PHASE II ENVIRONMENTAL SITE ASSESSMENT

Osmose Realty Corp Site
Buffalo, New York

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1.0 INTRODUCTION

This Phase II Environmental Site Assessment (ESA) Report has been prepared on behalf of Hodgson Russ LLP (Hodgson Russ) at the Osmose Realty Corp. (Osmose) facility located at 980 Ellicott St (including the five adjoining parcels – collectively the "Site") in Buffalo, New York.

Golder Associates (Golder) performed investigation activities on the Site as part of the Phase II ESA on April 7 and 8, 2015. Investigation activities were performed to assess recognized environmental conditions (RECs) identified in a July 2013 Phase I ESA conducted by C & S Engineers, Inc. and address potential data gaps related to these RECs as further described in Section 1.1.

The Site consists of five parcels comprising a total of approximately 4.3 acres located north of Buffalo Niagara Medical Campus corridor, east of Main Street. The Site is currently host to operations by Osmose Inc. (refer to Figure 1-1).

1.1 Purpose and Scope

Although there is an extensive environmental history regarding the Site, including associated documentation related to release(s) that occurred and were remediated from several underground storage tanks under an Order on Consent with the New York State Department of Environmental Conservation ("NYSDEC"), the objective of the Phase II ESA was to determine if: (i) the Site has been impacted by current or past uses, (ii) to determine the level of contamination, in the Site soils, groundwater or other environmental media, if any, (iii) evaluate Site conditions in the context of a commercial use scenario, and (iv) evaluate remedial alternatives to address any soil, groundwater or other environmental media requiring remedial action to achieve a commercial use. An additional project objective included the review and assessment of the Site's current hydrogeologic status (i.e., isopotential conditions, flow dynamics, etc,) to ascertain the impact, if any, of the LRRT tunnel and whether the influence of the existing groundwater extraction system, and general direction of groundwater flow, are consistent with and in agreement with past assessments.

This Phase II Report has been prepared on behalf of Hodgson Russ to describe and presents the findings of the Phase II ESA for the Site.

1.2 Background

1.2.1 Site Description

The Site consists of five parcels comprising a total of approximately 4.3 acres and addressed at 980 Ellicott Street in the City of Buffalo, New York (Erie County S.B.L No. 100.63-3 -8.1, -14.112, -36, -37, -38) The site is located north of Buffalo Niagara Medical Campus corridor, east of Main Street.

The acreages associated with each parcel described above are distributed as follows:

- 980 Ellicott Street: 1.36 acres;
- 960 Ellicott Street: 0.79 acres;
- 996 Ellicott Street: 0.42 acres;
- 31 Dodge Street: 0.95 acres
- 28 Best Street: 0.32 acres; and,
- 1145 Main Street: 0.46 acres.

The Site is bordered: to the north and west partially by Dodge and Main Streets and partially by private parcels addressed at 1159 Main St. and 19 Dodge St.; to the south by Best Street and NFTA Best/Summer Streets Metro Station; and to the east by Ellicott Street.

2.0 INVESTIGATION APPROACH

The Phase II Environmental Site Assessment (ESA), focused on the investigation and characterization of soil, groundwater and indoor (basement) air at the Site. As previously noted, a portion of the Site located on the 980 Ellicott St. parcel south of the main manufacturing building was impacted by underground storage tank releases that were discovered in the late 1990's. The extensive investigation, remediation, monitoring and regulatory oversight activities associated with that contamination has been thoroughly documented and reported and therefore the remaining groundwater contamination associated with that release was not further investigated or evaluated as part of this Phase II ESA.

The Phase II ESA was undertaken to collect soil/fill, groundwater and indoor air data for areas of the Site where little or no data from the previous UST spill and remedial investigations/monitoring existed. The sampling locations, media to be sampled and analytical parameters were coordinated and collectively agreed upon prior to initiation of the Phase II field activities by Osmose and the prospective purchaser of the property.

Golder performed all Phase II field sampling activities on April 8 and 9, 2015. The major components of the completed investigation tasks are described in detail below. Investigation soil boring samples, the temporary groundwater monitoring well location and approximate indoor air sampling locations are shown on Figure 2-1. A representative for the prospective property purchaser from OSC Inc. was present on April 8, 2015 to observe the field investigation activities.

2.1 April 2015 Investigation Activities

2.1.1 Soil/Fill Investigation

A soil boring program was conducted in two locations at the Site identified as: Tank Room 1 / Existing UST Area; and, Former Gasoline UST Area to characterize the subsurface soil and/or groundwater media in these areas, where feasible. The subsurface soil sampling program consisted of six (6) soil boring sample locations in the Tank Room 1 /Fuel Oil UST Area (B-1 through B-6) and three (3) soil boring sample locations and installation of one temporary groundwater monitoring well in the Former Gasoline UST Area (Borings B-7 through B-9). The temporary well was installed at the Boring B-8 location.

Soil samples were collected using dedicated stainless steel sample equipment and placed in appropriate sample containers for shipment to the laboratory. Borehole locations as depicted on Figure 2-1 were adjusted in the field based on site conditions, accessibility, and utility corridor locations to allow for successful completion of the borings. Four of the nine boring locations were adjusted as follows:

- Boring B-1: this boring location was moved approximately 3 ft. to the northeast of proposed location due to proximity of underground electrical power lines;
- Boring B-2: this boring location was moved approximately 1.5 ft. to the north of proposed location due to proximity of underground electrical power lines;

- Boring B-3: this boring location was moved approximately 1 ft. to the north of proposed location due to proximity of underground electrical power lines; and
- Boring B-6: this boring location was moved approximately 5 ft. to the south of proposed location due to refusal encountered at the original location (suspected formed concrete foundation structure).

A drill rig using direct push drilling methods via a Geoprobe® equipped with a concrete core barrel was used to advance the subsurface soil borings into the underlying soil/fill to a target depth of sixteen feet or refusal at each location.

Drilling methods used during investigation activities utilized a 1.5-inch diameter, 4-foot core sampler with a dedicated PVC sleeve to advance and retrieve soil core samples at four foot intervals. With one exception, visual or olfactory contaminant impacts were not noted in any of the borings. At boring location B-6, a slight discoloration was noted in the fill (i.e., described as consisting of concrete rubble, brick, and slag) present from approximately 0.7 to 4.7 feet below grade surface (fbgs). The photo-ionization detector (PID) reading for this interval was also slightly elevated at 2-20 ppm, however no odor or presence/evidence of product or other suspect materials were observed in the fill. Saturated conditions were encountered from 11 to12 fbgs in borings B-1 through B-6 and at 7 to 8 fbgs in borings B-7 through B-9 on the west side of the Research/Laboratory building; all borings were completed to sixteen fbgs. Detailed soil boring logs are provided in Appendix A for all nine locations.

Upon retrieval of each soil/fill core, the soil/fill samples were screened for total organic vapors using a PID. The organic vapor measurements were recorded and the soil/fill material described on boring logs by a Golder field representative (provided in Appendix A). The recovered soils were characterized by visual observation in accordance with ASTM Method D2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure). Subsurface soil samples were collected for chemical analysis at the boring locations. The depth from which samples were collected was determined based on screening results of visual and olfactory observations and PID measurements. Samples were collected from the discrete depth interval that displayed the greatest evidence of contamination, if any. Borings in proximity to the tank room and existing UST were generally sampled in the 4 to 8 foot interval associated with the lateral height of the adjacent UST, as well as in the saturated zone.

2.1.1.1 Soil/Fill Sample Analyses

All non-dedicated, downhole sampling equipment was decontaminated between soil boring locations in accordance with accepted drilling practices using a high-pressure hot water “steam” cleaner, or scrubbed using Alconox® and a hot water followed by a clean potable water rinse. Representative soil samples were placed in pre-cleaned laboratory-provided sample bottles, cooled to 4^{o}C in the field, and transported under chain-of-custody command to Alpha Analytical, located in Mansfield, MA. Soil samples collected from were analyzed for the following parameters as follows:

Borings B-1 through B-6:

- Method 8015C(M): total petroleum hydrocarbon (TPH) diesel range organics (DRO);
- Method 8270D: naphthalene; and,
- Method 6010C: total copper

Borings B-7 through B-9:

- Method 8015C(M): TPH gasoline range organics (GRO);
- Method 8015C(M): TPH diesel range organics (DRO);
- Method 8270D: naphthalene; and,
- Method 6010C: total copper

All samples were collected and analyzed in accordance with USEPA SW-846 methodology by a NYSDOH ELAP-approved laboratory certified to perform CLP work.

2.1.2 Groundwater Investigation

The Phase II ESA scope of work included the sampling of one existing groundwater monitoring well (MW-26) at the Site assumed to be representative of down gradient groundwater quality in the vicinity of Tank Room 1 and the existing No. 2 Fuel Oil UST. In addition, the groundwater investigation also included the installation and sampling of a temporary well at boring location B-8, located within the approximate footprint of the former gasoline UST area. These sample locations were chosen to assess the potential impacts from recent Site operations (MW-26) and a historic gasoline UST identified as a REC in the 2013 Phase I ESA from historic maps.

On April 8, 2015 as part of the Phase II investigation program, Golder attempted to sample existing monitoring well MW-26. Upon removal of the flush mount protective cover on MW-26 it was discovered that the well riser was damaged and obstructed to an extent that the well could not be accessed to collect a sample or take a water level measurement. A review of the monitoring well network indicated that there were no other wells in the vicinity of MW-26 that might be representative of the groundwater quality immediately east and downgradient of Tank Room 1 and the existing No. 2 Fuel Oil UST areas. In addition, the soil borings B-1 through B-6 had been completed and backfilled at that point which precluded the installation of a temporary well at one of those locations.

Golder personnel provided oversight for the installation of one temporary groundwater monitoring well (TMW-1) at boring location B-8 on April 8, 2015 to investigate groundwater quality in the vicinity of the historic gasoline UST area west of the current laboratory building. Figure 2-1 shows the location of the temporary monitoring well. Monitoring well installation, well development, and groundwater sample collection are discussed in the following sections.

2.1.2.1 Monitoring Well Installation

Temporary monitoring well TMW-1 was installed according to the approved investigation approach, located west of the existing laboratory building. The temporary well was installed to assess the potential impacts of a historic underground gasoline storage tank identified in 1925 and 1951 Sanborn maps. In addition, the water level reading at this location was also measured at this location to be included as part of the groundwater isopotential evaluation.

After completion and sampling of the B-8 soil boring as described in detail in Section 2.1.1, a temporary monitoring well was installed to a depth of 15' bgs with a 1-inch I.D. flush-joint Schedule 40 PVC solid riser and machine slotted screen (0.010-inch slot size). The monitoring well screen measured approximately 10 feet in length. The well screen and attached riser were placed within the borehole. Following groundwater sample collection the temporary well was removed and backfilled with soil derived from the initial boring advancement.

2.1.2.2 Groundwater Sample Collection

The newly-installed temporary monitoring well was developed prior to sampling in an attempt to minimize residual suspended solids (turbidity) and ensure hydraulic connection within the water-bearing zone. The development procedure required purging of the groundwater and periodical surging of the groundwater in the well to loosen and remove suspended fines from the well screen. A total of three well volumes were removed from the temporary monitoring well prior to collection of the sample volume using a dedicated disposable poly bailer.

Measurement of static water level and well depth was recorded in field notes; visual and olfactory field observations were also periodically recorded and monitored for stabilization during well purging prior to sampling. Purging was considered complete following the removal of a minimum of three well volumes. Turbidity was determined by visual inspection of the purge water. The purge water remained slightly turbid with a brown to gray color with little variation in appearance throughout purging. This is typical for a temporary well installation where a sand pack is not installed around the well screen.

2.1.2.3 Groundwater Sample Analyses

Groundwater samples were collected from TMW-1 on April 8, 2015. All groundwater samples were collected in the pre-cleaned and pre-preserved laboratory sample bottles in accordance with the proposed protocols for analyses. Subsequent to sample collection all groundwater samples were placed on ice and shipped under chain of custody to Alpha Analytical laboratory, a NYSDOH ELAP-approved laboratory certified to perform CLP work.

Collected groundwater samples were analyzed for NYSDEC CP-51 parameters (former STARS list) volatile organics (VOCs), semi-volatile organics (SVOCs), total copper and Oil & Grease. All samples were collected and analyzed in accordance with USEPA SW-846 methodology.

2.1.3 Basement Indoor Air Investigation

Indoor air sampling was performed in the basement located beneath a portion of the east side of the 980 Ellicott office building. This basement abuts Ellicott Street to the east, and the exterior walls are constructed of stone as the basement was part of a house on Ellicott St that was incorporated into the office complex on the Site. There is a concrete block dividing wall that bisects the majority of the basement creating essentially two separate rooms, north and south. It was noted that in the northern half of the basement a large water line (used for fire protection) enters the basement through a crawlspace opening at the top of the east wall and in the southern half of the basement a natural gas line enters the basement through the east wall. Both utility lines are assumed to originate from Ellicott Street.

Prior to initiating the sample collection, a pre-survey inspection was conducted by Golder. The inspection was performed on all areas of the basement including the stairwell and storage closets. The basement contents consisted of: metal filing cabinets (some empty and some containing paper files and file folders); cardboard filing boxes (also with varying amounts of paper files); wood pallets, concrete blocks; and miscellaneous metal pipe fittings. The inspection did not reveal the presence of any stored chemicals or materials that might contain chemicals.

To characterize the ambient air quality within the basement two ambient air sampling Summa canisters were staged for 24 hours at the following locations: at the eastern outer wall of the basement (within a crawl space opening in the east wall) and near the west end of the basement close to the stairs leading to the first floor. Refer to Figure 2-1 for the approximate sampling locations.

The ambient air samples were collected concurrently at each of the two locations. Each sampling canister was received under vacuum and fitted with a calibrated air flow control valve to collect a continuous 24-hour composite air sample at that location.

Ambient air samples were sent to an approved, certified laboratory for analysis. Samples collected in the 6-Liter Summa canisters were analyzed for VOCs using USEPA Method T0-15.

3.0 APRIL 2015 INVESTIGATION RESULTS

The following sections discuss the analytical results obtained from the Phase II ESA investigation. Tables 3-1, 3-2 and 3-3 summarize the soil/fill, groundwater and indoor air sample analytical data, respectively. A copy of all analytical laboratory data reports is included in Appendix B.

3.1 Soil/Fill

Table 4-1 presents a comparison of the detected soil/fill parameters from each of the nine borings to Restricted Commercial Use Soil Cleanup Objectives (SCOs) contained in 6NYCRR Part 375-6.4. The Restricted Residential SCOs are also presented in the table for comparison purposes where applicable. The intended future use of the Site is commercial. Sample results are described below according to contaminant class.

3.1.1 Semi-Volatile Organic Compounds

A total of fifteen soil/fill samples were analyzed for the semi-volatile compound naphthalene. Two samples were collected from boring locations B-1 through B-6 and one sample at boring locations B-7 through B-9. Naphthalene was selected as an indicator compound that would be present in elevated concentrations if releases to the Site soils had occurred from past storage of No. 2 fuel oil (UST) or copper naphthtenate (above-ground storage tank inside Tank Room 1). As presented in Table 3-1, naphthalene concentrations were reported as non-detect in 13 of the 15 samples. Naphthalene was detected at two sample locations, B-6 and B-8 at concentrations of 1.1 ppm and 0.48 ppm, respectively. These detections were well below the Part 375 Restricted Commercial (500 ppm) or Residential Use (100 ppm) SCOs for naphthalene and confirmed the visual and field screening observations of the soil borings that indicated there was no obvious signs of soil contamination in these areas from semi-volatile compounds that would be associated with No. 2 fuel oil or copper naphthenate releases.

3.1.2 Metals

A total of fifteen soil/fill samples were analyzed for copper. Copper was selected as an indicator parameter that would be present in elevated concentrations if releases to the Site soils had occurred from past storage of copper naphthtenate (above-ground storage tank inside Tank Room 1) and as a general indicator of elevated heavy metals that might be present from other historical sources. As presented in Table 3-1, all of the samples had copper detected in the soil/fill at concentrations consistent with the average background soil concentration for copper in eastern United States of 25 ppm. The highest result was 160 ppm reported at Boring B-8. Therefore, there were no detections of copper above either the Restricted Commercial or Residential Use SCO for copper of 270 ppm.

3.1.3 Total Petroleum Hydrocarbons

Total Petroleum Hydrocarbons (TPH) analyses were performed on each soil sample as an indicator analysis to determine if gross contamination from petroleum releases were indicated. At all nine borings

TPH Diesel Range Organics (DRO) was analyzed and reported. At Borings B-7 through B-9 (the former gasoline UST area) analysis of TPH Gasoline Range Organics (GRO) was also performed. As presented in Table 3-1, TPH GRO was detected at concentrations at all nine boring locations consistent with background levels in urban soil and fill. Nine of the 15 detections were qualified because they were below the analytical method reporting limit. At Boring B-6 (2-4') the TPH DRO concentration was reported as 2,800 ppm. A review of the boring log at this location and the visual and olfactory observations indicated that the composition at this depth (2 - 4 feet below grade) consisted of primarily fill material (i.e., concrete rubble, brick and slag) than other borings, however there was no indication of any significant staining, odor or presence of petroleum that might be indicative of a release.

3.2 Groundwater

Table 4-2 summarizes the results of the analyses performed on the groundwater samples collected from the temporary well TMW-1 located at Boring B-8. The detected groundwater parameters are compared to the Class GA Groundwater Quality Standards (GWQS) per NYSDEC NYCRR Part 703.5 Table 1. The sampling results for groundwater monitoring completed April 2015 sampling event for TMW-1 is discussed in the following sections.

3.2.1 Volatile Organic Compounds

VOCs were analyzed by Method 8260C and were not detected in the groundwater sample collected from temporary monitoring well TMW-1.

3.2.2 Semi-Volatile Organic Compounds

SVOCs were analyzed by Method 8270D. Eight parameters were detected at concentrations above the method detection limit. Only one of the detected compounds, benzo[a]pyrene (BaP), was detected at a concentration of 1.4×10^{-4} ppb exceeding the NYSDEC Class GA GWQS, which for BaP is non-detect. Five of the eight detected PAHs were qualified as estimated values (above the method detection limit but below the reporting limit) and with the exception of BaP, the other detected PAHs do not have applicable GWQS in Part 703.5.

3.2.3 Metals

The analysis of copper in the groundwater sample was initially performed as received by the laboratory without filtering of suspended solids. This analysis reported a copper concentration well above the NYSDEC Class GA GWQS in TMW-1 which was immediately flagged as anomalous based on the concentration of copper in the corresponding B-8 soil sample of 160 ppm. After a review of the well development performed in the field and the field observations of continued high residual turbidity in the water column subsequent to development (typical in temporary wells with no sand pack), the laboratory was requested to filter extra unpreserved sample that remained from the SVOCs analysis and reanalyze for total dissolved copper. The result of the filter sample analysis was a reported concentration of 14.41 ppm, below the New York State GWQS of 200 ppb..

3.2.4 Oil and Grease

Oil and Grease was not detected in the sample collected from temporary monitoring well TMW-1.

3.3 Indoor Air

The two indoor air samples were analyzed by EPA Method TO-15. Table 4-3 presents a summary of the detected VOCs at both sampling locations. A total of 14 VOCs were detected in the two samples. New York State does not regulate indoor air VOC concentrations. In addition, the studies of VOCs in indoor air conducted in New York by the New York State Department of Health that have been used to assist in their development of vapor intrusion guidance have been focused on VOCs in the air of residential homes (NYSDOH 1997 and 2003 studies). For the purposes of this evaluation we have compared the detected VOCs with data collected from a 2001 US EPA "Building Assessment and Survey Evaluation" that included measurement of VOCs at 100 randomly selected public and commercial buildings. The study excluded buildings with highly publicized indoor air quality complaints and was deemed to be representative of conventional office building settings. Table 3-4 compares the detected compounds with the mean concentration values obtained for the same compounds in the study.

Thirteen of the fourteen VOCs detected in the basement indoor air samples were either below the US EPA Study mean concentrations or, in the case of heptane and isopropanol, these compounds were not analyzed for and there was no mean value reported from the study. Carbon tetrachloride was the only VOC detected in either of the two samples above the US EPA mean concentration (0.5 ppm) at 0.667 ppb and 0.623 ppb for the Basement East and Basement West samples, respectively.

4.0 HYDROGEOLOGICAL INVESTIGATION

As part of the Phase II investigation activities sixteen (16) water level readings were collected from existing monitoring well locations at the Site on April 8, 2015. At the time the water level data was collected, data at several existing monitoring wells around the site could not be obtained due to inaccessibility or obstructions in the wells. In addition, as previously discussed, one temporary well, TMW-1, was installed at boring location B-8 and a water level was taken at this location subsequent to development of the well. The water level data is summarized on Table 4-1.

Figure 4-1 illustrates the interpreted groundwater contours and provides a general overview of the overburden groundwater flow gradient on the Site based on the resulting measured groundwater elevations. The measured groundwater elevations and corresponding isopotential mapping within and adjacent to the former remediation area were found to be generally consistent with the recent remediation well hydraulic contour mapping (8/14/13, 2/14/14 and 5/2/14) prepared in 2013 and 2014 for the annual Periodic Review Reports. The Phase II data performed by Golder confirms that Site groundwater flow is to the east/northeast across the Site, toward Ellicott Street. In addition, it appears that there is potential mounding in the central area of the interpreted groundwater contours in the vicinity of existing wells EW-2 (elevation 639.2') and EW-5 (elevation 639.1'), consistent with previous site interpretations.

Although only one water level data point was collected on the west side of the Site at TMW-1, the water level at this well location indicates that localized groundwater flow to the west and potentially towards Main St. and the light rail rapid transit tunnel is unlikely, given the significant eastward gradient that appears to exist based on the water level elevation in temporary well TMW-1 (i.e. 640 ft.) when compared to the highest water levels on the eastern portion of the Site (i.e. approximately 634).

The localized mounding phenomena noted above could not be further evaluated due to limited data but does not alter the overall interpretation of groundwater flow across the Site.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the investigation results, data and analyses presented in the preceding sections, we offer the following conclusions and recommendations resulting from the Phase II investigation findings.

5.1 Indoor Air

The results of the indoor basement air sampling indicate that low concentrations of various VOCs are present in the basement of the 980 Ellicott St. office building. State or federal regulatory thresholds do not currently exist for VOCs in indoor air, however, based on comparative indoor air quality data for VOCs in commercial buildings, the VOCs detected in the basement samples and their respective concentrations are typical and consistent with the compounds found in commercial buildings (US EPA 2001 Building Assessment Study, 2001). All compounds detected except carbon tetrachloride were found at concentrations below the US EPA mean concentrations where the compounds were detected. The carbon tetrachloride concentrations of 0.667 and 0.623 ppb were marginally above the US EPA study mean of 0.5 ppm and well below the maximum value of 2.1 ppb measured in the study.

The presence of these VOC compounds, though not directly attributable to past or current chemical use at the Osmose Site, is not unusual or unique in a commercial building located in an urban setting where historical fill and adjacent parcels may contribute to the presence of these chemicals in the soil vapor. Based on these results, the concentrations of detected VOCs in the basement sample are consistent with sampled concentrations of these constituents obtained from other similar commercial buildings, and in the absence of anomalously high values, no further investigation or remedial measures are warranted with respect to indoor air quality.

5.2 Soil /Fill

The results of the soil boring and sampling program conducted as part of the Phase II investigation indicates that there is no evidence of soil impacts that may be attributable to: the existing No. 2 Fuel Oil UST; the copper naphthenate AST spill that occurred in Tank Room No. 1; or the former gasoline UST located to the west of the laboratory building.

One sample, B-6 (2-4') exhibited an elevated TPH Diesel Range Organic value, however visual and olfactory screening of this sample indicated no evidence of petroleum impact and it was likely attributable to background concentrations SVOCs associated with historic fill (i.e., slag, concrete, brick and related demolition debris, etc.) which was noted as the composition of the fill in this sample. Furthermore, detected concentrations of two indicator parameters, naphthalene and copper were below NYSDEC Part 375 Restricted Commercial and Restricted Residential SCOs at this and all other soil boring locations. At the three borings located in the area of the former gasoline tank area, no detections of TPH Gasoline Range Organics were reported and this was consistent with the observations during the field screening of the soils from these borings.

With respect to the soil impacts associated with the former UST soil remediation area on the 980 Ellicott St. parcel, Golder notes that data submitted to NYSDEC in January 2005 in a semi-annual soil sampling report (CRA, Jan.5, 2005) demonstrated that soil cleanup objectives required under the 1997 Record of Decision (ROD) for the Site were achieved. In June of 2005, Osmose petitioned the NYSDEC to discontinue the operation of an ozone injection system and a soil vapor extraction system for the removal/treatment of residual soil contaminants. The NYSDEC agreed that the soil cleanup objectives under the ROD had been achieved and that no further soil remediation was required (NYSDEC correspondence, July 6, 2005).

Therefore based on the results obtained from the Phase II soil borings and the previously noted approval from the NYSDEC that remediation of the soil in the former UST remediation area had achieved the objectives under the ROD, further remediation of soils on the Site are not required in the context of a proposed future commercial use scenario.

5.3 Groundwater

The Phase II groundwater investigation was limited to collection of samples from the temporary well (TMW-1) installed within the footprint of the former Gasoline UST area. Samples from existing monitoring well MW-26 could not be collected as planned due to apparent recent (winter) damage/obstruction of the well riser. Results of the groundwater sampling at TMW-1 indicate that with the exception of one SVOC, benzo[a]pyrene, no other constituents were detected above NYSDEC GWQS.

In particular, the results from the temporary well are consistent with the soil sampling results and indicate that no impacts to the soil or groundwater from the former underground gasoline tank were detected. The presence of benzo[a]pyrene at a concentration of 1.4 x 10-4 ppb at this location is not considered to be a concern at this site where use of groundwater is restricted in the deed and the presence of this constituent would not in any way preclude commercial redevelopment due to exposure concerns.

With respect to the groundwater sampling that was not conducted at MW-26 due to well issues, the results of the soil sampling conducted to the east and northeast of this well (borings B-1 through B-6) demonstrated that no significant petroleum or related soil impacts were discovered and therefore the groundwater downgradient of this area at MW-26 is unlikely to have discovered further impacts.

The Site has been required to continue operation and annual monitoring of the groundwater pump and treat system that was installed under the conditions of the Consent Order for the remediation of the former UST area on the 980 Ellicott St. parcel. Golder has reviewed the recent operational information and groundwater monitoring data collected and reported as part of the annual reports (Periodic Review Reports). The overall results indicate that the concentration of total VOCs and PAHs detected have decreased substantially over the past three to four years as has the number of individual compounds exceeding the Consent Order compliance thresholds for groundwater. Even at current treatment system

pumping rates (i.e., 1.5 to 2 gpm) the groundwater quality achieved on the Site has been steadily improving to the point where equilibrium may have been reached and where further decreases to achieve compliance with some of the lowest compliance levels may not be practical or feasible with the current system.

In our opinion, based on the current residual groundwater concentrations of total PAHs and VOCs, it would appropriate to engage the NYSDEC in revisiting the groundwater treatment goals of the Consent Order relative to the treatment that's been achieved to date to remove source material; the extremely low residual risk associated with the current concentrations of PAHs and VOCs relative to on-Site exposure pathways and off-site impacts, and the deed restriction that precludes the use of groundwater at the Site. The goal of these discussions should be the closure of the Order with discontinuation of the groundwater pumping and treatment system.

Based on the residual groundwater contamination, it is possible that the NYSDEC may request the development of a Site Management Plan that could focus on annual monitoring to document the continued attenuation of groundwater contaminants and management of intrusive work to address concerns related to exposures during excavation or related intrusive activities.

If closure of the Order cannot be achieved, it is not uncommon for sites under a Consent Order to incorporate continued groundwater treatment and monitoring as part of a reuse scenario. The system could be configured in a way that would not preclude or significantly restrict or impede commercial redevelopment.

TABLES

TABLE 3-1

HODGSON RUSS- OSMOSE SITE PHASE II
980 ELLICOTT ST, BUFFALO, NEW YORK

SUMMARY of SOIL BORING ANALYTICAL RESULTS

Lab ID	Restricted Residential SCOs Table 375-6.8(b) (PPM)	Restricted Commercial SCOs Table 375-6.8(b) (PPM)	L1507036-01 - Solid	L1507036-02 - Solid	L1507036-03 - Solid	L1507036-04 - Solid	L1507036-05 - Solid	L1507036-06 - Solid	L1507036-07 - Solid	L1507036-08 - Solid
Sample ID			**B-1 (4-6)**	**B-1 (11-15)**	**B-2 (6-8)**	**B-2 (12-16)**	**B-3 (4-6)**	**B-3 (11-13)**	**B-4 (4-6)**	**B-4 (12-14)**
Sample Date			**4/8/15**	**4/8/15**	**4/8/15**	**4/8/15**	**4/8/15**	**4/8/15**	**4/8/15**	**4/8/15**
Sample Depth			**4-6 ft**	**11-15 ft**	**6-8 ft**	**12-16 ft**	**4-6 ft**	**11-13 ft**	**4-6 ft**	**12-14 ft**
Units			**PPM**	**PPM**	**PPM**	**PPM**	**PPM**	**PPM**	**PPM**	**PPM**
Semivolatile Organics (GC/MS)										
Naphthalene	100	500	ND	ND	ND	ND	ND	ND	ND	ND
Total Metals (SW 846 Series)										
Copper	270	270	15	14	20	12	24	8.6	21	9
General Chemistry Parameters										
TPH - Diesel Range Organics (DRO)	NA	NA	72.2	34.7 J	3.81 J	119	47.6	32.3 J	18.6 J	35.7 J
TPH - Gasoline Range Organics (GRO)	NA	NA	--	--	--	--	--	--	--	--

Data Qualifiers

J = Analyte detected at a level less than the reporting limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated

Footnotes

ND = Not detected above the practical quantitation limits (PQL), lower limit of quantitation (LLQ), or reporting limit (RL).
0.35 = Sample concentration exceeds NYSDEC Part 375 Restricted Comercial Use Soil Cleanup Objectives (SCOs)
0.35 = Sample concentration exceeds NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives (SCOs)
-- = No Value / Not Analyzed
NA = Not Applicable

HODGSON RUSS- OSMOSE SITE PHASE II
980 ELLICOTT ST, BUFFALO, NEW YORK

SUMMARY of SOIL BORING ANALYTICAL RESULTS

Lab ID	Restricted Residential SCOs Table 375-6.8(b) (PPM)	Restricted Commercial SCOs Table 375-6.8(b) (PPM)	L1507036-09 - Solid		L1507036-10 - Solid		L1507036-11 - Solid	L1507036-12 - Solid	L1507036-13 - Solid		L1507036-14 - Solid	L1507036-15 - Solid	
Sample ID			B-5 (8-10)		B-5 (6-8)		B-6 (2-4)	B-6 (12.5-14)	B-7 (8-11)		B-8 (7.5-10)	B-9 (7.5-10)	
Sample Date			4/8/15		4/8/15		4/8/15	4/8/15	4/8/15		4/8/15	4/8/15	
Sample Depth			8-10 ft		6-8 ft		2-4 ft	12.5-14 ft	8-11 ft		7.5-10 ft	7.5-10 ft	
Units			PPM		PPM		PPM	PPM	PPM		PPM	PPM	
Semivolatile Organics (GC/MS)													
Naphthalene	100	500	ND		ND		1.1	ND	ND		0.48	ND	
Total Metals (SW 846 Series)													
Copper	270	270	18		20		20	7.7	16		160	8.1	
General Chemistry Parameters													
TPH - Diesel Range Organics (DRO)	NA	NA	12.5	J	19.1	J	2800	78.4	21.9	J	85.7	13.4	J
TPH - Gasoline Range Organics (GRO)	NA	NA	--		--		--	--	ND		ND	ND	

Table by: JGT
Checked by: PTM
Reviewed by:

Hodgson Russ -Osmose Site Phase II
980 Ellicott St., Buffalo, New York

Summary of Groundwater Analytical Results (TMW-1 Temp Well)

Lab ID	Water Quality Standards Class GA Groundwater (6 NYCRR Part 703.5) (PPB)	L1507036-16 - Water	
Sample ID		B-8	
Sample Date		4/8/15	
Units		PPB	
Volatile Organics (GC/MS) [1]	See Footnote 1	ND	
Semivolatile Organics (GC/MS)			
Benzo[a]anthracene	--	0.15	J
Benzo[a]pyrene	ND	***0.00014***	J
Benzo[b]fluoranthene	--	0.2	
Benzo[k]fluoranthene	--	0.7	J
Chrysene	--	0.15	J
Fluoranthene	--	0.22	
Phenanthrene	--	0.09	J
Pyrene	--	0.2	
Total Metals (SW 846 Series)			
Copper	200	14.41 *	
General Chemistry Parameters			
Oil & Grease (O&G)	15	ND	

Footnotes:
1. VOCs analyzed by TCL 8260 Method - no detections for any constituents were reported by lab.
* = Value was reanalyzed by the laboratory following filtering of sample.

Data Qualifiers:

J = Analyte detected at a level less than the reporting limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
0.35 = Sample concentration exceeds the respective Water Quality Standards from 6 NYCRR Part 703.5

Notes:

NA = Not Applicable
ND = Not detectable by analytical tests specified or approved pursuant to Part 700.
"-- = Indicates that there is no GWQS for this parameter in Part 703.5

Table by: JGT
Checked by: PTM
Reviewed by:

GOLDER ASSOCIATES

TABLE 3-3

HODGSON RUSS- OSMOSE SITE PHASE II
980 ELLICOTT ST., BUFFALO, NEW YORK

SUMMARY OF INDOOR BASEMENT AIR SAMPLING RESULTS

Lab ID	EPA Indoor Air Building Assessment Survey - Summa Method (2001) - Mean Values (PPB)*	L1507044-02 - Air	L1507044-01 - Air
Sample ID		Basement East	Basement West
Sample Date		4/8/15	4/8/15
Units		PPB	PPB
Volatile Organics			
2-Butanone (MEK)	6.2	1.63	ND
Acetone	54	10.9	13.1
Benzene	4.5	0.639	ND
Chloromethane	2.9	1.06	1.14
Dichlorodifluoromethane	13.8	2.63	2.59
Ethanol	89.3	13.3	16.3
Heptane	NV	0.947	ND
Isopropanol	NV	ND	1.48
Toluene	25.1	21.9	4.82
Trichlorofluoromethane	19.4	1.53	1.97
Vinyl Chloride	0.9	ND	ND
Xylenes, total	14.6	3.54	ND
Volatile Organics in Air by SIM			
Carbon tetrachloride	0.5	***0.667***	***0.623***
Trichloroethene	2.6	0.14	ND
Tetrachloroethene	6	0.502	0.237

Notes:
Only constiturents detected above the Method Detection Limit (MDL) are reported.
NV= No Value

Table by: JGT
Checked by: PTM
Reviewed by:

TABLE 4-1
HODGSON RUSS - OSMOSE SITE

SUMMARY OF GROUNDWATER ELEVATION MEASUREMENTS
980 ELLICOTT ST.
BUFFALO, NY

Well Location	Instalation Date	Depth to water from top of riser (ft)	Top of riser elevation (ft)	Groundwater elevation (ft)
EW-1	4/8/2015	3.18	641.87	638.69
EW-2	4/8/2015	3.2	642.41	639.21
EW-3	4/8/2015	--	642.15	--
EW-4	4/8/2015	6.95	642.78	635.83
EW-5	4/8/2015	2.7	641.75	639.05
EW-7	4/8/2015	6.35	641.69	635.34
EW-8	4/8/2015	--	642.45	--
EW-9	4/8/2015	6.64	641.89	635.25
EW-10	4/8/2015	7.21	641.98	634.77
EW-11	4/8/2015	6.69	641.79	635.1
EW-12	4/8/2015	6.42	641.68	635.26
EW-13	4/8/2015	6.44	641.38	634.94
EW-22	4/8/2015	5.9	642.24	636.34
EW-23	4/8/2015	7.01	641.82	634.81
MW-10	4/8/2015	--	640.57	--
MW-11	4/8/2015	--	640.88	--
MW-13	4/8/2015	3.15	640.89	637.74
MW-14	4/8/2015	--	640.97	--
MW-17 *	4/8/2015	6.06	640.5	634.44
MW-24	4/8/2015	6.68	641.73	635.05
MW-26	4/8/2015	--	640	--
MW-28	4/8/2015	7.16	640.49	633.33
TMW-1 *	4/8/2015	4.9	645	640.1

Notes:
* = Reference elevation of well top of riser is estimated per Google Earth
-- Indicates water level measurement could not be obtained due to obstruction in well

FIGURES

LEGEND

APPROXIMATE SITE BOUNDARY

REFERENCE

1.) BASE MAP FROM GOOGLE EARTH IMAGES.

40' 0 40'

SCALE FEET

Golder Associates
Buffalo, New York

FILE No.	1526282A001
PROJECT No.	1526282
REV.	0

SCALE	AS SHOWN
DATE	4/22/15
DESIGN	JGT
CADD	JGT
CHECK	PTM
REVIEW	

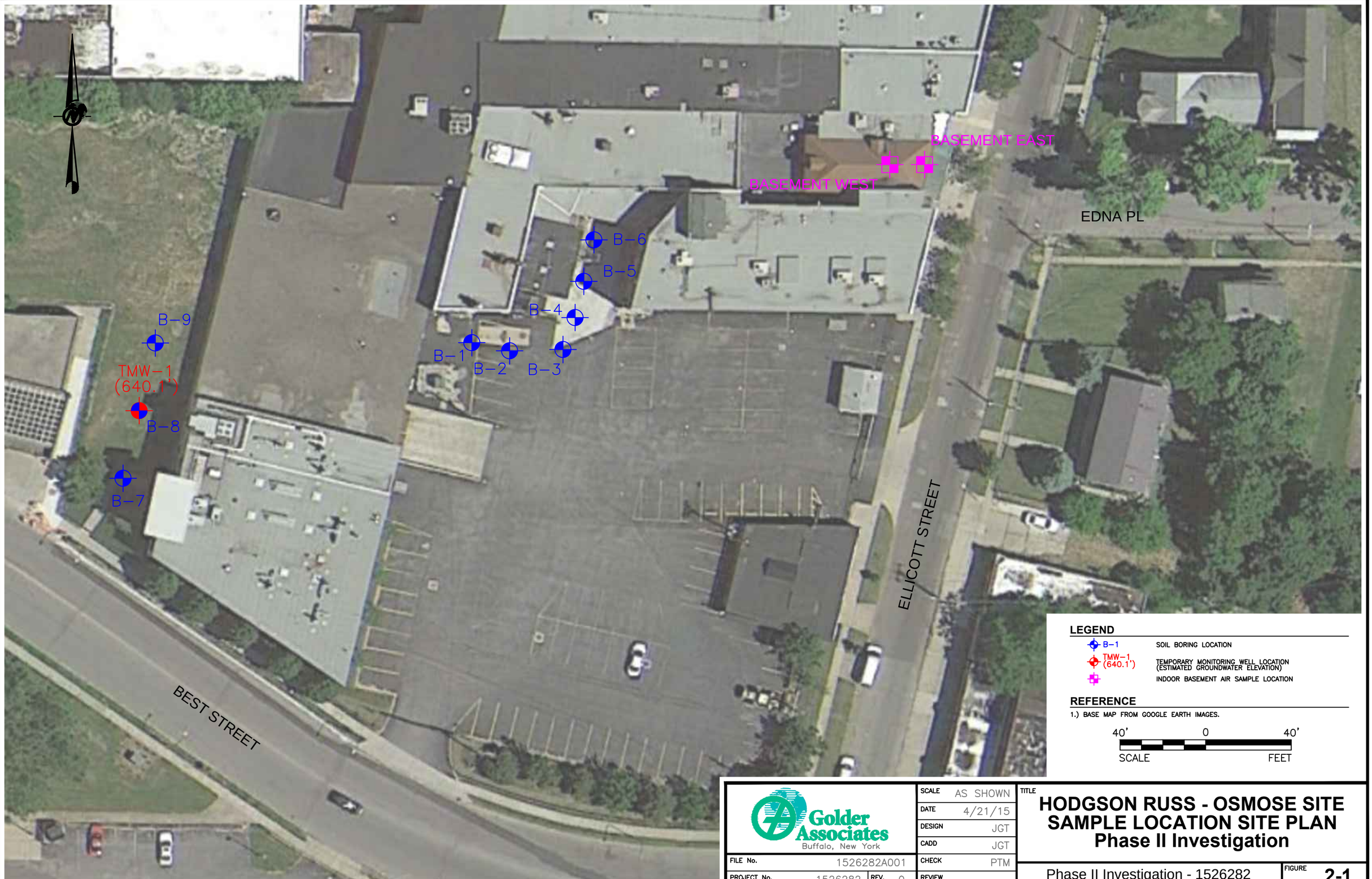
TITLE

HODGSON RUSS - OSMOSE SITE
SITE VICINITY MAP
Phase II Investigation

Phase II ESA - 1526282

FIGURE 1-1

Drawing file: Figure 1-1; Site Vicinity Map.dwg Apr 22, 2015 - 3:04pm



LEGEND

- B-1 — SOIL BORING LOCATION
- TMW-1 (640.1') — TEMPORARY MONITORING WELL LOCATION (ESTIMATED GROUNDWATER ELEVATION)
- INDOOR BASEMENT AIR SAMPLE LOCATION

REFERENCE

1.) BASE MAP FROM GOOGLE EARTH IMAGES.

40' 0 40'
SCALE FEET

Golder Associates
Buffalo, New York

FILE No.	1526282A001
PROJECT No.	1526282
REV.	0

SCALE	AS SHOWN
DATE	4/21/15
DESIGN	JGT
CADD	JGT
CHECK	PTM
REVIEW	

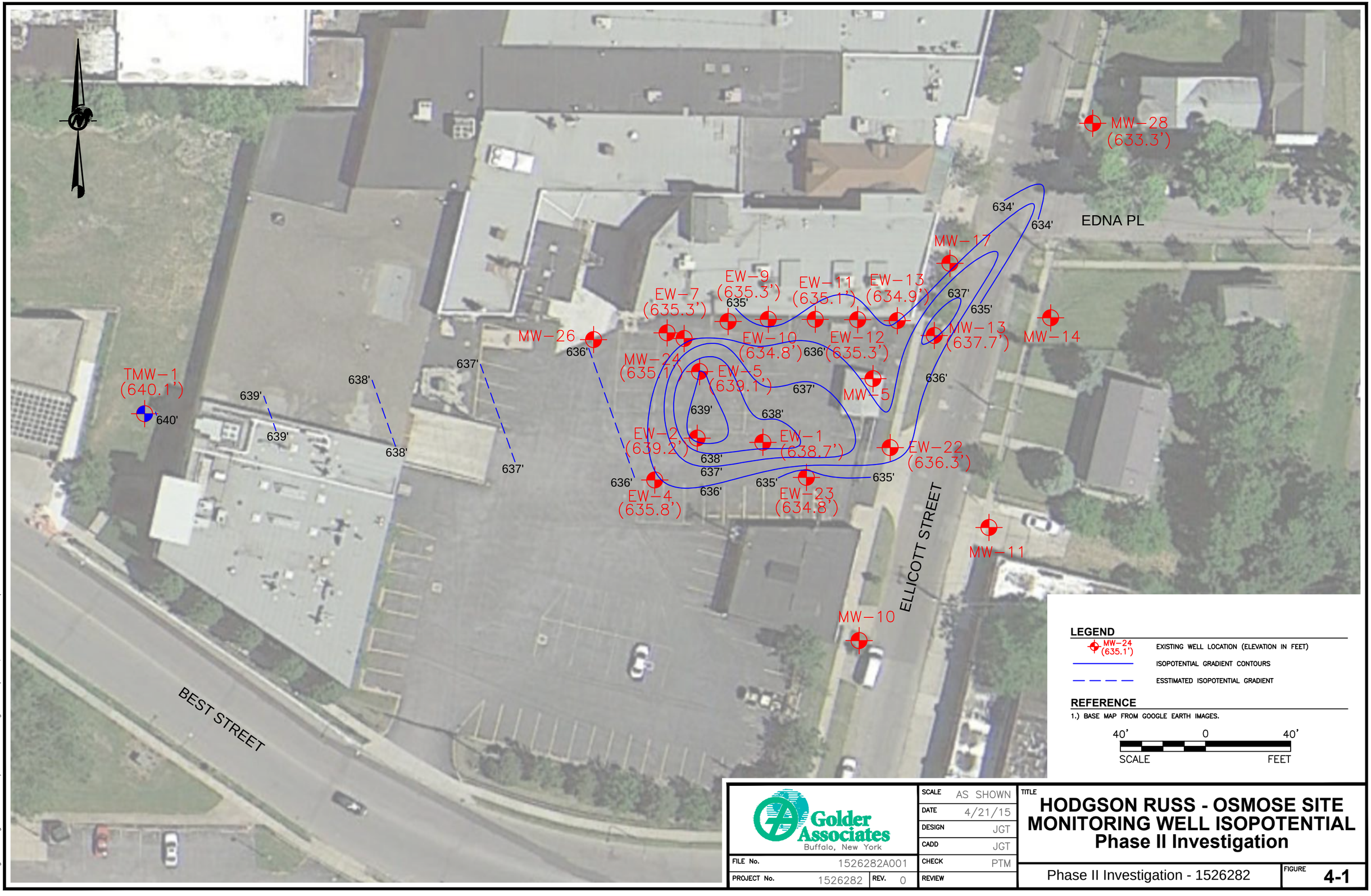
TITLE

HODGSON RUSS - OSMOSE SITE SAMPLE LOCATION SITE PLAN
Phase II Investigation

Phase II Investigation - 1526282

FIGURE **2-1**

Drawing file: Figure Base Map Site Plan.dwg Apr 22, 2015 - 3:01pm



LEGEND

- MW-24 (635.1') — EXISTING WELL LOCATION (ELEVATION IN FEET)
- ISOPOTENTIAL GRADIENT CONTOURS
- ESSTIMATED ISOPOTENTIAL GRADIENT

REFERENCE

1.) BASE MAP FROM GOOGLE EARTH IMAGES.

40' 0 40'
SCALE FEET

Golder Associates
Buffalo, New York

FILE No.	1526282A001
PROJECT No.	1526282
REV.	0
SCALE	AS SHOWN
DATE	4/21/15
DESIGN	JGT
CADD	JGT
CHECK	PTM
REVIEW	

TITLE

HODGSON RUSS - OSMOSE SITE MONITORING WELL ISOPOTENTIAL Phase II Investigation

Phase II Investigation - 1526282

FIGURE 4-1

Drawing file: Figure Base Map Site Plan.dwg Apr 29, 2015 - 4:03pm

APPENDIX A
FIELD BOREHOLE LOGS

FIELD BORING LOG

DEPTH HOLE 16.0'	JOB NO. 15-26282	PROJECT HR/OSMOSE PHASE II INVESTIGATION/NY			BORING NO. B-1
DEPTH SOIL DRILL 16.0'	GA INSP. RJM	DRILLING METHOD DIRECT PUSH			SHEET 1 of 1
DEPTH ROCK CORE N/A	WEATHER LT.RAIN	DRILLING CO. SJB DRILLING SERVICES			SURFACE EL. NA
NO. DIST. N/A US. N/A	TEMP. 35°F	DRILL RIG GEOPROBE 6610	DRILLER R. STEINER		DATUM SITE
DEPTH WL. N/A	HRS. PROD. N/A	WT. SAMPLER HAMMER N/A	DROP N/A		STARTED 0830/4-8-15
TIME WL. N/A	HRS. DELAYED N/A	WT. CASING HAMMER N/A	DROP N/A		COMPLETED 0900/4-8-15

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE-HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE-MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	WR	WEIGHT OF RODS
LI	LITTLE	RX	ROCK	Y	YELLOW

SOIL DESCRIPTION – RANGE OF PROPORTION

"TRACE" – 0–5%
"LITTLE" – 5–12%
"SOME" – 12–30%
"AND" – 30–50%

CONSISTENCY

LS	LOOSE	S	SOFT
CP	COMPACT	FM	FIRM
DN	DENSE	ST	STIFF
V	VERY	H	HARD

ELEV. DEPTH	DESCRIPTION	BLOWS/FT.	SAMPLES NO.	TYPE	REC/ATTEMPT	PID (ppm)	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
2	FILL 0.0–4.0'	NA	1	SC	2.7/4.0	0.0 0.2 0.0 0.0		SA–1 0.0-4.0 Ft. Asphalt to approximately 0.4 ft., then FILL, concrete rubble and (GP) sandy gravel, fine to course, dark brown, slight organic odor, non-cohesive, v. moist, compact.
4								
6		NA	2	SC	4.0/4.0	0.0 0.0 0.0 0.0		SA–2 4.0-8.0 Ft. FILL, (SM) silt, f-sand and rubble, dk. gray-black discoloring, zone of (CL-CH), SILTY CLAY to CLAY, brown, cohesive, W-PL, firm-stiff, from 4-5 ft. bgs. 0845 - Collect soil sample 4.0-6.0 ft. bgs. for TPH-DRO/T. CU/SVOCs.
8								
10		NA	3	SC	3.3/4.0	0.0 0.0 0.0 0.0		SA–3 8.0-12.0 Ft. (CL), SILTY CLAY, trace f-gravel, slightly laminated, occasional thin silt partings, br., cohesive, W-PL, firm-stiff.
12	~▽							
14		NA	4	SC	2.7/4.0	0.0 0.0 0.0 0.0		SA–4 12.0-16.0 Ft. (ML) SILT, trace f-sand, trace low plasticity fines, br., non-cohesive, wet, compact, liquefaction observed when shaken. 0900 - Collect soil sample 11.0-15.0 ft. bgs. for TPH-DRO/T. CU/SVOCs.
16	END OF BORING 16.0' bgs.							Boring terminated at target depth of 16.0 ft. bgs. Borehole backfilled with soil cores following sampling activities. NOTE: Since the Direct Push drilling method does not provide blow counts, soil consistency was determined in the field by physical (hand) observation. PID readings may not reflect actual soil conditions and may be affected by drilling equipment and/or atmospheric conditions at time of drilling.

FIELD BORING LOG

DEPTH HOLE 16.0'	JOB NO. 15-26282	PROJECT HR/OSMOSE PHASE II INVESTIGATION/NY			BORING NO. B-2
DEPTH SOIL DRILL 16.0'	GA INSP. RJM	DRILLING METHOD DIRECT PUSH			SHEET 1 of 1
DEPTH ROCK CORE N/A	WEATHER LT.RAIN	DRILLING CO. SJB DRILLING SERVICES			SURFACE EL. NA
NO. DIST. N/A US. N/A	TEMP. 35°F	DRILL RIG GEOPROBE 6610	DRILLER R. STEINER		DATUM SITE
DEPTH WL. N/A	HRS. PROD. N/A	WT. SAMPLER HAMMER N/A	DROP N/A		STARTED 0920/4-8-15
TIME WL. N/A	HRS. DELAYED N/A	WT. CASING HAMMER N/A	DROP N/A		COMPLETED 0950/4-8-15

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE-HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE-MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	WR	WEIGHT OF RODS
LI	LITTLE	RX	ROCK	Y	YELLOW

SOIL DESCRIPTION – RANGE OF PROPORTION

"TRACE" – 0–5%
"LITTLE" – 5–12%
"SOME" – 12–30%
"AND" – 30–50%

CONSISTENCY

LS	LOOSE	S	SOFT
CP	COMPACT	FM	FIRM
DN	DENSE	ST	STIFF
V	VERY	H	HARD

ELEV. DEPTH	DESCRIPTION	BLOWS/FT.	SAMPLES NO.	TYPE	REC/ATTEMPT	PID (ppm)	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
2	FILL 0.0–4.0'	NA	1	SC	2.5/4.0	0.0 0.0 0.0 0.0		SA–1 0.0-4.0 Ft. Asphalt to approximately 0.4 ft., then FILL, concrete rubble and (GP) sandy gravel, fine, dark brown, slight organic odor, non-cohesive, moist, compact.
4								
6		NA	2	SC	3.6/4.0	0.0 0.0 0.0 0.0		SA–2 4.0-8.0 Ft. (CH), CLAY, tr. f-gravel, occasional thin silt seams, brown, cohesive, W<PL to W-PL, firm-stiff. Zone of (SP) f-sand, br.,cp, from approx. 4.5-5.0 ft. 0930 - Collect soil sample 6.0-8.0 ft. bgs. for TPH-DRO/T. CU/SVOCs.
8								
10		NA	3	SC	3.0/4.0	0.0 0.0 0.0 0.0		SA–3 8.0-12.0 Ft. (CL), SILTY CLAY, trace f-gravel, slightly laminated, occasional thin silt seams, br., slight discoloring 8.0-8.5 ft., cohesive, W-PL to W<PL, firm, pocket of tan br. silt from 8.5-9.0 ft.,
12	~▽							
14		NA	4	SC	3.8/4.0	0.0 0.0 0.0 0.0		SA–4 12.0-16.0 Ft. (CL), SILTY CLAY, some f-c gravel, little f-m sand, br., slight discoloring 8.0-8.5 ft., cohesive, W-PL to W<PL, firm-stiff. 1000 - Collect soil sample 12.0-16.0 ft. bgs. for TPH-DRO/T. CU/SVOCs.
16	END OF BORING 16.0' bgs.							Boring terminated at target depth of 16.0 ft. bgs. Borehole backfilled with soil cores following sampling activities. NOTE: Since the Direct Push drilling method does not provide blow counts, soil consistency was determined in the field by physical (hand) observation. PID readings may not reflect actual soil conditions and may be affected drilling equipment and/or atmospheric conditions at time of drilling.

FIELD BORING LOG

DEPTH HOLE 16.0'	JOB NO. 15-26282	PROJECT HR/OSMOSE PHASE II INVESTIGATION/NY			BORING NO. B-3
DEPTH SOIL DRILL 16.0'	GA INSP. RJM	DRILLING METHOD DIRECT PUSH			SHEET 1 of 1
DEPTH ROCK CORE N/A	WEATHER LT.RAIN	DRILLING CO. SJB DRILLING SERVICES			SURFACE EL. NA
NO. DIST. N/A US. N/A	TEMP. 35°F	DRILL RIG GEOPROBE 6610	DRILLER R. STEINER		DATUM SITE
DEPTH WL. N/A	HRS. PROD. N/A	WT. SAMPLER HAMMER N/A	DROP N/A		STARTED 1010/4-8-15
TIME WL. N/A	HRS. DELAYED N/A	WT. CASING HAMMER N/A	DROP N/A		COMPLETED 1040/4-8-15

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE-HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE-MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	WR	WEIGHT OF RODS
LI	LITTLE	RX	ROCK	Y	YELLOW

SOIL DESCRIPTION – RANGE OF PROPORTION

"TRACE" – 0–5%
"LITTLE" – 5–12%
"SOME" – 12–30%
"AND" – 30–50%

CONSISTENCY

LS	LOOSE	S	SOFT
CP	COMPACT	FM	FIRM
DN	DENSE	ST	STIFF
V	VERY	H	HARD

ELEV. DEPTH	DESCRIPTION	BLOWS/FT.	SAMPLES NO.	SAMPLES TYPE	SAMPLES REC/ATTEMPT	SAMPLES PID (ppm)	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
2	FILL 0.0–4.0'	NA	1	SC	2.5/4.0	0.0 0.0 0.0 0.0		SA–1 0.0-4.0 Ft. Asphalt to approximately 0.4 ft., then FILL, concrete rubble and (GP) sandy gravel, fine to course, dark brown, non-cohesive, v. moist, compact to 2.2 ft, then (CL-CH) SILTY CLAY, tr. f-gravel, br., slight dark discoloration 2.6-3.0 ft., cohesive, W-PL, stiff.
4								
6		NA	2	SC	3.0/4.0	0.0 0.0 0.0 0.0		SA–2 4.0-8.0 Ft. (CL-CH), SILTY CLAY, tr. f-gravel, occasional thin silt seams, brown-br. gray, cohesive, W-PL, firm-stiff. 1015 - Collect soil sample 4.0-6.0 ft. bgs. for TPH-DRO/T. CU/SVOCs.
8								
10	~▽	NA	3	SC	3.8/4.0	0.0 0.0 0.0 0.0		SA–3 8.0-12.0 Ft. (CL), SILTY CLAY, trace f-gravel, slightly laminated, occasional thin silt partings, br., cohesive, W-PL, firm-stiff, then (ML) SILT, non-cohesive, v. moist, compact, occasional silty clay zones..
12								
14		NA	4	SC	4.0/4.0	0.0 0.0 0.0 0.0		SA–4 12.0-16.0 Ft. As above to 12.4 ft., then (SM) silty SAND, trace f-gravel, occasional c-gravel, trace low plasticity fines, br., non-cohesive, wet, compact. 1130 - Collect soil sample 11.0-13.0 ft. bgs. for TPH-DRO/T. CU/SVOCs.
16	END OF BORING 16.0' bgs.							Boring terminated at target depth of 16.0 ft. bgs. Borehole backfilled with soil cores following sampling activities. NOTE: Since the Direct Push drilling method does not provide blow counts, soil consistency was determined in the field by physical (hand) observation. PID readings may not reflect actual soil conditions and may be affected by drilling equipment and/or atmospheric conditions at time of drilling.

FIELD BORING LOG

DEPTH HOLE 16.0'	JOB NO. 15-26282	PROJECT HR/OSMOSE PHASE II INVESTIGATION/NY			BORING NO. B-4
DEPTH SOIL DRILL 16.0'	GA INSP. RJM	DRILLING METHOD DIRECT PUSH			SHEET 1 of 1
DEPTH ROCK CORE N/A	WEATHER LT.RAIN	DRILLING CO. SJB DRILLING SERVICES			SURFACE EL. NA
NO. DIST. N/A US. N/A	TEMP. 35°F	DRILL RIG GEOPROBE 6610	DRILLER R. STEINER		DATUM SITE
DEPTH WL. N/A	HRS. PROD. N/A	WT. SAMPLER HAMMER N/A	DROP N/A		STARTED 1055/4-8-15
TIME WL. N/A	HRS. DELAYED N/A	WT. CASING HAMMER N/A	DROP N/A		COMPLETED 1155/4-8-15

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE		
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED		
C	COARSE	MOT	MOTTLED	SD	SAND		
CA	CASING	NP	NON-PLASTIC	SI	SILT		
CL	CLAY	OG	ORANGE	SIY	SILTY		
CLY	CLAYEY	ORG	ORGANIC	SM	SOME		
F	FINE	PH	PRESSURE-HYDRAULIC	TR	TRACE		
FRAG	FRAGMENTS	PM	PRESSURE-MANUAL	WL	WATER LEVEL		
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER		
LYD	LAYERED	RES	RESIDUAL	WR	WEIGHT OF RODS		
LI	LITTLE	RX	ROCK	Y	YELLOW		

SOIL DESCRIPTION – RANGE OF PROPORTION

"TRACE" – 0–5%
"LITTLE" – 5–12%
"SOME" – 12–30%
"AND" – 30–50%

CONSISTENCY

LS	LOOSE	S	SOFT
CP	COMPACT	FM	FIRM
DN	DENSE	ST	STIFF
V	VERY	H	HARD

ELEV. DEPTH	DESCRIPTION	BLOWS/FT.	SAMPLES NO.	SAMPLES TYPE	SAMPLES REC/ATTEMPT	SAMPLES PID (ppm)	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
	CEMENT PAD 0.0–0.7'							0.0-0.7 Ft. Core through cement slab; begin drilling from 0.7 ft. bgs.
1		NA	1	SC	2.7/4.0	0.0		SA–1 0.7-4.7 Ft. FILL, concrete rubble/slag and (GP) sandy gravel, fine to course, dark brown, non-cohesive, v. moist, compact, then (ML) CLY SILT, tr. f-gravel, br., some dark discoloring, moist, compact.
2						0.0		
						0.0		
4						0.0		
						0.0		SA–2 4.7-8.7 Ft. (CL), SILTY CLAY, trace f-gravel, occasional thin silt partings, br., cohesive, W-PL, stiff.
6		NA	2	SC	2.8/4.0	0.0		1137 - Collect soil sample 4.0-6.0 ft. bgs. for TPH-DRO/T. CU/SVOCs.
						0.0		
8						0.0		
						0.0		SA–3 8.7-12.7 Ft. As above to 8.5 ft., then (GP) sandy GRAVEL, f-c, br., non-cohesive, W-PL, dense, to 9.5 ft., then (ML) CLY SILT to SILT, br., cohesive to non-cohesive, moist to wet, compact.
10	~▽	NA	3	SC	3.8/4.0	0.0		
						0.0		
12						0.0		
						0.0		SA–4 12.7-16.7 Ft. (ML) SILT, trace to little f-sand and gravel, trace low plasticity fines, br., non-cohesive, wet, compact, liquefaction observed below 14.5 ft. when shaken.
14		NA	4	SC	3.5/4.0	0.1		
						0.0		1150 - Collect soil sample 12.0-14.0 ft. bgs. for TPH-DRO/T. CU/SVOCs.
16						0.0		
	END OF BORING 16.7' bgs.							NOTE: Encountered steel rebar at 0.3 ft below top of cement pad during cement drilling; boring moved 1-ft. east and encountered de-icing tubing. Site personnel expressed no concern and authorized to continue drilling.
								Boring terminated at target depth of 16.7 ft. bgs. Borehole backfilled with soil cores following sampling activities.
								NOTE 2: Since the Direct Push drilling method does not provide blow counts, soil consistency was determined in the field by physical (hand) observation.
								PID readings may not reflect actual soil conditions and may be affected by drilling equipment and/or atmospheric conditions at time of drilling.

FIELD BORING LOG

DEPTH HOLE 16.0'	JOB NO. 15-26282	PROJECT HR/OSMOSE PHASE II INVESTIGATION/NY				BORING NO. B-5	
DEPTH SOIL DRILL 16.0'	GA INSP. RJM	DRILLING METHOD DIRECT PUSH				SHEET 1 of 1	
DEPTH ROCK CORE N/A	WEATHER LT.RAIN	DRILLING CO. SJB DRILLING SERVICES				SURFACE EL. NA	
NO. DIST. N/A US. N/A	TEMP. 35°F	DRILL RIG GEOPROBE 6610		DRILLER R. STEINER		DATUM SITE	
DEPTH WL. N/A	HRS. PROD. N/A	WT. SAMPLER HAMMER N/A		DROP N/A		STARTED 1300/4-8-15	
TIME WL. N/A	HRS. DELAYED N/A	WT. CASING HAMMER N/A		DROP N/A		COMPLETED 1330/4-8-15	

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM
BR	BROWN	MIC	MICACEOUS
C	COARSE	MOT	MOTTLED
CA	CASING	NP	NON-PLASTIC
CL	CLAY	OG	ORANGE
CLY	CLAYEY	ORG	ORGANIC
F	FINE	PH	PRESSURE-HYDRAULIC
FRAG	FRAGMENTS	PM	PRESSURE-MANUAL
GL	GRAVEL	R	RED
LYD	LAYERED	RES	RESIDUAL
LI	LITTLE	RX	ROCK
SA	SAMPLE
SAT	SATURATED
SD	SAND
SI	SILT
SIY	SILTY
SM	SOME
TR	TRACE
WL	WATER LEVEL
WH	WEIGHT OF HAMMER
WR	WEIGHT OF RODS
Y	YELLOW

SOIL DESCRIPTION – RANGE OF PROPORTION

"TRACE" – 0–5%
"LITTLE" – 5–12%
"SOME" – 12–30%
"AND" – 30–50%

CONSISTENCY

LS	LOOSE	S	SOFT
CP	COMPACT	FM	FIRM
DN	DENSE	ST	STIFF
V	VERY	H	HARD

ELEV. DEPTH	DESCRIPTION	BLOWS/FT.	SAMPLES NO.	SAMPLES TYPE	SAMPLES REC/ATTEMPT	SAMPLES PID (ppm)	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
	CEMENT PAD 0.0–0.7'							0.0-0.7 Ft. Core through cement slab; begin drilling from 0.7 ft. bgs.
1						0.0		SA–1 0.7-4.7 Ft. FILL, concrete rubble/slag and (GP) sandy gravel, fine to course, br.-black, non-cohesive, v. moist, compact, then (CL) CLAY, tr. f-gravel, slightly laminated, light br., W-PL, firm.
2		NA	1	SC	2.8/4.0	0.0		
						0.0		
4						0.0		
						0.0		SA–2 4.7-8.7 Ft. (CL), CLAY to SILTY CLAY, trace f-gravel, occasional thin silt seams, br., cohesive, W-PL, stiff.
6						0.1		1315 - Collect soil sample 6.0-8.0 ft. bgs. for TPH-DRO/T. CU/SVOCs.
		NA	2	SC	4.0/4.0	0.3		
8						0.0		
						0.0		SA–3 8.7-12.7 Ft. (GP) sandy GRAVEL, f-c, br., non-cohesive, moist, dense, then (ML) CLY SILT to SILT, some fine sand, br., cohesive to non-cohesive, moist to wet, compact.
10	~▽					3.9		
		NA	3	SC	4.0/4.0	0.0		1320 - Collect soil sample 8.0-10.0 ft. bgs. for TPH-DRO.
12						0.0		
						0.0		SA–4 12.7-16.7 Ft. As above to 13.5, then (SM) silty c-SAND, trace low plasticity fines, br., non-cohesive, moist-wet, dense, over (ML) SILT, little f-sand, br., wet.
14						0.3		
		NA	4	SC	4.0/4.0	0.0		
16						0.0		
	END OF BORING 16.7' bgs.							Boring terminated at target depth of 16.7 ft. bgs. Borehole backfilled with soil cores following sampling activities.
								NOTE: Since the Direct Push drilling method does not provide blow counts, soil consistency was determined in the field by physical (hand) observation.
								PID readings may not reflect actual soil conditions and may be affected by drilling equipment and/or atmospheric conditions at time of drilling.

FIELD BORING LOG

DEPTH HOLE 16.0'	JOB NO. 15-26282	PROJECT HR/OSMOSE PHASE II INVESTIGATION/NY			BORING NO. B-6
DEPTH SOIL DRILL 16.0'	GA INSP. RJM	DRILLING METHOD DIRECT PUSH			SHEET 1 of 1
DEPTH ROCK CORE N/A	WEATHER LT.RAIN	DRILLING CO. SJB DRILLING SERVICES			SURFACE EL. NA
NO. DIST. N/A US. N/A	TEMP. 35°F	DRILL RIG GEOPROBE 6610	DRILLER R. STEINER		DATUM SITE
DEPTH WL. N/A	HRS. PROD. N/A	WT. SAMPLER HAMMER N/A	DROP N/A		STARTED 1340/4-8-15
TIME WL. N/A	HRS. DELAYED N/A	WT. CASING HAMMER N/A	DROP N/A		COMPLETED 1420/4-8-15

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE-HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE-MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	WR	WEIGHT OF RODS
LI	LITTLE	RX	ROCK	Y	YELLOW

SOIL DESCRIPTION – RANGE OF PROPORTION

"TRACE" – 0–5%
"LITTLE" – 5–12%
"SOME" – 12–30%
"AND" – 30–50%

CONSISTENCY

LS	LOOSE	S	SOFT
CP	COMPACT	FM	FIRM
DN	DENSE	ST	STIFF
V	VERY	H	HARD

ELEV. DEPTH	DESCRIPTION	BLOWS/FT.		SAMPLES NO.	TYPE	REC/ATTEMPT	PID (ppm)	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
	CEMENT PAD 0.0–0.7'								0.0-0.7 Ft. Core through cement slab; begin drilling from 0.7 ft. bgs.
1							2.0–20.0		SA–1 0.7-4.7 Ft. FILL, concrete rubble, occasional brick frag's, slag, little clay content, slight discoloring, br.-dk. br., non-cohesive, v. moist, compact-dense.
2		NA		1	SC	2.1/4.0	0.0		1355 - Collect soil sample 2.0-4.0 ft. bgs. for TPH-DRO/T. CU/SVOCs.
4							0.0		
							0.0		
6		NA		2	SC	4.0/4.0	0.0		SA–2 4.7-8.7 Ft. (CL) CLAY, trace f-gravel, occasional thin gray silt lenses, br., cohesive, W-PL, stiff.
							0.0		
							0.6		
8							0.0		
10	~▽	NA		3	SC	1.6/4.0	2.0		SA–3 8.7-12.7 Ft. (CL) CLAY, trace f-gravel, tr-little f-sand, cohesive, W-PL, stiff, over (SM) silty f-SAND, br., non-cohesive, moist-wet, dense from 11.3 ft.
							0.0		
							0.0		
12							0.0		
							0.0		SA–4 12.7-16.7 Ft. (SM) silty c-SAND, trace low plasticity fines, br., non-cohesive, moist-wet, dense, over (ML) SILT, little f-sand, br., wet.
14		NA		4	SC	4.0/4.0	0.5		1410 - Collect soil sample 12.5-14.0 ft. bgs. for TPH-DRO/T. CU/SVOCs.
							0.0		
16							0.0		
	END OF BORING 16.7' bgs.								NOTE: Encountered geoprobe refusal at approx. 2.0 ft. bgs. (concrete) below top of cement pad during drilling; boring moved 5-ft. south and redrilled.
									Boring terminated at target depth of 16.7 ft. bgs. Borehole backfilled with soil cores following sampling activities.
									NOTE 2: Since the Direct Push drilling method does not provide blow counts, soil consistency was determined in the field by physical (hand) observation.
									PID readings may not reflect actual soil conditions and may be affected by drilling equipment and/or atmospheric conditions at time of drilling.

FIELD BORING LOG

DEPTH HOLE 16.0'	JOB NO. 15-26282	PROJECT HR/OSMOSE PHASE II INVESTIGATION/NY			BORING NO. B-7
DEPTH SOIL DRILL 16.0'	GA INSP. RJM	DRILLING METHOD DIRECT PUSH			SHEET 1 of 1
DEPTH ROCK CORE N/A	WEATHER LT.RAIN	DRILLING CO. SJB DRILLING SERVICES			SURFACE EL. NA
NO. DIST. N/A US. N/A	TEMP. 35°F	DRILL RIG GEOPROBE 6610	DRILLER R. STEINER		DATUM SITE
DEPTH WL. N/A	HRS. PROD. N/A	WT. SAMPLER HAMMER N/A	DROP N/A		STARTED 1545/4-8-15
TIME WL. N/A	HRS. DELAYED N/A	WT. CASING HAMMER N/A	DROP N/A		COMPLETED 1625/4-8-15

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE-HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE-MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	WR	WEIGHT OF RODS
LI	LITTLE	RX	ROCK	Y	YELLOW

SOIL DESCRIPTION – RANGE OF PROPORTION

"TRACE" – 0–5%
"LITTLE" – 5–12%
"SOME" – 12–30%
"AND" – 30–50%

CONSISTENCY

LS	LOOSE	S	SOFT
CP	COMPACT	FM	FIRM
DN	DENSE	ST	STIFF
V	VERY	H	HARD

ELEV. DEPTH	DESCRIPTION	BLOWS/FT.	SAMPLES NO.	TYPE	REC/ATTEMPT	PID (ppm)	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
2		NA	1	SC	2.4/4.0	0.0 0.0 0.0 0.0		SA–1 0.0-4.0 Ft. TOPSOIL to 0.5 ft., then FILL, ash/slag, rubble, over (SM-ML) silty f-SAND and SILT, trace f-gravel, trace low plasticity fines, dk. gray, non-cohesive, moist-wet, compact.
4								
6		NA	2	SC	4.0/4.0	0.0 0.0 0.0 0.0		SA–2 4.0-8.0 Ft. (SM-ML) silty f-SAND and SILT, trace f-gravel, trace low plasticity fines, dk. gray, slight dark discoloration from 5.0-6.0 ft., non-cohesive, moist-wet, compact, over (CL) CLAY,br., cohesive, W-PL to W<PL, stiff.
8	~▽							
10		NA	3	SC	2.5/4.0	0.0 0.0 0.0 0.0		SA–3 8.0-12.0 Ft. (SM-ML) silty f-SAND and SILT, tan br., non-cohesive, wet, compact to 11 ft., then (CL) CLAY, trace f-gravel, occasional thin silt seams, red-br., cohesive, W-PL to W<PL, stiff. 1620 - Collect soil sample 8.0-11.0 ft. bgs. for TPH-DRO/TPH-GRO/8270 TCL/T. Cyanide/T. CU
12								
14		NA	4	SC	3.5/4.0	0.0 0.0 0.0 0.0		SA–4 12.0-16.0 Ft. (CL) CLAY, trace f-gravel, red-br., cohesive, W-PL to W<PL, stiff to 14.5 ft, then (ML) CLY SILT, red br., cohesive to non-cohesive, wet, compact-dense.
16	END OF BORING 16.0' bgs.							Boring terminated at target depth of 16.0 ft. bgs. Borehole backfilled with soil cores following sampling activities. NOTE: Since the Direct Push drilling method does not provide blow counts, soil consistency was determined in the field by physical (hand) observation. PID readings may not reflect actual soil conditions and may be affected by drilling equipment and/or atmospheric conditions at time of drilling.

FIELD BORING LOG

DEPTH HOLE 16.0'	JOB NO. 15-26282	PROJECT HR/OSMOSE PHASE II INVESTIGATION/NY			BORING NO. B-8
DEPTH SOIL DRILL 16.0'	GA INSP. RJM	DRILLING METHOD DIRECT PUSH			SHEET 1 of 1
DEPTH ROCK CORE N/A	WEATHER LT.RAIN	DRILLING CO. SJB DRILLING SERVICES			SURFACE EL. NA
NO. DIST. N/A US. N/A	TEMP. 35°F	DRILL RIG GEOPROBE 6610	DRILLER R. STEINER		DATUM SITE
DEPTH WL. N/A	HRS. PROD. N/A	WT. SAMPLER HAMMER N/A	DROP N/A		STARTED 1515/4-8-15
TIME WL. N/A	HRS. DELAYED N/A	WT. CASING HAMMER N/A	DROP N/A		COMPLETED 1545/4-8-15

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE-HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE-MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	WR	WEIGHT OF RODS
LI	LITTLE	RX	ROCK	Y	YELLOW

SOIL DESCRIPTION – RANGE OF PROPORTION

"TRACE" – 0–5%
"LITTLE" – 5–12%
"SOME" – 12–30%
"AND" – 30–50%

CONSISTENCY

LS	LOOSE	S	SOFT
CP	COMPACT	FM	FIRM
DN	DENSE	ST	STIFF
V	VERY	H	HARD

ELEV. DEPTH	DESCRIPTION	BLOWS/FT.	SAMPLES NO.	TYPE	REC/ATTEMPT	PID (ppm)	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
2		NA	1	SC	2.4/4.0	0.0 0.0 0.0 0.0		SA–1 0.0-4.0 Ft. TOPSOIL to 0.5 ft., then FILL, ash/slag, rubble, over (SM-ML) silty f-SAND and SILT, trace f-gravel, trace low plasticity fines, dk. gray, non-cohesive, moist-wet, compact.
4								
6	~▽	NA	2	SC	4.0/4.0	0.0 0.0 0.0 0.0		SA–2 4.0-8.0 Ft. (SM-ML) silty f-SAND and SILT, trace f-gravel, trace low plasticity fines, dk. gray to tan-br., non-cohesive, moist-wet, compact.
8								
10		NA	3	SC	2.5/4.0	0.0 0.0 0.0 0.0		SA–3 8.0-12.0 Ft. (SM-ML) silty f-SAND and SILT, tan br., non-cohesive, wet, compact to 11 ft., then (CL) CLAY, trace f-gravel, occasional thin silt seams, red-br., cohesive, W-PL to W<PL, stiff. 1530 - Collect soil sample 7.5-10.0 ft. bgs. for TPH-DRO/TPH-GRO/8270 TCL/T. Cyanide/T. CU
12								
14		NA	4	SC	3.5/4.0	0.0 0.0 0.0 0.0		SA–4 12.0-16.0 Ft. (CL) CLAY, trace f-gravel, red-br., cohesive, W-PL to W<PL, stiff to 14.5 ft, then (ML) CLY SILT, red br., cohesive to non-cohesive, wet, compact-dense.
16	END OF BORING 16.0' bgs.							Boring terminated at target depth of 16.0 ft. bgs. Temporary 1-inch diamter PVC well (10-ft. of screen) installed to depth following sampling activities. 1730 - Groundwater sample collected for 8260 TCL/8270 TCL/OIL & GREASE/TAL Metals. Temporary well removed and boring backfilled with soil cuttings. NOTE: Since the Direct Push drilling method does not provide blow counts, soil consistency was determined in the field by physical (hand) observation. PID readings may not reflect actual soil conditions and may be affected by drilling equipment and/or atmospheric conditions at time of drilling.

FIELD BORING LOG

DEPTH HOLE 16.0'	JOB NO. 15-26282	PROJECT HR/OSMOSE PHASE II INVESTIGATION/NY			BORING NO. B-9
DEPTH SOIL DRILL 16.0'	GA INSP. RJM	DRILLING METHOD DIRECT PUSH			SHEET 1 of 1
DEPTH ROCK CORE N/A	WEATHER LT.RAIN	DRILLING CO. SJB DRILLING SERVICES			SURFACE EL. NA
NO. DIST. N/A US. N/A	TEMP. 35°F	DRILL RIG GEOPROBE 6610	DRILLER R. STEINER		DATUM SITE
DEPTH WL. N/A	HRS. PROD. N/A	WT. SAMPLER HAMMER N/A	DROP N/A		STARTED 1440/4-8-15
TIME WL. N/A	HRS. DELAYED N/A	WT. CASING HAMMER N/A	DROP N/A		COMPLETED 1510/4-8-15

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE-HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE-MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	WR	WEIGHT OF RODS
LI	LITTLE	RX	ROCK	Y	YELLOW

SOIL DESCRIPTION – RANGE OF PROPORTION

"TRACE" – 0–5%
"LITTLE" – 5–12%
"SOME" – 12–30%
"AND" – 30–50%

CONSISTENCY

LS	LOOSE	S	SOFT
CP	COMPACT	FM	FIRM
DN	DENSE	ST	STIFF
V	VERY	H	HARD

ELEV. DEPTH	DESCRIPTION	BLOWS/FT.	SAMPLES NO.	TYPE	REC/ATTEMPT	PID (ppm)	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
2		NA	1	SC	2.7/4.0	0.0 0.0 0.0 0.0		SA–1 0.0-4.0 Ft. TOPSOIL to 0.2 ft., then FILL, ash/slag, rubble, over (SM-ML) silty f-SAND and SILT, trace f-gravel, trace low plasticity fines, dk. gray, non-cohesive, moist-wet, compact.
4								
6		NA	2	SC	2.8/4.0	0.0 0.0 0.0 0.0		SA–2 4.0-8.0 Ft. (SM-ML) silty f-SAND and SILT, trace f-gravel, trace low plasticity fines, dk. gray, non-cohesive, moist-wet, compact.
8	~▽							
10		NA	3	SC	3.9/4.0	0.0 0.0 0.0 0.0		SA–3 8.0-12.0 Ft. (SM-ML) silty f-SAND and SILT, tan br., non-cohesive, wet, compact to 10 ft., then (CL) CLAY, trace f-gravel, occasional thin silt seams, red-br., cohesive, W-PL to W<PL, stiff. 1500 - Collect soil sample 7.5-10.0 ft. bgs. for TPH-DRO/TPH-GRO/8270 TCL/T. Cyanide/T. CU
12								
14		NA	4	SC	3.5/4.0	0.0 0.0 0.0 0.0		SA–4 12.0-16.0 Ft. As above, W-PL.
16	END OF BORING 16.0' bgs.							Boring terminated at target depth of 16.0 ft. bgs. Borehole backfilled with soil cores following sampling activities. NOTE: Since the Direct Push drilling method does not provide blow counts, soil consistency was determined in the field by physical (hand) observation. PID readings may not reflect actual soil conditions and may be affected by drilling equipment and/or atmospheric conditions at time of drilling.

APPENDIX B
ANALYTICAL LABORATORY REPORTS

ANALYTICAL REPORT

Lab Number:	L1507036
Client:	Golder Associates Inc. 2430 North Forest Rd. Suite 100 Getzville, NY 14068
ATTN:	Patrick Martin
Phone:	(716) 204-5880
Project Name:	HODGSON RUSS PHASE2 OSMOSE
Project Number:	1526282
Report Date:	04/20/15

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282

Lab Number: L1507036
Report Date: 04/20/15

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1507036-01	B-1 (4-6)	SOIL	980 ELLICOTT ST, BUFFALO, NY	04/08/15 08:45	04/08/15
L1507036-02	B-1 (11-15)	SOIL	980 ELLICOTT ST, BUFFALO, NY	04/08/15 09:00	04/08/15
L1507036-03	B2 (6-8)	SOIL	980 ELLICOTT ST, BUFFALO, NY	04/08/15 09:30	04/08/15
L1507036-04	B2 (12-16)	SOIL	980 ELLICOTT ST, BUFFALO, NY	04/08/15 10:00	04/08/15
L1507036-05	B3 (4-6)	SOIL	980 ELLICOTT ST, BUFFALO, NY	04/08/15 10:15	04/08/15
L1507036-06	B3 (11-13)	SOIL	980 ELLICOTT ST, BUFFALO, NY	04/08/15 10:30	04/08/15
L1507036-07	B4 (4-6)	SOIL	980 ELLICOTT ST, BUFFALO, NY	04/08/15 11:37	04/08/15
L1507036-08	B4 (12-14)	SOIL	980 ELLICOTT ST, BUFFALO, NY	04/08/15 11:50	04/08/15
L1507036-09	B5 (8-10)	SOIL	980 ELLICOTT ST, BUFFALO, NY	04/08/15 13:20	04/08/15
L1507036-10	B5 (6-8)	SOIL	980 ELLICOTT ST, BUFFALO, NY	04/08/15 13:15	04/08/15
L1507036-11	B6 (2-4)	SOIL	980 ELLICOTT ST, BUFFALO, NY	04/08/15 13:55	04/08/15
L1507036-12	B6 (12.5-14)	SOIL	980 ELLICOTT ST, BUFFALO, NY	04/08/15 14:10	04/08/15
L1507036-13	B7 (8-11)	SOIL	980 ELLICOTT ST, BUFFALO, NY	04/08/15 16:20	04/08/15
L1507036-14	B8 (7.5-10)	SOIL	980 ELLICOTT ST, BUFFALO, NY	04/08/15 15:30	04/08/15
L1507036-15	B9 (7.5-10)	SOIL	980 ELLICOTT ST, BUFFALO, NY	04/08/15 15:00	04/08/15
L1507036-16	B8	WATER	980 ELLICOTT ST, BUFFALO, NY	04/08/15 17:30	04/08/15
L1507036-17	TRIP BLANK	WATER	980 ELLICOTT ST, BUFFALO, NY	04/08/15 00:00	04/08/15

Project Name:	HODGSON RUSS PHASE2 OSMOSE	**Lab Number:**	L1507036
Project Number:	1526282	**Report Date:**	04/20/15

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	HODGSON RUSS PHASE2 OSMOSE	**Lab Number:**	L1507036
Project Number:	1526282	**Report Date:**	04/20/15

Case Narrative (continued)

Report Submission

This final report replaces the partial report issued April 17, 2015, and includes the results of all requested analyses.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

The analysis performed was specified by the client.

The samples were received without the appropriate container for TPH-GRO analysis. An aliquot was taken from an unpreserved container and preserved appropriately.

A Trip Blank was received in the laboratory but not listed on the Chain of Custody. At the client's request, the Trip Blank was analyzed.

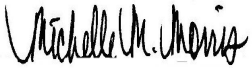
Metals

L1507036-01 through -10 have elevated detection limits due to the dilutions required by matrix interferences encountered during analysis.

Cyanide, Total

The WG774632-3 LCSD recovery (131%), associated with L1507036-13 through -15, is above our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Michelle M. Morris

Title: Technical Director/Representative Date: 04/20/15

ORGANICS

VOLATILES

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-16
Client ID: B8
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/13/15 01:33
Analyst: PK

Date Collected: 04/08/15 17:30
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	114		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	98		70-130

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-17
Client ID: TRIP BLANK
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/16/15 14:28
Analyst: PD

Date Collected: 04/08/15 00:00
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	93		70-130

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/12/15 21:29
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 16 Batch: WG775498-3					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	96		70-130

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/16/15 10:16
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 17 Batch: WG776528-3					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	94		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16 Batch: WG775498-1 WG775498-2								
Methylene chloride	84		84		70-130	0		20
1,1-Dichloroethane	84		81		70-130	4		20
Chloroform	87		83		70-130	5		20
2-Chloroethylvinyl ether	79		78		70-130	1		20
Carbon tetrachloride	85		80		63-132	6		20
1,2-Dichloropropane	87		83		70-130	5		20
Dibromochloromethane	99		95		63-130	4		20
1,1,2-Trichloroethane	105		103		70-130	2		20
Tetrachloroethene	97		92		70-130	5		20
Chlorobenzene	97		92		75-130	5		20
Trichlorofluoromethane	77		72		62-150	7		20
1,2-Dichloroethane	85		83		70-130	2		20
1,1,1-Trichloroethane	85		79		67-130	7		20
Bromodichloromethane	85		83		67-130	2		20
trans-1,3-Dichloropropene	94		90		70-130	4		20
cis-1,3-Dichloropropene	85		82		70-130	4		20
1,1-Dichloropropene	84		79		70-130	6		20
Bromoform	102		101		54-136	1		20
1,1,2,2-Tetrachloroethane	104		102		67-130	2		20
Benzene	93		89		70-130	4		20
Toluene	98		93		70-130	5		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16 Batch: WG775498-1 WG775498-2								
Ethylbenzene	99		95		70-130	4		20
Chloromethane	**58**	Q	**55**	Q	64-130	5		20
Bromomethane	54		53		39-139	2		20
Vinyl chloride	73		69		55-140	6		20
Chloroethane	82		78		55-138	5		20
1,1-Dichloroethene	87		80		61-145	8		20
trans-1,2-Dichloroethene	91		88		70-130	3		20
Trichloroethene	86		83		70-130	4		20
1,2-Dichlorobenzene	97		94		70-130	3		20
1,3-Dichlorobenzene	96		93		70-130	3		20
1,4-Dichlorobenzene	97		93		70-130	4		20
Methyl tert butyl ether	85		84		63-130	1		20
p/m-Xylene	100		95		70-130	5		20
o-Xylene	99		94		70-130	5		20
cis-1,2-Dichloroethene	92		87		70-130	6		20
Dibromomethane	90		90		70-130	0		20
1,2,3-Trichloropropane	103		103		64-130	0		20
Acrylonitrile	92		92		70-130	0		20
Diisopropyl Ether	78		75		70-130	4		20
Tert-Butyl Alcohol	82		85		70-130	4		20
Styrene	103		99		70-130	4		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16 Batch: WG775498-1 WG775498-2								
Dichlorodifluoromethane	53		51		36-147	4		20
Acetone	81		81		58-148	0		20
Carbon disulfide	74		70		51-130	6		20
2-Butanone	91		92		63-138	1		20
Vinyl acetate	80		77		70-130	4		20
4-Methyl-2-pentanone	91		94		59-130	3		20
2-Hexanone	85		85		57-130	0		20
Bromochloromethane	92		90		70-130	2		20
2,2-Dichloropropane	80		74		63-133	8		20
1,2-Dibromoethane	98		96		70-130	2		20
1,3-Dichloropropane	99		97		70-130	2		20
1,1,1,2-Tetrachloroethane	98		94		64-130	4		20
Bromobenzene	98		94		70-130	4		20
n-Butylbenzene	90		84		53-136	7		20
sec-Butylbenzene	94		89		70-130	5		20
tert-Butylbenzene	94		88		70-130	7		20
o-Chlorotoluene	96		92		70-130	4		20
p-Chlorotoluene	100		95		70-130	5		20
1,2-Dibromo-3-chloropropane	86		86		41-144	0		20
Hexachlorobutadiene	77		69		63-130	11		20
Isopropylbenzene	99		94		70-130	5		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16 Batch: WG775498-1 WG775498-2								
p-Isopropyltoluene	92		88		70-130	4		20
Naphthalene	110		105		70-130	5		20
n-Propylbenzene	102		97		69-130	5		20
1,2,3-Trichlorobenzene	80		76		70-130	5		20
1,2,4-Trichlorobenzene	84		77		70-130	9		20
1,3,5-Trimethylbenzene	100		95		64-130	5		20
1,2,4-Trimethylbenzene	98		94		70-130	4		20
Methyl Acetate	88		89		70-130	1		20
Ethyl Acetate	85		83		70-130	2		20
Cyclohexane	83		79		70-130	5		20
Ethyl-Tert-Butyl-Ether	78		77		70-130	1		20
Tertiary-Amyl Methyl Ether	77		75		66-130	3		20
1,4-Dioxane	89		94		56-162	5		20
Freon-113	92		86		70-130	7		20
p-Diethylbenzene	91		86		70-130	6		20
p-Ethyltoluene	99		94		70-130	5		20
1,2,4,5-Tetramethylbenzene	106		102		70-130	4		20
Ethyl ether	98		96		59-134	2		20
trans-1,4-Dichloro-2-butene	95		92		70-130	3		20
Iodomethane	**52**	Q	**55**	Q	70-130	6		20
Methyl cyclohexane	88		82		70-130	7		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16 Batch: WG775498-1 WG775498-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		95		70-130
Toluene-d8	104		104		70-130
4-Bromofluorobenzene	97		97		70-130
Dibromofluoromethane	96		97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 17 Batch: WG776528-1 WG776528-2								
Methylene chloride	84		93		70-130	10		20
1,1-Dichloroethane	81		92		70-130	13		20
Chloroform	84		93		70-130	10		20
2-Chloroethylvinyl ether	89		82		70-130	8		20
Carbon tetrachloride	78		91		63-132	15		20
1,2-Dichloropropane	85		94		70-130	10		20
Dibromochloromethane	94		94		63-130	0		20
1,1,2-Trichloroethane	109		104		70-130	5		20
Tetrachloroethene	89		101		70-130	13		20
Chlorobenzene	93		102		75-130	9		20
Trichlorofluoromethane	75		88		62-150	16		20
1,2-Dichloroethane	85		86		70-130	1		20
1,1,1-Trichloroethane	80		92		67-130	14		20
Bromodichloromethane	82		89		67-130	8		20
trans-1,3-Dichloropropene	96		98		70-130	2		20
cis-1,3-Dichloropropene	83		89		70-130	7		20
1,1-Dichloropropene	83		95		70-130	13		20
Bromoform	90		84		54-136	7		20
1,1,2,2-Tetrachloroethane	102		91		67-130	11		20
Benzene	85		96		70-130	12		20
Toluene	90		100		70-130	11		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 17 Batch: WG776528-1 WG776528-2								
Ethylbenzene	91		103		70-130	12		20
Chloromethane	**53**	Q	74		64-130	**33**	Q	20
Bromomethane	57		72		39-139	**23**	Q	20
Vinyl chloride	69		82		55-140	17		20
Chloroethane	86		102		55-138	17		20
1,1-Dichloroethene	82		94		61-145	14		20
trans-1,2-Dichloroethene	84		94		70-130	11		20
Trichloroethene	84		95		70-130	12		20
1,2-Dichlorobenzene	95		98		70-130	3		20
1,3-Dichlorobenzene	94		101		70-130	7		20
1,4-Dichlorobenzene	96		101		70-130	5		20
Methyl tert butyl ether	92		89		63-130	3		20
p/m-Xylene	101		114		70-130	12		20
o-Xylene	100		111		70-130	10		20
cis-1,2-Dichloroethene	86		95		70-130	10		20
Dibromomethane	92		89		70-130	3		20
1,2,3-Trichloropropane	108		98		64-130	10		20
Acrylonitrile	110		91		70-130	19		20
Diisopropyl Ether	86		93		70-130	8		20
Tert-Butyl Alcohol	112		90		70-130	**22**	Q	20
Styrene	100		110		70-130	10		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 17 Batch: WG776528-1 WG776528-2								
Dichlorodifluoromethane	38		45		36-147	17		20
Acetone	122		90		58-148	**30**	Q	20
Carbon disulfide	81		90		51-130	11		20
2-Butanone	108		85		63-138	**24**	Q	20
Vinyl acetate	99		94		70-130	5		20
4-Methyl-2-pentanone	109		94		59-130	15		20
2-Hexanone	113		95		57-130	17		20
Bromochloromethane	94		96		70-130	2		20
2,2-Dichloropropane	80		89		63-133	11		20
1,2-Dibromoethane	102		96		70-130	6		20
1,3-Dichloropropane	101		98		70-130	3		20
1,1,1,2-Tetrachloroethane	96		105		64-130	9		20
Bromobenzene	84		89		70-130	6		20
n-Butylbenzene	92		104		53-136	12		20
sec-Butylbenzene	86		99		70-130	14		20
tert-Butylbenzene	80		92		70-130	14		20
o-Chlorotoluene	84		94		70-130	11		20
p-Chlorotoluene	86		94		70-130	9		20
1,2-Dibromo-3-chloropropane	87		89		41-144	2		20
Hexachlorobutadiene	93		108		63-130	15		20
Isopropylbenzene	79		89		70-130	12		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 17 Batch: WG776528-1 WG776528-2								
p-Isopropyltoluene	87		100		70-130	14		20
Naphthalene	98		95		70-130	3		20
n-Propylbenzene	79		90		69-130	13		20
1,2,3-Trichlorobenzene	95		102		70-130	7		20
1,2,4-Trichlorobenzene	88		96		70-130	9		20
1,3,5-Trimethylbenzene	89		100		64-130	12		20
1,2,4-Trimethylbenzene	88		98		70-130	11		20
Methyl Acetate	102		85		70-130	18		20
Ethyl Acetate	106		91		70-130	15		20
Cyclohexane	83		97		70-130	16		20
Ethyl-Tert-Butyl-Ether	89		92		70-130	3		20
Tertiary-Amyl Methyl Ether	91		91		66-130	0		20
1,4-Dioxane	119		92		56-162	**26**	Q	20
Freon-113	81		94		70-130	15		20
p-Diethylbenzene	90		103		70-130	13		20
p-Ethyltoluene	84		94		70-130	11		20
1,2,4,5-Tetramethylbenzene	100		111		70-130	10		20
Ethyl ether	99		97		59-134	2		20
trans-1,4-Dichloro-2-butene	73		**65**	Q	70-130	12		20
Iodomethane	**39**	Q	**52**	Q	70-130	**29**	Q	20
Methyl cyclohexane	81		98		70-130	19		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 17 Batch: WG776528-1 WG776528-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	104		89		70-130
Toluene-d8	101		100		70-130
4-Bromofluorobenzene	90		89		70-130
Dibromofluoromethane	99		96		70-130

SEMIVOLATILES

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-01
Client ID: B-1 (4-6)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/17/15 21:29
Analyst: JB
Percent Solids: 76%

Date Collected: 04/08/15 08:45
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/15/15 19:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	210	71.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	84		30-120
4-Terphenyl-d14	88		18-120

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-02
Client ID: B-1 (11-15)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/17/15 21:55
Analyst: JB
Percent Solids: 74%

Date Collected: 04/08/15 09:00
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/15/15 19:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	220	73.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	90		30-120
4-Terphenyl-d14	87		18-120

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-03
Client ID: B2 (6-8)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/17/15 22:20
Analyst: JB
Percent Solids: 84%

Date Collected: 04/08/15 09:30
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/15/15 19:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	190	65.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	92		30-120
4-Terphenyl-d14	97		18-120

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID:	L1507036-04	Date Collected:	04/08/15 10:00
Client ID:	B2 (12-16)	Date Received:	04/08/15
Sample Location:	980 ELLICOTT ST, BUFFALO, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/15/15 19:18
Analytical Date:	04/17/15 22:45		
Analyst:	JB		
Percent Solids:	86%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	190	64.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	94		30-120
4-Terphenyl-d14	89		18-120

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID:	L1507036-05	Date Collected:	04/08/15 10:15
Client ID:	B3 (4-6)	Date Received:	04/08/15
Sample Location:	980 ELLICOTT ST, BUFFALO, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/15/15 19:18
Analytical Date:	04/17/15 23:11		
Analyst:	JB		
Percent Solids:	76%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	220	72.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	84		30-120
4-Terphenyl-d14	83		18-120

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID:	L1507036-06	Date Collected:	04/08/15 10:30
Client ID:	B3 (11-13)	Date Received:	04/08/15
Sample Location:	980 ELLICOTT ST, BUFFALO, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/15/15 19:18
Analytical Date:	04/17/15 23:36		
Analyst:	JB		
Percent Solids:	87%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	190	63.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	74		18-120

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-07
Client ID: B4 (4-6)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/18/15 00:02
Analyst: JB
Percent Solids: 80%

Date Collected: 04/08/15 11:37
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/15/15 19:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	200	68.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	90		30-120
4-Terphenyl-d14	88		18-120

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID:	L1507036-08	Date Collected:	04/08/15 11:50
Client ID:	B4 (12-14)	Date Received:	04/08/15
Sample Location:	980 ELLICOTT ST, BUFFALO, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/15/15 19:18
Analytical Date:	04/18/15 00:27		
Analyst:	JB		
Percent Solids:	81%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	200	67.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	95		30-120
4-Terphenyl-d14	95		18-120

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-09
Client ID: B5 (8-10)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/18/15 00:53
Analyst: JB
Percent Solids: 85%

Date Collected: 04/08/15 13:20
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/15/15 19:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	190	64.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	92		23-120
2-Fluorobiphenyl	101		30-120
4-Terphenyl-d14	99		18-120

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID:	L1507036-10	Date Collected:	04/08/15 13:15
Client ID:	B5 (6-8)	Date Received:	04/08/15
Sample Location:	980 ELLICOTT ST, BUFFALO, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/15/15 19:18
Analytical Date:	04/18/15 01:18		
Analyst:	JB		
Percent Solids:	83%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	200	66.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	87		30-120
4-Terphenyl-d14	97		18-120

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-11
Client ID: B6 (2-4)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/18/15 01:44
Analyst: JB
Percent Solids: 80%

Date Collected: 04/08/15 13:55
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/15/15 19:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	1100		ug/kg	200	67.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	102		30-120
4-Terphenyl-d14	110		18-120

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID:	L1507036-12	Date Collected:	04/08/15 14:10
Client ID:	B6 (12.5-14)	Date Received:	04/08/15
Sample Location:	980 ELLICOTT ST, BUFFALO, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/15/15 19:18
Analytical Date:	04/18/15 02:10		
Analyst:	JB		
Percent Solids:	86%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	190	64.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	96		30-120
4-Terphenyl-d14	90		18-120

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID:	L1507036-13	Date Collected:	04/08/15 16:20
Client ID:	B7 (8-11)	Date Received:	04/08/15
Sample Location:	980 ELLICOTT ST, BUFFALO, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/11/15 02:49
Analytical Date:	04/11/15 20:43		
Analyst:	JB		
Percent Solids:	75%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	220	72.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	54		23-120
2-Fluorobiphenyl	68		30-120
4-Terphenyl-d14	71		18-120

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-14
Client ID: B8 (7.5-10)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/11/15 21:09
Analyst: JB
Percent Solids: 71%

Date Collected: 04/08/15 15:30
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/11/15 02:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	480		ug/kg	230	76.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	64		18-120

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-15
Client ID: B9 (7.5-10)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/11/15 21:34
Analyst: JB
Percent Solids: 80%

Date Collected: 04/08/15 15:00
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/11/15 02:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	210	69.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	64		23-120
2-Fluorobiphenyl	71		30-120
4-Terphenyl-d14	70		18-120

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-16
Client ID: B8
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 04/12/15 18:23
Analyst: KV

Date Collected: 04/08/15 17:30
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 04/11/15 12:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	0.06	1
2-Chloronaphthalene	ND		ug/l	0.20	0.07	1
Fluoranthene	0.22		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.07	1
Naphthalene	ND		ug/l	0.20	0.06	1
Benzo(a)anthracene	0.15	J	ug/l	0.20	0.06	1
Benzo(a)pyrene	0.14	J	ug/l	0.20	0.07	1
Benzo(b)fluoranthene	0.20		ug/l	0.20	0.07	1
Benzo(k)fluoranthene	0.07	J	ug/l	0.20	0.07	1
Chrysene	0.15	J	ug/l	0.20	0.05	1
Acenaphthylene	ND		ug/l	0.20	0.05	1
Anthracene	ND		ug/l	0.20	0.06	1
Benzo(ghi)perylene	ND		ug/l	0.20	0.07	1
Fluorene	ND		ug/l	0.20	0.06	1
Phenanthrene	0.09	J	ug/l	0.20	0.06	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	0.07	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	0.08	1
Pyrene	0.20		ug/l	0.20	0.06	1
2-Methylnaphthalene	ND		ug/l	0.20	0.06	1
Pentachlorophenol	ND		ug/l	0.80	0.19	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.07	1

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-16 Date Collected: 04/08/15 17:30

Client ID: B8 Date Received: 04/08/15

Sample Location: 980 ELLICOTT ST, BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	31		21-120
Phenol-d6	26		10-120
Nitrobenzene-d5	63		23-120
2-Fluorobiphenyl	74		15-120
2,4,6-Tribromophenol	105		10-120
4-Terphenyl-d14	87		41-149

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/11/15 13:03
Analyst: JB

Extraction Method: EPA 3546
Extraction Date: 04/11/15 02:49

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 13-15 Batch: WG775154-1					
Acenaphthene	ND		ug/kg	130	34.
Benzidine	ND		ug/kg	540	130
n-Nitrosodimethylamine	ND		ug/kg	330	53.
1,2,4-Trichlorobenzene	ND		ug/kg	160	54.
Hexachlorobenzene	ND		ug/kg	98	30.
Bis(2-chloroethyl)ether	ND		ug/kg	150	46.
2-Chloronaphthalene	ND		ug/kg	160	53.
1,2-Dichlorobenzene	ND		ug/kg	160	54.
1,3-Dichlorobenzene	ND		ug/kg	160	52.
1,4-Dichlorobenzene	ND		ug/kg	160	50.
3,3'-Dichlorobenzidine	ND		ug/kg	160	44.
2,4-Dinitrotoluene	ND		ug/kg	160	35.
2,6-Dinitrotoluene	ND		ug/kg	160	42.
Fluoranthene	ND		ug/kg	98	30.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	50.
4-Bromophenyl phenyl ether	ND		ug/kg	160	38.
Azobenzene	ND		ug/kg	160	44.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	58.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	50.
Hexachlorobutadiene	ND		ug/kg	160	46.
Hexachlorocyclopentadiene	ND		ug/kg	470	100
Hexachloroethane	ND		ug/kg	130	30.
Isophorone	ND		ug/kg	150	44.
Naphthalene	ND		ug/kg	160	54.
Nitrobenzene	ND		ug/kg	150	39.
NitrosoDiPhenylAmine(NDPA)/DPA	ND		ug/kg	130	34.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	49.
Bis(2-Ethylhexyl)phthalate	ND		ug/kg	160	43.
Butyl benzyl phthalate	ND		ug/kg	160	32.

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/11/15 13:03
Analyst: JB

Extraction Method: EPA 3546
Extraction Date: 04/11/15 02:49

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 13-15 Batch: WG775154-1					
Di-n-butylphthalate	ND		ug/kg	160	32.
Di-n-octylphthalate	ND		ug/kg	160	40.
Diethyl phthalate	ND		ug/kg	160	35.
Dimethyl phthalate	ND		ug/kg	160	42.
Benzo(a)anthracene	ND		ug/kg	98	32.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	33.
Benzo(k)fluoranthene	ND		ug/kg	98	31.
Chrysene	ND		ug/kg	98	32.
Acenaphthylene	ND		ug/kg	130	31.
Anthracene	ND		ug/kg	98	27.
Benzo(ghi)perylene	ND		ug/kg	130	34.
Fluorene	ND		ug/kg	160	47.
Phenanthrene	ND		ug/kg	98	32.
Dibenzo(a,h)anthracene	ND		ug/kg	98	32.
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	130	36.
Pyrene	ND		ug/kg	98	32.
Biphenyl	ND		ug/kg	370	54.
Aniline	ND		ug/kg	200	33.
4-Chloroaniline	ND		ug/kg	160	43.
2-Nitroaniline	ND		ug/kg	160	46.
3-Nitroaniline	ND		ug/kg	160	45.
4-Nitroaniline	ND		ug/kg	160	44.
Dibenzofuran	ND		ug/kg	160	55.
2-Methylnaphthalene	ND		ug/kg	200	52.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	51.
Acetophenone	ND		ug/kg	160	51.
2,4,6-Trichlorophenol	ND		ug/kg	98	31.
P-Chloro-M-Cresol	ND		ug/kg	160	48.

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/11/15 13:03
Analyst: JB

Extraction Method: EPA 3546
Extraction Date: 04/11/15 02:49

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 13-15 Batch: WG775154-1					
2-Chlorophenol	ND		ug/kg	160	49.
2,4-Dichlorophenol	ND		ug/kg	150	53.
2,4-Dimethylphenol	ND		ug/kg	160	49.
2-Nitrophenol	ND		ug/kg	350	51.
4-Nitrophenol	ND		ug/kg	230	53.
2,4-Dinitrophenol	ND		ug/kg	790	220
4,6-Dinitro-o-cresol	ND		ug/kg	420	60.
Pentachlorophenol	ND		ug/kg	130	35.
Phenol	ND		ug/kg	160	48.
2-Methylphenol	ND		ug/kg	160	53.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	54.
2,4,5-Trichlorophenol	ND		ug/kg	160	53.
Benzoic Acid	ND		ug/kg	530	160
Benzyl Alcohol	ND		ug/kg	160	50.
Carbazole	ND		ug/kg	160	35.
Benzaldehyde	ND		ug/kg	220	66.
Caprolactam	ND		ug/kg	160	45.
Atrazine	ND		ug/kg	130	37.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	160	28.
Pyridine	ND		ug/kg	660	59.
1-Methylnaphthalene	ND		ug/kg	160	49.

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/11/15 13:03
Analyst: JB

Extraction Method: EPA 3546
Extraction Date: 04/11/15 02:49

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 13-15 Batch: WG775154-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	80		25-120
Phenol-d6	78		10-120
Nitrobenzene-d5	63		23-120
2-Fluorobiphenyl	75		30-120
2,4,6-Tribromophenol	70		10-136
4-Terphenyl-d14	88		18-120

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 04/12/15 08:36
Analyst: KV

Extraction Method: EPA 3510C
Extraction Date: 04/11/15 12:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 16 Batch: WG775200-1					
Acenaphthene	ND		ug/l	0.20	0.06
2-Chloronaphthalene	ND		ug/l	0.20	0.07
Fluoranthene	ND		ug/l	0.20	0.04
Hexachlorobutadiene	ND		ug/l	0.50	0.07
Naphthalene	ND		ug/l	0.20	0.06
Benzo(a)anthracene	ND		ug/l	0.20	0.06
Benzo(a)pyrene	ND		ug/l	0.20	0.07
Benzo(b)fluoranthene	ND		ug/l	0.20	0.07
Benzo(k)fluoranthene	ND		ug/l	0.20	0.07
Chrysene	ND		ug/l	0.20	0.05
Acenaphthylene	ND		ug/l	0.20	0.05
Anthracene	ND		ug/l	0.20	0.06
Benzo(ghi)perylene	ND		ug/l	0.20	0.07
Fluorene	ND		ug/l	0.20	0.06
Phenanthrene	ND		ug/l	0.20	0.06
Dibenzo(a,h)anthracene	ND		ug/l	0.20	0.07
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	0.08
Pyrene	ND		ug/l	0.20	0.06
2-Methylnaphthalene	ND		ug/l	0.20	0.06
Pentachlorophenol	ND		ug/l	0.80	0.19
Hexachlorobenzene	ND		ug/l	0.80	0.01
Hexachloroethane	ND		ug/l	0.80	0.07

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 04/12/15 08:36
Analyst: KV

Extraction Method: EPA 3510C
Extraction Date: 04/11/15 12:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 16 Batch: WG775200-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	40		21-120
Phenol-d6	28		10-120
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	77		15-120
2,4,6-Tribromophenol	99		10-120
4-Terphenyl-d14	78		41-149

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/18/15 13:12
Analyst: JB

Extraction Method: EPA 3546
Extraction Date: 04/15/15 19:18

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-12 Batch: WG776257-1					
Acenaphthene	ND		ug/kg	130	33.
Fluoranthene	ND		ug/kg	97	30.
Naphthalene	ND		ug/kg	160	54.
Benzo(a)anthracene	ND		ug/kg	97	32.
Benzo(a)pyrene	ND		ug/kg	130	39.
Benzo(b)fluoranthene	ND		ug/kg	97	33.
Benzo(k)fluoranthene	ND		ug/kg	97	31.
Chrysene	ND		ug/kg	97	32.
Anthracene	ND		ug/kg	97	27.
Benzo(ghi)perylene	ND		ug/kg	130	34.
Fluorene	ND		ug/kg	160	46.
Phenanthrene	ND		ug/kg	97	32.
Dibenzo(a,h)anthracene	ND		ug/kg	97	31.
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	130	36.
Pyrene	ND		ug/kg	97	31.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	92		30-120
4-Terphenyl-d14	95		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 13-15 Batch: WG775154-2 WG775154-3								
Acenaphthene	80		93		31-137	15		50
Benzidine	**90**	Q	**104**	Q	10-66	14		50
n-Nitrosodimethylamine	63		74		22-100	16		50
1,2,4-Trichlorobenzene	70		82		38-107	16		50
Hexachlorobenzene	78		92		40-140	16		50
Bis(2-chloroethyl)ether	75		88		40-140	16		50
2-Chloronaphthalene	76		89		40-140	16		50
1,2-Dichlorobenzene	70		81		40-140	15		50
1,3-Dichlorobenzene	68		81		40-140	17		50
1,4-Dichlorobenzene	68		79		28-104	15		50
3,3'-Dichlorobenzidine	75		102		40-140	31		50
2,4-Dinitrotoluene	**91**	Q	**107**	Q	28-89	16		50
2,6-Dinitrotoluene	84		98		40-140	15		50
Fluoranthene	86		100		40-140	15		50
4-Chlorophenyl phenyl ether	81		96		40-140	17		50
4-Bromophenyl phenyl ether	83		96		40-140	15		50
Azobenzene	74		85		40-140	14		50
Bis(2-chloroisopropyl)ether	65		76		40-140	16		50
Bis(2-chloroethoxy)methane	77		90		40-117	16		50
Hexachlorobutadiene	68		80		40-140	16		50
Hexachlorocyclopentadiene	85		100		40-140	16		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 13-15 Batch: WG775154-2 WG775154-3								
Hexachloroethane	61		72		40-140	17		50
Isophorone	75		88		40-140	16		50
Naphthalene	74		87		40-140	16		50
Nitrobenzene	70		84		40-140	18		50
NitrosoDiPhenylAmine(NDPA)/DPA	85		100		36-157	16		50
n-Nitrosodi-n-propylamine	68		81		32-121	17		50
Bis(2-Ethylhexyl)phthalate	108		124		40-140	14		50
Butyl benzyl phthalate	87		100		40-140	14		50
Di-n-butylphthalate	90		104		40-140	14		50
Di-n-octylphthalate	103		120		40-140	15		50
Diethyl phthalate	84		96		40-140	13		50
Dimethyl phthalate	82		94		40-140	14		50
Benzo(a)anthracene	88		103		40-140	16		50
Benzo(a)pyrene	79		88		40-140	11		50
Benzo(b)fluoranthene	79		92		40-140	15		50
Benzo(k)fluoranthene	86		98		40-140	13		50
Chrysene	85		99		40-140	15		50
Acenaphthylene	78		91		40-140	15		50
Anthracene	84		98		40-140	15		50
Benzo(ghi)perylene	77		88		40-140	13		50
Fluorene	83		97		40-140	16		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 13-15 Batch: WG775154-2 WG775154-3								
Phenanthrene	81		94		40-140	15		50
Dibenzo(a,h)anthracene	76		88		40-140	15		50
Indeno(1,2,3-cd)Pyrene	93		108		40-140	15		50
Pyrene	83		96		35-142	15		50
Biphenyl	79		93		54-104	16		50
Aniline	71		88		40-140	21		50
4-Chloroaniline	76		84		40-140	10		50
2-Nitroaniline	82		97		47-134	17		50
3-Nitroaniline	80		97		26-129	19		50
4-Nitroaniline	93		109		41-125	16		50
Dibenzofuran	80		94		40-140	16		50
2-Methylnaphthalene	76		90		40-140	17		50
1,2,4,5-Tetrachlorobenzene	75		90		40-117	18		50
Acetophenone	82		97		14-144	17		50
2,4,6-Trichlorophenol	84		99		30-130	16		50
P-Chloro-M-Cresol	84		99		26-103	16		50
2-Chlorophenol	78		93		25-102	18		50
2,4-Dichlorophenol	83		97		30-130	16		50
2,4-Dimethylphenol	76		90		30-130	17		50
2-Nitrophenol	75		91		30-130	19		50
4-Nitrophenol	78		91		11-114	15		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 13-15 Batch: WG775154-2 WG775154-3								
2,4-Dinitrophenol	78		91		4-130	15		50
4,6-Dinitro-o-cresol	81		94		10-130	15		50
Pentachlorophenol	84		98		17-109	15		50
Phenol	86		**101**	Q	26-90	16		50
2-Methylphenol	82		96		30-130.	16		50
3-Methylphenol/4-Methylphenol	84		99		30-130	16		50
2,4,5-Trichlorophenol	87		102		30-130	16		50
Benzoic Acid	46		57		10-66	21		50
Benzyl Alcohol	76		90		40-140	17		50
Carbazole	82		96		54-128	16		50
Benzaldehyde	94		113		40-140	18		50
Caprolactam	89		103		15-130	15		50
Atrazine	84		97		40-140	14		50
2,3,4,6-Tetrachlorophenol	88		106		40-140	19		50
Pyridine	54		64		10-93	17		50
1-Methylnaphthalene	62		73		26-130	16		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 13-15 Batch: WG775154-2 WG775154-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	87		103		25-120
Phenol-d6	83		97		10-120
Nitrobenzene-d5	68		81		23-120
2-Fluorobiphenyl	79		91		30-120
2,4,6-Tribromophenol	77		90		10-136
4-Terphenyl-d14	87		98		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 16 Batch: WG775200-2 WG775200-3								
Acenaphthene	101		99		37-111	2		40
2-Chloronaphthalene	104		101		40-140	3		40
Fluoranthene	120		112		40-140	7		40
Hexachlorobutadiene	85		85		40-140	0		40
Naphthalene	92		90		40-140	2		40
Benzo(a)anthracene	123		115		40-140	7		40
Benzo(a)pyrene	120		111		40-140	8		40
Benzo(b)fluoranthene	123		117		40-140	5		40
Benzo(k)fluoranthene	120		107		40-140	11		40
Chrysene	110		101		40-140	9		40
Acenaphthylene	109		107		40-140	2		40
Anthracene	112		107		40-140	5		40
Benzo(ghi)perylene	121		114		40-140	6		40
Fluorene	109		107		40-140	2		40
Phenanthrene	108		104		40-140	4		40
Dibenzo(a,h)anthracene	122		115		40-140	6		40
Indeno(1,2,3-cd)Pyrene	123		115		40-140	7		40
Pyrene	117		110		26-127	6		40
2-Methylnaphthalene	105		104		40-140	1		40
Pentachlorophenol	98		93		9-103	5		40
Hexachlorobenzene	107		103		40-140	4		40

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 16 Batch: WG775200-2 WG775200-3								
Hexachloroethane	79		81		40-140	3		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	55		52		21-120
Phenol-d6	42		38		10-120
Nitrobenzene-d5	94		93		23-120
2-Fluorobiphenyl	102		99		15-120
2,4,6-Tribromophenol	**131**	Q	**124**	Q	10-120
4-Terphenyl-d14	100		94		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-12 Batch: WG776257-2 WG776257-3								
Acenaphthene	88		102		31-137	15		50
Fluoranthene	99		110		40-140	11		50
Naphthalene	85		97		40-140	13		50
Benzo(a)anthracene	100		106		40-140	6		50
Benzo(a)pyrene	97		108		40-140	11		50
Benzo(b)fluoranthene	94		105		40-140	11		50
Benzo(k)fluoranthene	92		103		40-140	11		50
Chrysene	94		105		40-140	11		50
Anthracene	101		112		40-140	10		50
Benzo(ghi)perylene	95		104		40-140	9		50
Fluorene	95		105		40-140	10		50
Phenanthrene	94		104		40-140	10		50
Dibenzo(a,h)anthracene	95		106		40-140	11		50
Indeno(1,2,3-cd)Pyrene	99		109		40-140	10		50
Pyrene	97		106		35-142	9		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	88		99		23-120
2-Fluorobiphenyl	90		109		30-120
4-Terphenyl-d14	97		110		18-120

PETROLEUM HYDROCARBONS

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID:	L1507036-01	Date Collected:	04/08/15 08:45
Client ID:	B-1 (4-6)	Date Received:	04/08/15
Sample Location:	980 ELLICOTT ST, BUFFALO, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8015C(M)	Extraction Date:	04/10/15 16:40
Analytical Date:	04/11/15 12:23		
Analyst:	AR		
Percent Solids:	76%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	72200		ug/kg	42200	2880	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	75		40-140

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID:	L1507036-02	Date Collected:	04/08/15 09:00
Client ID:	B-1 (11-15)	Date Received:	04/08/15
Sample Location:	980 ELLICOTT ST, BUFFALO, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8015C(M)	Extraction Date:	04/10/15 16:40
Analytical Date:	04/11/15 15:42		
Analyst:	AR		
Percent Solids:	74%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	34700	J	ug/kg	43300	2960	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	83		40-140

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-03
Client ID: B2 (6-8)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8015C(M)
Analytical Date: 04/11/15 14:35
Analyst: AR
Percent Solids: 84%

Date Collected: 04/08/15 09:30
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/10/15 16:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	3810	J	ug/kg	39200	2670	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	79		40-140

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID:	L1507036-04	Date Collected:	04/08/15 10:00
Client ID:	B2 (12-16)	Date Received:	04/08/15
Sample Location:	980 ELLICOTT ST, BUFFALO, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8015C(M)	Extraction Date:	04/10/15 16:40
Analytical Date:	04/11/15 12:56		
Analyst:	AR		
Percent Solids:	86%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	119000		ug/kg	36800	2510	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	81		40-140

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-05
Client ID: B3 (4-6)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8015C(M)
Analytical Date: 04/11/15 15:09
Analyst: AR
Percent Solids: 76%

Date Collected: 04/08/15 10:15
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/10/15 16:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	47600		ug/kg	41300	2820	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	85		40-140

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID:	L1507036-06	Date Collected:	04/08/15 10:30
Client ID:	B3 (11-13)	Date Received:	04/08/15
Sample Location:	980 ELLICOTT ST, BUFFALO, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8015C(M)	Extraction Date:	04/10/15 16:40
Analytical Date:	04/11/15 15:09		
Analyst:	AR		
Percent Solids:	87%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	32300	J	ug/kg	38100	2600	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	91		40-140

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-07
Client ID: B4 (4-6)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8015C(M)
Analytical Date: 04/11/15 16:48
Analyst: AR
Percent Solids: 80%

Date Collected: 04/08/15 11:37
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/10/15 16:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	18600	J	ug/kg	39900	2720	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	89		40-140

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-08
Client ID: B4 (12-14)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8015C(M)
Analytical Date: 04/11/15 15:42
Analyst: AR
Percent Solids: 81%

Date Collected: 04/08/15 11:50
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/10/15 16:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	35700	J	ug/kg	39300	2680	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	83		40-140

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-09
Client ID: B5 (8-10)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8015C(M)
Analytical Date: 04/11/15 16:15
Analyst: AR
Percent Solids: 85%

Date Collected: 04/08/15 13:20
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/10/15 16:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	12500	J	ug/kg	37800	2580	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	100		40-140

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-10
Client ID: B5 (6-8)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8015C(M)
Analytical Date: 04/11/15 16:48
Analyst: AR
Percent Solids: 83%

Date Collected: 04/08/15 13:15
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/10/15 16:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	19100	J	ug/kg	39400	2680	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	94		40-140

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-11 D
Client ID: B6 (2-4)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8015C(M)
Analytical Date: 04/11/15 17:22
Analyst: AR
Percent Solids: 80%

Date Collected: 04/08/15 13:55
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/10/15 16:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	2800000		ug/kg	402000	27400	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	81		40-140

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-12
Client ID: B6 (12.5-14)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8015C(M)
Analytical Date: 04/11/15 14:35
Analyst: AR
Percent Solids: 86%

Date Collected: 04/08/15 14:10
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/10/15 16:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	78400		ug/kg	37600	2560	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	85		40-140

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-13
Client ID: B7 (8-11)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8015C(M)
Analytical Date: 04/11/15 16:15
Analyst: AR
Percent Solids: 75%

Date Collected: 04/08/15 16:20
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/10/15 16:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	21900	J	ug/kg	42500	2900	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	88		40-140

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-13
Client ID: B7 (8-11)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8015C(M)
Analytical Date: 04/13/15 13:31
Analyst: BS
Percent Solids: 75%

Date Collected: 04/08/15 16:20
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Gasoline Range Organics - Westborough Lab						
Gasoline Range Organics	ND		ug/kg	3200	63.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,1,1-Trifluorotoluene	86		70-130
4-Bromofluorobenzene	91		70-130

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID:	L1507036-14	Date Collected:	04/08/15 15:30
Client ID:	B8 (7.5-10)	Date Received:	04/08/15
Sample Location:	980 ELLICOTT ST, BUFFALO, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8015C(M)	Extraction Date:	04/10/15 16:41
Analytical Date:	04/11/15 13:29		
Analyst:	AR		
Percent Solids:	71%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	85700		ug/kg	45100	3080	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	87		40-140

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-14
Client ID: B8 (7.5-10)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8015C(M)
Analytical Date: 04/13/15 15:30
Analyst: BS
Percent Solids: 71%

Date Collected: 04/08/15 15:30
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Gasoline Range Organics - Westborough Lab						
Gasoline Range Organics	ND		ug/kg	3400	66.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,1,1-Trifluorotoluene	92		70-130
4-Bromofluorobenzene	99		70-130

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-15
Client ID: B9 (7.5-10)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8015C(M)
Analytical Date: 04/11/15 14:03
Analyst: AR
Percent Solids: 80%

Date Collected: 04/08/15 15:00
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/10/15 16:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	13400	J	ug/kg	39500	2690	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	81		40-140

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-15
Client ID: B9 (7.5-10)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8015C(M)
Analytical Date: 04/13/15 16:09
Analyst: BS
Percent Solids: 80%

Date Collected: 04/08/15 15:00
Date Received: 04/08/15
Field Prep: Not Specified
Extraction Method:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Gasoline Range Organics - Westborough Lab						
Gasoline Range Organics	ND		ug/kg	3000	57.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,1,1-Trifluorotoluene	71		70-130
4-Bromofluorobenzene	84		70-130

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015C(M)
Analytical Date: 04/11/15 12:23
Analyst: AR

Extraction Method: EPA 3546
Extraction Date: 04/10/15 16:40

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01-15 Batch: WG775070-1					
TPH	2880	J	ug/kg	31500	2150

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	92		40-140

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015C(M)
Analytical Date: 04/13/15 09:32
Analyst: BS

Parameter	Result	Qualifier	Units	RL	MDL
Gasoline Range Organics - Westborough Lab for sample(s): 13-15 Batch: WG775702-3					
Gasoline Range Organics	ND		ug/kg	2500	48.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,1,1-Trifluorotoluene	91		70-130
4-Bromofluorobenzene	99		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01-15 Batch: WG775070-2								
TPH	85		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	89				40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Gasoline Range Organics - Westborough Lab	Associated sample(s): 13-15		Batch: WG775702-1		WG775702-2			
Gasoline Range Organics	81		90		80-120	11		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,1,1-Trifluorotoluene	94		92		70-130
4-Bromofluorobenzene	95		92		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Gasoline Range Organics - Westborough Lab Associated sample(s): 13-15 QC Batch ID: WG775702-5 QC Sample: L1507036-13 Client ID: B7 (8-11)												
Gasoline Range Organics	ND	26000	22000	86		-	-		80-120	-		20

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,1,1-Trifluorotoluene	90				70-130
4-Bromofluorobenzene	90				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282

Lab Number: L1507036
Report Date: 04/20/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01-15 QC Batch ID: WG775070-3 QC Sample: L1507036-15 Client ID: B9 (7.5-10)						
TPH	13400J	5860J	ug/kg	NC		40

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	81		65		40-140

Lab Duplicate Analysis
Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282

Lab Number: L1507036
Report Date: 04/20/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Gasoline Range Organics - Westborough Lab Associated sample(s): 13-15 QC Batch ID: WG775702-4 QC Sample: L1507036-13 Client ID: B7 (8-11)					
Gasoline Range Organics	ND	ND	ug/kg	NC	20

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
1,1,1-Trifluorotoluene	86		92		70-130
4-Bromofluorobenzene	91		102		70-130

METALS

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-01
Client ID: B-1 (4-6)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Percent Solids: 76%

Date Collected: 04/08/15 08:45
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Copper, Total	15		mg/kg	1.0	0.20	2	04/14/15 14:47	04/14/15 18:38	EPA 3050B	1,6010C	JH

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-02
Client ID: B-1 (11-15)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Percent Solids: 74%

Date Collected: 04/08/15 09:00
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Copper, Total	14		mg/kg	1.0	0.21	2	04/14/15 14:47	04/14/15 18:42	EPA 3050B	1,6010C	JH

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-03
Client ID: B2 (6-8)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Percent Solids: 84%

Date Collected: 04/08/15 09:30
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Copper, Total	20		mg/kg	0.95	0.19	2	04/14/15 14:47	04/14/15 18:46	EPA 3050B	1,6010C	JH

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-04
Client ID: B2 (12-16)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Percent Solids: 86%

Date Collected: 04/08/15 10:00
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Copper, Total	12		mg/kg	0.91	0.18	2	04/14/15 14:47	04/14/15 18:50	EPA 3050B	1,6010C	JH

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-05
Client ID: B3 (4-6)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Percent Solids: 76%

Date Collected: 04/08/15 10:15
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Copper, Total	24		mg/kg	0.98	0.20	2	04/14/15 14:47	04/14/15 18:54	EPA 3050B	1,6010C	JH

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-06
Client ID: B3 (11-13)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Percent Solids: 87%

Date Collected: 04/08/15 10:30
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Copper, Total	8.6		mg/kg	0.91	0.18	2	04/14/15 14:47	04/14/15 18:59	EPA 3050B	1,6010C	JH

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-07
Client ID: B4 (4-6)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Percent Solids: 80%

Date Collected: 04/08/15 11:37
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Copper, Total	21		mg/kg	0.93	0.19	2	04/14/15 14:47	04/14/15 19:03	EPA 3050B	1,6010C	JH

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-08
Client ID: B4 (12-14)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Percent Solids: 81%

Date Collected: 04/08/15 11:50
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Copper, Total	9.0		mg/kg	0.98	0.20	2	04/14/15 14:47	04/14/15 19:27	EPA 3050B	1,6010C	JH

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-09
Client ID: B5 (8-10)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Percent Solids: 85%

Date Collected: 04/08/15 13:20
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Copper, Total	18		mg/kg	0.91	0.18	2	04/14/15 14:47	04/14/15 19:31	EPA 3050B	1,6010C	JH

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-10
Client ID: B5 (6-8)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Percent Solids: 83%

Date Collected: 04/08/15 13:15
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Copper, Total	20		mg/kg	0.96	0.19	2	04/14/15 14:47	04/14/15 19:35	EPA 3050B	1,6010C	JH

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-11
Client ID: B6 (2-4)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Percent Solids: 80%

Date Collected: 04/08/15 13:55
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Copper, Total	20		mg/kg	0.49	0.10	1	04/16/15 19:13	04/16/15 21:18	EPA 3050B	1,6010C	JH

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-12
Client ID: B6 (12.5-14)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Percent Solids: 86%

Date Collected: 04/08/15 14:10
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Copper, Total	7.7		mg/kg	0.45	0.09	1	04/16/15 19:13	04/16/15 21:22	EPA 3050B	1,6010C	JH

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-13
Client ID: B7 (8-11)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Percent Solids: 75%

Date Collected: 04/08/15 16:20
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Copper, Total	16		mg/kg	0.52	0.10	1	04/16/15 19:13	04/16/15 21:26	EPA 3050B	1,6010C	JH

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-14
Client ID: B8 (7.5-10)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Percent Solids: 71%

Date Collected: 04/08/15 15:30
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Copper, Total	160		mg/kg	0.54	0.11	1	04/16/15 19:13	04/16/15 21:30	EPA 3050B	1,6010C	JH

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-15
Client ID: B9 (7.5-10)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Percent Solids: 80%

Date Collected: 04/08/15 15:00
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Copper, Total	8.1		mg/kg	0.49	0.10	1	04/16/15 19:13	04/16/15 21:34	EPA 3050B	1,6010C	JH

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1507036
Project Number: 1526282
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-16
Client ID: B8
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Water
Date Collected: 04/08/15 17:30
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Copper, Total	1.529		mg/l	0.2000	0.0524	200	04/09/15 11:01	04/09/15 17:32	EPA 3005A	1,6020A	KL

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 16 Batch: WG774570-1										
Copper, Total	ND		mg/l	0.0010	0.0003	1	04/09/15 11:01	04/09/15 17:14	1,6020A	KL

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01-10 Batch: WG775765-1										
Copper, Total	ND		mg/kg	0.40	0.08	1	04/14/15 14:47	04/14/15 17:51	1,6010C	JH

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 11-15 Batch: WG776603-1										
Copper, Total	ND		mg/kg	0.40	0.08	1	04/16/15 19:13	04/16/15 20:37	1,6010C	JH

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 16 Batch: WG774570-2								
Copper, Total	97		-		80-120	-		
Total Metals - Westborough Lab Associated sample(s): 01-10 Batch: WG775765-2 SRM Lot Number: D083-540								
Copper, Total	82		-		80-120	-		
Total Metals - Westborough Lab Associated sample(s): 11-15 Batch: WG776603-2 SRM Lot Number: D083-540								
Copper, Total	94		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282

Lab Number: L1507036
Report Date: 04/20/15

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 16 QC Batch ID: WG774570-4 QC Sample: L1506966-08 Client ID: MS Sample												
Copper, Total	ND	0.25	0.2478	99		-	-		75-125	-		20
Total Metals - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG775765-4 QC Sample: L1507024-07 Client ID: MS Sample												
Copper, Total	3.1	20.6	22	92		-	-		75-125	-		20
Total Metals - Westborough Lab Associated sample(s): 11-15 QC Batch ID: WG776603-4 QC Sample: L1507328-01 Client ID: MS Sample												
Copper, Total	6.7	20	26	96		-	-		75-125	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282

Lab Number: L1507036
Report Date: 04/20/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 16 QC Batch ID: WG774570-3 QC Sample: L1506966-08 Client ID: DUP Sample						
Copper, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-01
Client ID: B-1 (4-6)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil

Date Collected: 04/08/15 08:45
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	76.1		%	0.100	NA	1	-	04/09/15 22:48	30,2540G	RT

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-02
Client ID: B-1 (11-15)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Date Collected: 04/08/15 09:00
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	73.8		%	0.100	NA	1	-	04/09/15 22:48	30,2540G	RT

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-03
Client ID: B2 (6-8)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil

Date Collected: 04/08/15 09:30
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	04/09/15 22:48	30,2540G	RT

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-04
Client ID: B2 (12-16)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Date Collected: 04/08/15 10:00
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.0		%	0.100	NA	1	-	04/09/15 22:48	30,2540G	RT

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-05
Client ID: B3 (4-6)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Date Collected: 04/08/15 10:15
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	76.1		%	0.100	NA	1	-	04/09/15 22:48	30,2540G	RT

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-06
Client ID: B3 (11-13)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Date Collected: 04/08/15 10:30
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.7		%	0.100	NA	1	-	04/09/15 22:48	30,2540G	RT

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-07
Client ID: B4 (4-6)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Date Collected: 04/08/15 11:37
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.9		%	0.100	NA	1	-	04/09/15 22:48	30,2540G	RT

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-08
Client ID: B4 (12-14)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Date Collected: 04/08/15 11:50
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.2		%	0.100	NA	1	-	04/09/15 22:48	30,2540G	RT

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-09
Client ID: B5 (8-10)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Date Collected: 04/08/15 13:20
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.8		%	0.100	NA	1	-	04/09/15 22:48	30,2540G	RT

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-10
Client ID: B5 (6-8)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Date Collected: 04/08/15 13:15
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.9		%	0.100	NA	1	-	04/09/15 22:48	30,2540G	RT

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-11
Client ID: B6 (2-4)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Date Collected: 04/08/15 13:55
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.3		%	0.100	NA	1	-	04/09/15 22:48	30,2540G	RT

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-12
Client ID: B6 (12.5-14)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Date Collected: 04/08/15 14:10
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.5		%	0.100	NA	1	-	04/09/15 22:48	30,2540G	RT

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-13
Client ID: B7 (8-11)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Date Collected: 04/08/15 16:20
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	75.3		%	0.100	NA	1	-	04/09/15 22:48	30,2540G	RT
Cyanide, Total	ND		mg/kg	1.3	0.30	1	04/09/15 12:59	04/10/15 11:36	1,9010C/9012B	ML

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-14
Client ID: B8 (7.5-10)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Date Collected: 04/08/15 15:30
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	71.0		%	0.100	NA	1	-	04/09/15 22:48	30,2540G	RT
Cyanide, Total	ND		mg/kg	1.3	0.30	1	04/09/15 12:59	04/10/15 11:36	1,9010C/9012B	ML

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-15
Client ID: B9 (7.5-10)
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Soil
Date Collected: 04/08/15 15:00
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.1		%	0.100	NA	1	-	04/09/15 22:48	30,2540G	RT
Cyanide, Total	ND		mg/kg	1.2	0.27	1	04/09/15 12:59	04/10/15 11:37	1,9010C/9012B	ML

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282
Lab Number: L1507036
Report Date: 04/20/15

SAMPLE RESULTS

Lab ID: L1507036-16
Client ID: B8
Sample Location: 980 ELLICOTT ST, BUFFALO, NY
Matrix: Water

Date Collected: 04/08/15 17:30
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Oil & Grease, Hem-Grav	ND		mg/l	4.0	4.0	1	04/14/15 18:30	04/14/15 19:00	74,1664A	KE

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1507036

Project Number: 1526282 **Report Date:** 04/20/15

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 13-15 Batch: WG774632-1										
Cyanide, Total	ND		mg/kg	0.86	0.20	1	04/09/15 12:59	04/10/15 11:25	1,9010C/9012B	ML
General Chemistry - Westborough Lab for sample(s): 16 Batch: WG775883-1										
Oil & Grease, Hem-Grav	ND		mg/l	4.0	4.0	1	04/14/15 18:30	04/14/15 19:00	74,1664A	KE

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1507036

Report Date: 04/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 13-15 Batch: WG774632-2 WG774632-3								
Cyanide, Total	105		**131**	Q	80-120	21		35
General Chemistry - Westborough Lab Associated sample(s): 16 Batch: WG775883-2								
Oil & Grease, Hem-Grav	88		-		78-114	-		18

Matrix Spike Analysis
Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282

Lab Number: L1507036
Report Date: 04/20/15

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 13-15 QC Batch ID: WG774632-4 WG774632-5 QC Sample: L1507023-05 Client ID: MS Sample												
Cyanide, Total	0.37J	10	9.7	90		10	93		65-135	3		35
General Chemistry - Westborough Lab Associated sample(s): 16 QC Batch ID: WG775883-4 QC Sample: L1507370-03 Client ID: MS Sample												
Oil & Grease, Hem-Grav	ND	41.2	36	86		-	-		78-114	-		18

Lab Duplicate Analysis
Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282

Lab Number: L1507036
Report Date: 04/20/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-15 QC Batch ID: WG774836-1 QC Sample: L1507008-01 Client ID: DUP Sample						
Solids, Total	86.0	91.6	%	6		20
General Chemistry - Westborough Lab Associated sample(s): 16 QC Batch ID: WG775883-3 QC Sample: L1507370-01 Client ID: DUP Sample						
Oil & Grease, Hem-Grav	ND	ND	mg/l	NC		18

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282

Lab Number: L1507036
Report Date: 04/20/15

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1507036-01A	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-02A	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-03A	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-04A	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-05A	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-06A	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-07A	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-08A	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-09A	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-10A	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-11A	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-12A	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-13A	Vial Large Septa unpreserved	A	N/A	4.1	Y	Absent	TPH-GRO(14)
L1507036-13B	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TCN-9010(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-13C	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TCN-9010(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-13X	Vial MeOH preserved split	A	N/A	4.1	Y	Absent	TPH-GRO(14)
L1507036-14A	Vial Large Septa unpreserved	A	N/A	4.1	Y	Absent	TPH-GRO(14)

*Values in parentheses indicate holding time in days

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282

Lab Number: L1507036
Report Date: 04/20/15

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1507036-14B	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TCN-9010(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-14C	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TCN-9010(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-14X	Vial MeOH preserved split	A	N/A	4.1	Y	Absent	TPH-GRO(14)
L1507036-15A	Vial Large Septa unpreserved	A	N/A	4.1	Y	Absent	TPH-GRO(14)
L1507036-15B	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TCN-9010(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-15C	Glass 250ml/8oz unpreserved	A	N/A	4.1	Y	Absent	NYTCL-8270(14),TCN-9010(14),TS(7),CU-TI(180),TPH-DRO-D(14)
L1507036-15X	Vial MeOH preserved split	A	N/A	4.1	Y	Absent	TPH-GRO(14)
L1507036-16A	Vial HCl preserved	B	N/A	2.8	Y	Absent	NYTCL-8260(14)
L1507036-16B	Vial HCl preserved	B	N/A	2.8	Y	Absent	NYTCL-8260(14)
L1507036-16C	Vial HCl preserved	B	N/A	2.8	Y	Absent	NYTCL-8260(14)
L1507036-16D	Plastic 250ml HNO3 preserved	B	<2	2.8	Y	Absent	CU-6020T(180)
L1507036-16E	Amber 1000ml unpreserved	B	7	2.8	Y	Absent	NYTCL-8270-SIM(7)
L1507036-16F	Amber 1000ml unpreserved	B	7	2.8	Y	Absent	NYTCL-8270-SIM(7)
L1507036-16G	Amber 1000ml HCl preserved	B	N/A	2.8	Y	Absent	OG-1664(28)
L1507036-16H	Amber 1000ml HCl preserved	B	N/A	2.8	Y	Absent	OG-1664(28)
L1507036-17A	Vial HCl preserved	B	N/A	2.8	Y	Absent	NYTCL-8260(14)

Container Comments

L1507036-17A

*Values in parentheses indicate holding time in days

Project Name:	HODGSON RUSS PHASE2 OSMOSE	**Lab Number:**	L1507036
Project Number:	1526282	**Report Date:**	04/20/15

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

Report Format: DU Report with 'J' Qualifiers

Project Name:	HODGSON RUSS PHASE2 OSMOSE	**Lab Number:**	L1507036
Project Number:	1526282	**Report Date:**	04/20/15

Data Qualifiers

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	HODGSON RUSS PHASE2 OSMOSE	**Lab Number:**	L1507036
Project Number:	1526282	**Report Date:**	04/20/15

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

74 Method 1664,Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

Last revised December 16, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.
EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.
EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.
EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page of

Date Rec'd in Lab: 4-9-15

ALPHA Job #: L1506036

Client Information

Client: Golder Associates
Address: 2430 N. Forest Rd Ste. 100 Getzville NY
Phone: 716-204-5880
Fax:
Email: ptmartin@golder.com

Project Information

Project Name: Hodgson Russ Phase II Osmose Site
Project Location: 980 Ellicott St., Buffalo, NY
Project #: 1526282
(Use Project name as Project #)
Project Manager: Patrick Martin
ALPHAQuote #: 2015582

Turn-Around Time

Standard: X 5 DAYS Due Date: 4-15-15
Rush (only if pre approved): # of Days:

Deliverables

- ASP-A
- ASP-B
- EQuIS (1 File)
- EQuIS (4 File)
- X Other: Level 2

Regulatory Requirement

- NY TOGS
- X NY Part 375
- AWQ Standards
- X NY CP-51
- NY Restricted Use
- Other
- NY Unrestricted Use
- NYC Sewer Discharge

Billing Information

- X Same as Client Info
- PO # 1526282

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
- NJ
- NY
- Other:

These samples have been previously analyzed by Alpha

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

TAL-Pest, TAL-Metals, TCL VOA, TCL SVOA, TCL PCB, TPH-DRO (Modified)

Sample Filtration
- Done
- Lab to do

Preservation
- Lab to do

(Please Specify below)

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL-Pest	TAL-Metals	TCL VOA	TCL SVOA	TCL PCB	TPH-DRO (Modified)	Sample Specific Comments
01036-01	B-1 (4-6)	4/8/15	8:45	S	JGT						X	
02	B-1 (11-15)		09:00								X	
03	B-2 (6-8)		0930								X	
04	B-2 (12-16)		1000								X	
05	B-3 (4-6)		1015								X	
06	B-3 (11-13)		1030								X	
07	B-4 (4-6)		1137								X	
08	B-4 (12-14)		1150								X	
09	B-5 (8-10)		1320								X	
10	B-5 (6-8)	X	1315	↓	↓	↓	↓	↓	↓	↓	X	

Container Type: See Attached
Preservative:

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
Rachel J. Mandle	4/8/15 1750		4/8/15 1750
	4/8/15 2008		4/8/15 2008
	4/9/15 2239	Jim Cooley	4/8/15 2239
Jim Cooley	4/9/15 0108		4-9-15 0108

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page of

Date Rec'd in Lab: 4-9-15

ALPHA Job #: L1526036

Client Information

Client: GOLDER ASSOCIATES
Address: 2430 N. FOREST RD. STE. 100, GETZVILLE, NY
Phone: 716-204-5880
Fax:
Email: ptmartin@golder.com

Project Information

Project Name: HODGSON RUSS PHASE II OSMOSE SITE
Project Location: 980 ELLICOTT ST, BUFFALO, NY
Project #: 1526252
(Use Project name as Project #)
Project Manager: PATRICK MARTIN
ALPHAQuote #:

Turn-Around Time

Standard [X] 5 DAYS Due Date: 4-15-15
Rush (only if pre approved) [ ] # of Days:

Deliverables

[ ] ASP-A [ ] ASP-B
[ ] EQuIS (1 File) [ ] EQuIS (4 File)
[X] Other LEVEL 2

Billing Information

[X] Same as Client Info
PO # 1526252

Regulatory Requirement

[ ] NY TOGS [X] NY Part 375
[ ] AWQ Standards [X] NY CP-51
[ ] NY Restricted Use [ ] Other
[ ] NY Unrestricted Use
[ ] NYC Sewer Discharge

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
[ ] NJ [ ] NY
[ ] Other:

These samples have been previously analyzed by Alpha [ ]

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
[ ] Done
[ ] Lab to do
Preservation
[ ] Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TPH-DRO	TPH-GRO	T. Solids	8270D	T.C.L.P	8270	8260	T-Metals	Total Bottle	Sample Specific Comments
07696-01	B6 (2-4)	4/8/15	1355	S	JGT	X									
-02	B6 (12.5-14)		1410		JGT	X									
-03	B7 (8-11)		1620		RDM	X	X	X	X	X					
-04	B8 (7.5-10)		15:30		RDM	X	X	X	X	X					
-05	B9 (7.5-10)		15:00		RDM	X	X	X	X	X					
-06	B8		1730	W	RDM						X	X	X		
							See Attached								

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	4/8/15 1730		4/8/15 1350
	4/8/15 2008		4/8/15 2008
	4/8/15 2239		4/8/15 2239
	4/9/15 0108		4-9-15 0108

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L1508202
Client:	Golder Associates Inc. 2430 North Forest Rd. Suite 100 Getzville, NY 14068
ATTN:	Patrick Martin
Phone:	(716) 204-5880
Project Name:	HODGSON RUSS PHASE2 OSMOSE
Project Number:	1526282
Report Date:	04/22/15

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282

Lab Number: L1508202
Report Date: 04/22/15

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1508202-01	B8	WATER	980 ELLICOTT ST., BUFFALO, NY	04/08/15 17:30	04/08/15

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1508202
Project Number: 1526282 **Report Date:** 04/22/15

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	HODGSON RUSS PHASE2 OSMOSE	**Lab Number:**	L1508202
Project Number:	1526282	**Report Date:**	04/22/15

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Dissolved Copper

The WG778123-4 MS recovery (69%), performed on L1508202-01, is below the acceptance criteria. A post digestion spike was performed and was within acceptance criteria.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 04/22/15

METALS

Project Name: HODGSON RUSS PHASE2 OSMOSE
Lab Number: L1508202
Project Number: 1526282
Report Date: 04/22/15

SAMPLE RESULTS

Lab ID: L1508202-01
Client ID: B8
Sample Location: 980 ELLICOTT ST., BUFFALO, NY
Matrix: Water

Date Collected: 04/08/15 17:30
Date Received: 04/08/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Westborough Lab											
Copper, Dissolved	0.01441		mg/l	0.00100	0.00026	1	04/22/15 12:35	04/22/15 13:51	EPA 3005A	1,6020A	KL

Project Name: HODGSON RUSS PHASE2 OSMOSE **Lab Number:** L1508202

Project Number: 1526282 **Report Date:** 04/22/15

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Westborough Lab for sample(s): 01 Batch: WG778123-1										
Copper, Dissolved	ND		mg/l	0.00100	0.00026	1	04/22/15 12:35	04/22/15 13:40	1,6020A	KL

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE

Project Number: 1526282

Lab Number: L1508202

Report Date: 04/22/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Dissolved Metals - Westborough Lab Associated sample(s): 01 Batch: WG778123-2								
Copper, Dissolved	86		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282

Lab Number: L1508202
Report Date: 04/22/15

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Dissolved Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG778123-4 QC Sample: L1508202-01 Client ID: B8												
Copper, Dissolved	0.01441	0.25	0.1877	**69**	Q	-	-		75-125	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282

Lab Number: L1508202
Report Date: 04/22/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Dissolved Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG778123-3 QC Sample: L1508202-01 Client ID: B8						
Copper, Dissolved	0.01441	0.01455	mg/l	1		20

Project Name: HODGSON RUSS PHASE2 OSMOSE
Project Number: 1526282

Lab Number: L1508202
Report Date: 04/22/15

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1508202-01A	Amber 1000ml unpreserved	B	7	2.8	Y	Absent	-
L1508202-01X	Plastic 120ml HNO3 preserved spl	B	<2	2.8	Y	Absent	CU-6020S(180)

*Values in parentheses indicate holding time in days

Project Name:	HODGSON RUSS PHASE2 OSMOSE	**Lab Number:**	L1508202
Project Number:	1526282	**Report Date:**	04/22/15

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

Report Format: DU Report with 'J' Qualifiers

Project Name:	HODGSON RUSS PHASE2 OSMOSE	**Lab Number:**	L1508202
Project Number:	1526282	**Report Date:**	04/22/15

Data Qualifiers

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	HODGSON RUSS PHASE2 OSMOSE	**Lab Number:**	L1508202
Project Number:	1526282	**Report Date:**	04/22/15

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

Last revised December 16, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.
EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.
EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.
EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

4/21/2015 L1508202

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL LABS

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page of

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: GOLDER ASSOCIATES
Address: 2430 N. FOREST RD. STE 100, GETZVILLE, NY
Phone: 716-204-5880
Fax:
Email: ptmartin@golder.com

Project Information

Project Name: HODGSON RUSS PHASE II OSMOSE SITE
Project Location: 980 ELLICOTT ST., BUFFALO, NY
Project # 1526282
(Use Project name as Project #) ☐
Project Manager: PATRICK MARTIN
ALPHAQuote #:

Turn-Around Time

Standard ☒ 5 DAYS Due Date: 04/22/2015
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☒ Other LEVEL 2

Regulatory Requirement

☐ NY TOGS ☒ NY Part 375
☐ AWQ Standards ☒ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☒ Same as Client Info
PO# 1526282

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Relog of L1507036-16 for Dissolved Cu + Prep S

Please specify Metals or TAL.

ANALYSIS

TPH-DRO | TPH-GRO | T. Solids | 8260 | T. Cu | 8270 | 8260 | T. Metals

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TPH-DRO	TPH-GRO	T. Solids	8260	T. Cu	8270	8260	T. Metals	Sample Specific Comments
	B6 (2-4)	4/8/15	1355	S	JGT	X								
	B6 (12.5-14)		1410		JGT	X								
	B7 (8-11)		1620		RDM	X	X	X	X	X				
	B8 (7.5-10)		15:30		RDM	X	X	X	X	X				
	B9 (7.5-10)		15:00	V	RDM	X	X	X	X	X				
08202-01	B8	V	1730	W	RDM						X	X	X	

SEE ATTACHED

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	4/8/15 1730		4/8/15 1730
	4/8/15 2008		4/8/15 2008
	4/8/15 2239		4/8/15 2239
	4/9/15 0108		4-9-15 0108

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L1507044
Client:	Golder Associates Inc. 2430 North Forest Rd. Suite 100 Getzville, NY 14068
ATTN:	Patrick Martin
Phone:	(716) 204-5880
Project Name:	HODGSON RUSS - OSMOSE SITE
Project Number:	1526282
Report Date:	04/16/15

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), ME (MA00030), PA (68-02089), VA (460194), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), USFWS (Permit #LE2069641), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282

Lab Number: L1507044
Report Date: 04/16/15

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1507044-01	BASEMENT WEST	AIR	BUFFALO, NY	04/08/15 08:50	04/09/15
L1507044-02	BASEMENT EAST	AIR	BUFFALO, NY	04/08/15 08:45	04/09/15

Project Name: HODGSON RUSS - OSMOSE SITE **Lab Number:** L1507044
Project Number: 1526282 **Report Date:** 04/16/15

Case Narrative

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Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: HODGSON RUSS - OSMOSE SITE **Lab Number:** L1507044
Project Number: 1526282 **Report Date:** 04/16/15

Case Narrative (continued)

Sample Receipt

The canister ID number for the sample designated BASEMENT EAST (L1507044-02) is listed on the chain of custody form as 614 but should be 576.

Volatile Organics in Air

Canisters were released from the laboratory on April 6, 2015. The canister certification results are provided as an addendum.

L1507044-02 results for Heptane should be considered estimated due to co-elution with a non-target peak.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cynthia McQueen

Title: Technical Director/Representative Date: 04/16/15

AIR

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282
Lab Number: L1507044
Report Date: 04/16/15

SAMPLE RESULTS

Lab ID: L1507044-01
Client ID: BASEMENT WEST
Sample Location: BUFFALO, NY
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 04/11/15 18:02
Analyst: RY

Date Collected: 04/08/15 08:50
Date Received: 04/09/15
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.524	0.200	--	2.59	0.989	--		1
Chloromethane	0.554	0.200	--	1.14	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	8.64	2.50	--	16.3	4.71	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	5.50	1.00	--	13.1	2.38	--		1
Trichlorofluoromethane	0.351	0.200	--	1.97	1.12	--		1
Isopropanol	0.602	0.500	--	1.48	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282
Lab Number: L1507044
Report Date: 04/16/15

SAMPLE RESULTS

Lab ID: L1507044-01
Client ID: BASEMENT WEST
Sample Location: BUFFALO, NY
Date Collected: 04/08/15 08:50
Date Received: 04/09/15
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
n-Hexane	ND	0.200	--	ND	0.705	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	1.28	0.200	--	4.82	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282
Lab Number: L1507044
Report Date: 04/16/15

SAMPLE RESULTS

Lab ID: L1507044-01
Client ID: BASEMENT WEST
Sample Location: BUFFALO, NY
Date Collected: 04/08/15 08:50
Date Received: 04/09/15
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	85		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	80		60-140

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282
Lab Number: L1507044
Report Date: 04/16/15

SAMPLE RESULTS

Lab ID: L1507044-01
Client ID: BASEMENT WEST
Sample Location: BUFFALO, NY
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/11/15 18:02
Analyst: RY

Date Collected: 04/08/15 08:50
Date Received: 04/09/15
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.099	0.020	--	0.623	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.035	0.020	--	0.237	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	91		60-140
bromochloromethane	90		60-140
chlorobenzene-d5	80		60-140

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282
Lab Number: L1507044
Report Date: 04/16/15

SAMPLE RESULTS

Lab ID: L1507044-02
Client ID: BASEMENT EAST
Sample Location: BUFFALO, NY
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 04/11/15 19:37
Analyst: RY

Date Collected: 04/08/15 08:45
Date Received: 04/09/15
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.532	0.200	--	2.63	0.989	--		1
Chloromethane	0.515	0.200	--	1.06	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	7.08	2.50	--	13.3	4.71	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	4.58	1.00	--	10.9	2.38	--		1
Trichlorofluoromethane	0.272	0.200	--	1.53	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.554	0.500	--	1.63	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282
Lab Number: L1507044
Report Date: 04/16/15

SAMPLE RESULTS

Lab ID: L1507044-02
Client ID: BASEMENT EAST
Sample Location: BUFFALO, NY
Date Collected: 04/08/15 08:45
Date Received: 04/09/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
n-Hexane	ND	0.200	--	ND	0.705	--		1
Benzene	0.200	0.200	--	0.639	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	0.231	0.200	--	0.947	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	5.82	0.200	--	21.9	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	0.578	0.400	--	2.51	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.237	0.200	--	1.03	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282
Lab Number: L1507044
Report Date: 04/16/15

SAMPLE RESULTS

Lab ID: L1507044-02
Client ID: BASEMENT EAST
Sample Location: BUFFALO, NY
Date Collected: 04/08/15 08:45
Date Received: 04/09/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	89		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	88		60-140

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282
Lab Number: L1507044
Report Date: 04/16/15

SAMPLE RESULTS

Lab ID: L1507044-02
Client ID: BASEMENT EAST
Sample Location: BUFFALO, NY
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/11/15 19:37
Analyst: RY

Date Collected: 04/08/15 08:45
Date Received: 04/09/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.106	0.020	--	0.667	0.126	--		1
Trichloroethene	0.026	0.020	--	0.140	0.107	--		1
Tetrachloroethene	0.074	0.020	--	0.502	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	96		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	89		60-140

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282
Lab Number: L1507044
Report Date: 04/16/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 04/11/15 17:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-02 Batch: WG775235-4								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	2.50	--	ND	4.71	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	0.200	--	ND	0.704	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282
Lab Number: L1507044
Report Date: 04/16/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 04/11/15 17:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-02 Batch: WG775235-4								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282
Lab Number: L1507044
Report Date: 04/16/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 04/11/15 17:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-02 Batch: WG775235-4								
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282
Lab Number: L1507044
Report Date: 04/16/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 04/11/15 17:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-02 Batch: WG775236-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS - OSMOSE SITE

Project Number: 1526282

Lab Number: L1507044

Report Date: 04/16/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-02 Batch: WG775235-3								
Chlorodifluoromethane	90		-		70-130	-		
Propylene	97		-		70-130	-		
Propane	82		-		70-130	-		
Dichlorodifluoromethane	103		-		70-130	-		
Chloromethane	94		-		70-130	-		
1,2-Dichloro-1,1,2,2-tetrafluoroethane	98		-		70-130	-		
Methanol	79		-		70-130	-		
Vinyl chloride	95		-		70-130	-		
1,3-Butadiene	98		-		70-130	-		
Butane	88		-		70-130	-		
Bromomethane	100		-		70-130	-		
Chloroethane	94		-		70-130	-		
Ethyl Alcohol	94		-		70-130	-		
Dichlorofluoromethane	90		-		70-130	-		
Vinyl bromide	91		-		70-130	-		
Acrolein	83		-		70-130	-		
Acetone	113		-		70-130	-		
Acetonitrile	89		-		70-130	-		
Trichlorofluoromethane	108		-		70-130	-		
iso-Propyl Alcohol	96		-		70-130	-		
Acrylonitrile	92		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS - OSMOSE SITE

Project Number: 1526282

Lab Number: L1507044

Report Date: 04/16/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-02 Batch: WG775235-3								
Pentane	90		-		70-130	-		
Ethyl ether	85		-		70-130	-		
1,1-Dichloroethene	101		-		70-130	-		
tert-Butyl Alcohol	89		-		70-130	-		
Methylene chloride	99		-		70-130	-		
3-Chloropropene	101		-		70-130	-		
Carbon disulfide	86		-		70-130	-		
1,1,2-Trichloro-1,2,2-Trifluoroethane	97		-		70-130	-		
trans-1,2-Dichloroethene	90		-		70-130	-		
1,1-Dichloroethane	97		-		70-130	-		
Methyl tert butyl ether	94		-		70-130	-		
Vinyl acetate	110		-		70-130	-		
2-Butanone	99		-		70-130	-		
cis-1,2-Dichloroethene	108		-		70-130	-		
Ethyl Acetate	94		-		70-130	-		
Chloroform	104		-		70-130	-		
Tetrahydrofuran	85		-		70-130	-		
2,2-Dichloropropane	93		-		70-130	-		
1,2-Dichloroethane	116		-		70-130	-		
n-Hexane	93		-		70-130	-		
Isopropyl Ether	84		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS - OSMOSE SITE

Project Number: 1526282

Lab Number: L1507044

Report Date: 04/16/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-02 Batch: WG775235-3								
Ethyl-Tert-Butyl-Ether	88		-		70-130	-		
1,1,1-Trichloroethane	116		-		70-130	-		
1,1-Dichloropropene	90		-		70-130	-		
Benzene	93		-		70-130	-		
Carbon tetrachloride	122		-		70-130	-		
Cyclohexane	94		-		70-130	-		
Tertiary-Amyl Methyl Ether	86		-		70-130	-		
Dibromomethane	95		-		70-130	-		
1,2-Dichloropropane	99		-		70-130	-		
Bromodichloromethane	107		-		70-130	-		
1,4-Dioxane	95		-		70-130	-		
Trichloroethene	93		-		70-130	-		
2,2,4-Trimethylpentane	98		-		70-130	-		
Methyl Methacrylate	91		-		70-130	-		
Heptane	94		-		70-130	-		
cis-1,3-Dichloropropene	103		-		70-130	-		
4-Methyl-2-pentanone	103		-		70-130	-		
trans-1,3-Dichloropropene	91		-		70-130	-		
1,1,2-Trichloroethane	100		-		70-130	-		
Toluene	92		-		70-130	-		
1,3-Dichloropropane	88		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS - OSMOSE SITE

Project Number: 1526282

Lab Number: L1507044

Report Date: 04/16/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-02 Batch: WG775235-3								
2-Hexanone	99		-		70-130	-		
Dibromochloromethane	99		-		70-130	-		
1,2-Dibromoethane	94		-		70-130	-		
Butyl Acetate	86		-		70-130	-		
Octane	80		-		70-130	-		
Tetrachloroethene	89		-		70-130	-		
1,1,1,2-Tetrachloroethane	88		-		70-130	-		
Chlorobenzene	94		-		70-130	-		
Ethylbenzene	99		-		70-130	-		
p/m-Xylene	100		-		70-130	-		
Bromoform	103		-		70-130	-		
Styrene	100		-		70-130	-		
1,1,2,2-Tetrachloroethane	107		-		70-130	-		
o-Xylene	105		-		70-130	-		
1,2,3-Trichloropropane	98		-		70-130	-		
Nonane (C9)	100		-		70-130	-		
Isopropylbenzene	100		-		70-130	-		
Bromobenzene	99		-		70-130	-		
o-Chlorotoluene	95		-		70-130	-		
n-Propylbenzene	95		-		70-130	-		
p-Chlorotoluene	99		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS - OSMOSE SITE

Project Number: 1526282

Lab Number: L1507044

Report Date: 04/16/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-02 Batch: WG775235-3								
4-Ethyltoluene	108		-		70-130	-		
1,3,5-Trimethylbenzene	110		-		70-130	-		
tert-Butylbenzene	101		-		70-130	-		
1,2,4-Trimethylbenzene	115		-		70-130	-		
Decane (C10)	111		-		70-130	-		
Benzyl chloride	124		-		70-130	-		
1,3-Dichlorobenzene	115		-		70-130	-		
1,4-Dichlorobenzene	115		-		70-130	-		
sec-Butylbenzene	106		-		70-130	-		
p-Isopropyltoluene	98		-		70-130	-		
1,2-Dichlorobenzene	115		-		70-130	-		
n-Butylbenzene	117		-		70-130	-		
1,2-Dibromo-3-chloropropane	118		-		70-130	-		
Undecane	118		-		70-130	-		
Dodecane (C12)	120		-		70-130	-		
1,2,4-Trichlorobenzene	120		-		70-130	-		
Naphthalene	119		-		70-130	-		
1,2,3-Trichlorobenzene	114		-		70-130	-		
Hexachlorobutadiene	116		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: HODGSON RUSS - OSMOSE SITE

Project Number: 1526282

Lab Number: L1507044

Report Date: 04/16/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-02 Batch: WG775236-3								
Vinyl chloride	107		-		70-130	-		25
1,1-Dichloroethene	100		-		70-130	-		25
cis-1,2-Dichloroethene	105		-		70-130	-		25
1,1,1-Trichloroethane	120		-		70-130	-		25
Carbon tetrachloride	128		-		70-130	-		25
Trichloroethene	99		-		70-130	-		25
Tetrachloroethene	95		-		70-130	-		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282

Lab Number: L1507044
Report Date: 04/16/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG775235-5 QC Sample: L1507044-01 Client ID: BASEMENT WEST						
Dichlorodifluoromethane	0.524	0.521	ppbV	1		25
Chloromethane	0.554	0.562	ppbV	1		25
Freon-114	ND	ND	ppbV	NC		25
1,3-Butadiene	ND	ND	ppbV	NC		25
Bromomethane	ND	ND	ppbV	NC		25
Chloroethane	ND	ND	ppbV	NC		25
Ethanol	8.64	8.28	ppbV	4		25
Vinyl bromide	ND	ND	ppbV	NC		25
Acetone	5.50	5.26	ppbV	4		25
Trichlorofluoromethane	0.351	0.329	ppbV	6		25
Isopropanol	0.602	0.596	ppbV	1		25
Tertiary butyl Alcohol	ND	ND	ppbV	NC		25
Methylene chloride	ND	ND	ppbV	NC		25
3-Chloropropene	ND	ND	ppbV	NC		25
Carbon disulfide	ND	ND	ppbV	NC		25
Freon-113	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
Methyl tert butyl ether	ND	ND	ppbV	NC		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282

Lab Number: L1507044
Report Date: 04/16/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG775235-5 QC Sample: L1507044-01 Client ID: BASEMENT WEST					
2-Butanone	ND	ND	ppbV	NC	25
Ethyl Acetate	ND	ND	ppbV	NC	25
Chloroform	ND	ND	ppbV	NC	25
Tetrahydrofuran	ND	ND	ppbV	NC	25
1,2-Dichloroethane	ND	ND	ppbV	NC	25
n-Hexane	ND	ND	ppbV	NC	25
Benzene	ND	ND	ppbV	NC	25
Cyclohexane	ND	ND	ppbV	NC	25
1,2-Dichloropropane	ND	ND	ppbV	NC	25
Bromodichloromethane	ND	ND	ppbV	NC	25
1,4-Dioxane	ND	ND	ppbV	NC	25
2,2,4-Trimethylpentane	ND	ND	ppbV	NC	25
Heptane	ND	ND	ppbV	NC	25
cis-1,3-Dichloropropene	ND	ND	ppbV	NC	25
4-Methyl-2-pentanone	ND	ND	ppbV	NC	25
trans-1,3-Dichloropropene	ND	ND	ppbV	NC	25
1,1,2-Trichloroethane	ND	ND	ppbV	NC	25
Toluene	1.28	1.17	ppbV	9	25
2-Hexanone	ND	ND	ppbV	NC	25

Lab Duplicate Analysis
Batch Quality Control

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282

Lab Number: L1507044
Report Date: 04/16/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG775235-5 QC Sample: L1507044-01 Client ID: BASEMENT WEST					
Dibromochloromethane	ND	ND	ppbV	NC	25
1,2-Dibromoethane	ND	ND	ppbV	NC	25
Chlorobenzene	ND	ND	ppbV	NC	25
Ethylbenzene	ND	ND	ppbV	NC	25
p/m-Xylene	ND	ND	ppbV	NC	25
Bromoform	ND	ND	ppbV	NC	25
Styrene	ND	ND	ppbV	NC	25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC	25
o-Xylene	ND	ND	ppbV	NC	25
4-Ethyltoluene	ND	ND	ppbV	NC	25
1,3,5-Trimethylbenzene	ND	ND	ppbV	NC	25
1,2,4-Trimethylbenzene	ND	ND	ppbV	NC	25
Benzyl chloride	ND	ND	ppbV	NC	25
1,3-Dichlorobenzene	ND	ND	ppbV	NC	25
1,4-Dichlorobenzene	ND	ND	ppbV	NC	25
1,2-Dichlorobenzene	ND	ND	ppbV	NC	25
1,2,4-Trichlorobenzene	ND	ND	ppbV	NC	25
Hexachlorobutadiene	ND	ND	ppbV	NC	25

Lab Duplicate Analysis
Batch Quality Control

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282

Lab Number: L1507044
Report Date: 04/16/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG775236-5 QC Sample: L1507044-01 Client ID: BASEMENT WEST					
Vinyl chloride	ND	ND	ppbV	NC	25
1,1-Dichloroethene	ND	ND	ppbV	NC	25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC	25
1,1,1-Trichloroethane	ND	ND	ppbV	NC	25
Carbon tetrachloride	0.099	0.092	ppbV	7	25
Trichloroethene	ND	ND	ppbV	NC	25
Tetrachloroethene	0.035	0.032	ppbV	9	25

Project Name: HODGSON RUSS - OSMOSE SITE

Lab Number: L1507044

Project Number: 1526282

Report Date: 04/16/15

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1507044-01	BASEMENT WEST	0114	#16 AMB	04/06/15	201785		-	-	-	Pass	3.0	2.7	11
L1507044-01	BASEMENT WEST	607	6.0L Can	04/06/15	201785	L1506324-01	Pass	-29.8	-10.0	-	-	-	-
L1507044-02	BASEMENT EAST	0551	#16 AMB	04/06/15	201785		-	-	-	Pass	3.0	2.9	3
L1507044-02	BASEMENT EAST	614	6.0L Can	04/06/15	201785	L1506324-02	Pass	-29.6	-13.0	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1506324
Report Date: 04/16/15

Air Canister Certification Results

Lab ID: L1506324-01
Client ID: CAN 607 SHELF 51
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/31/15 20:50
Analyst: MB

Date Collected: 03/31/15 10:00
Date Received: 03/31/15
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	2.50	--	ND	4.71	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1506324
Report Date: 04/16/15

Air Canister Certification Results

Lab ID: L1506324-01
Client ID: CAN 607 SHELF 51
Sample Location:
Date Collected: 03/31/15 10:00
Date Received: 03/31/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	0.200	--	ND	0.704	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1506324
Report Date: 04/16/15

Air Canister Certification Results

Lab ID: L1506324-01
Client ID: CAN 607 SHELF 51
Sample Location:
Date Collected: 03/31/15 10:00
Date Received: 03/31/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1506324
Report Date: 04/16/15

Air Canister Certification Results

Lab ID: L1506324-01
Client ID: CAN 607 SHELF 51
Sample Location:
Date Collected: 03/31/15 10:00
Date Received: 03/31/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	**Qualifier**	**Units**	**RDL**	**Dilution Factor**
Tentatively Identified Compounds					
No Tentatively Identified Compounds					

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1506324
Report Date: 04/16/15

Air Canister Certification Results

Lab ID: L1506324-01
Client ID: CAN 607 SHELF 51
Sample Location:
Date Collected: 03/31/15 10:00
Date Received: 03/31/15
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	87		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1506324
Report Date: 04/16/15

Air Canister Certification Results

Lab ID: L1506324-01
Client ID: CAN 607 SHELF 51
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/31/15 20:50
Analyst: MB

Date Collected: 03/31/15 10:00
Date Received: 03/31/15
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.020	--	ND	0.072	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1506324
Report Date: 04/16/15

Air Canister Certification Results

Lab ID: L1506324-01
Client ID: CAN 607 SHELF 51
Sample Location:
Date Collected: 03/31/15 10:00
Date Received: 03/31/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.020	--	ND	0.092	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1506324
Report Date: 04/16/15

Air Canister Certification Results

Lab ID: L1506324-01
Client ID: CAN 607 SHELF 51
Sample Location:
Date Collected: 03/31/15 10:00
Date Received: 03/31/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	90		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	89		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1506324
Report Date: 04/16/15

Air Canister Certification Results

Lab ID: L1506324-02
Client ID: CAN 2121 SHELF 52
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/31/15 20:18
Analyst: MB

Date Collected: 03/31/15 10:00
Date Received: 03/31/15
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	2.50	--	ND	4.71	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1506324
Report Date: 04/16/15

Air Canister Certification Results

Lab ID: L1506324-02
Client ID: CAN 2121 SHELF 52
Sample Location:
Date Collected: 03/31/15 10:00
Date Received: 03/31/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	0.200	--	ND	0.704	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1506324

Project Number: CANISTER QC BAT **Report Date:** 04/16/15

Air Canister Certification Results

Lab ID: L1506324-02 Date Collected: 03/31/15 10:00

Client ID: CAN 2121 SHELF 52 Date Received: 03/31/15

Sample Location: Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1506324
Report Date: 04/16/15

Air Canister Certification Results

Lab ID: L1506324-02
Client ID: CAN 2121 SHELF 52
Sample Location:
Date Collected: 03/31/15 10:00
Date Received: 03/31/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	**Qualifier**	**Units**	**RDL**	**Dilution Factor**
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1506324
Report Date: 04/16/15

Air Canister Certification Results

Lab ID: L1506324-02
Client ID: CAN 2121 SHELF 52
Sample Location:
Date Collected: 03/31/15 10:00
Date Received: 03/31/15
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	89		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1506324
Report Date: 04/16/15

Air Canister Certification Results

Lab ID: L1506324-02
Client ID: CAN 2121 SHELF 52
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/31/15 20:18
Analyst: MB

Date Collected: 03/31/15 10:00
Date Received: 03/31/15
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.020	--	ND	0.072	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1506324
Report Date: 04/16/15

Air Canister Certification Results

Lab ID: L1506324-02
Client ID: CAN 2121 SHELF 52
Sample Location:
Date Collected: 03/31/15 10:00
Date Received: 03/31/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.020	--	ND	0.092	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1506324
Report Date: 04/16/15

Air Canister Certification Results

Lab ID: L1506324-02
Client ID: CAN 2121 SHELF 52
Sample Location:
Date Collected: 03/31/15 10:00
Date Received: 03/31/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	90		60-140
bromochloromethane	88		60-140
chlorobenzene-d5	92		60-140

Project Name: HODGSON RUSS - OSMOSE SITE
Project Number: 1526282

Lab Number: L1507044
Report Date: 04/16/15

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information **Custody Seal**

Cooler

N/A Present/Intact

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1507044-01A	Canister - 2.7 Liter	N/A	NA		Y	Absent	TO15-LL(30),TO15-SIM(30)
L1507044-02A	Canister - 2.7 Liter	N/A	NA		Y	Absent	TO15-LL(30),TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	HODGSON RUSS - OSMOSE SITE	**Lab Number:**	L1507044
Project Number:	1526282	**Report Date:**	04/16/15

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

Report Format: Data Usability Report

Project Name:	HODGSON RUSS - OSMOSE SITE	**Lab Number:**	L1507044
Project Number:	1526282	**Report Date:**	04/16/15

Data Qualifiers

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

Last revised December 16, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.
EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.
EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.
EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4/9/15

ALPHA Job #: L1507044

Client Information

Client: GOLDER ASSOCIATES INC.
Address: 2430 N. FOREST RD STE 100
GETZVILLE, NY 14068
Phone: 716-204-5880
Fax:
Email: ptmartin@golder.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: HODGSON RUSS - OSMOSE SITE
Project Location: BUFFALO, NY
Project #: 1526282
Project Manager: PATRICK MARTIN
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 4/16/15 Time:

Report Information - Data Deliverables

☐ FAX
☐ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☐ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☒ Same as Client info PO #: 1526282

Regulatory Requirements/Report Limits

State/Fed	Program	Criteria

Other Project Specific Requirements/Comments:

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	ANALYSIS TO-14A by TO-15	TO-15	TO-15 SIM	APH	FIXED GASES	TO-13A	TO-4 / TO-10	Sample Comments (i.e. PID)
07014-01	BASEMENT WEST	4/8/15	0900	0850	-29.3	-9.4	AA	PTM		607	0114		X						
-02	BASEMENT EAST	4/8/15	0855	0845	-29.8	-12.9	AA	PTM		614	0551		X						

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

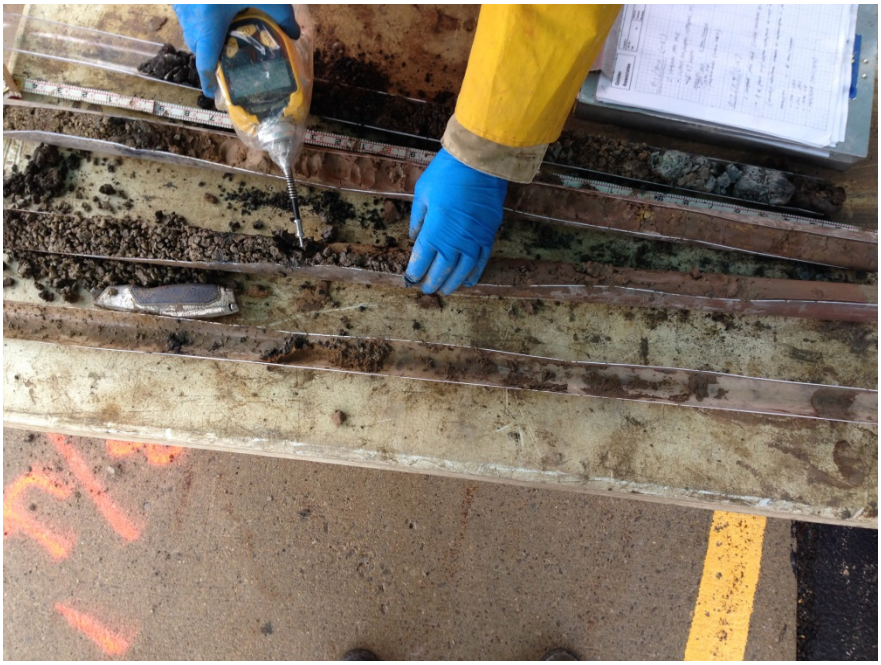
Relinquished By:	Date/Time	Received By:	Date/Time:
Patrick T. Martin	4/9/15 0916		4.9.15 0916
	4.9.15 1500		4.9.15 1500
	4.9.15 19:45		4/9/15 22:50
	4.9.15 22:50		4/10/15 01:20
	4.10.15 01:20		

4/10/15 04:00 rec'd Mansfield Lab 4/10/15 04:00

Form No: 101-02 (19-Jun-09)

APPENDIX C
FIELD INVESTIGATION ACTIVITIES PHOTO LOG

Project Title: Hodgson Russ-Osmose Realty Corp Site – Phase II ESA

PHOTO 1 Soil Boring location [B-1] (looking south)	
PHOTO 2 Soil Boring – PID screening	

Project Title: Hodgson Russ-Osmose Realty Corp Site – Phase II ESA	
PHOTO 3 Soil Boring location [B-3] (looking south)	
PHOTO 4 Soil Boring – sampling	

Project Title: Hodgson Russ-Osmose Realty Corp Site – Phase II ESA

PHOTO 5 Soil Bring location [B-4] (looking south)	
PHOTO 6 Soil Boring – soil classification	

Project Title: Hodgson Russ-Osmose Realty Corp Site – Phase II ESA	
PHOTO 7 Soil Bring location [B-5] (looking south)	
PHOTO 8 Soil Boring – concrete bore [B-5]	

Project Title: Hodgson Russ-Osmose Realty Corp Site – Phase II ESA	
PHOTO 9 Soil Boring location [B-6] (looking northeast)	
PHOTO 10 Soil Boring location [B-9] (looking north)