
93-72-1	2,4,5-TP		-	1.9E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		6.1E+05	2.4E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		3.0E+04	2.4E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		1.1E+04	1.2E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	7.1E+02										x							
105-67-9	2,4-Dimethylphenol		-	1.2E+04				x													
51-28-5	2,4-Dinitrophenol		-	4.8E+03								x									
121-14-2	2,4-Dinitrotoluene		1.1E+03	4.8E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	1.4E+03				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.9E+02	9.5E+02			x	x								x	x				

RAGS Workbook
Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-8 (4 ft)

95-57-8	2-Chlorophenol		-	2.5E+03								x			
95-48-7	2-Cresol		-	2.4E+04							x				
91-57-6	2-Methylnaphthalene	1.50	-	6.0E+02		0.00							x		
91-94-1	3,3-Dichlorobenzidine		7.4E+02	-			x							x	
108-39-4	3-Cresol		-	2.4E+04							x		x		
106-47-8	4-Chloroaniline		1.7E+03	1.2E+02			x	x							
106-44-5	4-Cresol		-	2.4E+04							x		x		
83-32-9	Acenaphthene		-	9.8E+03						x			x		
208-96-8	Acenaphthylene		-	6.5E+04						x			x		
67-64-1	Acetone		-	6.2E+05				x		x					
75-05-8	Acetonitrile		-	3.2E+03				x		x					
107-02-8	Acrolein		-	1.2E+03				x	x				x		
107-13-1	Acrylonitrile		8.0E+02	3.1E+03			x	x				x	x	x	
15972-60-8	Alachlor		6.0E+03	2.4E+03			x	x						x	
309-00-2	Aldrin		2.0E+01	9.5E+00			x			x	x				
107-05-1	Allyl chloride		2.1E+04	1.0E+04			x					x			
7429-90-5	Aluminum		-	3.1E+05								x			
120-12-7	Anthracene		-	3.8E+03					x		x	x			
7440-36-0	Antimony		-	1.2E+02					x						
12674-11-2	Aroclor 1016		1.5E+02	4.6E+01			x		x			x			
7440-38-2	Arsenic		4.2E+01	8.5E+01			x	x		x				x	
1912-24-9	Atrazine		1.5E+03	7.1E+02			x	x	x		x		x	x	
7440-39-3	Barium		-	6.2E+04						x					
71-43-2	Benzene		7.9E+03	1.5E+02			x	x				x			
65-85-0	Benzoic acid		-	7.2E+05											x
56-55-3	Benzo(a)anthracene		4.3E+02	1.0E+15			x			x	x				
50-32-8	Benzo(a)pyrene		4.3E+01	1.0E+15			x			x	x				
205-99-2	Benzo(b)fluoranthene		4.3E+02	1.0E+15			x			x	x				
191-24-2	Benzo(g,h,i)perylene		-	6.7E+04						x	x				
207-08-9	Benzo(k)fluoranthene		4.3E+03	1.0E+15			x			x	x				
100-44-7	Benzyl chloride		2.6E+03	6.2E+02			x			x	x	x		x	
7440-41-7	Beryllium		3.5E+06	6.2E+02			x		x	x				x	x
111-44-4	Bis(2-chloroethyl)ether		2.5E+02	3.6E+04			x								
117-81-7	Bis(2-Ethylhexyl)phthalate		2.4E+04	2.4E+04			x		x	x			x		
75-27-4	Bromodichloromethane		7.0E+03	6.2E+03			x			x	x				
75-25-2	Bromoform		3.7E+04	4.8E+04			x				x			x	
74-83-9	Bromomethane		-	9.3E+02					x			x		x	
85-68-7	Butyl benzyl phthalate		1.8E+05	4.8E+05			x		x	x	x	x			
7440-43-9	Cadmium		4.6E+06	1.9E+01			x			x	x			x	
86-74-8	Carbazole		1.7E+04	-			x								
75-15-0	Carbon disulfide		-	3.1E+04					x	x		x	x		
56-23-5	Carbon tetrachloride		5.6E+03	2.8E+03			x			x	x				

RAGS Workbook
Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-8 (4 ft)

57-74-9	Chlordane		1.1E+03	1.7E+02			x			x	x			x	x			
115-28-6	Chlorendic acid		3.7E+03	-			x											
108-90-7	Chlorobenzene		-	1.1E+05								x		x	x		x	
67-66-3	Chloroform		1.2E+04	2.9E+04			x								x			
74-87-3	Chloromethane		-	5.7E+05				x	x						x	x	x	
16065-83-1	Chromium (+3)		-	4.6E+05											x			
18540-29-9	Chromium (+6)		6.9E+05	2.8E+03			x			x		x					x	x
218-01-9	Chrysene		4.3E+04	1.3E+05			x	x					x	x		x		x
7440-48-4	Cobalt		9.3E+05	9.2E+02			x	x	x	x			x			x		x
7440-50-8	Copper		-	4.3E+03								x		x				
57-12-5	Cyanide		-	1.9E+03							x			x		x		
72-54-8	DDD		1.4E+03	1.2E+02			x			x	x			x	x	x	x	
72-55-9	DDE		9.8E+02	1.2E+02			x			x	x			x	x		x	
50-29-3	DDT		1.2E+03	1.4E+02			x			x	x			x	x		x	
53-70-3	Dibenz(a,h)anthracene		4.3E+01	6.7E+04			x							x				
132-64-9	Dibenzofuran		-	9.5E+02										x				
124-48-1	Dibromochloromethane		4.3E+03	6.2E+04			x							x	x			
84-74-2	Dibutyl phthalate		-	2.4E+04						x	x						x	
75-71-8	Dichlorodifluoromethane		-	6.2E+04											x			
84-66-2	Diethyl phthalate		-	1.4E+06							x				x		x	
60-57-1	Dieldrin		2.1E+01	2.4E+01			x							x	x	x		
88-85-7	Dinoseb		-	2.4E+02													x	
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-03	5.7E-03			x			x	x		x	x	x	x	x	
115-29-7	Endosulfan		-	1.4E+03					x		x		x	x	x	x		
72-20-8	Endrin		-	4.8E+02						x				x	x	x		
100-41-4	Ethylbenzene		3.9E+04	1.2E+05			x			x				x	x	x		
106-93-4	Ethylene dibromide		1.8E+02	1.7E+03			x			x	x				x		x	x
75-00-3	Ethyl chloride		-	3.1E+04						x								
206-44-0	Fluoranthene	0.51	-	8.9E+04		0.00								x	x			
86-73-7	Fluorene		-	6.1E+04				x							x			x
76-44-8	Heptachlor		7.4E+01	2.4E+01			x			x				x	x			
1024-57-3	Heptachlor epoxide		3.7E+01	3.1E+00			x								x			
118-74-1	Hexachlorobenzene		2.1E+02	1.9E+02			x				x		x		x		x	
87-68-3	Hexachlorobutadiene		4.3E+03	2.4E+02			x							x	x	x		
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		5.3E+01	1.9E+03			x								x			
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.9E+02	1.4E+02			x								x	x		
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.5E+02	2.8E+00			x			x	x		x	x				
67-72-1	Hexachloroethane		8.3E+03	2.4E+03			x							x	x	x		
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		3.0E+03	7.1E+03			x									x	x	
193-39-5	Indeno(1,2,3-cd)pyrene		4.3E+02	8.9E+04			x							x	x			
7439-89-6	Iron		-	2.2E+05								x		x				
121-75-5	Malathion		-	4.8E+03												x		x

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-8 (4 ft)

7439-96-5	Manganese		-	7.4E+03							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	9.3E+02					x	x					
72-43-5	Methoxychlor		-	1.2E+03				x	x			x			
78-93-3	Methyl ethyl ketone		-	1.9E+05				x							
108-10-1	Methyl isobutyl ketone		-	2.5E+05				x				x	x		
80-62-6	Methyl methacrylate		-	4.3E+05						x	x			x	x
1634-04-4	Methyl tert-butyl ether		2.4E+05	9.3E+04			x		x			x	x	x	
75-09-2	Methylene chloride		2.2E+05	1.9E+04			x						x	x	
7439-98-7	Molybdenum		-	1.5E+03							x				
106-94-5	n-Propyl bromide		-	7.1E+02				x		x				x	
91-20-3	Naphthalene	5.10	8.3E+06	1.1E+05	6.2E-12	0.00	x	x				x	x		x		x	
7440-02-0	Nickel		3.2E+07	9.3E+02			x					x	x			x	x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	1.2E+04									x	x			
117-84-0	Octyl Phthalate, di-n-		-	2.9E+03					x			x	x				
56-38-2	Parathion		-	1.4E+03										x			
1336-36-3	PCBs		1.5E+02	6.5E+00			x		x		x			x	x		x	
87-86-5	Pentachlorophenol		6.2E+02	8.8E+02			x		x	x		x	x	x	x	x	
14797-73-0	Perchlorate		-	3.7E+01					x								
85-01-8	Phenanthrene	0.51	-	8.9E+03		0.00						x				x	
108-95-2	Phenol		-	7.1E+04									x	x	x		
129-00-0	Pyrene		-	6.7E+04								x					
7782-49-2	Selenium		-	1.5E+03				x	x		x			x	x		x	
7440-22-4	Silver		-	1.5E+03													x	
100-42-5	Styrene		-	6.2E+05				x		x				x	x			
127-18-4	Tetrachloroethene		2.0E+05	2.7E+04			x			x				x	x			
298-02-2	Thimet (Phorate)		-	4.8E+01											x			
108-88-3	Toluene		-	2.5E+05							x	x			x			
79-01-6	Trichloroethene		9.0E+03	1.4E+02			x			x		x	x		x			
75-69-4	Trichlorofluoromethane		-	9.2E+04					x			x				x		
7440-62-2	Vanadium		-	2.2E+03				x			x	x	x			x		
108-05-4	Vinyl acetate		-	3.1E+05								x				x		

Soil Input Sheet and
Summary of Total Incremental Lifetime Cancer Risks
and Endpoint-Specific Hazard Indices

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Inspections Division
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Date: 04/11/17

Input Sheet

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Exposure Point Conc No.	Sample B-9 (1.5 ft)

CAS No.	Compound	Soil Conc (mg/kg)
	Napthalene	
91-57-6	2-Methylnaphthalene	
85-01-8	Phenanthrene	
208-96-8	Acenaphthylene	
83-32-9	Acenaphthene	
120-12-7	Anthracene	
56-55-3	Benzo(a)anthracene	
50-32-8	Benzo(a)pyrene	
	Benzo(b)fluoranthene	
191-24-2	Benzo(g,h,i)perylene	
	Benzo(k)fluoranthene	
	Chrysene	
	Dibenzo(a,h)anthracene	
206-44-0	Fluoranthene	
86-73-7	Fluorene	
132-64-9	Dibenzofuran	
86-74-8	Carbazole	
117-81-7	Bis(2-Ethylhexyl)Phthalate	
	Indeno(1,2,3-cd)pyrene	
129-00-0	Pyrene	
7440-38-2	Arsenic	15.40
7440-39-3	Barium	
7440-43-9	Cadmium	0.77
	Chromium	16.80
7439-92-1	Lead	390.00
	Mercury (ug/g)	0.32
	Selenium	
7440-22-4	Silver	

	Residential	Park/Rec	Commercial	Construction
	ILCR			
Cancer	1.1E-04	6.7E-05	3.7E-05	3.7E-06
	HQ			
Blood	0.00	0.00	0.00	0.00
Cardio	0.33	0.20	0.04	0.18
Dev	0.33	0.20	0.04	0.18
Endo	0.00	0.00	0.00	0.00
Eye	0.00	0.00	0.00	0.00
Gastro	0.33	0.20	0.04	0.18
Immune	0.07	0.04	0.01	0.04
Kidney	0.40	0.24	0.04	0.22
Liver	0.33	0.20	0.04	0.18
Nervous	0.00	0.00	0.00	0.00
Reprod	0.00	0.00	0.00	0.00
Resp	0.07	0.04	0.01	0.04
Skin	0.33	0.20	0.04	0.18
Other	0.00	0.00	0.00	0.00

RAGS Workbook
Residential Exposure Scenario

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Inspections Division
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Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-9 (1.5 ft)

CAS No.	Compound	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestinal	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	2.16E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		5.46E+02	5.11E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		7.10E+01	3.41E+03			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.41E+05												x	x				
79-00-5	1,1,2-Trichloroethane		2.48E+02	6.81E+02			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.52E+03											x						
75-34-3	1,1-Dichloroethane		2.49E+03	3.41E+04			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.52E+03												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.68E+03							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		4.89E+02	1.68E+03			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		3.26E+00	3.40E+01			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.11E+03											x						
107-06-2	1,2-Dichloroethane		1.56E+02	3.41E+03			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.41E+02				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.41E+03				x								x			x		
78-87-5	1,2-Dichloropropane		3.92E+02	1.36E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.33E+01				x													
106-99-0	1,3-Butadiene		4.17E+00	6.99E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.41E+01							x										
142-28-9	1,3-Dichloropropane		-	3.41E+03					x						x				x		
542-75-6	1,3-Dichloropropene		1.42E+02	5.11E+03			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.33E+01				x										x			
106-46-7	1,4-Dichlorobenzene		2.63E+03	1.19E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.33E+01				x													
123-91-1	1,4-Dioxane		1.08E+02	3.99E+03			x	x							x	x					
93-76-5	2,4,5-T		-	1.33E+03							x				x			x			
93-72-1	2,4,5-TP		-	1.06E+03							x					x		x			
95-95-4	2,4,5-Trichlorophenol		1.01E+06	1.33E+04											x	x					
88-06-2	2,4,6-Trichlorophenol		9.82E+02	1.33E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		3.60E+02	6.65E+01			x									x					
120-83-2	2,4-Dichlorophenol		-	3.99E+02										x							
105-67-9	2,4-Dimethylphenol		-	2.66E+03				x													
51-28-5	2,4-Dinitrophenol		-	2.66E+02								x									
121-14-2	2,4-Dinitrotoluene		3.48E+01	2.66E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	7.98E+01				x							x	x					
606-20-2	2,6-Dinitrotoluene		1.59E+01	1.33E+02			x	x								x	x				
95-57-8	2-Chlorophenol		-	8.52E+02														x			
95-48-7	2-Cresol		-	6.65E+03													x				
91-57-6	2-Methylnaphthalene		-	4.99E+02															x		
91-94-1	3,3-Dichlorobenzidine		2.40E+01	-			x							x						x	
108-39-4	3-Cresol		-	6.65E+03													x		x		
106-47-8	4-Chloroaniline		5.40E+01	6.65E+01			x	x													

Cancer	Blood	Cardiovascular

RAGS Workbook
Residential Exposure Scenario

CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-9 (1.5 ft)

106-44-5	4-Cresol		-	6.65E+02										x		x				
83-32-9	Acenaphthene		-	7.47E+03									x			x				
208-96-8	Acenaphthylene		-	7.49E+03									x			x				
67-64-1	Acetone		-	1.53E+05				x				x		x						
75-05-8	Acetonitrile		-	2.61E+05									x							
107-02-8	Acrolein		-	8.52E+01						x	x					x				
107-13-1	Acrylonitrile		2.63E+01	1.70E+02			x	x		x					x	x	x			
15972-60-8	Alachlor		1.93E+02	1.33E+03			x		x			x						x		
309-00-2	Aldrin		6.35E-01	3.99E+00			x			x			x	x						
107-05-1	Allyl chloride		6.76E+02	1.71E+05			x								x					
7429-90-5	Aluminum		-	1.70E+05					x						x					
120-12-7	Anthracene		-	3.48E+04						x			x	x			x			
7440-36-0	Antimony		-	6.81E+01						x										
12674-11-2	Aroclor 1016		4.93E+00	8.57E+00			x			x	x				x					
7440-38-2	Arsenic	15.40	1.37E+00	4.71E+01	1.1E-04	0.33	x		x	x			x		x	x			x	
1912-24-9	Atrazine		4.70E+01	1.33E+02			x	x	x		x					x		x		
7440-39-3	Barium		-	3.41E+04								x								
71-43-2	Benzene		2.58E+02	8.52E+01			x	x				x			x					
65-85-0	Benzoic acid		-	5.32E+05																x
56-55-3	Benzo(a)anthracene		2.62E+00	5.00E+03			x						x	x						
50-32-8	Benzo(a)pyrene		2.62E-01	5.00E+03			x						x	x						
205-99-2	Benzo(b)fluoranthene		2.62E+00	5.00E+03			x						x	x						
191-24-2	Benzo(g,h,i)perylene		-	3.75E+03									x	x						
207-08-9	Benzo(k)fluoranthene		2.62E+01	5.00E+03			x						x	x						
100-44-7	Benzyl chloride		8.35E+01	3.41E+02			x						x	x	x		x			
7440-41-7	Beryllium		3.86E+05	3.41E+02			x				x	x					x	x		
111-44-4	Bis(2-chloroethyl)ether		9.80E+00	-			x													
117-81-7	Bis(2-Ethylhexyl)phthalate		7.72E+02	7.98E+03			x			x	x					x				
75-27-4	Bromodichloromethane		2.29E+02	3.41E+03			x						x	x						
75-25-2	Bromoform		1.37E+03	2.66E+03			x							x			x			
74-83-9	Bromomethane		-	2.38E+02							x				x		x			
85-68-7	Butyl benzyl phthalate		5.69E+03	2.66E+04			x			x	x			x	x					
7440-43-9	Cadmium	0.77	5.15E+05	1.07E+01	1.5E-11	0.07	x						x	x			x			1.5E-11	
86-74-8	Carbazole		5.40E+02	-			x													
75-15-0	Carbon disulfide		-	1.70E+04					x	x		x			x	x				
56-23-5	Carbon tetrachloride		2.03E+02	6.81E+02			x						x	x						
57-74-9	Chlordane		3.60E+01	7.66E+01			x			x	x		x	x						
115-28-6	Chlorendic acid		1.19E+02	-			x													
108-90-7	Chlorobenzene		-	3.41E+03						x		x	x		x					
67-66-3	Chloroform		4.57E+02	1.70E+03			x							x						
74-87-3	Chloromethane		-	4.06E+06					x	x				x	x	x				
16065-83-1	Chromium (+3)		-	2.56E+05										x						
18540-29-9	Chromium (+6)		3.05E+04	5.11E+02			x			x						x	x			
218-01-9	Chrysene		2.62E+02	2.50E+03			x	x			x	x		x		x				
7440-48-4	Cobalt		1.03E+05	5.11E+01			x	x	x	x		x			x		x	x		
7440-50-8	Copper		-	2.38E+03							x		x							
57-12-5	Cyanide		-	1.02E+02						x			x		x					
72-54-8	DDD		4.50E+01	6.65E+01			x			x	x		x	x	x	x				

RAGS Workbook
Residential Exposure Scenario

CITY OF PORTLAND, MAINE RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-9 (1.5 ft)

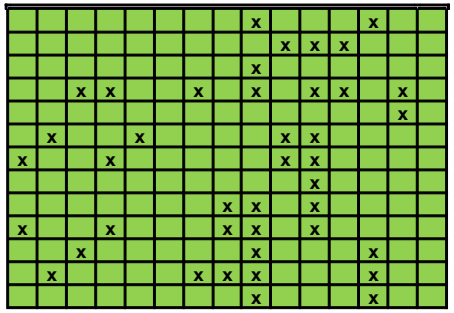
72-55-9	DDE		3.18E+01	6.65E+01			x			x	x			x	x		x		
50-29-3	DDT		3.82E+01	7.86E+01			x			x	x			x	x		x		
53-70-3	Dibenz(a,h)anthracene		2.62E-01	3.75E+03			x							x					
132-64-9	Dibenzofuran		-	1.33E+02										x					
124-48-1	Dibromochloromethane		1.69E+02	3.41E+03			x							x	x				
84-74-2	Dibutyl phthalate		-	1.33E+04						x	x						x		
75-71-8	Dichlorodifluoromethane		-	3.41E+04											x				
84-66-2	Diethyl phthalate		-	1.06E+05							x				x		x		
60-57-1	Dieldrin		6.75E-01	6.65E+00			x							x	x	x			
88-85-7	Dinoseb		-	1.33E+02													x		
1746-01-6	Dioxin-Like Compounds - TEQ		9.98E-05	1.10E-04			x			x	x			x	x	x	x		
115-29-7	Endosulfan		-	7.98E+02					x		x			x	x	x	x		
72-20-8	Endrin		-	3.99E+01						x				x	x	x			
100-41-4	Ethylbenzene		1.29E+03	1.70E+04			x			x				x	x	x			
106-93-4	Ethylene dibromide		7.09E+00	1.53E+03			x			x	x				x		x	x	
75-00-3	Ethyl chloride		-	1.70E+03						x									
206-44-0	Fluoranthene		-	5.00E+03										x	x				
86-73-7	Fluorene		-	4.99E+03				x							x			x	
76-44-8	Heptachlor		2.40E+00	1.33E+00			x			x				x	x				
1024-57-3	Heptachlor epoxide		1.19E+00	1.73E+00			x								x				
118-74-1	Hexachlorobenzene		6.75E+00	1.06E+02			x				x			x			x		
87-68-3	Hexachlorobutadiene		1.38E+02	1.33E+02			x							x	x	x			
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		1.71E+00	1.06E+03			x								x				
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		6.00E+00	7.98E+00			x								x	x			
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		1.15E+01	6.13E-01			x			x	x			x	x				
67-72-1	Hexachloroethane		2.70E+02	9.32E+01			x							x	x	x			
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		9.82E+01	3.99E+02			x									x	x		
193-39-5	Indeno(1,2,3-cd)pyrene		2.62E+00	5.00E+03			x							x	x				
7439-89-6	Iron		-	1.19E+05								x		x					
121-75-5	Malathion		-	2.66E+03												x		x	
7439-96-5	Manganese		-	4.08E+03												x			
7487-94-7	Mercuric chloride & other inorganic mercury compou		-	5.11E+01									x	x					
72-43-5	Methoxychlor		-	6.65E+02						x	x			x			x		
78-93-3	Methyl ethyl ketone		-	1.02E+05						x									
108-10-1	Methyl isobutyl ketone		-	1.36E+04						x				x	x				
80-62-6	Methyl methacrylate		-	2.38E+05								x	x					x	x
1634-04-4	Methyl tert-butyl ether		7.89E+03	5.11E+03			x				x			x	x	x			
75-09-2	Methylene chloride		7.10E+03	1.02E+03			x								x	x		x	
7439-98-7	Molybdenum		-	8.52E+02										x					
106-94-5	n-Propyl bromide		-	1.86E+02						x		x				x	x	x	
91-20-3	Naphthalene		4.90E+06	2.50E+03			x	x						x	x		x		
7440-02-0	Nickel		3.56E+06	5.11E+02			x							x	x			x	x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	6.65E+03											x	x			
117-84-0	Octyl Phthalate, di-n-		-	1.60E+03							x			x	x				
56-38-2	Parathion		-	7.98E+02												x			
1336-36-3	PCBs		4.93E+00	2.45E+00			x			x					x	x		x	
87-86-5	Pentachlorophenol		1.99E+01	5.01E+02			x			x	x			x	x	x	x		
14797-73-0	Perchlorate		-	2.04E+01						x									

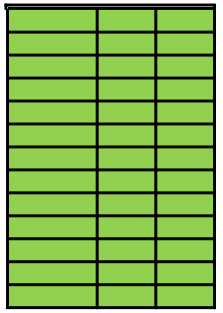
RAGS Workbook
Residential Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-9 (1.5 ft)

85-01-8	Phenanthrene		-	3.74E+03		
108-95-2	Phenol		-	3.99E+04		
129-00-0	Pyrene		-	3.75E+03		
7782-49-2	Selenium		-	8.52E+02		
7440-22-4	Silver		-	8.52E+02		
100-42-5	Styrene		-	3.41E+04		
127-18-4	Tetrachloroethene		6.76E+03	1.02E+03		
298-02-2	Thimet (Phorate)		-	2.66E+01		
108-88-3	Toluene		-	1.36E+04		
79-01-6	Trichloroethene		1.62E+02	8.51E+01		
75-69-4	Trichlorofluoromethane		-	5.11E+04		
7440-62-2	Vanadium		-	1.19E+03		
108-05-4	Vinyl acetate		-	1.70E+05		





RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-9 (1.5 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane			1.8E+09																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.8E+03	5.1E+04			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.4E+02	3.4E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	3.4E+06												x	x				
79-00-5	1,1,2-Trichloroethane		8.3E+02	6.8E+03			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	8.5E+04											x						
75-34-3	1,1-Dichloroethane		8.4E+03	3.4E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	8.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	1.5E+04							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.6E+03	1.5E+04			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		4.7E+01	3.3E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	5.1E+04											x						
107-06-2	1,2-Dichloroethane		5.2E+02	3.4E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	3.4E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	3.4E+04				x								x			x		
78-87-5	1,2-Dichloropropane		1.3E+03	6.1E+04			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	1.0E+02				x													
106-99-0	1,3-Butadiene		1.4E+01	7.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	3.4E+02							x										
142-28-9	1,3-Dichloropropane		-	3.4E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.8E+02	5.1E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.0E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.8E+03	1.2E+05			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	1.0E+02				x													
123-91-1	1,4-Dioxane		2.9E+02	3.1E+04			x	x							x	x					
93-76-5	2,4,5-T		-	1.0E+04						x					x			x			
93-72-1	2,4,5-TP		-	8.2E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		1.0E+06	1.0E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		2.6E+03	1.0E+03			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		9.6E+02	5.1E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	3.1E+03										x							
105-67-9	2,4-Dimethylphenol		-	2.1E+04				x													
51-28-5	2,4-Dinitrophenol		-	2.1E+03								x									
121-14-2	2,4-Dinitrotoluene		9.3E+01	2.1E+03			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	6.2E+02				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.2E+01	1.0E+03			x	x								x	x				

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-9 (1.5 ft)

95-57-8	2-Chlorophenol		-	8.5E+03								x			
95-48-7	2-Cresol		-	5.1E+04							x				
91-57-6	2-Methylnaphthalene		-	3.6E+03									x		
91-94-1	3,3-Dichlorobenzidine		6.4E+01	-			x							x	
108-39-4	3-Cresol		-	5.1E+04							x		x		
106-47-8	4-Chloroaniline		1.4E+02	5.1E+02			x	x							
106-44-5	4-Cresol		-	5.1E+03							x		x		
83-32-9	Acenaphthene		-	5.4E+04						x			x		
208-96-8	Acenaphthylene		-	5.5E+04						x			x		
67-64-1	Acetone		-	1.5E+06				x			x				
75-05-8	Acetonitrile		-	2.2E+05				x							
107-02-8	Acrolein		-	8.5E+02			x	x					x		
107-13-1	Acrylonitrile		8.8E+01	1.7E+03			x	x			x	x	x		
15972-60-8	Alachlor		5.1E+02	1.0E+04			x	x						x	
309-00-2	Aldrin		1.7E+00	3.1E+01			x	x		x	x				
107-05-1	Allyl chloride		2.3E+03	1.4E+05			x					x			
7429-90-5	Aluminum		-	1.7E+06				x				x			
120-12-7	Anthracene		-	1.6E+05			x			x	x		x		
7440-36-0	Antimony		-	6.8E+02			x								
12674-11-2	Aroclor 1016		1.2E+01	6.2E+01			x	x				x			
7440-38-2	Arsenic	15.40	4.2E+00	4.3E+02	3.7E-05	0.04	x		x	x		x		x		
1912-24-9	Atrazine		1.2E+02	1.0E+03			x	x	x		x			x	
7440-39-3	Barium		-	3.4E+05						x					
71-43-2	Benzene		8.7E+02	8.5E+02			x	x			x				
65-85-0	Benzoic acid		-	4.1E+06											x
56-55-3	Benzo(a)anthracene		3.5E+01	3.7E+04			x			x	x				
50-32-8	Benzo(a)pyrene		3.5E+00	3.7E+04			x			x	x				
205-99-2	Benzo(b)fluoranthene		3.5E+01	3.7E+04			x			x	x				
191-24-2	Benzo(g,h,i)perylene		-	2.8E+04						x	x				
207-08-9	Benzo(k)fluoranthene		3.5E+02	3.7E+04			x			x	x				
100-44-7	Benzyl chloride		2.8E+02	3.4E+03			x			x	x	x	x		
7440-41-7	Beryllium		4.6E+05	3.4E+03			x		x	x			x	x	
111-44-4	Bis(2-chloroethyl)ether		2.6E+01	-			x								
117-81-7	Bis(2-Ethylhexyl)phthalate		2.1E+03	6.2E+04			x		x	x			x		
75-27-4	Bromodichloromethane		7.7E+02	3.4E+04			x			x	x				
75-25-2	Bromoform		3.6E+03	2.1E+04			x				x			x	
74-83-9	Bromomethane		-	2.4E+03					x			x		x	
85-68-7	Butyl benzyl phthalate		1.5E+04	2.1E+05			x		x	x	x	x			
7440-43-9	Cadmium	0.77	6.2E+05	9.4E+01	1.2E-11	0.01	x					x	x		
86-74-8	Carbazole		1.4E+03	-			x								
75-15-0	Carbon disulfide		-	1.7E+05				x	x		x		x	x	
56-23-5	Carbon tetrachloride		6.8E+02	6.8E+03			x					x	x		

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario



Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-9 (1.5 ft)

57-74-9	Chlordane		1.1E+02	6.7E+02			x			x	x		x	x			
115-28-6	Chlorendic acid		3.2E+02	-			x										
108-90-7	Chlorobenzene		-	3.4E+04							x		x	x		x	
67-66-3	Chloroform		1.5E+03	1.7E+04			x							x			
74-87-3	Chloromethane		-	3.4E+06				x	x					x	x	x	
16065-83-1	Chromium (+3)		-	2.6E+06										x			
18540-29-9	Chromium (+6)		9.3E+04	5.1E+03			x			x			x			x	x
218-01-9	Chrysene		3.5E+03	1.8E+04			x	x						x	x		
7440-48-4	Cobalt		1.2E+05	5.1E+02			x	x	x	x			x			x	x
7440-50-8	Copper		-	2.4E+04								x		x			
57-12-5	Cyanide		-	1.0E+03							x			x			
72-54-8	DDD		1.2E+02	5.1E+02			x			x	x		x	x	x	x	
72-55-9	DDE		8.5E+01	5.1E+02			x			x	x			x		x	
50-29-3	DDT		1.2E+02	7.1E+02			x			x	x			x		x	
53-70-3	Dibenz(a,h)anthracene		3.5E+00	2.8E+04			x							x			
132-64-9	Dibenzofuran		-	1.0E+03										x			
124-48-1	Dibromochloromethane		5.6E+02	3.4E+04			x							x	x		
84-74-2	Dibutyl phthalate		-	1.0E+05						x	x					x	
75-71-8	Dichlorodifluoromethane		-	3.4E+05										x			
84-66-2	Diethyl phthalate		-	8.2E+05							x			x		x	
60-57-1	Dieldrin		1.8E+00	5.1E+01			x							x	x	x	
88-85-7	Dinoseb		-	1.0E+03												x	
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-04	1.0E-03			x			x	x		x	x	x	x	
115-29-7	Endosulfan		-	6.2E+03					x		x		x	x	x	x	
72-20-8	Endrin		-	3.1E+02						x				x	x	x	
100-41-4	Ethylbenzene		4.3E+03	1.7E+05			x			x				x	x	x	
106-93-4	Ethylene dibromide		2.4E+01	1.5E+04			x			x	x				x		
75-00-3	Ethyl chloride		-	1.7E+04						x							
206-44-0	Fluoranthene		-	3.7E+04										x	x		
86-73-7	Fluorene		-	3.7E+04				x						x			x
76-44-8	Heptachlor		6.4E+00	1.0E+01			x			x				x	x		
1024-57-3	Heptachlor epoxide		3.2E+00	1.3E+01			x							x			
118-74-1	Hexachlorobenzene		1.8E+01	8.2E+02			x				x		x		x		
87-68-3	Hexachlorobutadiene		3.7E+02	1.0E+03			x							x	x	x	
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		4.6E+00	8.2E+03			x							x			
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.6E+01	6.2E+01			x							x	x		
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.4E+01	5.4E+00			x			x	x		x	x			
67-72-1	Hexachloroethane		7.2E+02	7.2E+02			x							x	x	x	
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		2.6E+02	3.1E+03			x								x	x	
193-39-5	Indeno(1,2,3-cd)pyrene		3.5E+01	3.7E+04			x							x	x		
7439-89-6	Iron		-	1.2E+06								x		x			
121-75-5	Malathion		-	2.1E+04											x		x

RAGS Workbook
Outdoor Commercial Worker Exposure Scenario

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 04/11/17

Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-9 (1.5 ft)

7439-96-5	Manganese		-	4.0E+04							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	5.1E+02						x	x				
72-43-5	Methoxychlor		-	5.1E+03				x	x			x				
78-93-3	Methyl ethyl ketone		-	1.0E+06				x								
108-10-1	Methyl isobutyl ketone		-	1.4E+05				x				x	x			
80-62-6	Methyl methacrylate		-	2.4E+06						x	x				x	x
1634-04-4	Methyl tert-butyl ether		2.6E+04	5.1E+04			x					x	x	x		
75-09-2	Methylene chloride		2.4E+04	1.0E+04			x						x	x	x	
7439-98-7	Molybdenum		-	8.5E+03								x				
106-94-5	n-Propyl bromide		-	1.4E+03				x			x			x	x	x
91-20-3	Naphthalene		5.2E+06	1.8E+04			x	x			x	x		x		x
7440-02-0	Nickel		4.3E+06	5.1E+03			x				x	x				x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	5.1E+04									x	x		
117-84-0	Octyl Phthalate, di-n-		-	1.2E+04					x			x	x			
56-38-2	Parathion		-	6.2E+03										x		
1336-36-3	PCBs		1.2E+01	1.8E+01			x				x			x	x	
87-86-5	Pentachlorophenol		4.5E+01	3.2E+03			x		x	x		x	x	x	x	x
14797-73-0	Perchlorate		-	2.0E+02					x							
85-01-8	Phenanthrene		-	2.7E+04								x				x
108-95-2	Phenol		-	3.1E+05									x	x	x	
129-00-0	Pyrene		-	2.8E+04								x				
7782-49-2	Selenium		-	8.5E+03				x	x		x			x	x	
7440-22-4	Silver		-	8.5E+03												x
100-42-5	Styrene		-	3.4E+05			x			x				x	x	
127-18-4	Tetrachloroethene		2.3E+04	1.0E+04			x			x				x	x	
298-02-2	Thimet (Phorate)		-	2.1E+02											x	
108-88-3	Toluene		-	1.4E+05							x	x			x	
79-01-6	Trichloroethene		1.0E+03	8.5E+02			x		x		x	x			x	
75-69-4	Trichlorofluoromethane		-	5.1E+05				x				x				x
7440-62-2	Vanadium		-	1.2E+04				x		x	x	x				x
108-05-4	Vinyl acetate		-	1.7E+06								x				x

RAGS Workbook
Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-9 (1.5 ft)

CAS Number	Chemical	Soil Conc (mg/kg)	Cancer Based RAG (mg/kg)	Noncancer Based RAG (mg/kg)	ILCR	HQ	Cancer	Blood	Cardiovascular	Developmental	Endocrine	Eye	Gastrointestina	Immune	Kidney	Liver	Nervous	Reproductive	Respiratory	Skin	Other
75-68-3	1-Chloro-1,1-difluoroethane		-	1.9E+07																	x
630-20-6	1,1,1,2-Tetrachloroethane		1.7E+04	9.3E+03			x								x	x					
79-34-5	1,1,2,2-Tetrachloroethane		2.2E+03	1.5E+04			x									x			x		
71-55-6	1,1,1-Trichloroethane		-	1.7E+06												x	x				
79-00-5	1,1,2-Trichloroethane		5.4E+03	1.2E+04			x	x						x		x	x				
92-52-4	1,1-Biphenyl		-	1.5E+04											x						
75-34-3	1,1-Dichloroethane		7.6E+04	5.9E+05			x								x	x					
75-35-4	1,1-Dichloroethene		-	1.5E+04												x					
87-61-6	1,2,3-Trichlorobenzene		-	4.2E+02							x				x	x					
120-82-1	1,2,4-Trichlorobenzene		1.5E+04	4.3E+02			x				x				x	x					
96-12-8	1,2-Dibromo-3-chloropropane		5.1E+01	2.7E+02			x				x							x	x		
95-50-1	1,2-Dichlorobenzene		-	1.5E+05											x						
107-06-2	1,2-Dichloroethane		3.7E+03	5.7E+04			x								x	x					
156-59-2	1,2-Dichloroethene (cis)		-	6.2E+03				x								x			x		
156-60-5	1,2-Dichloroethene (trans)		-	5.9E+04				x								x			x		
78-87-5	1,2-Dichloropropane		8.7E+03	5.5E+03			x	x							x	x	x		x		
528-29-0	1,2-Dinitrobenzene		-	2.4E+02				x													
106-99-0	1,3-Butadiene		1.3E+02	1.0E+07			x			x								x			
541-73-1	1,3-Dichlorobenzene		-	6.2E+03							x										
142-28-9	1,3-Dichloropropane		-	6.2E+04					x						x				x		
542-75-6	1,3-Dichloropropene		4.3E+03	1.2E+04			x						x	x					x	x	
99-65-0	1,3-Dinitrobenzene		-	1.2E+02				x										x			
106-46-7	1,4-Dichlorobenzene		8.0E+04	2.1E+04			x			x						x			x		
100-25-4	1,4-Dinitrobenzene		-	2.4E+02				x													
123-91-1	1,4-Dioxane		3.3E+03	7.1E+03			x	x							x	x					
93-76-5	2,4,5-T		-	2.4E+04						x					x			x			
93-72-1	2,4,5-TP		-	1.9E+03						x						x		x			
95-95-4	2,4,5-Trichlorophenol		6.1E+05	2.4E+05											x	x					
88-06-2	2,4,6-Trichlorophenol		3.0E+04	2.4E+02			x	x								x					
118-96-7	2,4,6-Trinitrotoluene		1.1E+04	1.2E+02			x									x					
120-83-2	2,4-Dichlorophenol		-	7.1E+02										x							
105-67-9	2,4-Dimethylphenol		-	1.2E+04				x													
51-28-5	2,4-Dinitrophenol		-	4.8E+03								x									
121-14-2	2,4-Dinitrotoluene		1.1E+03	4.8E+02			x	x								x	x				
576-26-1	2,6-Dimethylphenol		-	1.4E+03				x							x	x					
606-20-2	2,6-Dinitrotoluene		4.9E+02	9.5E+02			x	x								x	x				

RAGS Workbook
Excavation Worker Exposure Scenario



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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-9 (1.5 ft)

95-57-8	2-Chlorophenol		-	2.5E+03								x				
95-48-7	2-Cresol		-	2.4E+04								x				
91-57-6	2-Methylnaphthalene		-	6.0E+02									x			
91-94-1	3,3-Dichlorobenzidine		7.4E+02	-			x							x		
108-39-4	3-Cresol		-	2.4E+04								x		x		
106-47-8	4-Chloroaniline		1.7E+03	1.2E+02			x	x								
106-44-5	4-Cresol		-	2.4E+04								x		x		
83-32-9	Acenaphthene		-	9.8E+03							x			x		
208-96-8	Acenaphthylene		-	6.5E+04							x			x		
67-64-1	Acetone		-	6.2E+05				x			x					
75-05-8	Acetonitrile		-	3.2E+03				x			x					
107-02-8	Acrolein		-	1.2E+03			x	x	x	x				x		
107-13-1	Acrylonitrile		8.0E+02	3.1E+03			x	x		x		x	x	x		
15972-60-8	Alachlor		6.0E+03	2.4E+03			x	x			x				x	
309-00-2	Aldrin		2.0E+01	9.5E+00			x			x	x					
107-05-1	Allyl chloride		2.1E+04	1.0E+04			x				x		x			
7429-90-5	Aluminum		-	3.1E+05						x			x			
120-12-7	Anthracene		-	3.8E+03					x		x	x		x		
7440-36-0	Antimony		-	1.2E+02					x							
12674-11-2	Aroclor 1016		1.5E+02	4.6E+01			x		x	x			x			
7440-38-2	Arsenic	15.40	4.2E+01	8.5E+01	3.7E-06	0.18	x		x	x		x		x	x	
1912-24-9	Atrazine		1.5E+03	7.1E+02			x	x	x		x		x		x	
7440-39-3	Barium		-	6.2E+04							x					
71-43-2	Benzene		7.9E+03	1.5E+02			x	x				x		x		
65-85-0	Benzoic acid		-	7.2E+05												x
56-55-3	Benzo(a)anthracene		4.3E+02	1.0E+15			x				x	x				
50-32-8	Benzo(a)pyrene		4.3E+01	1.0E+15			x				x	x				
205-99-2	Benzo(b)fluoranthene		4.3E+02	1.0E+15			x				x	x				
191-24-2	Benzo(g,h,i)perylene		-	6.7E+04							x	x				
207-08-9	Benzo(k)fluoranthene		4.3E+03	1.0E+15			x				x	x				
100-44-7	Benzyl chloride		2.6E+03	6.2E+02			x				x	x	x		x	
7440-41-7	Beryllium		3.5E+06	6.2E+02			x		x	x				x	x	
111-44-4	Bis(2-chloroethyl)ether		2.5E+02	3.6E+04			x									
117-81-7	Bis(2-Ethylhexyl)phthalate		2.4E+04	2.4E+04			x			x	x			x		
75-27-4	Bromodichloromethane		7.0E+03	6.2E+03			x				x	x				
75-25-2	Bromoform		3.7E+04	4.8E+04			x					x			x	
74-83-9	Bromomethane		-	9.3E+02						x			x		x	
85-68-7	Butyl benzyl phthalate		1.8E+05	4.8E+05			x			x	x	x				
7440-43-9	Cadmium	0.77	4.6E+06	1.9E+01	1.7E-12	0.04	x					x	x			
86-74-8	Carbazole		1.7E+04	-			x									
75-15-0	Carbon disulfide		-	3.1E+04					x	x		x		x		
56-23-5	Carbon tetrachloride		5.6E+03	2.8E+03			x				x	x				

RAGS Workbook
Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-9 (1.5 ft)

57-74-9	Chlordane		1.1E+03	1.7E+02			x			x	x			x	x				
115-28-6	Chlorendic acid		3.7E+03	-			x												
108-90-7	Chlorobenzene		-	1.1E+05								x		x	x		x		
67-66-3	Chloroform		1.2E+04	2.9E+04			x								x				
74-87-3	Chloromethane		-	5.7E+05					x	x					x	x	x		
16065-83-1	Chromium (+3)		-	4.6E+05											x				
18540-29-9	Chromium (+6)		6.9E+05	2.8E+03			x			x		x					x	x	
218-01-9	Chrysene		4.3E+04	1.3E+05			x	x					x	x		x		x	
7440-48-4	Cobalt		9.3E+05	9.2E+02			x	x	x	x			x			x		x	x
7440-50-8	Copper		-	4.3E+03								x		x					
57-12-5	Cyanide		-	1.9E+03							x			x		x			
72-54-8	DDD		1.4E+03	1.2E+02			x			x	x			x	x	x	x		
72-55-9	DDE		9.8E+02	1.2E+02			x			x	x			x	x		x		
50-29-3	DDT		1.2E+03	1.4E+02			x			x	x			x	x		x		
53-70-3	Dibenz(a,h)anthracene		4.3E+01	6.7E+04			x							x					
132-64-9	Dibenzofuran		-	9.5E+02										x					
124-48-1	Dibromochloromethane		4.3E+03	6.2E+04			x							x	x				
84-74-2	Dibutyl phthalate		-	2.4E+04						x	x						x		
75-71-8	Dichlorodifluoromethane		-	6.2E+04											x				
84-66-2	Diethyl phthalate		-	1.4E+06							x				x		x		
60-57-1	Dieldrin		2.1E+01	2.4E+01			x							x	x	x			
88-85-7	Dinoseb		-	2.4E+02													x		
1746-01-6	Dioxin-Like Compounds - TEQ		3.1E-03	5.7E-03			x			x	x		x	x	x	x	x		
115-29-7	Endosulfan		-	1.4E+03					x		x		x	x	x	x			
72-20-8	Endrin		-	4.8E+02						x				x	x	x			
100-41-4	Ethylbenzene		3.9E+04	1.2E+05			x			x				x	x	x			
106-93-4	Ethylene dibromide		1.8E+02	1.7E+03			x			x	x				x		x	x	
75-00-3	Ethyl chloride		-	3.1E+04						x									
206-44-0	Fluoranthene		-	8.9E+04										x	x				
86-73-7	Fluorene		-	6.1E+04				x							x			x	
76-44-8	Heptachlor		7.4E+01	2.4E+01			x			x				x	x				
1024-57-3	Heptachlor epoxide		3.7E+01	3.1E+00			x								x				
118-74-1	Hexachlorobenzene		2.1E+02	1.9E+02			x				x		x		x		x		
87-68-3	Hexachlorobutadiene		4.3E+03	2.4E+02			x							x	x	x			
319-84-6	Hexachlorocyclohexane, alpha (alpha-BHC)		5.3E+01	1.9E+03			x								x				
319-85-7	Hexachlorocyclohexane, beta (beta-BHC)		1.9E+02	1.4E+02			x								x	x			
58-89-9	Hexachlorocyclohexane, gamma (Lindane)		3.5E+02	2.8E+00			x			x	x		x	x					
67-72-1	Hexachloroethane		8.3E+03	2.4E+03			x							x	x	x			
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		3.0E+03	7.1E+03			x									x	x		
193-39-5	Indeno(1,2,3-cd)pyrene		4.3E+02	8.9E+04			x							x	x				
7439-89-6	Iron		-	2.2E+05								x		x					
121-75-5	Malathion		-	4.8E+03												x		x	

RAGS Workbook
Excavation Worker Exposure Scenario

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Project Name	50 India Street
Town	Portland
Spill No.	none
Remediation No.	VRAP
Sample No.	Sample B-9 (1.5 ft)

7439-96-5	Manganese		-	7.4E+03							x				
7487-94-7	Mercuric chloride & other inorganic mercury compo		-	9.3E+02					x	x					
72-43-5	Methoxychlor		-	1.2E+03				x	x			x	x		
78-93-3	Methyl ethyl ketone		-	1.9E+05				x							
108-10-1	Methyl isobutyl ketone		-	2.5E+05				x				x	x		
80-62-6	Methyl methacrylate		-	4.3E+05						x	x			x	x
1634-04-4	Methyl tert-butyl ether		2.4E+05	9.3E+04			x		x			x	x	x	
75-09-2	Methylene chloride		2.2E+05	1.9E+04			x						x	x	
7439-98-7	Molybdenum		-	1.5E+03							x				
106-94-5	n-Propyl bromide		-	7.1E+02				x		x			x	x	x
91-20-3	Naphthalene		8.3E+06	1.1E+05			x	x			x	x		x	
7440-02-0	Nickel		3.2E+07	9.3E+02			x				x	x		x	x
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)		-	1.2E+04								x	x		
117-84-0	Octyl Phthalate, di-n-		-	2.9E+03					x			x	x		
56-38-2	Parathion		-	1.4E+03									x		
1336-36-3	PCBs		1.5E+02	6.5E+00			x		x				x	x	x
87-86-5	Pentachlorophenol		6.2E+02	8.8E+02			x		x			x	x	x	x
14797-73-0	Perchlorate		-	3.7E+01					x						
85-01-8	Phenanthrene		-	8.9E+03							x			x	
108-95-2	Phenol		-	7.1E+04								x	x	x	
129-00-0	Pyrene		-	6.7E+04							x				
7782-49-2	Selenium		-	1.5E+03			x	x		x		x		x	x
7440-22-4	Silver		-	1.5E+03											x
100-42-5	Styrene		-	6.2E+05		x			x				x	x	
127-18-4	Tetrachloroethene		2.0E+05	2.7E+04		x			x				x	x	
298-02-2	Thimet (Phorate)		-	4.8E+01										x	
108-88-3	Toluene		-	2.5E+05							x	x		x	
79-01-6	Trichloroethene		9.0E+03	1.4E+02		x			x		x	x		x	
75-69-4	Trichlorofluoromethane		-	9.2E+04				x				x			x
7440-62-2	Vanadium		-	2.2E+03		x				x	x	x			x
108-05-4	Vinyl acetate		-	3.1E+05								x			x