



# Atlanta Environmental Consultants

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December 7, 2015

Mr. David Reuland  
Unit Coordinator  
Response and Remediation Program  
Land Protection Branch  
Georgia Environmental Protection Division  
2 Martin Luther King, Jr. Drive, SE, Suite 1054 East  
Atlanta, GA 30334-9000

**CERTIFIED MAIL No. 7014 1200 0002 1898 2379  
RETURN RECEIPT REQUESTED**

**Re: Semi-Annual Status Report – October 2015  
Voluntary Remediation Program, including Voluntary Remediation Plan  
Roswell Cleaners, HSI Site No. 10883  
Roswell, Fulton County, Georgia  
Tax Parcel ID No. 12-1902-0412-061-6**

AEC Report REB-2407.09

Dear Mr. Reuland:

Atlanta Environmental Consultants (AEC), on behalf of Mr. Richard E. Bowen, Roswell Cleaners property, 1013 Alpharetta Street, Roswell, Fulton County, Georgia, is pleased to present our ninth Semi-Annual Status Report (SASR) and Updated Conceptual Site Model (CSM) for the above referenced facility. The Georgia Environmental Protection Division (Georgia EPD) accepted Richard E. Bowen into the Voluntary Remediation Program (VRP) by letter dated April 21, 2011. Progress of the VRP at the Roswell Cleaners property conducted during the time period between the previous SASR and this report is summarized herein. This submission is the fourth SASR since implementation of the recommended Monitored Natural Attenuation (MNA) program for the property containing Roswell Cleaners.

Georgia EPD correspondence dated June 4, 2015 was received and is addressed below. Other correspondence received included a Phase II Environmental Assessment for commercial property located at 66 Norcross Street dated August 5, 2015. This property adjoins the Subject Property on the south side. This report is addressed below, under Other Correspondence, following the Georgia EPD Correspondence.

## **GEORGIA EPD CORRESPONDENCE**

### **Sampling Methods:**

- 1. According to the EPA Science and Ecosystem Support Division's Standard Operating Procedure for groundwater sampling (document number: SESDPROC-301-R3), turbidity must either be stabilized or below 10 NTUs prior to sampling. Field records submitted with this report indicate that turbidity in wells MW-2, MW-3 and MW-4 was not sufficiently stable after purging. Furthermore, MW-4 is missing data points for specific conductivity and turbidity. These discrepancies should be avoided in future sampling events.**

Atlanta Environmental Consultants (AEC) endeavors to follow the EPA Science and Ecosystem Support Division's Standard Operating Procedure for groundwater sampling, in accordance with rules of the Georgia Environmental Protection Division (EPD). Nevertheless, equipment failures and inaccuracies for reasons beyond our control do occur from time to time. AEC has followed, and will continue to follow, best practices, as specified in SESDPROC-301-R3, in conducting groundwater sampling activities.

- 2. Well purging and sampling data forms should include purging and sampling methods, as well as pump or tubing placement in the water column. The groundwater purging and sampling event should be summarized in the report, and any deviation from the SESD document should be discussed. EPD strongly discourages the use of bailers for purging and sampling.**

AEC endeavors to follow the EPA Science and Ecosystem Support Division's Standard Operating Procedure for groundwater sampling. In some instances, complete failure of purging equipment necessitated use of a backup method, which included utilizing bailers only if necessary. AEC has made best efforts to procure the most suitable, well-maintained equipment in conducting this event in order to minimize the likelihood of equipment failure. During the current event, AEC utilized a QED bladder pump, and the entire sampling event was successfully completed, including purging and sampling of all monitoring wells onsite; however, the Horiba U-53 failed during purging of the last well sampled, MW-4.

### **Delineation:**

- 3. EPD does not agree that horizontal and vertical delineation for soil and groundwater has been completed at the site. Soil is not vertically delineated at boring B-7, due to detections of PCE and TCE above the applicable RRS values at depths of 10 and 15 feet. Additionally, vinyl chloride (VC) was detected in groundwater at MW-2 during the most recent sampling event. EPD may require the installation of an additional well to delineate at this location if VC and cis-DCE concentrations persist.**

A substantial number of soil borings installed during construction of monitoring wells and on other occasions all indicated that significant soil concentrations were almost entirely limited to clayey fill material no deeper than 15 feet deep. The original topsoil layer encountered at approximately 15 feet deep appears to be continuous under the site. Data from all soil borings extending below the original clayey topsoil layer (at 15 ft deep) shows a sharp drop in VOC concentrations, as indicated by photo-ionization detector (PID) data showing more than an order-of-magnitude decrease below 15 feet, as well as a sharp decrease in detectable VOC odors, if any. Native soils below the original topsoil layer are much lower in fines and did not exhibit significant PID readings or apparent concentrations below this depth. AEC will complete its evaluation of additional data needs in the near future, and will address this topic in more detail following completion of its review and evaluation.

At MW-2, concentrations of all EPA Method 8260 analytes had decreased to below detection levels, until an extremely wet year occurred in 2014, which is believed to have caused water tables to rise into normally unsaturated soils, most likely dissolving minor VOC concentrations that may be present above the water table up-gradient of the site, possibly far up-gradient. While the most recent groundwater sampling event indicated that groundwater concentration of VC has increased in MW-2, this is believed to be temporary, due to recent record-high water table elevation conditions at the site and in the site area, and data and observations detailed below. An additional sampling and analysis event will be conducted before AEC completes its evaluation.

During the current sampling event on August 7, 2015, an unusually high degree of water that may be from deeper in the aquifer was observed in MW-2. This water exhibited strong reducing conditions and an unusually high degree of turbidity, as well as anaerobic conditions. Water from deep in the formation typically exhibits low oxidation potential and/or reducing conditions in this area. Water in MW-2 and MW-6D also exhibited higher pH ranges than the other wells, also typical of deeper groundwater in this area. Water from MW-2 also exhibited the lowest oxygen concentration of any well onsite; by the time purging was completed, oxygen concentration was 2.57 mg/l. VC accumulation at detectable concentrations typically occurs only under anaerobic (e.g., very low oxygen concentration) conditions. Low pH approaching anaerobic conditions can also occur under large expanses of continuous impervious pavement or areas almost completely paved over, such as occurs under Alpharetta Highway and some nearby up-gradient commercial areas.

**4. The report discusses Type III Risk Reduction Standards (RRS) for soil and groundwater delineation criteria. According to section 12-8-108 (1) of the Georgia Voluntary Remediation Program Act default residential cleanup standards should be used since the concentrations at the site exceed residential standards. In this case, the values for Type I and Type III RRS are the same for all relevant constituents, so the values remain valid and are approved by EPD.**

We acknowledge your comments. Accordingly, we hereby re-designate our proposed Risk Reduction Standards for groundwater as Type I, residential cleanup standards.

**Figures and Charts:**

- 5. The PCE concentration at MW-4 on Figure 8 does not match the data provided for the March 14 sampling date, as labeled on the figure. The figure is incorrectly labeled and should be dated August 2014, which matches the 0.028 mg/L PCE detection.**

AEC acknowledges your comment. You are correct. AEC will endeavor to be more thorough in its reviews.

- 6. The time-trend chart for MW-2 lists the incorrect concentration for cis-DCE in August 2014. This data point should be 0.025 mg/L, not 0 mg/L. Additionally, the MW-3 time-trend chart contains an error for the VC concentration in 2008. This chart lists the concentration as 0.0036 mg/l, whereas Table 2 shows the value as ND (0.002). Please amend these errors in future reports.**

Thank you. AEC will correct the cis-DCE value for August 2014. All copies of reports we have in our files, including the reports sent to the Georgia EPD, shows vinyl chloride (VC) concentration in MW-2 for August 2008 as 0.003 mg/l, including the laboratory report, Table 2 and the time-trend chart for MW-2. (Table 2 shows 0.0030 mg/l, as indicated in the footnotes, simply for ease of comparisons of data values at differing concentration ranges from different dates and different wells, which vary in levels of concentrations and/or numbers of significant digits; the value shown as 3 ug/l (= 0.003 mg/l) on the original laboratory report shows the correct number of significant digits).

- 7. The axis values on the time-trend chart for MW-4 make it difficult to distinguish between the detected compounds. Please resize this figure or alter the y-axis scale to promote legibility in future reports.**

AEC acknowledges your comments. We will make appropriate efforts to improve clarity and readability. In general, the laboratory reports and tables should be referenced for precise data values. The time-trend charts are intended to provide quick, at-a-glance visual representations of general trend directions and significant changes in trend directions, if any; they were not designed to be capable of being read to several decimal places accuracy.

- 8. At various points in the report, the titles "MW-6" and "MW-6D" appear to be used interchangeably for the 70' deep well screened between 65-70'. In particular, Figures 7G, 7H, 7I and 8 all list the well northeast of MW-3 as "MW-6", whereas Table 2 lists MW-6" and "MW-6D" as separate wells. Please remain consistent with the well titles to prevent confusion.**

AEC acknowledges your observations. AEC will hereafter use only the designation MW-6D for the 70-foot deep well onsite. Please note that the well listed in Table 2 as MW-6 Lindsay 08 is not the same well as MW-6D. In 2008, we were requested by the EPD to investigate a minor detection of chlorinated hydrocarbons on an adjoining property south of

the Subject Property. All wells including "Lindsay" or "Lindsay 08" in the name are offsite, on the property to the south, and do not refer to the same well as MW-6D onsite. Once AEC no longer had access to the offsite wells, the old offsite well numbers were subsequently re-used for wells installed later onsite. Any references to the old offsite wells that include "Lindsay" in the well name should not be confused with wells currently located onsite, including MW-6D.

**General Comments:**

9. **Page 5 of the report states that "Compounds detected in MW-2 are from an offsite source or sources." Differences in contaminants of concern between MW-2, MW-3 and MW-4 are cited as justification for this claim. It appears equally likely that the detections in MW-2 are from the previous onsite release, since the facility operated as a dry cleaner as early as the mid-1960s. There have been no samples collected up-gradient of MW-2, and no evidence has been provided to support the assumption of an up-gradient source.**

AEC has been investigating this site for over 8 years. While it is true that the site has been a dry cleaners since the 1960s, migration of dissolved compounds from onsite, as well as offsite, follows physical laws including the source(s) of release(s) (e.g., specific locations at which the release(s) occurred), gravity from the ground surface to the water table, and groundwater flow direction for dissolved constituents. There simply are not any known, identified or suspected sources of chlorinated solvents onsite near or up-gradient of MW-2. All known, identified or suspected sources of chlorinated hydrocarbons onsite are identified in Figure 2. There are, however, a large number of historical sources of VOCs, including chlorinated hydrocarbons PCE and/or TCE hydraulically up-gradient of the site, most of them older than the onsite sources, as depicted in Figures 2 and 3. Note that oxidation-reduction potential (ORP) values in MW-2 are in the reducing range, unlike any other well onsite, strongly suggesting that groundwater in MW-2 may be from deeper in the formation (groundwater in this area generally exhibits oxidizing ranges for shallow wells, and reducing ranges or much lower oxidizing ranges for groundwater from deeper in the formation (see well purging and sampling data in the CSM attachments)). As this area is in a groundwater discharge zone, this suggests a potential source from farther away, up-gradient, possibly far up-gradient. Historical potential up-gradient sources shown in Figures 2 and 3 were personally known to Mr. Bowen and/or were obtained from Environmental Data Resources (EDR) Radius Reports and/or obtained from historical city directories in the collection maintained by the Atlanta Public Library.

During the current sampling event on August 7, 2015, an unusually high degree of water that appears to be from deep in the formation was observed in MW-2. This water exhibited reducing conditions and an unusually high degree of turbidity. Water from deep in the formation typically exhibits low oxidation potential to reducing conditions. Water in MW-2 and MW-6D also exhibited higher pH ranges than the other wells, also typical of deeper groundwater in this area. Deep water also has very low oxygen concentrations.

The site is in a discharge area not far from the headwaters of a creek, located about 250 feet south across Norcross Street. In general, properties up-gradient (including former up-gradient source areas) in recharge areas exhibit downward seepage of stormwater (while dissolving any onsite contaminants present in soils) down to the water table. This stormwater (including any dissolved contaminants, plus newly formed breakdown products, such as vinyl chloride, typically formed under chemical conditions present at depth (e.g., reducing conditions) and remaining present at detectable concentrations under conditions present at depth (e.g., anaerobic conditions)) migrates down-gradient. In a discharge zone, such as at the property containing Roswell Cleaners, this groundwater (including any pre-existing and/or newly formed compounds) migrates upwards. Observations strongly suggest that groundwater at MW-2 contains groundwater that had been at greater depths (than the depth of MW-2) up-gradient of MW-2. Water from MW-2 also exhibited the lowest oxygen concentration of any well onsite; by the time purging was completed, oxygen concentration was 2.57 mg/l. VC accumulation at detectable concentrations typically occurs only under anaerobic (e.g., very low oxygen concentration) conditions.

**10. The sub-slab vapor samples detailed in the report are insufficient for vapor intrusion screening purposes, and to evaluate a soil release. Soil samples should be collected from beneath the building slab, particularly around the dry cleaning machine area and other areas where dry cleaning fluids were used or stored. Using this newly collected data, in conjunction with historic detections, please submit the results of the Johnson and Ettinger vapor intrusion screening model with your next report.**

Thank you for your comment. AEC disagrees with your evaluation of our investigative efforts. There is only one source or potential source inside the building, which is the dry cleaning machine. Sub-slab vapor sample SSVS-1 was collected on the down-gradient side of the dry cleaning machine, which has always been in exactly the same location in the building. Potential presence of chlorinated hydrocarbons in the dry cleaning machine area was investigated using a number of approaches. The sub-slab vapor sample was collected near and on the down-gradient side of the dry cleaning machine, underneath an intact concrete slab. The sampling tube was threaded into the just-drilled hole and immediately sealed using a bentonite slurry. The tubing, securely attached to a properly cleaned and evacuated vapor sampling canister, was allowed to remain in place for some time to allow sub-surface vapor concentrations to return to ambient sub-slab concentrations before sample collection began. The sample was then appropriately collected following the laboratory's directions, promptly shipped and promptly analyzed and reported.

PID readings taken over time in various weather and temperature conditions inside the building using a MiniRae 2000 or 3000 have never detected any significant readings at the ground surface except immediately following opening of the dry cleaning machine. No detectable PID readings have ever been observed at or near the floor anywhere else inside the building, except for a few seconds or one to two minutes maximum on the floor near the dry cleaning machine just after opening the dry cleaning machine. No detectable PID readings have ever been observed in the breathing zone anywhere inside the building.

Soil borings in the area indicated virtually no detectable or very minimal barely detectable vapor concentrations. A groundwater monitoring well, MW-5, was located hydraulically down-gradient of the dry cleaning machine, and this well has never had a single detection of any PCE or TCE related chlorinated hydrocarbons.

AEC has conducted numerous investigations using a variety of methods, and all investigations have consistently shown the presence of only one significant area of release of PCE onsite, in the area of MW-4 on the south side of the building, far away from the dry cleaning machine. If any significant release had occurred through the nearly foot-thick intact concrete floor in the area of the dry cleaning machine, surely groundwater sampling down-gradient, soil sampling nearby and/or sub-slab vapor sampling by the dry cleaning machine, PID sub-slab readings, or at least one or more of these sampling or screening methods would have detected more significant concentrations. The fact that no significant concentrations have been detected after completing a number of sampling and screening methods appears to constitute overwhelming evidence of no significant sub-slab releases in the general area of the dry cleaning machine.

The Johnson and Ettinger vapor intrusion screening model is typically most applicable to buildings constructed using relatively air-tight or very air-tight construction methods exhibiting moderate building air exchange rates, such as is the case for normally air-conditioned and typically continuously occupied properties, such as residential property or air-conditioned commercial properties. In such buildings, most or much of the air exchange takes place when windows or doors are occasionally opened. The building housing Roswell Cleaners was specifically designed as a dry cleaners, and is very well ventilated. There are openings in the wall between concrete blocks, and, consequently, complete building air exchange rates are on the order of seconds or minutes. In industrial or commercial non-residential settings where hazardous vapor-forming chemicals are being used as a part of routine operations, as they are at Roswell Cleaners, review of vapor intrusion is not generally a priority while these conditions remain in place e.g., a dry cleaning machine using PCE remains in regular use, unless conditions change, such as after closure (e.g., removal of the source, the dry cleaning machine).

**11. In the summary on page 4, in the section “Complete Horizontal Delineation Where Access is not Available,” it states that the farthest down-gradient well, MW-6, has not had detections in three consecutive sampling events. According to Table 2, this well has been sampled once.**

Thank you for your comment. The statement referenced, in fact, contains an error. The sentence referenced in your comment should read “The farthest down-gradient well, MW-3, has exhibited no detectable concentrations in three groundwater sampling events.” Please excuse our apparent error. The statement was intended to refer to shallow monitoring well MW-3, not deep monitoring well MW-6D. Please accept the statement as corrected. AEC will endeavor to be more thorough in its reviews.

**12. Please consider submitting a draft Uniform Environmental Covenant (UEC) for EPD review. The UEC should restrict site usage to non-residential purposes**

**and limit groundwater usage at the site. A model UEC may be found on the EPD website at the following website: <https://epd.georgia.gov/uniform-environmental-covenants>**

Thank you for your comment. The issue of a Uniform Environmental Covenant is currently under review by environmental counsel. We will respond to this comment when review of this issue by environmental counsel has been appropriately completed.

**13. Please resubmit discs with progress reports 5 and 6 along with the next monitoring report.**

Re-submittals of Progress Reports 5 and 6 on CDs are included with this submittal.

**14. EPD agrees with the conclusion that sampling and/or excavation should be conducted upon any decision to remove or significantly alter the building. However, EPD does not agree with your claim the “no groundwater modeling is warranted at this time, as delineation onsite has been effectively completed,” because of the errors outlined in comment 2, and because modeling is necessary for groundwater contaminant plumes to understand and predict their threat to downgradient receptors.**

AEC is currently evaluating available data and whether additional data for additional sampling, modeling and other needs is required. Upon completion of our evaluation, we will implement appropriate actions.

**OTHER CORRESPONDENCE**

A Phase II Environmental Assessment for commercial property located at 66 Norcross Street dated August 5, 2015 was recently received. This property adjoins the Subject Property on the south site. The Phase II Environmental Assessment was prepared by United Consulting. The contents of this report, which is attached to this report, can be summarized as follows:

- The sampling method used for collection of most groundwater samples on the 66 Norcross Street property, including the highest concentration samples (direct push), is substantially different than groundwater collection methods used on site, consisting of purging and sampling permanent type monitoring wells. Therefore, groundwater analytical results are not directly comparable. The highest groundwater concentrations detected on the 66 Norcross Street property were 6.5 ug/l tetrachloroethene (PCE), 5.5 ug/l trichloroethene (TCE), 43 ug/l cis-1,2 dichloroethene (cis-DCE) and 9.4 ug/l VC, all from EB-2, a direct push boring near the retaining wall between 66 Norcross Street and the Subject Property (e.g., the property on which Roswell Cleaners is located). PCE, TCE and VC exceed applicable Maximum Contaminant Levels (MCL). However, all groundwater concentrations detected were substantially lower than the highest concentrations detected on the Subject Property.

- Analysis of soil indicated that all volatile organic compound (VOC) concentrations detected were below both Georgia Notification Concentrations (NC) and Type I Risk Reduction Standards (RRS).

### **Previous and Scheduled Milestones and Submittals**

- The April 21, 2012 semiannual progress report shall demonstrate horizontal delineation on the qualifying property; this task has been completed for all detections *reasonably attributable to activities associated with Roswell Cleaners (e.g., dry cleaning)*, and
- The April 21, 2013 semiannual progress report shall demonstrate complete horizontal delineation; this task has been completed for all detections *reasonably attributable to activities associated with Roswell Cleaners*, and
- The October 21, 2013 semiannual progress report shall demonstrate complete horizontal and vertical delineation, finalize the remediation plan and provide a preliminary cost estimate for implementation of remediation and associated continuing actions. EPD recommends that the participant finalize approval of cleanup standards for all regulated substances prior to this submittal. The Voluntary Remediation Plan and preliminary cost estimate for implementation of remediation and associated continuing actions have been completed and submitted. Complete horizontal and vertical delineation has been completed for all detections *reasonably attributable to activities associated with Roswell Cleaners*.
- Semi-Annual sampling as proposed in our Voluntary Remediation Plan pursuant to our recommended Monitored Natural Attenuation (MNA) program will be conducted, and a SASR and updated CSM will be submitted every 6 months. This report is the fourth SASR submittal since implementation of the recommended MNA program. Semi-annual sampling is continuing on a regular schedule.
- By April 21, 2016, a Compliance Status Report (CSR) must be submitted, including certifications.

Note that all milestones were achieved as stated above. Although subsequent data, collected during the current sampling event, detected changed conditions, a long data record and no new releases suggests that this is more than likely a temporary anomaly, rather than a long-term trend. The data will be reviewed, re-evaluated, potential cause(s) will be identified, solutions will be proposed, and further investigated as appropriate. Then, appropriate corrective action(s) will be proposed and implemented.

### **Complete Horizontal Delineation Where Access is Available.**

Horizontal and vertical delineation where access is available has been successfully completed for all detections *reasonably attributable to activities associated with Roswell Cleaners* as of the Additional Assessment activities conducted in October 2013. The deep well, MW-6D, down-gradient of the source well, has never had a single detection of PCE or PCE-related compounds in groundwater, and, therefore, has demonstrated vertical delineation. The down-gradient well, MW-3, has indicated no detectable concentrations in four successive groundwater sampling events, then had one minor detection of cis-DCE not exceeding applicable standards, which has demonstrated horizontal delineation in the

down-gradient direction. MW-5 and MW-2 have previously demonstrated horizontal delineation in the side-gradient directions. All assessment activities and sampling events have confirmed that the only significant source area onsite appears to be in the general area of MW-4, as originally identified at the inception of this investigation. All of the requested delineations have been successfully completed until a very wet year in 2014 appeared to have likely dislodged some concentrations in soils normally above the water table onsite or offsite, possibly from far up-gradient. Soil concentrations, as stated above, are not recommended to be addressed as long as the present building remains onsite. AEC intends to verify our professional opinion that recent groundwater analytical results are a temporary anomaly due to a historically high water table before proceeding further.

All monitoring wells onsite, including the deep well and the existing wells, have now been sampled several times following completion of additional delineation in October 2013, in order to acquire a number of data sets across the site consisting of samples collected on a regular schedule twice a year. Also, in conjunction with this event, depths to groundwater in all wells onsite were gauged, current water table elevations were calculated, and field data was summarized. Details are presented in the attached updated Conceptual Site Model.

The deep well, MW-6D, exhibited a detection of chloroform at 0.027 mg/l. Chloroform is not associated with dry cleaning activities. Chloroform is associated with public water supplies; chloroform is typically formed in small amounts when chlorine is added to water, as in public drinking water supplies (ATSDR 1997). Chloroform has also been used to make HCFC-22, a refrigerant, used in pulp and paper mills, and other industrial processes and at waste disposal sites (USEPA 2000). Chloroform can also be generated during use of chlorine bleach, and can be found in the atmosphere. Chloroform can also form naturally in soils (Howard 1990). The source area for groundwater in the vicinity of Roswell Cleaners extends approximately one mile or more toward the northwest. Numerous businesses and residences are located in the source area. Treated public water supplies enter the subsurface from home and business lawn and landscaping irrigation, car washing, building exterior and driveway washing, piping leaks and other household and business uses.

Note that this milestone was achieved as stated above. Although subsequent data detected changed conditions, a long data record suggests that this is more than likely a temporary anomaly, rather than a long-term trend. The data will be reviewed, re-evaluated, potential cause(s) will be identified, solutions will be proposed, and investigated as appropriate. Then, appropriate corrective action(s) will be proposed and implemented.

#### **Complete Horizontal Delineation Where Access is not Available.**

Field data, laboratory data and evaluation of information gathered to date demonstrates that horizontal and vertical delineation of PCE and associated compounds reasonably attributable to activities associated with Roswell Cleaners has previously been delineated onsite. The farthest down-gradient wells, MW-3 and MW-6D, have exhibited no detectable concentrations (except for compounds in MW-6D, usually chloroform,

unrelated to PCE and cis-DCE in MW-3, detected at below applicable standards) in four consecutive groundwater sampling events, demonstrating completion of delineation where access is available, as well as, in effect, demonstrating completion of delineation where access is not available. As stated above, it is AEC's professional opinion that a historically high water table resulted in an anomalous increase in concentrations; decreasing concentrations are expected to resume when water table elevations decrease and remain in more typical elevation ranges. The most recent groundwater sampling event also demonstrated a high concentration of groundwater at MW-2 that appears to be from much deeper in the aquifer than the depth of the well. At deeper depths, anaerobic conditions may allow detectable VC concentrations to persist.

Please note that this milestone was achieved as stated above. Although subsequent data detected changed conditions, a long-term data record suggests that this is more than likely a temporary anomaly, rather than a long-term trend. The data will be reviewed, re-evaluated, potential cause(s) will be identified, solutions will be proposed, and investigated as appropriate. Then, appropriate corrective action(s) will be proposed and implemented.

Low concentrations of VOCs were recently detected offsite on the 66 Norcross Street property; the sampling method used for collection of most groundwater samples on the 66 Norcross Street property is substantially different than groundwater collection methods used on site, purging and sampling permanent monitoring wells. Therefore, groundwater analytical results are not directly comparable. It should be noted that all groundwater detections on the 66 Norcross Street property were substantially lower than the highest concentrations detected on the Subject Property. This suggests substantial decreases in concentrations over distance, as expected, implying that any minor offsite migration has, in effect, been essentially delineated or would be delineated within a limited distance.

### **Updated Conceptual Site Model**

An updated Conceptual Site Model report has been prepared following completion of horizontal and vertical delineation where access is available (pending completion of our evaluation), completion of delineation where access is not available, and the most current semi-annual monitoring event on August 7, 2015. Tables listing historical and current groundwater data and elevations, and historical and current groundwater dissolved concentrations were prepared and are included. Existing figures were updated and/or new figures were drafted, as appropriate, showing locations of the monitoring wells, water table elevations, and dissolved concentrations. Water table elevation equipotential contours were developed and presented on appropriate figures in the CSM. Dissolved concentrations data is presented in the CSM.

### **REFERENCES**

Agency for Toxic Substances and Disease Registry (ATSDR). 1997, Public Health Statement for Chloroform. September 1997. Accessed on September 17, 2014.  
<http://www.atsdr.cdc.gov/phs/phs.asp?id=51&tid=16>

United States Environmental Protection Agency (USEPA). 2000. Technology Transfer Network – Air Toxics Website. Chloroform. 67-66-3. Hazard Summary created in April 1992, revised in January 2000. <http://www.epa.gov/airtoxics/hlthef/chlorofe.html>

Howard, P. H. 1990. Handbook of Environmental Fate and Exposure Data for Organic Chemicals. Volume II. Solvents. Lewis Publishers, Chelsea, Michigan.

Please do not hesitate to contact us should you have any questions.

Thank you

Sincerely,

ATLANTA ENVIRONMENTAL CONSULTANTS



Peter T. Kallay, P.E.  
Manager, Environmental Services

12/07/15

Attachments:

- Updated Milestone Schedule
- Time Report
- Updated Conceptual Site Model Report

pc: Jonathan Callura, Georgia EPD  
Richard E. Bowen  
Richard A. Wingate, Esq., Hallman & Wingate LLC



## PROJECTED MILESTONE SCHEDULE

**Roswell Cleaners  
1013 Alpharetta Street  
Roswell, Fulton County, Georgia 30075  
HSI #10883**

December 4, 2015

The following presents the projected Milestone Schedule for implementation of the Voluntary Remediation Program (VRP) at property containing Roswell Cleaners (formerly Roswell Cleaners & Coin Laundry), 1013 Alpharetta Street, Roswell, Fulton County, Georgia. HSI #10883. Field data and information received was reviewed for potential revisions to the Milestone Schedule. The Milestone Schedule has been updated. Tasks completed are identified below.

<u>Plan, Report or Action</u>	<u>Date to be Submitted</u>
Submit Preliminary Conceptual Site Model	at time of VRP Application ✓
Complete Horizontal Delineation where Access is Available	12 months after enrollment ✓
Complete Horizontal Delineation where Access is not Available	24 months ✓
Complete Vertical Delineation	30 months ✓
Final Voluntary Remediation Plan	30 months ✓
Preliminary Cost Estimate for Implementation of Remediation and Associated Actions	30 months ✓
Implement Voluntary Remediation Plan: Monitored Natural Attenuation with Semi-Annual Sampling	Every 6 months ✓ ✓ ✓ ✓ ✓ **
Submit Compliance Status Report Including Required Certifications	60 months
Semi-Annual Status Reports with Updated Conceptual Site Model	Every 6 months ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ **

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✓ Tasks completed to date

\*\* Included in the current submittal

AEC Proj. No. REB-2407/REB-2414  
Client Richard Bowen  
Client/File No. HSI Site No. 10883

**Atlanta Environmental Consultants**  
**TIME REPORT**

REB-2407/REB-2414

Richard Bowen

HSI Site No. 10883

**Site Loc** 1013 Alpharetta St. **Boswell GA**

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Signature

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Date December 1, 2015

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ACTIVITY DESCRIPTION

DATE	HOURS	ACTIVITY DESCRIPTION
8/4	1.25	Receive signed proposal. Planning, preparation and scheduling for the next semi-annual MVA sampling event. <b>Make project file.</b>
8/5	1.25	Consult with Mr. Bowen. Set sampling date. Order sample bottles and field equipment. Discuss details with Mr. Bowen.
8/6	2.25	Prepare for sampling event. Pick up sample kit. Rent field equipment. Assemble supplies, equipment; load in truck.
8/7	5.75	Field day. Open wells, set up field equipment, sample jars, decon station and supplies; pump monitor wells using low flow pump; measure water; collect, record field parameter data. Take samples to lab; return eqpt to Atl. Inst. Rental.
8/13	3.25	Start drafting Semi-Annual status Report (SASR) and updated Conceptual Site Model (CSM), including response to GAEPD letter.
8/29		Continue working on First Draft SASR and Updated CSM. Review drafts and revise.
9/4	1.25	Receive lab report. Review and enter data on groundwater analytical data table. Start drafting tables and figures.
9/8	1.50	Work on figures and tables. Continue drafting, reviewing and revising SASR and updated Conceptual Site model.
9/16	0.75	Arrange and organize project files and materials. Continue drafting, reviewing and revising SASR and CSM.
9/28	2.50	Evaluate data in depth, including trends and causes. Address in report. Review and revise.
10/6	2.00	Continue drafting, reviewing and editing text, figures, tables and attachments. Consult with Mr. Bowen.
10/15	1.00	Draft date extension letter: delay due to Mr. Kallay's illness. Request reviews of drafts completed to date.
10/30	2.25	Consult with Richard Wingate, Terri and Bonnie: Draft reports and report conclusions.
11/9	1.00	Continue reviewing, revising and finalizing draft reports, figures, tables and attachments. Talk to Terri: Figures.
11/10	1.25	Prepare draft final reports, figures and tables. Email and telephone correspondence with reviewers.
11/13	1.00	Receive Phase II ESA Report for 66 Norcross Street: need to incorporate into the SASR and CSM reports. Discuss.
11/14	0.50	Draft new date extension letter: delay due to incorporating Phase II ESA report just received into SASR and CSM
11/16	1.00	Start incorporating the new Phase II ESA report just received into the Draft SASR and CSM reports.
11/17	1.25	Continue incorporating the new Phase II ESA report into the Draft SASR and CSM
11/18	2.25	Continue incorporating the new Phase II ESA report into the Draft SASR and CSM Finalize Drafts.
		Send Draft reports to Richard Bowen, Richard Wingate, Terri and Bonnie to review
12/1	2.25	Receive all Draft report reviews. Discuss with reviewers. Start incorporating into the reports
12/3	1.50	Continue incorporating Draft review ciomments into the reports
12/4	1.75	Start finalizing the SASR and CSM. Format report elements and start publishing the reports.

# **CONCEPTUAL SITE MODEL**

**ROSWELL CLEANERS  
1013 Alpharetta Street  
Roswell, Fulton County, Georgia 30075  
HSI #10883**

**Prepared For:**

**Mr. Richard E. Bowen  
811 Serramonte Drive  
Marietta, Georgia 30068**

**DECEMBER 2015**

**AEC Project Number REB-2414**



Peter T. Kallay, P.E.

12/07/15



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Fax (678) 569-2419**

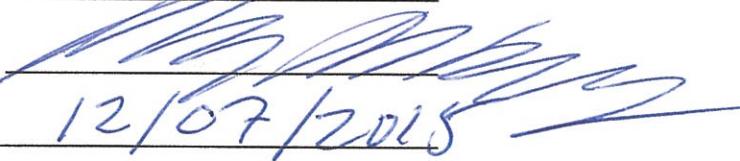
### Registered Professional Engineer Certification

I certify under penalty of law that this report and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et. seq.). I am a professional engineer/professional who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances.

Furthermore, to document my direct oversight of the Voluntary and Investigation Remediation Plan development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division.

The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name Peter T. Kallay, P.E.

Signature 

Date 12/07/2015



Georgia Stamp or Seal

## **Site Description**

The site, a commercial property in the City of Roswell, Fulton County Tax Parcel # 12-1902-0412-061-6, contains one single story commercial building that has historically contained a dry cleaners and a coin laundry. The building is a concrete block slab-on-grade building constructed in 1966, based on available records of the Fulton County Tax Assessor. The building is very well ventilated and was specifically constructed for dry cleaning; it currently houses Roswell Cleaners. The part of the building that had formerly contained a coin laundry is vacant at this time and/or is used for storage. Available records indicate the building has been used principally as a dry cleaner during all or most of its life history. Dry cleaners have operated at this location under the following names: Roswell Sunshine Center, Sunshine Center, Sunshine Cleaners, Roswell Sunshine Cleaners, Roswell Cleaners & Coin Laundry, and Roswell Cleaners. Atlanta Environmental Consultants (AEC) was requested to conduct environmental assessment activities at this site. Figure 1 shows the site location. Figure 2 shows a site plan and possible sources of contamination that have been identified onsite and up-gradient of the site.

## **Site Surface and Subsurface Setting**

The site is developed on fill material consisting of mostly clayey soil fill from the ground surface down to approximately 10 feet below ground surface at the front of the site, gradually sloping down to approximately 15 feet deep at the rear of the property. The fill material overlies the original soil horizon. The site, including all areas with soil concentrations of volatile organic compounds (VOC), is capped with concrete or asphalt pavement in good condition, so no contact with these soils by the public will occur. Concentrations in soils are centered in the source area behind the building, on the property on which Roswell Cleaners is located. A layer of topsoil appears to be present at the depth of the original native soil surface; fill material appears to have been placed over the original topsoil layer, generally without disturbing or removing the topsoil layer. Concentrations of chlorinated hydrocarbons associated with dry cleaning activities in soils have been generally decreasing, and are expected to continue to decrease over time, as no new releases have occurred and natural attenuation mechanisms will likely reduce tetrachloroethene (PCE) and associated breakdown compounds concentrations over time.

No water wells or other groundwater use within a mile of the site is known or suspected, as confirmed by a water well and water resources survey conducted in conjunction with the Hazardous Site Response Act (HSRA) Notification submitted for this site, including drinking water and irrigation wells.

## **Environmental Assessment and Graphical 3-Dimensional Conceptual Site Model**

Several phases of environmental assessment have been conducted onsite. These investigations have indicated the presence of PCE and its biodegradation products in soils and groundwater. The samples referenced in this report were collected on August 25-27, 2008; April 16-18, 2012; March 14-16, 2013; October 11-19, 2013; March 6, 2014, August 27, 2014; March 6, 2015 and August 7, 2015. Soil and groundwater samples were analyzed by Advanced Chemistry Labs, Inc., Atlanta, Georgia, a qualified analytical laboratory.

A sub-slab soil vapor sample was collected under the concrete floor slab, 5 feet down-gradient of the dry cleaning machine, on March 16, 2013. Sub-slab soil vapor sample analysis detected PCE in vapor phase at 39 parts per billion by volume (ppbv) or 450 micrograms per cubic meter (ug/m<sup>3</sup>) and trichloroethene (TCE) at 4.9 ppbv or 26 ug/m<sup>3</sup>.

Constituent concentrations were also identified in groundwater. The highest current groundwater concentrations from samples collected on August 7, 2015 were identified as 0.260 milligrams per liter (mg/l) PCE, 0.150 mg/l TCE and 0.140 mg/l cis-DCE, all in MW-4. Cis-DCE at 0.031 mg/l and vinyl chloride (VC) at 0.020 mg/l were detected in MW-2. Chloroform at 0.027 mg/l was identified in MW-6D. No detectable concentrations of PCE, TCE or any other compound were detected in monitoring wells MW-1 or MW-5. MW-3 had a detection of 0.010 mg/l cis-DCE, below applicable standards. Concentrations have been on a generally decreasing trend onsite since 2008. While concentrations increased in MW-4, believed to be because of record high water table elevations over one year ago, concentrations are still far below concentrations identified at the inception of this investigation. It is believed that the water table elevation rose at times to new highs during approximately the past year to 18 months, resulting in some additional dissolution of PCE and PCE-related products (e.g., TCE) from soils not normally in contact with groundwater, onsite, offsite, and possibly far up-gradient offsite, into groundwater.

Potentiometric maps showing groundwater flow direction are presented as Figures 7A through 7K. The attached figures, included as part of this Conceptual Site Model (CSM), show a graphical three-dimensional representation of soil and groundwater concentrations, sources and potential sources of contamination, general contaminant migration direction, receptors and pathways (Figures 4 through 10).

### **Vapor Intrusion Pathway**

The Vapor Intrusion Pathway was investigated using sub-slab vapor sampling inside the building 5 feet down-gradient of the dry cleaning machine. The sample was collected on March 16, 2013. Analysis of the vapor sample indicated the presence of PCE at 39 parts per billion by volume (ppbv) or 270 micrograms per cubic meter (ug/m<sup>3</sup>). TCE was identified at 4.9 ppbv or 26 ug/m<sup>3</sup>. TVOC was 340 ppbv or 1000 ug/m<sup>3</sup> for TO-15 target compounds. Other compounds, including acetone, ethanol and isopropyl alcohol were also identified. TVOC is approximately on the order of 1 mg/m<sup>3</sup>, or 1 ppm by weight. This approximately correlates with the 1.7 ppm reading on a photo-ionization detector in the same sub-slab zone as the analytical sample. An exact comparison is not possible because the 1000 ug/m<sup>3</sup> value does not include tentatively identified compounds (TICs), and there were likely other VOCs present below the detection limit. This data was previously tabulated, and is not re-presented in this report.

It was concluded that the principal source of PCE and associated compounds at this site is not from the dry cleaning machine area. Rather, the only significant source area onsite that continues to be confirmed after many years of assessment activities is in the rear of the facility, in the area of MW-4 and soil boring B-7, where drums of new and spent PCE product were typically loaded and unloaded, and perhaps formerly stored. Sweepings, mop water, temporary storage of used filters and vapor phase migration along the floor and out of the building may also have contributed to soil concentrations in this area. Spent filters may have been carried out of the building and stored, and other associated PCE receiving, handling and storage activities, have

likely occurred over the years in this general area at the rear of the building in the vicinity of MW-4 and B-7.

The vapor intrusion pathway is incomplete because the low concentrations of PCE and other VOCs beneath a nearly foot-thick intact concrete floor do not allow any significant vapor concentrations under the slab to enter occupied spaces inside the building. *De minimis* concentrations of PCE and/or PCE breakdown products that could potentially occur at or near the floor will quickly dissipate, as the building was constructed for dry cleaning and is very well ventilated. Inasmuch as the building is used as an industrial/commercial dry cleaners, where potentially hazardous vapor-forming chemicals are being used as a part of routine operations, review of vapor intrusion is not generally a priority while these conditions remain in place e.g., a dry cleaning machine using PCE remains in regular use, unless conditions change, such as after closure (e.g., removal of the source – the dry cleaning machine).

### **Investigation of the Dry Cleaning Machine Area**

Investigation of the dry cleaning machine area was conducted using several approaches. A soil boring, completed as monitoring well MW-5, was installed hydraulically downgradient of the dry cleaning machine in April 2012. There were no detectable concentrations of any compounds in either soil or groundwater. No detectable concentrations of any VOCs in groundwater have ever been identified in MW-5 following analysis of a number of groundwater samples subsequently collected from this well, except for a minor concentration of chloroform at 0.0045 mg/l in the current sampling event. Chloroform is not associated with dry cleaning, but is associated with public water supplies, various industries and other sources, as discussed in the *Additional Investigations* section of this report, below. Since this site is located in a groundwater discharge area, some up-welling of deep zone groundwater occurs in this area. A soil boring, B-9, was installed just in front of the building at the nearest point to the dry cleaning machine. This boring indicated 0.005 mg/kg PCE and 0.052 mg/kg TCE at the 2-foot depth, 0.008 mg/kg PCE at the 10-foot depth, and 0.005 mg/kg PCE at the 15-foot depth interval. No DCE or VC was detected. The 2-foot depth interval also indicated minor concentrations of benzene, ethylbenzene and xylenes, most likely from minor fuel drips or exhaust vapors from vehicle traffic and parking by dry cleaners customers. The 15-foot deep sample indicated minor concentrations of acetone and carbon disulfide. Minor concentrations of TCE in shallow soils is likely from minor vapor releases when the dry cleaning machine is opened. These minor vapor releases, which typically occur for a few seconds or a minute or two when the door of the dry cleaning machine is opened, may have resulted in low concentrations in shallow soils, at or near the detection limit for PCE. PCE and breakdown products at depth may also originate from the former NAPA Auto Parts store and machine shop and/or any of a number of other former businesses that have or may have formerly used PCE and/or TCE as solvents, that were formerly located hydraulically up-gradient of the site.

Sub-slab vapor sampling was also conducted near the dry cleaning machine, as described above. The sub-slab vapor sample indicated low concentrations of PCE and TCE, well under 1 ppm, in vapor phase, by both volume and weight. If PCE is released to soils, it will evaporate fairly rapidly due to its high vapor pressure and low adsorption to soil (Howard 1990). Thus, the bulk of the very low PCE concentration under the slab is expected to normally be present in the vapor phase; therefore, vapor phase sampling and analysis is a good measure of total PCE concentration in the sub-slab environment. The low concentrations detected in the vapor phase in

the sub-slab soil sample suggest soil concentrations would be even lower, well below the Risk Reduction Standard (RRS) proposed for soils.

PID readings taken over time in various weather and temperature conditions inside the building using a MiniRae 2000 or MiniRae 3000 have never detected any significant readings at the ground surface except immediately following opening of the dry cleaning machine. No detectable PID readings have ever been observed at or near the floor anywhere else inside the building, except for a few seconds or one to two minutes maximum on the floor near the dry cleaning machine just after opening the dry cleaning machine. No detectable PID readings have ever been observed in the breathing zone anywhere inside the building.

Observation and evaluation of the dry cleaning machine area suggests that there is no route for PCE migration into sub-slab soils, except migration through solid concrete, which is a relatively slow process. There are no visible cracks or breaches in the concrete floor. There is no opening in the concrete floor at or near the dry cleaning machine. Mr. Bowen stated that no significant releases of PCE have occurred, to the best of his knowledge. Any minor drips of PCE are always wiped up immediately with towels, which were then promptly tossed into the dry cleaning machine to remove any PCE soaked up by the towels. All observations in the dry cleaning machine area indicate no significant concentrations of PCE in the subsurface. Only minor quantities resulting from infrequent drops of PCE slowly migrating through intact concrete 10 to 12 inches thick were identified. Minor concentrations likely entered soils from vapors briefly exiting the dry cleaning machine when the machine is opened, and settling into nearby soils in minor quantities. As previously stated, the only significant concentrations of PCE and associated compounds onsite have been identified at the rear of the building, around MW-4 and B-7.

No significant concentrations of PCE, TCE, or their degradation compounds have ever been identified in the dry cleaning machine area, utilizing a number of investigation techniques, including vapor phase sampling and analysis, soil sampling and analysis, and groundwater sampling and analysis. The only significant source identified onsite to date remains the originally identified area behind the building in the area of MW-4 and soil boring B-7. It is concluded, following completion of soil, sub-slab vapor and groundwater investigations in the dry cleaning machine area, that there has been no significant release of PCE in the area of the dry cleaning machine.

### **Surface Water**

Using a scaled U.S. Geological Survey (USGS) 7.5-minute series topographic map, Roswell, GA Quadrangle (Figure 1), a distance of approximately 1,800 feet is indicated in the direction of groundwater flow (east-southeast) from the source area to Hog Wallow Creek. Available data does not suggest that any concentrations exceeding applicable standards will reach Hog Wallow Creek or any other surface water body. If any concentrations ever reach Hog Wallow Creek, a very unlikely event, the most likely point, based on the groundwater flow direction determined using potentiometric contour mapping, is generally toward the east-southeast, in the predominant direction of groundwater flow. At the calculated rate of groundwater migration, ranging from 99 feet/year to 252 feet/year, average 145.6 feet/year, groundwater from the site would reach Hog Wallow Creek from 7 to 18 years, or an average of 12 years. This is the computed rate of groundwater flow and does not take into consideration any retardation or attenuation mechanisms, that would have the effect of further slowing contaminant migration velocity, and

further increasing the length of time it would take dissolved VOC concentrations to reach Hog Wallow Creek, if at all. Concentrations decrease appreciably with distance from the source, and are expected to become non-detectable long before ever reaching Hog Wallow Creek. No point of withdrawal between the site and Hog Wallow Creek has been identified. No groundwater use between the site and Hog Wallow Creek was found; Hog Wallow Creek is the nearest point of exposure. Dissolved concentrations are projected to decrease to below applicable standards before reaching Hog Wallow Creek. No likelihood of contact with groundwater between the site and Hog Wallow Creek exists, and no standards will be exceeded when groundwater reaches Hog Wallow Creek. Therefore, the groundwater pathway is, in effect, incomplete.

### **Additional Investigations**

Additional Assessment to complete horizontal delineation where access is available has been completed. MW-5 was installed hydraulically down-gradient of the dry cleaning machine. Sampling of monitoring well MW-5 indicated no detectable Volatile Organic Compounds (VOC) in either soils or groundwater down-gradient of the dry cleaning machine. The dry cleaning machine has reportedly always been at the same location inside the building. It was concluded that the primary source of PCE and associated compounds onsite was not from the dry cleaning machine area. Rather, it appears to be in the vicinity of the rear of the building (near MW-4), where drums of new and spent product were typically loaded and unloaded, floor cleaning water may have been released, and vapor phase migration along the floor and out of the building has occurred, filters may have been carried out of the building and temporarily stored, and/or other associated activities involving PCE-containing materials may have occurred over the number of years that dry cleaners have existed at this location.

Delineation where access is available has been completed for all compounds reasonably attributable to dry cleaning activities onsite. MW-4, which is near the likely source, currently has a PCE concentration of 0.260 mg/l, TCE concentration of 0.150 mg/l and cis-dichloroethene (DCE) at 0.140 mg/l. A former NAPA Auto Parts machine shop, believed to have formerly used PCE or TCE to clean used auto parts was formerly located approximately 50 to 75 feet upgradient of MW-2; MW-2 exhibited concentrations of 0.0310 mg/l cis-DCE and 0.20 mg/l vinyl chloride. MW-3, down-gradient of MW-4, indicated only 0.010 cis-DCE during the most recent sampling event, below applicable standards, and, therefore, concentrations are delineated in the down-gradient direction. No concentrations meeting or exceeding applicable standards were identified in any other wells onsite, except MW-2, for which all possible sources are most likely up-gradient and offsite, possibly from some distance up-gradient and offsite, indicating that groundwater delineation of all concentrations *reasonably attributable to activities on the Roswell Cleaners property onsite* has now been successfully completed. The only known significant onsite source is in the general area of MW-4. Concentrations at MW-2 of cis-DCE at 0.031 mg/l and VC at 0.020 most likely were leached from up-gradient offsite sources, such as the former NAPA Auto Parts machine shop, within the last year or so. Detectable concentrations of DCE and VC are apparently just now reaching MW-2 (or first reached MW-2 after completion of the previous sampling event). These concentrations, because all possible sources of these compounds in MW-2 are most likely up-gradient and offsite, are not considered to be part of the plume associated with onsite activities. It is Mr. Kallay's professional opinion that a historically high water table has resulted in an anomalous increase in concentrations; decreasing concentrations are

expected to resume when water table elevations decrease and return to more typical elevation ranges.

Note that all milestones were achieved as stated above. Although subsequent data collected during the current sampling event detected changed conditions, the long data record and no new releases suggests that this is more than likely a temporary anomaly, rather than a long-term trend. The data will be reviewed, re-evaluated, potential cause(s) will be identified, solutions will be proposed, and further investigated as appropriate. Then, appropriate corrective action(s) will be proposed and implemented.

Chlorinated compounds in MW-2 have a different chemical signature (no detectable PCE, only DCE and VC were present) from compounds detected in MW-4. Compounds detected in MW-2 appear to most likely be from an offsite source or sources, possibly far up-gradient of the site. While a former NAPA Auto Parts machine shop was formerly located up-gradient of MW-2, the likely deep zone migration route of water in MW-2 suggests that other old PCE and/or TCE sources formerly located farther up-gradient may also have contributed to chlorinated compounds concentrations identified in MW-2 during the current sampling event. Former businesses and entities that are potentially former sources of PCE and/or TCE include Pete Tallant Motors, Wright, Joe E. (believed to be an automotive repair shop), Big E Motors, Wright's Garage Ltd., Genuine Parts Co., NAPA Auto Parts, NAPA Auto Parts machine shop, Auto Body Plus, Benson Chevrolet Company, Capri XL Houseboats, Simmons Engineering Co., Marietta Poultry Equipment, and Roswell City Fire Department. These entities are either personally known to Mr. Bowen, and/or were identified from city directories in the collection maintained by the Atlanta Public Library.

Deep well MW-6 was completed in 2013 to a depth of 70 feet; soils and groundwater were sampled and analyzed. Soils have been delineated in the source area. No soil samples collected from B-DW, the boring in which MW-6 was installed, indicated the presence of any concentrations meeting or exceeding Risk Reduction Standards (RRS) for soils. Groundwater sampling indicated no detectable concentrations of PCE or any associated compounds. Thus, groundwater delineation has now been successfully completed onsite both horizontally and vertically. Furthermore, boring B-DW was drilled until auger refusal was encountered. Auger refusal was encountered at 71 feet, at the soil/bedrock interface. Surficial aquifer thickness (e.g., the portion of the water table aquifer in unconsolidated materials) is therefore now estimated to be 50 feet, as depth to bedrock and the thickness of the saturated zone have now been determined.

The deep well, MW-6D, exhibited a detection of chloroform at 0.027 mg/l. Chloroform is not associated with dry cleaning activities nor any activities involving PCE use, storage or disposal. Chloroform is associated with public water supplies. Chloroform is typically formed in small amounts when chlorine is added to water, as in public drinking water supplies (ATSDR 1997). Chloroform has also been used to make HCFC-22, a refrigerant, in pulp and paper mills, and other industrial process and is also found at waste disposal sites (USEPA 2000). Chloroform can also be generated during use of chlorine bleach, and can be found in the atmosphere. Chloroform can also form naturally in soils (Howard 1990). The source area for groundwater in the vicinity of Roswell Cleaners extends approximately one mile or more toward the northwest. Numerous businesses and residences are located in the source area. Treated public water supplies enter the ground from home and business lawn irrigation, car washing, building

exterior cleaning, piping leaks and other household and business uses. During recent well-above-average rainfalls, groundwater gradient magnitude likely increased, and a higher-than-average rate of groundwater flow likely flushed public water supply by-products in groundwater downhill toward this area at a higher-than average rate. Note that chloroform appears predominantly in the deep well, MW-6D, screened from 65 to 70 feet deep; chloroform was barely detected in MW-5. This is consistent with the likelihood of an uphill source, as stormwater infiltration between the predominant source areas (~0.25 to 1 mile uphill) and the site has likely pushed water from farther uphill containing these compounds deeper underground, deeper into the surficial aquifer. The site, however, is in a discharge area, and deeper groundwater rises to closer to ground surface in this area.

Variations in rainfall patterns over time result in some variability in dissolved concentrations. Water table elevations approximately one year ago rose by several feet to the highest elevation ever recorded onsite since groundwater investigation commenced at this site in 2006, following several months of above-average rainfall. It is likely that the high groundwater level has resulted in groundwater contact with soils containing elevated concentrations of PCE and PCE degradation products, resulting in increased dissolution of PCE and related chlorinated hydrocarbons into groundwater. Nevertheless, the long-term trend indicates a definitive decreasing trend in groundwater concentrations in all monitoring wells onsite. Water table elevations are now trending toward historical average levels. Since the year-ago monitoring event, water table elevations have decreased by approximately two feet. If water table elevations return to the neighborhood of, or below, historical average water table elevations, groundwater concentrations of PCE and products are expected to resume their historic downward trend.

During the current sampling event on August 7, 2015, an unusually high degree of water that appears to be from deep in the formation was observed in MW-2. This water exhibited strong reducing conditions and an unusually high degree of turbidity, as well as anaerobic conditions. Water from deep in the formation typically exhibits low oxidation potential and/or reducing conditions in this area. Water in MW-2 and MW-6D also exhibited higher pH ranges than the other wells, also typical of deeper groundwater in this area. Water from MW-2 also exhibited the lowest oxygen concentration of any well onsite; by the time purging was completed, oxygen concentration was 2.57 mg/l. VC accumulation at detectable concentrations typically occurs only under anaerobic (e.g., very low oxygen concentration) conditions. Low pH approaching anaerobic conditions can also occur under large expanses of entirely impervious pavement or nearly entirely pavement covered areas, such as occurs under Alpharetta highway and some nearby up-gradient commercial areas.

### **Suspected Sources of Regulated Substances**

The Subject Property has been the location of a successive series of businesses operating dry cleaners over a period of well over 40 years. All investigation findings to date indicate significant entry of PCE into the environment onsite was limited to the area around MW-4 located near the rear door of the building.

AEC is currently evaluating available data and whether additional data for additional sampling, modeling and other needs is required. Upon completion of our evaluation, we will recommend and implement appropriate actions.

## **Additional Assessment and Risk Reduction Standards**

The most current Risk Reduction Standards, rules and concentrations (or concentrations developed using a RRS Evaluation) as adopted by the Georgia Environmental Protection Division (EPD) at the time of the delineation will be utilized. Type I Risk Reduction Standards will be adopted as the applicable standard following evaluation of all data collected after delineation has been completed. In the event site-specific risk reduction standards are proposed, a point of demonstration well will be proposed, as appropriate, along with an appropriate monitoring schedule.

## **VOLUNTARY REMEDIATION PLAN**

### **Site Delineation Concentration Criteria**

Site delineation has been completed to Voluntary Remediation Program Type I Risk Reduction Standards, at least until the current sampling event. As noted above, it is Mr. Kallay's professional opinion that a historically high water table resulted in an anomalous increase in concentrations; decreasing concentrations are expected to resume when water table elevations decrease and remain in more typical elevation ranges. Risk Reduction Standards (RRS) proposed for groundwater are as follows, from Table 1 of Appendix III unless otherwise noted:

<b>Constituent</b>	<b>Delineation of Groundwater Stds (mg/l)</b>
Tetrachloroethene (PCE)	0.005
Trichloroethene (TCE)	0.005
Cis-Dichloroethene (cis-DCE)	0.07*
Trans-DCE	0.1
Vinyl Chloride	0.002

\* Federal Maximum Contaminant Level (MCL).

Risk Reduction Standards proposed for soils are as follows, as discussed in Risk Reduction Standards guidance issued by the Georgia EPD and available on its website.

<b>Constituent</b>	<b>Delineation of Soil Standards (mg/kg)</b>
PCE	0.50
TCE	0.50
Cis-DCE	7.00
Trans-DCE	10.00

Proposed standards, when selected and finalized, shall apply to compounds reasonably associated with, or originating from, activities historically conducted onsite. Compounds clearly originating from offsite sources, based upon the preponderance of evidence, over which we have no effective control, shall not be deemed to be the responsibility of Roswell Cleaners or the Bowen property.

## **Proposed Engineering Controls**

Engineering Control, consisting of an asphalt cap, is the primary proposed remedy for soils until the soils located close to the building can be appropriately addressed. In the event additional delineation or investigation work suggests other points of exposure, they will be addressed as appropriate. In the event engineering controls are proposed or utilized, a long-term maintenance and monitoring plan will be included as part of the proposed engineering controls remedy.

## **Evaluation of Remediation Alternatives**

### **Groundwater**

A number of approaches to remediate dry cleaning compounds in groundwater, including PCE, exist. A number of approaches were previously presented, and will not be repeated again. Monitored Natural Attenuation (MNA) has been selected as the appropriate remedy for this site.

**Monitored Natural Attenuation (MNA).** Monitored Natural Attenuation is an appropriate remedy when it has been demonstrated to effectively reduce concentrations at an appreciable rate. At the property on which Roswell Cleaners is located (the Subject Property), a number of years of monitoring have clearly demonstrated the ability of natural attenuation processes to considerably decrease groundwater concentrations.

The only significant source identified onsite is in the vicinity of MW-4 near the rear door of the building used as a dry cleaners. Concentrations in MW-4 recently increased somewhat, most likely due to a large increase in rainfall recently. This resulted in increasing water table elevations, likely saturating some contaminated soils that are normally well above the water table that are rarely, if ever, saturated. This likely resulted in dissolution of PCE and daughter products that may generally be relatively immobile in those normally unsaturated soils.

Despite the increase in concentrations seen in the current sampling event, without a new source of PCE, TCE, etc., these and other daughter compounds are naturally in a long-term decreasing trend in concentrations due to Natural Attenuation mechanisms, notwithstanding the recent up-ticks in concentrations in MW-4 due primarily to a rising water table coming in contact with normally unsaturated contaminated soils located above average water table elevations. It is expected that once rainfall returns to average or lower ranges and the water table elevation decreases to closer to historic average or lower levels, the concentration trend in the source well, MW-4, will resume its historic long-term decreasing trend.

We propose continuing to monitor Natural Attenuation (e.g., implementing the Monitored Natural Attenuation program) as concentrations are expected to continue decreasing over time (even if temporary conditions may occasionally result in a short-term up-tick in concentrations). Monitored Natural Attenuation is the selected remedy for groundwater at this site.

### **Soils**

A number of approaches to remediation of dry cleaning compounds in soils, including PCE, exist. A number of approaches were previously presented and discussed; this discussion will not be repeated again. Monitored Natural Attenuation (MNA) has been selected as the appropriate remedy for this site at this time, as long as the existing building remains onsite.

**Monitored Natural Attenuation.** Monitored Natural Attenuation can be an effective remedy if soils allow enough air and vapor movement through them; e.g., the soils are relatively coarse sandy or silty soils with little fines, and the soils are open to the atmosphere. Conditions at this site (e.g., tight soils with asphalt pavement overlying the soils) do not make this the most practical or technologically effective remedy at this time, although some decrease due to various Natural Attenuation mechanisms is expected to occur, at least gradually, over the years.

Soils concentrations under asphalt and/or concrete pavement are essentially immobile, but with effective asphalt cover, neither is there any significant rate of downward migration. Excavation and removal offsite is the obvious remedy, eventually, but excavation cannot safely be completed now due to the proximity of the dry cleaners building onsite to the affected soils. This is proposed for completion in the future. At some time in the future, likely after the current building has reached end of life, soil concentrations should be re-sampled, and available options should then be re-evaluated based on then-current soil concentrations.

## **GEORGIA EPD CORRESPONDENCE**

Correspondence dated June 4, 2015 was received by Atlanta Environmental Consultants and Mr. Richard Bowen. This correspondence is addressed in the SASR associated with this report.

## **OTHER CORRESPONDENCE**

A Phase II Environmental Assessment for commercial property located at 66 Norcross Street dated August 5, 2015. This property adjoins the Subject Property on the south site. The Phase II Environmental Assessment was prepared by United Consulting. The contents of this report, which is attached to this report, can be summarized as follows:

- The sampling method used for collection of most groundwater samples on the 66 Norcross Street property, including the highest concentration samples (direct push), is substantially different than groundwater collection methods used on site, consisting of purging and sampling permanent type monitoring wells. Therefore, groundwater analytical results are not directly comparable. The highest groundwater concentrations detected on the 66 Norcross Street property were 6.5 ug/l tetrachloroethene (PCE), 5.5 ug/l trichloroethene (TCE), 43 ug/l cis-1,2 dichloroethene (cis-DCE) and 9.4 ug/l VC, all from EB-2, a direct push boring that was installed near the retaining wall between 66 Norcross Street and the Subject Property (e.g., the property on which Roswell Cleaners is located). PCE, TCE and VC exceed applicable Maximum Contaminant Levels (MCL). However, it should be noted that all groundwater detections on the 66 Norcross Street property were substantially lower than the highest concentrations detected on the Subject Property.

- Analysis of soil samples indicated that all volatile organic compound (VOC) concentrations detected were below both Georgia Notification Concentrations (NC) and Type I Risk Reduction Standards (RRS).

Where low concentrations of VOCs were detected offsite on the 66 Norcross Street property, the sampling method used for collection of most groundwater samples on the 66 Norcross Street property is substantially different than groundwater collection methods used on site, purging and sampling permanent monitoring wells. Therefore, groundwater analytical results are not directly comparable. Also, all groundwater detections were substantially lower than the highest concentrations detected on the Subject Property. This suggests substantial decreases in concentrations over distance, as expected, implying that any minor offsite migration has, in effect, been essentially delineated or would be delineated within a relatively limited distance.

## **CONCLUSIONS AND RECOMMENDATIONS**

The evaluation of the assessment and monitoring conducted by Atlanta Environmental Consultants over the last eight years at the Roswell Cleaners property has resulted in the following Conclusions and Recommendations for the Voluntary Remediation Plan:

For groundwater, Natural Attenuation has been demonstrated to successfully decrease PCE and TCE concentrations onsite over time. All indications are that Natural Attenuation has been successfully reducing concentrations onsite, as highest concentrations onsite have already decreased by approximately 87% to date. Therefore, Monitored Natural Attenuation (MNA) is the proposed and continuing remedy for groundwater concentrations of PCE and TCE.

For soils, MNA is proposed, as long as the presence of the building precludes safe excavation in this area at this time. It is proposed that excavation and offsite disposal or treatment be considered as the eventual remedy for soil concentrations of PCE and TCE. At some time in the future, likely after the current building has reach end of life, soil concentrations should be re-sampled, and available options should be re-evaluated. Because the source location is close to the building onsite, excavation to a depth of 10 to 15 feet or more is not advisable, as it could potentially result in undermining the building and/or weakening the building's foundation. Therefore, excavation and removal of soils is recommended to be deferred until such time as removal of the building is proposed and completed.

In the interim, the asphalt surface should be sealed and maintained in good condition to preclude contact by employees of the dry cleaners, construction workers, utility workers or members of the general public from coming in contact with the contaminated soils. Sealing the asphalt will also prevent or minimize any significant further downward migration of PCE and products from the soils into the groundwater zone. This will allow groundwater concentrations to naturally decrease in the near-term, and to approach non-detectable concentrations over the long term, once the source has been removed (e.g., once contaminated soil removal has been completed).

## **CONCLUSIONS**

Completion of assessment and continuing monitoring at the Bowen property, on which Roswell Cleaners is located, 1013 Alpharetta Street, Roswell, Fulton County, Georgia 30075 suggests the following conclusions:

- Significant soil concentrations are limited to the general area behind the building in the vicinity of the location of monitoring well MW-4. Soil concentrations have been effectively delineated onsite. This is the only significant source area onsite that has ever been identified. All sampling media, methods and events continue to reinforce this conclusion.
- Although recent concentrations have increased, it is Mr. Kallay's professional opinion that a historically high water table resulted in a temporary, anomalous increase in concentrations; decreasing concentrations are expected to resume after water table elevations decrease, return to, and remain in more typical, closer to long-term average water table elevation ranges.
- Groundwater concentrations have been on a long-term decreasing trend; the current sampling event shows an increase, most likely due to historically high groundwater elevations in the recent past. The highest PCE concentrations onsite are still 87% lower than groundwater concentrations of PCE at the start of this investigation. Ground-water concentrations of PCE and products reasonably attributable to onsite activities of dry cleaning have been delineated horizontally and vertically onsite.
- Sub-slab soil vapor was investigated by drilling through the concrete floor near the dry cleaning machine and collecting a sub-slab soil vapor sample for TO-15 analysis. The sub-slab soil sample indicated concentrations of PCE, TCE and other compounds well below 1 part per million (ppm). PCE in soil vapor was identified at 39 ppbv or 270 ug/m<sup>3</sup>. PCE in soil vapor was identified at 4.9 ppbv or 26 ug/m<sup>3</sup>. Trans-DCE and VC were not detected. The data indicate no significant vapor or soil concentrations beneath the building.
- Concentrations of TCE and cis-DCE identified in MW-2 may be from an offsite source or sources, possibly far up-gradient. All known sources of TCE and PCE are up-gradient and offsite; no onsite sources near or hydraulically up-gradient of MW-2 are known.

## **RECOMMENDATIONS**

Completion of Additional Assessment and other assessments at the Bowen property, on which Roswell Cleaners is located, 1013 Alpharetta Street, Roswell, Fulton County, Georgia 30075 suggests the following Recommendations:

- Vertical and horizontal delineation of dissolved concentrations of PCE and products reasonably attributable to dry cleaning activities onsite has been completed onsite with only one significant source identified onsite, in the vicinity of MW-4. It is recommended that groundwater monitoring wells continue to be sampled every six months as part of a continuing Monitored Natural Attenuation program until completion of a Compliance Status Report. MNA has been effectively reducing dissolved chlorinated hydrocarbon concentrations at this site.
- It is recommended that re-sampling groundwater after water tables elevations have returned to more normal ranges be used to verify our professional opinion that a historically high water table resulted in an anomalous increase in concentrations; decreasing concentrations are expected to resume after water table elevations decrease and remain in more typical elevation ranges.
- It is recommended that soil excavation with offsite treatment and/or removal be the selected remedy for remediation of remaining soil concentrations of PCE and products in the source area behind the building. Once the building is removed, soils should be re-sampled, and available options may be re-evaluated. If soil concentrations still exceed applicable standards, excavation and disposal, and/or other appropriate options, can then be considered, evaluated and, if appropriate, selected and implemented.
- Until the building is removed, it is recommended that the asphalt surface be sealed and maintained in good condition. This will preclude rainfall entry into the shallow subsurface, and preclude significant contaminant migration from the soils downward into the groundwater zone. This will effectively allow groundwater concentrations onsite to remain in place and remediate naturally in place, until soils can be removed in the future, following removal of the building at some future date. Thus, the onsite soil source would no longer be a significant source of continuing groundwater contamination.
- It is recommended that any offsite detections that may appear down-gradient of the Subject Property should be addressed, as appropriate, within the framework of the remediation approaches proposed for the Subject Property.

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Howard, P.H., Editor. 1990. Handbook of Environmental Fate and Exposure Data for Organic Chemicals. Volume II. Solvents. Lewis Publishers, Chelsea, Michigan.

United States Environmental Protection Agency (USEPA). 2000. Technology Transfer Network – Air Toxics Website. Chloroform. 67-66-3. Hazard Summary created in April 1992, revised in January 2000. <http://www.epa.gov/airtoxics/hlthef/chlorofo.html>

## **FIGURES**

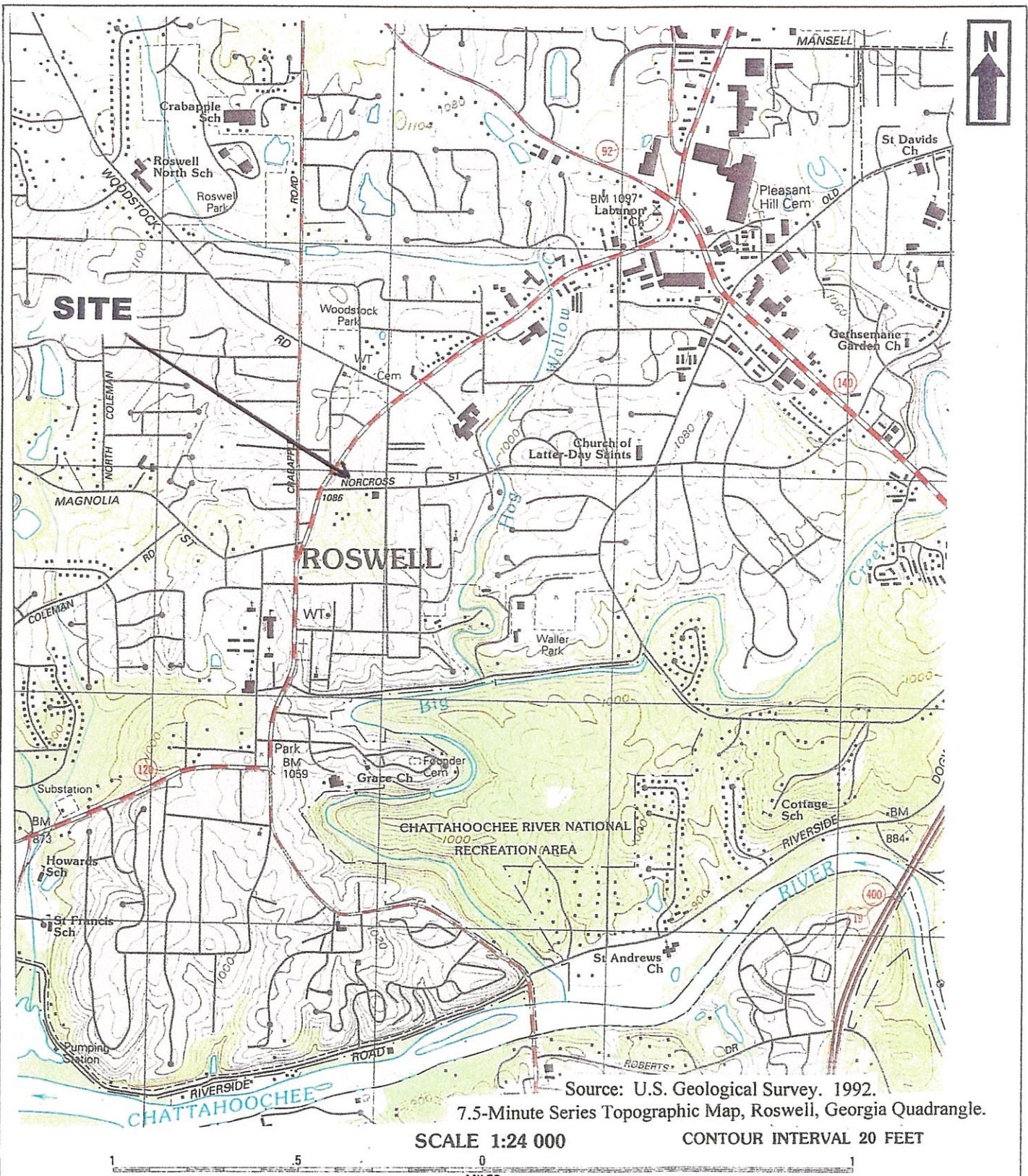


Figure 1: Site Location Map  
Roswell Cleaners and Coin Laundry  
1013 Alpharetta Street  
Roswell, Georgia 30075

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Drawn By: Terri Drabek  
Checked By: Peter Kallay, P.E.

Hydraulically Upgradient  
Potential VOC Sources Formerly  
Located West-Northwest of Site

Tallant Pete Motors  
 Wright, Joe E  
 Big E Motors  
 Wright's Garage Ltd  
 Genuine Parts Co.  
 NAPA Auto Parts  
 NAPA Auto Parts machine shop  
 Auto Body Plus  
 Benson Chevrolet Co.  
 Capri XL Houseboats  
 Simmons Engineering Co  
 Marietta Poultry Equipment  
 Roswell City Fire Dept

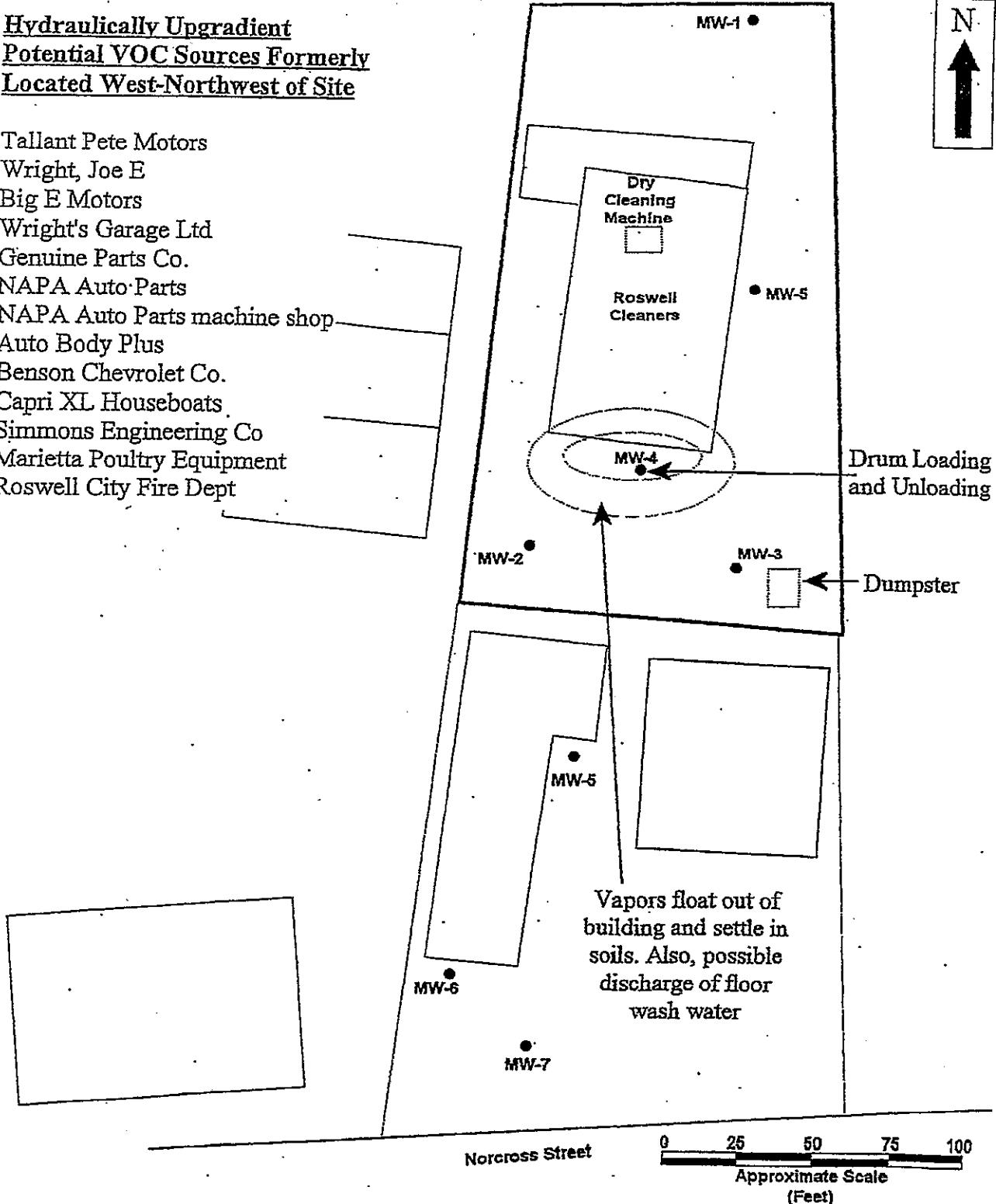


Figure 2: Site Plan Showing Possible Sources

Roswell Cleaners

1013 Alpharetta Street  
 Roswell, Fulton County, Georgia

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Checked By: Peter Kallav, P.E.

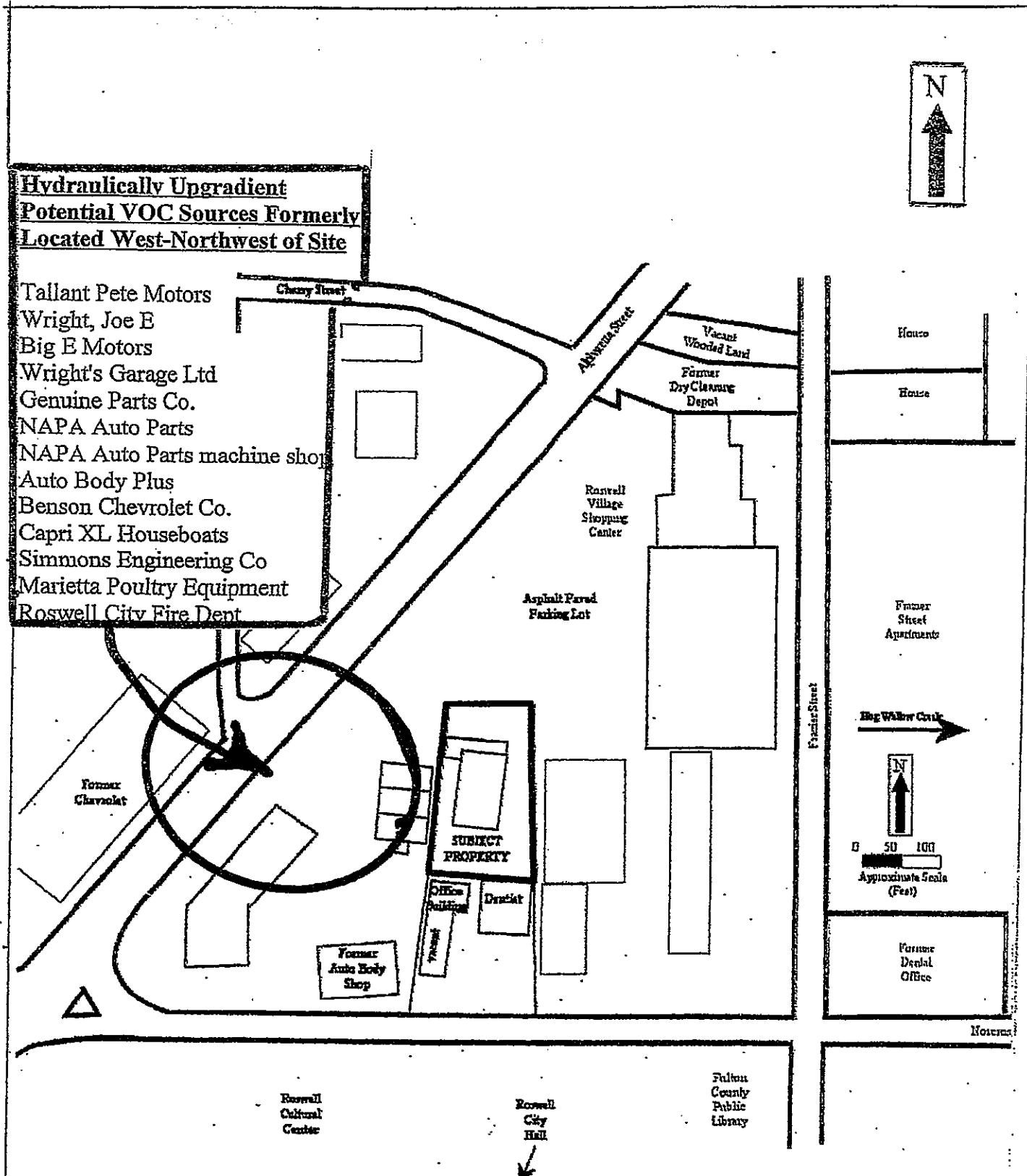


Figure 3: Site Area Plan  
Locations Of Cross-Sections  
Roswell Cleaners

1013 Alpharetta Street  
Roswell, Fulton County, Georgia

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Atlanta Environmental Consultants

Drawn By: Terri Drabek

Checked By: Peter Kallay, P.E.

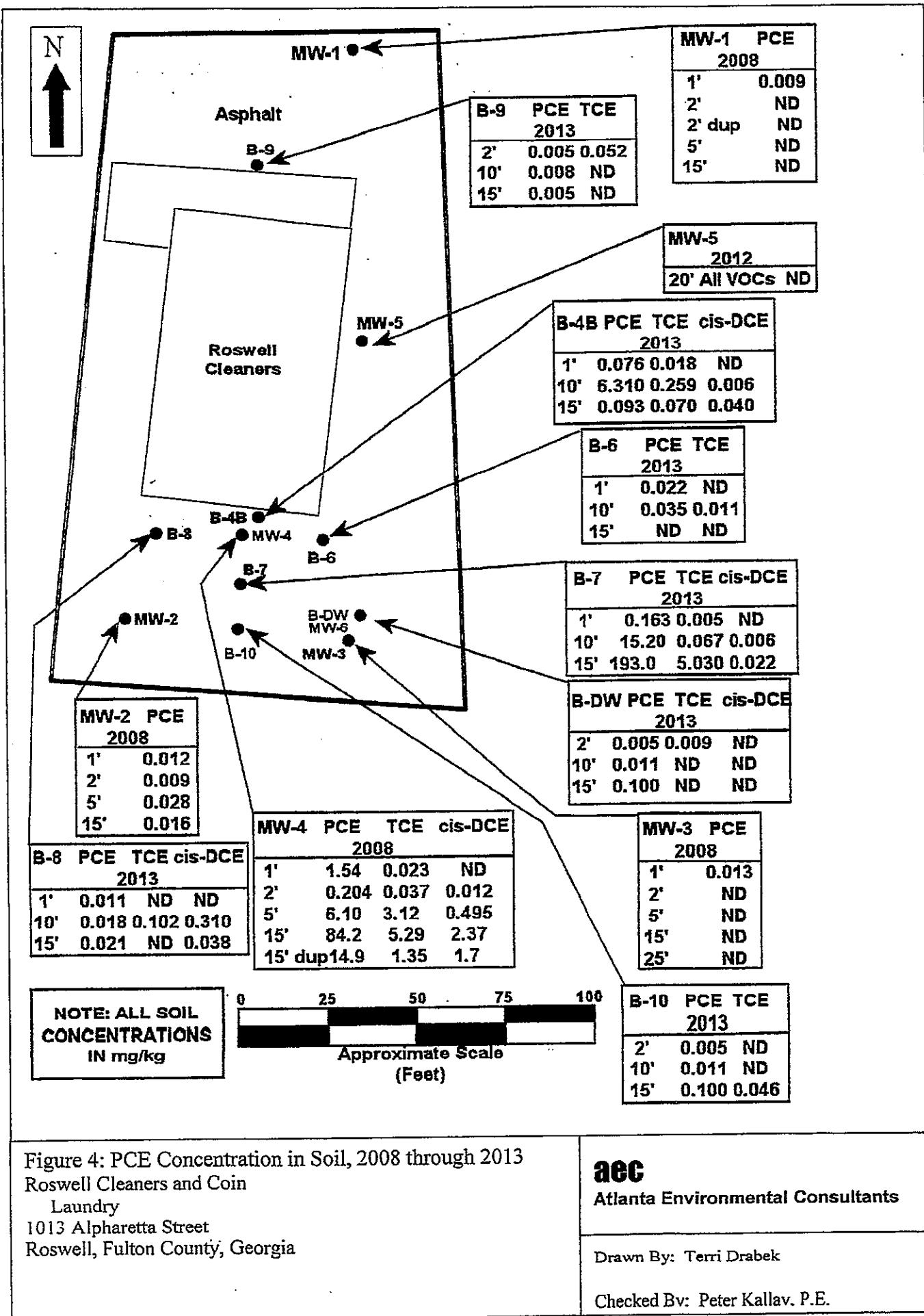
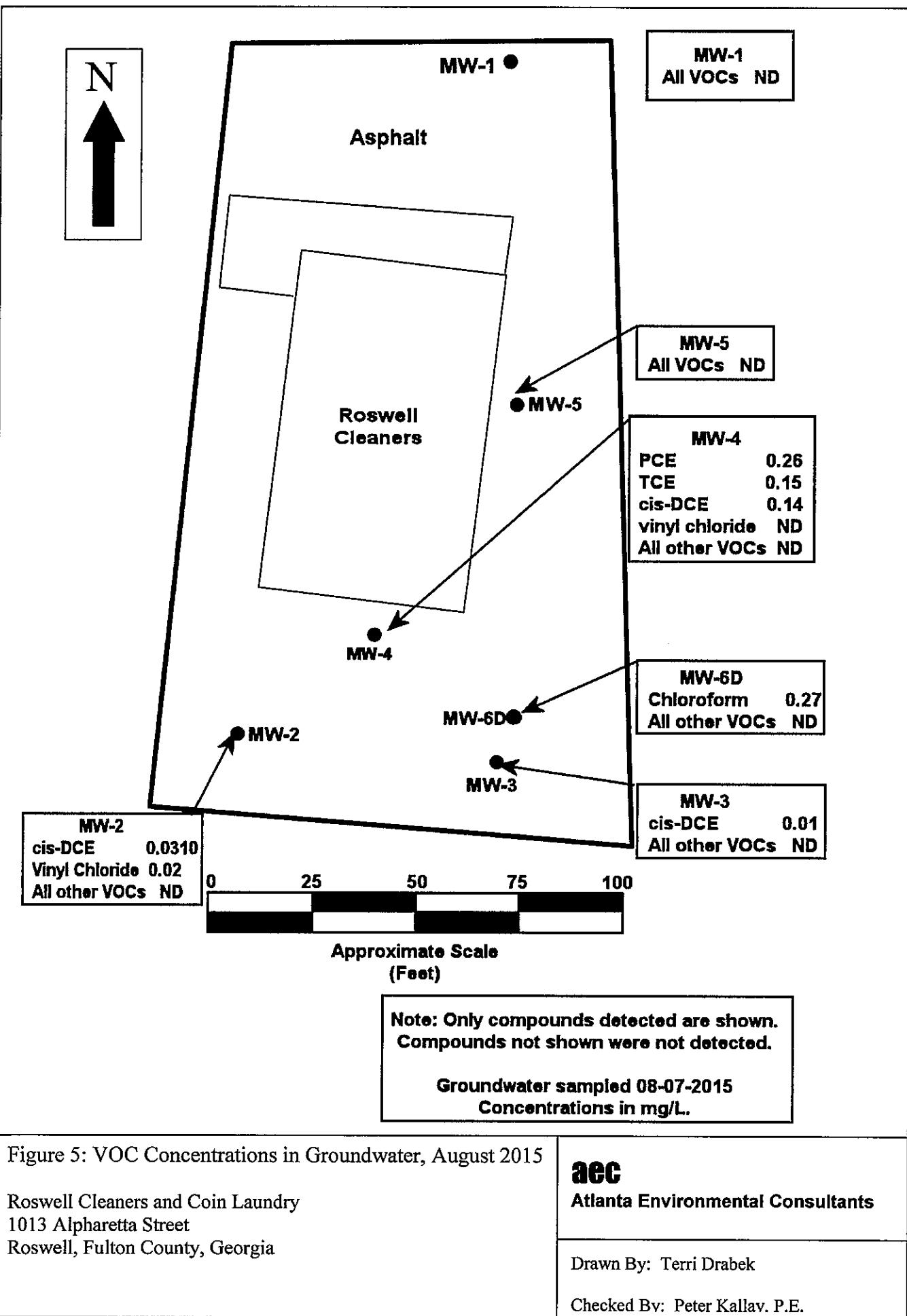


Figure 4: PCE Concentration in Soil, 2008 through 2013  
Roswell Cleaners and Coin Laundry

1013 Alpharetta Street  
Roswell, Fulton County, Georgia



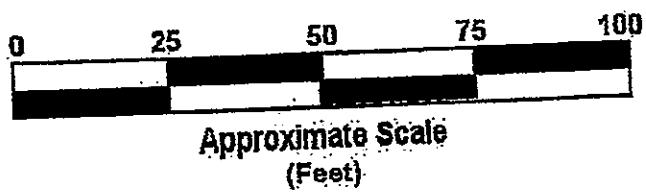
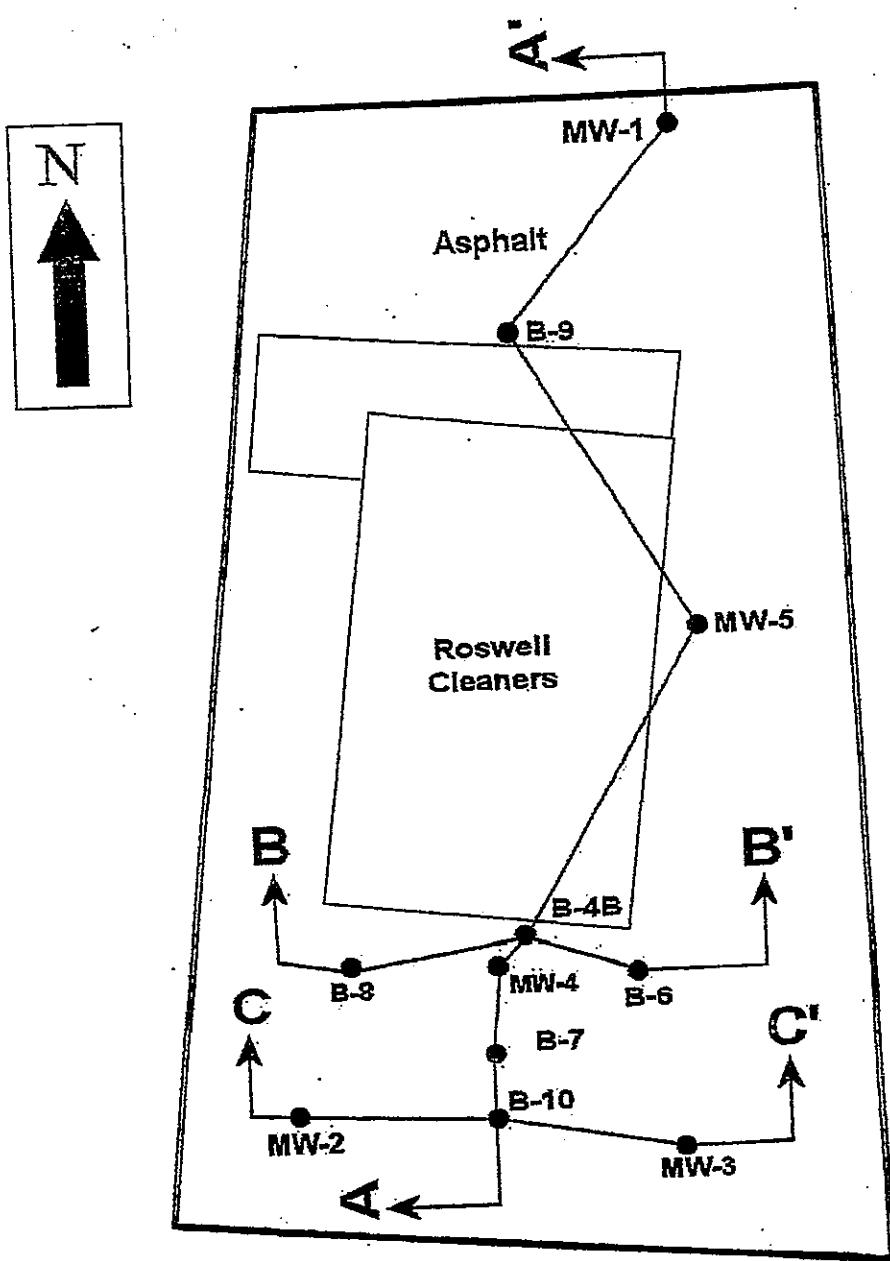
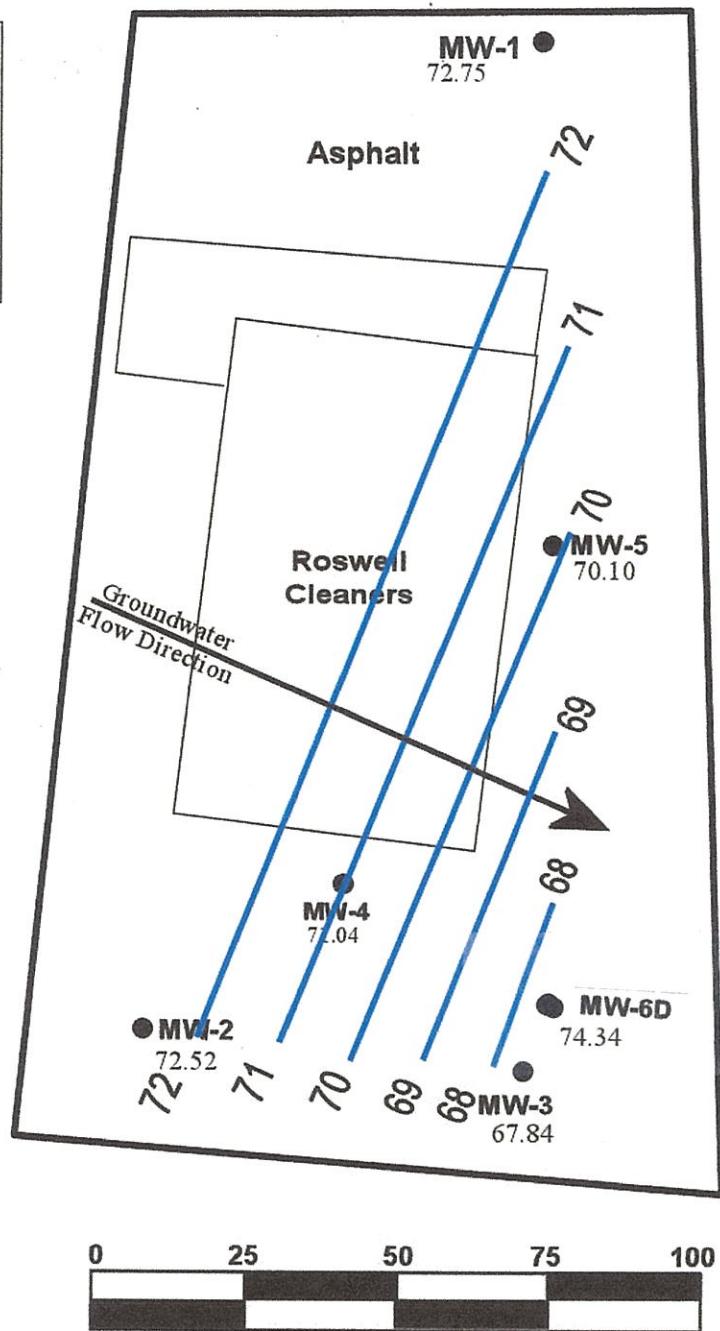


Figure 6: Cross-Section Locations  
Roswell Cleaners  
1013 Alpharetta Street  
Roswell, Fulton County, Georgia

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Checked By: Peter Kallav, P.E.



**Approximate Scale  
(Feet)  
Groundwater Elevations  
Measured August 7, 2015**

**Note: MW-6D is a deep well and  
was not used in determining groundwater contours**

Figure 7: Potentiometric Surface, August 2015

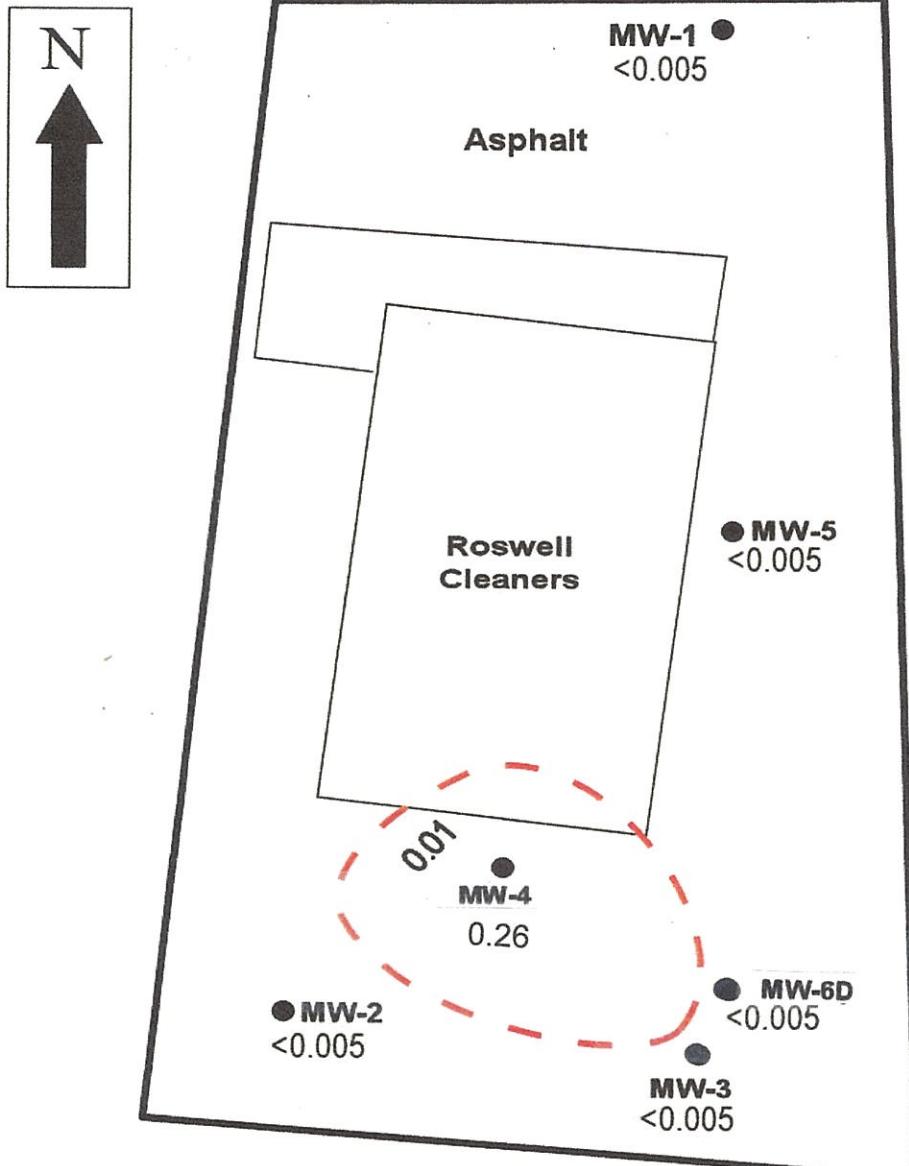
Roswell Cleaners and Coin Laundry  
1013 Alpharetta Street  
Roswell, Fulton County, Georgia



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0.01  
 - - - Groundwater Isocontour for PCE (mg/L)  
 PCE Concentrations measured August 7, 2015

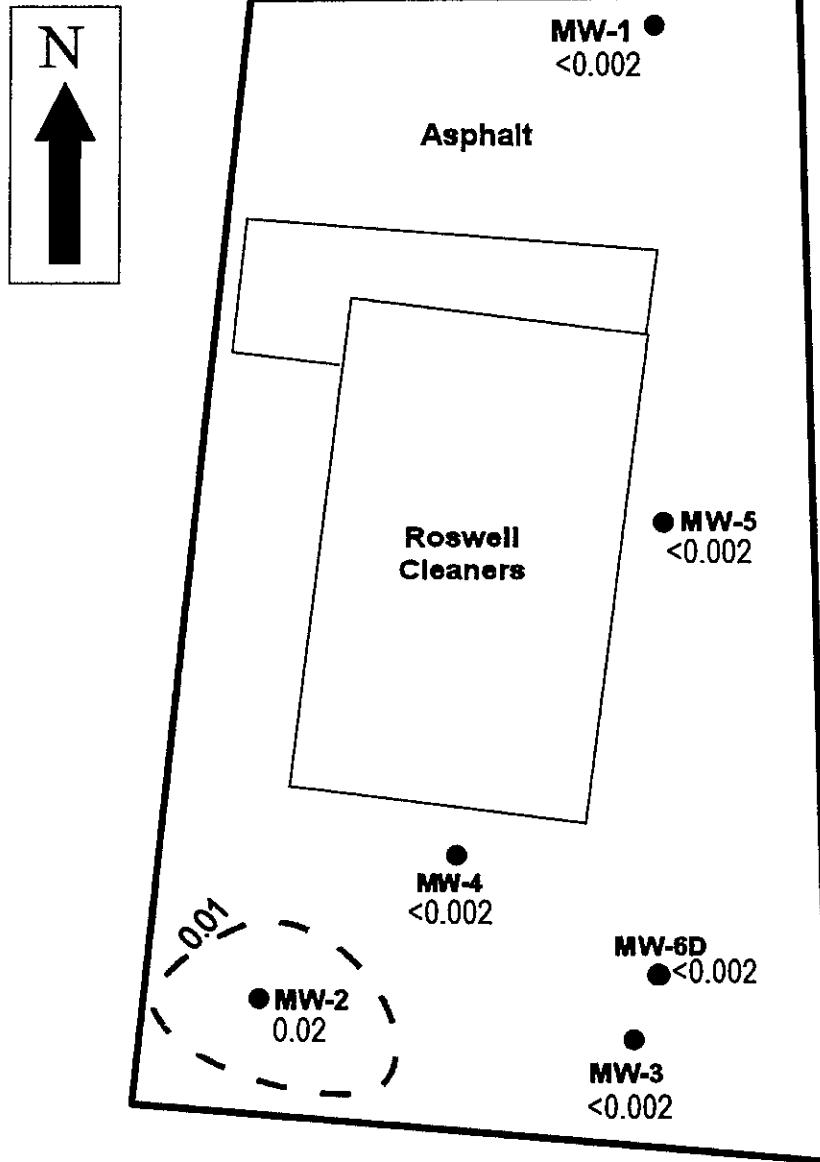
Figure 8: PCE Concentrations in Groundwater, August 2015

Roswell Cleaners and Coin Laundry  
 1013 Alpharetta Street  
 Roswell, Fulton County, Georgia

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Vinyl Chloride Concentrations measured August 7, 2015  
(Concentrations in mg/L)

Figure 8B: VC Concentrations in Groundwater, August 2015

Roswell Cleaners and Coin Laundry  
1013 Alpharetta Street  
Roswell, Fulton County, Georgia

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A'

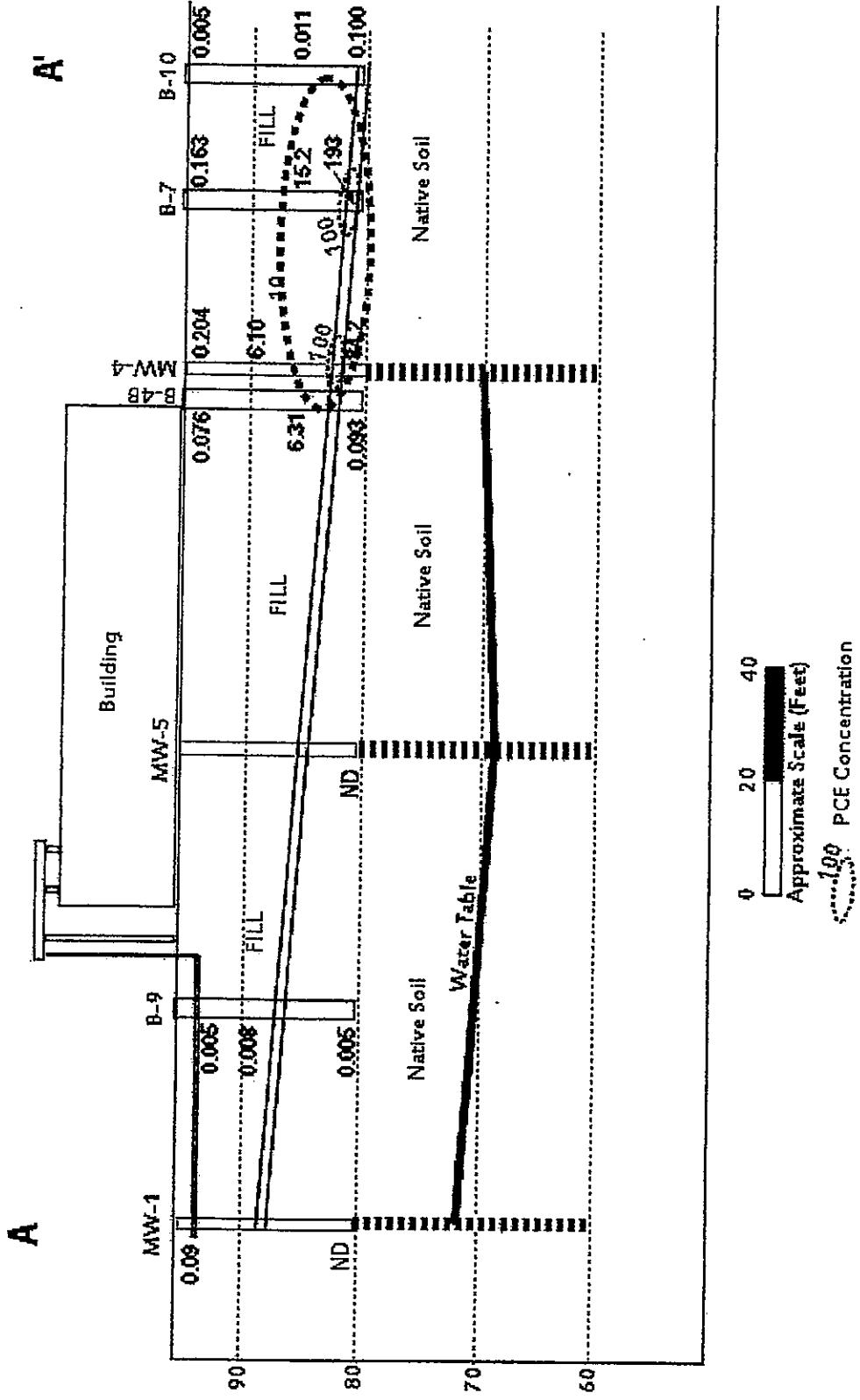


Figure 9: Cross-Section A-A'

Roswell Cleaners

Concentrations in mg/kg

1013 Alpharetta Street

Roswell, Fulton County, Georgia

===== Original Topsoil Layer

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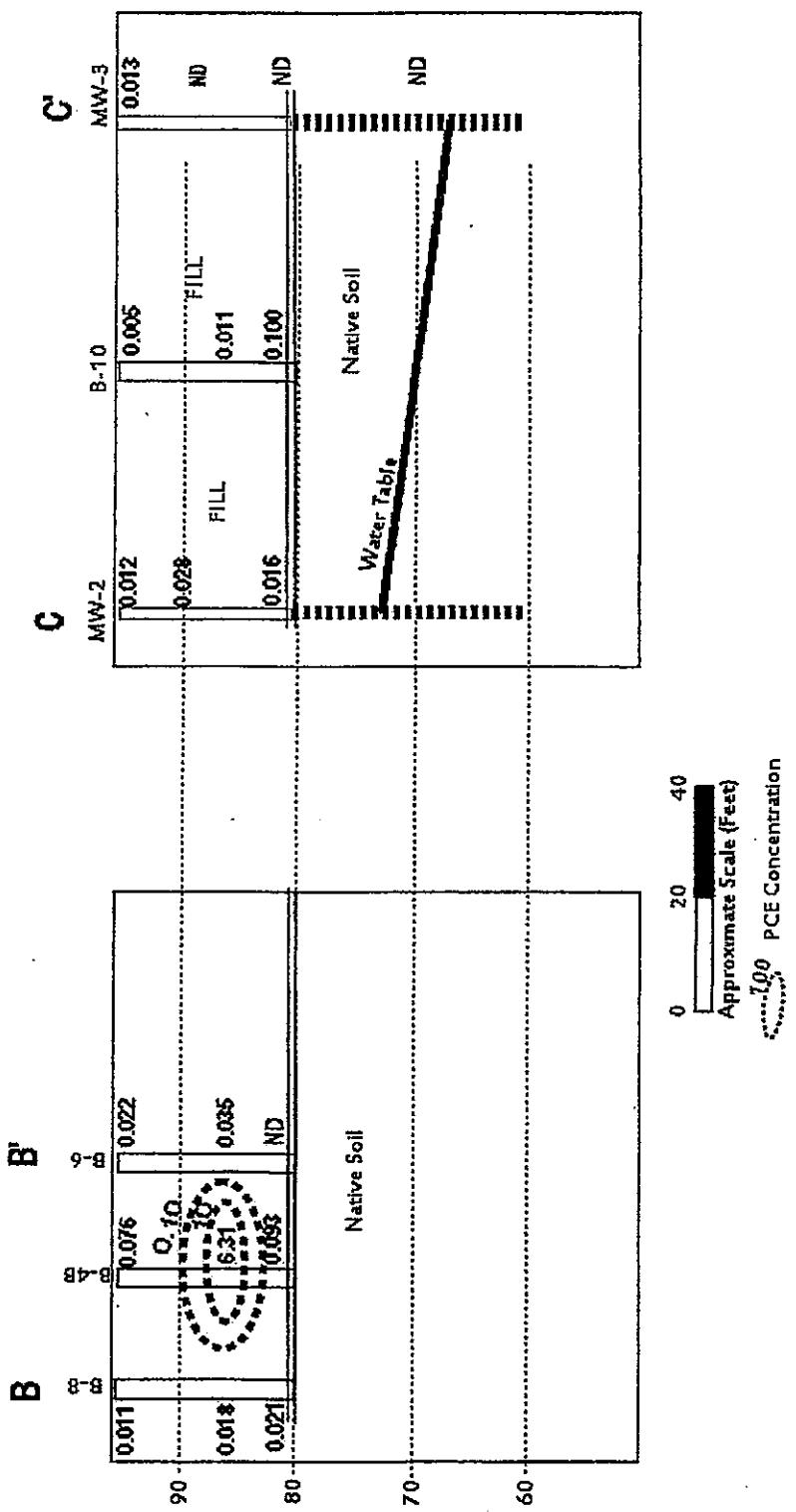


Figure 10: Cross-Section B-B' and C-C'  
 Roswell Cleaners  
 1013 Alpharetta Street  
 Roswell, Fulton County, Georgia

===== = Original Topsoil Layer

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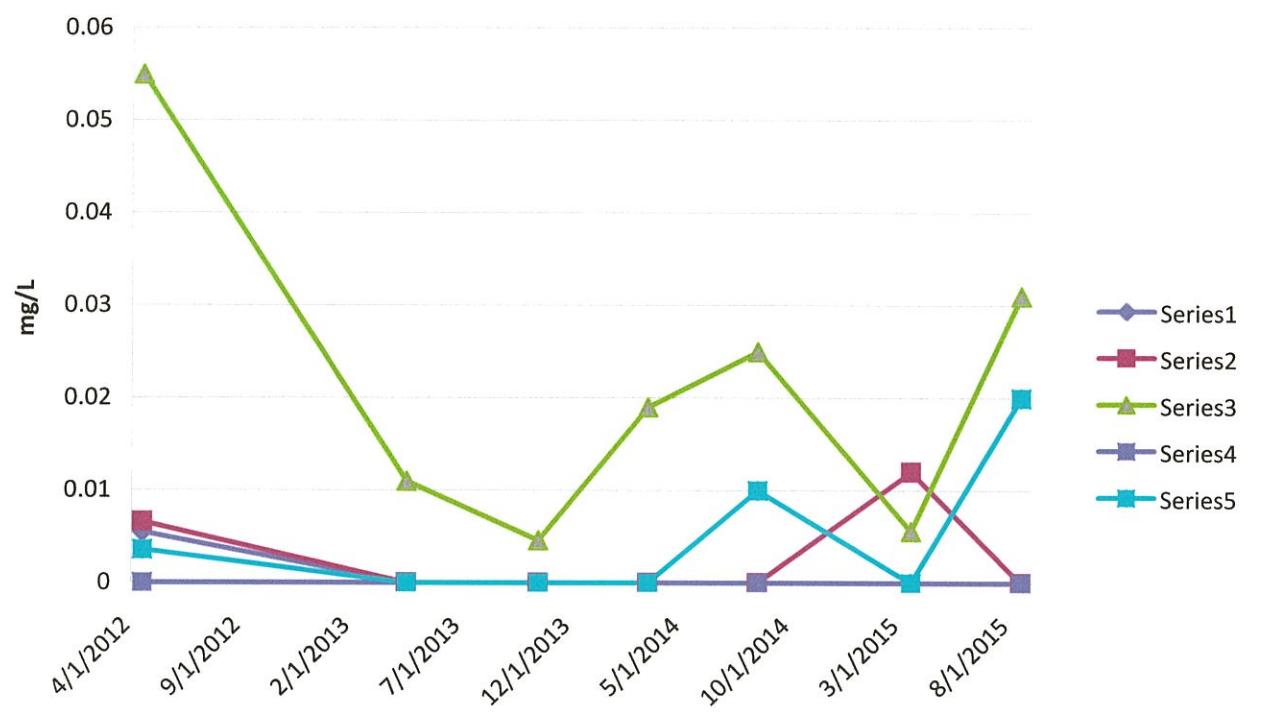
Drawn By: Terri Drabek

Checked By: Peter Kallav, P.E.

MW-2

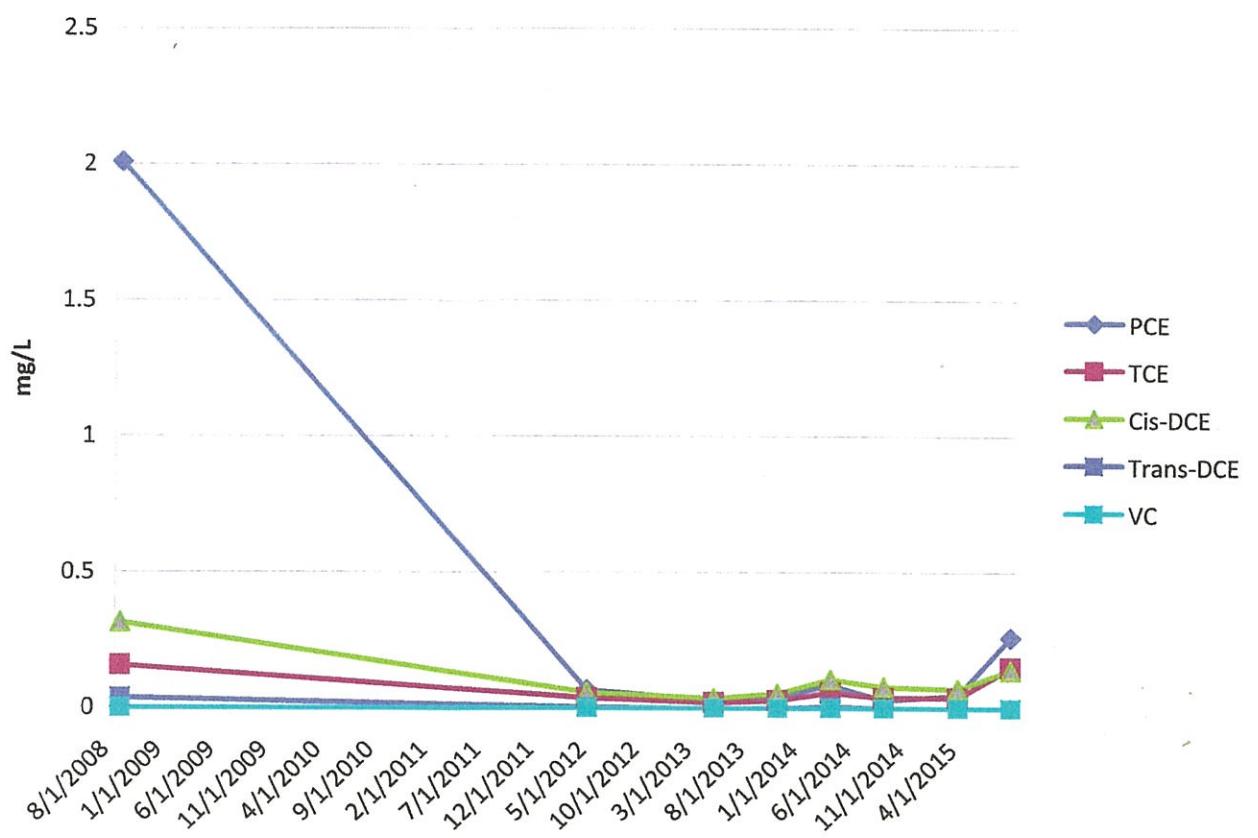
	8/27/2008	4/18/2012	4/4/2013	10/19/2013	3/14/2014	8/14/2014	3/6/2015	8/7/2015
PCE	0	0.0055	0	0	0	0	0	0
TCE	0	0.0066	0	0	0	0	0.012	0
Cis-DCE	0.014	0.055	0.011	0.0046	0.019	0.025	0.0056	0.031
Trans-DCE	0	0	0	0	0	0	0	0
VC	0.003	0.0036	0	0	0	0.01	0	0.02

## MW-2 Concentration vs. Time



	8/27/2008	4/18/2012	4/4/2013	10/13/2013	3/14/2014	8/14/2014	3/6/2015	8/7/2015
PCE	2.01	0.066	0.027	0.04	0.085	0.028	0.047	0.26
TCE	0.156	0.037	0.02	0.028	0.056	0.038	0.038	0.15
Cis-DCE	0.315	0.056	0.035	0.053	0.105	0.078	0.071	0.14
Trans-DCE	0.036	0.0031	0	0	0.0056	0	0	0
VC	0	0	0	0	0	0	0	0

### MW-4 Concentration vs. Time



## **TABLES**

**TABLE 1. Soil Analytical Results**  
**Roswell Cleaners**  
**1013 Alpharetta Street, Roswell, Fulton County, Georgia 30075**

SAMPLE ID	SAMPLE Depth (feet)	SAMPLE Date	ANALYTICAL RESULTS - Milligrams Per Kilogram (mg/kg)					
			PCE	TCE	cis-DCE	trans-DCE	VC	OTHER
MW-1 1'	1'	8/25/2008	0.009	ND(.005)	ND(.005)	ND(.005)	ND(.010)	.016* (1)
MW-1 2'	2'	8/25/2008	ND(.005)	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
MW-1 5'	5'	8/25/2008	ND(.005)	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
MW-1 15'	15'	8/25/2008	ND(.005)	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
MW-2 1'	1'	8/25/2008	0.012	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
MW-2 2'	2'	8/25/2008	0.009	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
MW-2 5'	5'	8/25/2008	0.028	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
MW-2 15'	15'	8/25/2008	0.016	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
MW-3 1'	1'	8/25/2008	0.013	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
MW-3 2'	2'	8/25/2008	ND(.005)	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
MW-3 5'	5'	8/25/2008	ND(.005)	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
MW-3 15'	15'	8/25/2008	ND(.005)	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
MW-3 25'	25'	8/25/2008	ND(.005)	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
MW-4 1'	1'	8/26/2008	1.540	0.023	ND(.005)	ND(.005)	ND(.010)	.005 *(2)
MW-4 2'	2'	8/26/2008	0.204	0.037	0.012	ND(.005)	ND(.010)	All ND
MW-4 5'	5'	8/26/2008	6.100	3.120	0.495	ND(.005)	ND(.010)	All ND
MW-4 15'	15'	8/26/2008	84.200	5.290	2.370	0.841	ND(.010)	* (3)
MW-1 2' Dup	2'	8/25/2008	ND(.005)	ND(.005)	0.061	ND(.005)	ND(.010)	All ND
MW-4 15'Dup	15'	8/26/2008	14.900	1.350	1.700	0.282	ND(.010)	* (4)
MW-5 20'	20'	4/16/2012	ND(.005)	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
MW-5 Drum	Composite	4/16/2012	ND(.005)	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
B-4B 1'	1'	3/14/2013	0.076	0.018	ND(.005)	ND(.005)	ND(.010)	All ND
B-4B 10'	10'	3/14/2013	6.310	0.259	0.006	ND(.005)	ND(.010)	* (5)
B-4B 15'	15'	3/14/2013	0.093	0.070	0.040	ND(.005)	ND(.010)	All ND
B-6 1'	1'	3/14/2013	0.022	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
B-6 10'	10'	3/14/2013	0.035	0.011	ND(.005)	ND(.005)	ND(.010)	All ND
B-6 15'	15'	3/14/2013	ND(.005)	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
B-7 1'	1'	3/14/2013	0.163	0.005	ND(.005)	ND(.005)	ND(.010)	All ND
B-7 10'	10'	3/14/2013	15.200	0.067	0.006	ND(.005)	ND(.010)	* (6)
B-7 15'	15'	3/14/2013	193.000	5.030	0.022	ND(.005)	ND(.010)	* (7)
B-8 1'	1'	3/14/2013	0.011	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
B-8 10'	10'	3/14/2013	0.018	0.102	0.310	0.035	ND(.010)	All ND
B-8 15'	15'	3/14/2013	0.021	ND(.005)	0.038	0.005	ND(.010)	All ND
B-9 2'	2'	3/14/2013	0.005	0.052	ND(.005)	ND(.005)	ND(.010)	* (8)
B-9 10'	10'	3/14/2013	0.008	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
B-9 15'	15'	3/14/2013	0.005	ND(.005)	ND(.005)	ND(.005)	ND(.010)	* (9)
B-10 2'	2'	3/14/2013	0.005	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
B-10 10'	10'	3/14/2013	0.011	ND(.005)	ND(.005)	ND(.005)	ND(.010)	All ND
B-10 15'	15'	3/14/2013	0.100	0.046	ND(.005)	ND(.005)	ND(.010)	All ND

Note: Footnotes are on the following page.

## FOOTNOTES

**NOTES:** MW-1, MW-2, MW-3 and MW-4 sampled 8-25-08; MW-5 sampled 4-16-12

All other samples, B-6 through B-10, as well as B-4B, were sampled on March 14, 2013.

Concentrations are given in milligrams per kilogram (mg/kg).

Volatile Organic Compounds (VOC) were extracted by EPA Method 5035 and  
were analyzed by EPA Method 8260B

ND = Not Detected (I.e., compound, if present, is Below Quantitation Limits)

PCE = Tetrachloroethene, also known as perchloroethylene, tetrachloroethylene, or perc

TCE = Trichloroethene, also known as trichloroethylene

DCE = Dichloroethene

VC = Vinyl Chloride

Other Compounds identified in soil analyses are as follows:

\*(1) Naphthalene 0.016

\*(2) Toluene 0.005

\*(3) 0.010 Ethylbenzene, 0.012 1,3,5-Trimethylbenzene, 0.041 m,p-Xylene and 0.015 o-Xylene

\*(4) 0.022 Ethylbenzene, 0.006 Toluene, 0.027 1,2,4-Trimethylbenzene,  
0.009 1,3,5-Trimethylbenzene, 0.097 m,p-Xylene, 0.036 o-Xylene

\*(5) 0.013 Ethylbenzene, 0.016 1,2,4-Trimethylbenzene, 0.005 1,3,5-Trimethylbenzene,  
0.063 m,p-Xylene, and 0.023 o-Xylene

\*(6) 0.010 1,2,4-Trimethylbenzene, 0.056 m,p-Xylene and 0.017 o-Xylene.

\*(7) 0.21 Ethylbenzene, 0.96 m,p-Xylene and 0.21 o-Xylene.

\*(8) 0.006 Ethylbenzene, 0.005 Benzene, 0.023 m,p-Xylene and 0.009 o-Xylene.

\*(9) 0.185 Acetone and 0.005 Carbon disulfide

The number of decimal places are equalized to improve ease of comparisons between relative concentrations.

The number of decimal places do not necessarily represent the number of significant figures (see lab report).

**TABLE 2. Groundwater Analytical Results**  
**Roswell Cleaners**  
**1013 Alpharetta Street, Roswell, Fulton County, Georgia 30075**

Groundwater samples were collected Aug 27, 2008, Apr 18, 2012, Apr 14, 2013, Oct 19, 2013, March 6, 2014, August 27, 2014, March 6, 2015 and August 7, 2015

SAMPLE ID and Approx Date	ANALYTICAL RESULTS - Milligrams Per Liter (mg/L)					
	PCE	TCE	cis-DCE	trans-DCE	VC	OTHER
MW-1 2008	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-1 2012	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-1 Mar 2013	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-1 Oct 2013	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-1 Mar 2014	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-1 Aug 2014	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-1 Mar 2015	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-1 Aug 2015	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-2 2008	ND (0.005)	ND (0.005)	0.0140	ND (0.005)	0.0030	*1
MW-2 2012	0.0055	0.0066	0.0550	ND (0.005)	0.0036	
MW-2 Mar 2013	ND (0.005)	ND (0.005)	0.0110	ND (0.005)	ND (0.002)	
MW-2 Oct 2013	ND (0.005)	ND (0.005)	J 0.0046	ND (0.005)	ND (0.002)	
MW-2 Mar 2014	ND (0.005)	ND (0.005)	0.0190	ND (0.005)	ND (0.002)	
MW-2 Aug 2014	ND (0.005)	ND (0.005)	0.0250	ND (0.005)	0.0100	
MW-2 Mar 2015	ND (0.005)	0.0120	0.0086	ND (0.005)	ND (0.002)	
MW-2 Aug 2015	ND (0.005)	ND (0.005)	0.0310	ND (0.005)	0.0200	
MW-3 2008	0.1500	0.1520	0.1770	0.0040	ND (0.002)	
MW-3 2012	0.0160	0.0084	0.0077	ND (0.005)	ND (0.002)	
MW-3 Mar 2013	0.0230	0.0200	0.0210	ND (0.005)	ND (0.002)	
MW-3 Oct 2013	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-3 Mar 2014	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-3 Aug 2014	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-3 Mar 2015	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-3 Aug 2015	ND (0.005)	ND (0.005)	0.0100	ND (0.005)	ND (0.002)	
MW-4 2008	2.0100	0.1560	0.3150	0.0360	ND (0.002)	
MW-4 2012	0.0660	0.0370	0.0560	0.0031	ND (0.002)	
MW-4 Mar 2013	0.0270	0.0200	0.0350	ND (0.005)	ND (0.002)	
MW-4 Oct 2013	0.0400	0.0280	0.0530	ND (0.005)	ND (0.002)	
MW-4 Mar 2014	0.0850	0.0560	0.1050	0.0056	ND (0.002)	
MW-4 Aug 2014	0.0280	0.0380	0.0780	ND (0.005)	ND (0.002)	
MW-4 Mar 2015	0.0470	0.0380	0.0710	ND (0.005)	ND (0.002)	
MW-4 Aug 2015	0.2600	0.1500	0.1400	ND (0.005)	ND (0.002)	

Table 2 continued on the next page

**TABLE 2. Groundwater Analytical Results (Cont.) Page 2**

SAMPLE ID and Approx Date	ANALYTICAL RESULTS - Milligrams Per Liter (mg/L)					
	PCE	TCE	cis-DCE	trans-DCE	VC	OTHER
MW-5 2012	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-5 Apr 2013	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-5 Oct 2013	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-5 Mar 2014	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-5 Aug 2014	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-5 Mar 2015	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	*5
MW-5 Aug 2015	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-6D Oct 2013	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	*3
MW-6D Mar 2014	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-6D Aug 2014	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	*4
MW-6D Mar 2015	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	*5
MW-6D Aug 2015	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	*6
MW-5 Lindsay 08	ND (0.005)	ND (0.005)	0.0050	ND (0.005)	ND (0.002)	
MW-6 Lindsay 08	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
MW-7 Lindsay 08	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	
Eqpt Blank 08	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	*2
Trip Blank 08	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	

**FOOTNOTES FOR Table 2. Groundwater Analytical Results.**

Concentrations are given in milligrams per liter (mg/L)

Volatile Organic Compounds (VOC) were analyzed by EPA Method 8260B

J before the sample concentration indicates estimated concentration was > MDL, but < PQL.

ND = Not Detected (Below Quantitation Limits)

PCE = Tetrachloroethene, also known as perchloroethylene, tetrachloroethylene, or perc

TCE = Trichloroethene, also known as trichloroethylene

DCE = Dichloroethene

VC = Vinyl Chloride

A monitoring well was located on the Lindsay Property that was only sampled in 2008. This well will be referred to as MW-5 Lindsay.

A Monitoring Well was installed on the Bowen property. "MW-5" without qualifiers refers to this well

Deep Monitoring Well, MW-6, 70' deep, was installed on the Bowen Property on October 11, 2013

2008 or 08 = Sample was collected on August 27, 2008

2012 or 12 = Sample was collected on April 18, 2012

\*1 = Chloroform 0.004 mg/l

\*2 = Naphthalene 0.006 mg/l

\*3 = Chloroform detected at 0.011 mg/l

\*4 = Chloroform 0.044 mg/l; Bromodichloromethane 0.0056 mg/l

\*5 = Chloroform detected at .0045 mg/l in MW-5 and at 0.022 mg/l in MW-6D

\*6 = Chloroform detected at 0.27 mg/l in MW-6D

The number of decimal places have been equalized to improve the ease of comparisons between relative concentrations. Therefore, the number of decimal places shown do not necessarily equal the number of significant digits. See the lab report for the correct number of significant digits.

**TABLE 3. Sub-Slab Soil Vapor Analytical Results**  
**Roswell Cleaners**  
**1013 Alpharetta Street**  
**Roswell, Fulton County, Georgia 30075**

Subsurface Vapor was Sampled on March 16, 2013

SAMPLE ID	Compound	SUB-SLAB VAPOR SAMPLE ANALYTICAL RESULTS		
		parts per billion by volume(ppbv)	micrograms/cubic meter (ug/m3)	NOTES
<b>PRIMARY TARGET COMPOUNDS</b>				
SSVS-1	Tetrachloroethene (PCE)	39.00	270.00	
SSVS-1	Trichloroethene (TCE)	4.90	26.00	
SSVS-1	cis-1,2-Dichloroethene	2.40	10.00	
SSVS-1	trans-1,2-Dichloroethene	ND(0.50)	ND(2.0)	not detected
SSVS-1	Vinyl Chloride	ND(0.50)	ND(1.3)	not detected
<b>OTHER TO-15 TARGET COMPOUNDS</b>				
SSVS-1	Acetone	45.00	110.00	
SSVS-1	Acetonitrile	0.72	1.20	
SSVS-1	Benzene	5.90	19.00	
SSVS-1	n-Butane	1.80	4.20	
SSVS-1	2-Butanone (MEK)	2.20	6.60	
SSVS-1	Chloromethane	0.52	1.10	
SSVS-1	Ethanol	33.00	63.00	
SSVS-1	Ethyl Acetate	1.20	4.20	
SSVS-1	4-Ethyltoluene	0.54	2.70	
SSVS-1	n-Hexane	0.58	2.00	
SSVS-1	Isopropyl Alcohol	180.00	450.00	
SSVS-1	Naphthalene	0.54	2.80	
SSVS-1	Tertiary Butyl Alcohol (TBA)	8.40	25.00	
SSVS-1	Toluene	4.60	17.00	
SSVS-1	1,2,4-Trimethylbenzene	0.55	2.70	
SSVS-1	m,p Xylene	1.60	7.20	
SSVS-1	ortho Xylene	0.60	2.60	
<b>TENTATIVELY IDENTIFIED COMPOUNDS (TICs)</b>				
SSVS-1	Acetaldehyde	5.50	9.90	
SSVS-1	Butanal	5.00	15.00	
SSVS-1	Difluorochloromethane	3.80	5.47	
SSVS-1	Hexanal	1.40	5.90	
SSVS-1	Limonene	5.90	33.00	
SSVS-1	Propanal,2,2-dimethyl-	2.40	8.40	
<b>Total Volatile Organic Compounds</b>				
SSVS-1	TVOC TO-15 Target Compounds	340.00	1000.00	
SSVS-1	TVOC TICs only	24.00	85.00	
SSVS-1	TVOC Total of all VOCs detected	360.00	1100.00	rounded off

**NOTES:** ND = Not Detected

Concentrations are given in parts per billion by volume (ppbv) and micrograms per cubic meter (ug/m3)

Compounds not detected are not listed (except primary targets). See Laboratory Analytical Report.

The number of decimal places are equalized to improve comparisons between relative concentrations.

Number of decimal places shown do not necessarily represent number of significant figures (see lab report).

**Table 4. Water Table Elevations**  
**Roswell Cleaners**  
**1013 Alpharetta Street**  
**Roswell, Fulton County, Georgia**

MONITORING WELL	DATE MEASURED	TOP-OF-CASING ELEVATION (feet)	DEPTH TO WATER (feet)	WATER TABLE ELEVATION (feet)	NOTES
MW-1	8/26/2008	93.77	23.56	70.21	
MW-1	8/27/2008	93.77	23.63	70.14	
MW-1	9/28/2008	93.77	23.98	69.79	slug test date
MW-1	4/16/2012	93.77	22.07	71.70	
MW-1	4/18/2012	93.77	22.14	71.63	
MW-1	5/16/2012	93.77	22.36	71.41	
MW-1	3/14/2013	93.77	22.43	71.34	
MW-1	9/19/2013	93.77	19.60	74.17	
MW-1	3/6/2014	93.77	18.98	74.79	
MW-1	8/27/2014	93.77	19.80	73.97	
MW-1	3/6/2015	93.77	21.48	72.29	
MW-1	8/7/2015	93.77	21.02	72.75	
MW-2	8/26/2008	94.12	24.49	69.63	
MW-2	8/27/2008	94.12	24.27	69.85	
MW-2	9/28/2008	94.12	24.82	69.30	slug test date
MW-2	4/16/2012	94.12	22.55	71.57	
MW-2	4/18/2012	94.12	22.62	71.50	
MW-2	5/16/2012	94.12	22.83	71.29	
MW-2	3/14/2013	94.12	22.03	72.09	
MW-2	9/19/2013	94.12	20.26	73.86	
MW-2	3/6/2014	94.12	19.51	74.61	
MW-2	8/27/2014	94.12	20.58	73.54	
MW-2	3/6/2015	94.12	21.50	72.62	
MW-2	8/7/2015	94.12	21.60	72.52	
MW-3	8/26/2008	94.87	28.46	66.41	
MW-3	8/27/2008	94.87	28.40	66.47	
MW-3	9/28/2008	94.87	28.63	66.24	slug test date
MW-3	4/16/2012	94.87	27.42	67.45	
MW-3	4/18/2012	94.87	27.50	67.37	
MW-3	5/16/2012	94.87	27.74	67.13	
MW-3	3/14/2013	94.87	27.15	67.72	
MW-3	9/19/2013	94.87	25.83	69.04	
MW-3	3/6/2014	94.87	25.35	69.52	
MW-3	8/27/2014	94.87	26.21	68.66	
MW-3	3/6/2015	94.87	26.73	68.14	
MW-3	8/7/2015	94.87	27.03	67.84	

Note: Table 4 Continued on the next page.

**Table 4. Water Table Elevations (Cont.)**  
**Roswell Cleaners**  
**1013 Alpharetta Street**  
**Roswell, Fulton County, Georgia**

MONITORING WELL	DATE MEASURED	TOP-OF-CASING ELEVATION (feet)	DEPTH TO WATER (feet)	WATER TABLE ELEVATION (feet)	NOTES
MW-4	8/26/2008	94.57	26.22	68.35	
MW-4	8/27/2008	94.57	25.77	68.80	
MW-4	4/16/2012	94.57	24.40	70.17	
MW-4	4/18/2012	94.57	24.44	70.13	
MW-4	5/16/2012	94.57	24.72	69.85	
MW-4	3/14/2013	94.57	24.06	70.51	
MW-4	9/19/2013	94.57	22.06	72.51	
MW-4	3/6/2014	94.57	21.17	73.40	
MW-4	8/27/2014	94.57	22.50	72.07	
MW-4	3/6/2015	94.57	23.47	71.10	
MW-4	8/7/2015	94.57	23.53	71.04	
MW-5	4/18/2012	94.82	25.52	69.30	
MW-5	5/16/2012	94.82	25.75	69.07	
MW-5	3/14/2013	94.82	25.63	69.19	
MW-5	9/19/2013	94.82	23.55	71.27	
MW-5	3/6/2014	94.82	23.01	71.81	
MW-5	8/27/2014	94.82	23.74	71.08	
MW-5	3/6/2015	94.82	24.97	69.85	
MW-5	8/7/2015	94.82	24.72	70.10	
MW-6D	9/19/2013	95.54	19.53	76.01	deep well
MW-6D	3/6/2014	95.54	18.53	77.01	
MW-6D	8/27/2014	95.54	19.97	75.57	
MW-6D	3/6/2015	95.54	21.30	74.24	
MW-6D	8/7/2015	95.54	21.20	74.34	
MW-5 Lindsay	8/26/2008	82.92	15.22	67.70	
MW-5 Lindsay	8/27/2008	82.92	15.00	67.92	
MW-6 Lindsay	8/26/2008	81.59	14.60	66.99	
MW-6 Lindsay	8/27/2008	81.59	14.26	67.33	
MW-7 Lindsay	8/26/2008	81.18	16.00	65.18	
MW-7 Lindsay	8/27/2008	81.18	15.83	65.35	

NOTES:

1. Top of Casing Elevations are relative elevations, relative to an assumed height of instrument (H.I.) of 100.00 feet on August 26, 2008.
2. Gauging conducted on dates (and at monitoring wells) utilized for conducting slug tests is noted in the last column.
3. MW-5 and MW-6D (without add'l notation) refers to wells on the Bowen Property. Wells denoted "Lindsay" are on the Lindsay Property. These wells have not been sampled by AEC since 2008; access has not been available.

## **ATTACHMENTS**

## **WELL PURGING AND SAMPLING LOGS**

# WELL PURGING AND SAMPLING DATA

WELL NO: MW-1

DATE: 8-7-2015		PROJECT NAME: Roswell Cleanups project		PROJECT NO. REB-2414					
WEATHER CONDITIONS: Mid, Pt Col, calm, not raining & recent heavy rain (yesterday)									
WELL DIAMETER (IN.) <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 4 <input type="checkbox"/> 6 <input type="checkbox"/> Other (specify)									
SAMPLE TYPE <input checked="" type="checkbox"/> GROUNDWATER <input type="checkbox"/> WASTEWATER <input type="checkbox"/> SURFACE WATER <input type="checkbox"/> OTHER									
WELL DEPTH (BTOC) 35 FT.		DEPTH TO WATER BEFORE PURGE 21.02							
HEIGHT OF COLUMN OF WATER 14 FT		CALCULATED ONE WELL VOLUME 2.4							
PURGING DEVICE: <input checked="" type="checkbox"/> Bladder <input type="checkbox"/> DEDICATED		<input type="checkbox"/> DISPOSABLE <input checked="" type="checkbox"/> DECONTAMINATED							
SAMPLING DEVICE: <input checked="" type="checkbox"/> Bladder <input type="checkbox"/> DEDICATED		<input type="checkbox"/> DISPOSABLE <input checked="" type="checkbox"/> DECONTAMINATED							
EQUIP'T DECON: <input checked="" type="checkbox"/> TAP WATER WASH <input type="checkbox"/> ISOPROPANOL <input checked="" type="checkbox"/> ANALYTE FREE FINAL RINSE									
<input type="checkbox"/> ALCONOX WASH <input type="checkbox"/> DIST/DEION 1 RINSE <input type="checkbox"/> OTHER SOLVENT <input type="checkbox"/> DIST/DEION FINAL RINSE									
<input checked="" type="checkbox"/> LIQUINOX WASH <input type="checkbox"/> DIST/DEION 2 RINSE <input type="checkbox"/> TAP WATER FINAL RINSE <input type="checkbox"/> AIR DRY									
CONTAINER PRESERVATION: <input checked="" type="checkbox"/> LAB PRESERVED <input type="checkbox"/> FIELD PRESERVED									
WATER ANALYZER MAKE, MODEL, SERIAL NO. HORIBA U-53 ZU30ARSA									
ACTUAL TIME (MIN)	CUMUL. PURGED (GAL)	TEMP F	pH	SPECIFIC CONDUCT (mS/cm)	TURBIDITY (NTUs)	DISS. OXYGEN (mg/L)	WATER APPEAR	REMARKS:	
							CL=CLEAR	ODOR	
							CO-CLOUDY	COLOR	
							TU=TURBID	PID ORP	
								282	
11:48	INITIAL	23.37	5.14	0.158	29.6	9.40	CL-CO	Very faint beige	
11:51	1	24.08	5.07	0.139	19.3	5.48	CL-CO	No odor 278	
11:55	2.5	24.04	5.01	0.138	10.8	4.94	CL	Clean 280	
11:59	4	24.56	4.98	0.137	3.77	4.25	CL	" 282	
12:03	5.5	25.14	4.95	0.134	0.00	7.46	CL	" 291	
DEPTH TO WATER AFTER PURGING (BTOC)		21.77		SAMPLE FILTERED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		SIZE			
NOTES:									
Turbidity cleared up completely during purging				SAMPLE TIME: 12:03		ID# MW-1			
				DUPLICATE <input type="checkbox"/> TIME: ID#					
				EQUIP. BLANK <input type="checkbox"/> TIME: ID#					
		PREPARED BY: Peter T. Kellay, P.E.							

VOLUME OF WATER IN 1 FOOT: 0.0102 Gal in 1/2 inch 0.023 Gal in 3/4 inch 0.041 Gal in 1" DIA pipe  
 0.17 Gal in 2" inch 0.65 Gal in 4 inch 1.47 Gal in 6 inch DIA pipe



# **WELL PURGING AND SAMPLING DATA**

WELL NO: MW-3

VOLUME OF WATER IN 1 FOOT: 0.0102 Gal in 1/2 inch    0.023 Gal in 3/4 inch    0.041 Gal in 1" DIA pipe  
                        0.17 Gal in 2" inch    0.65 Gal in 4 inch    1.47 Gal in 6 inch DIA pipe

# WELL PURGING AND SAMPLING DATA

WELL NO: MUL-4  
PROJECT NO. REB-2414

DATE: 8-7-2005		PROJECT NAME: Roswell Cleanups Project		PROJECT NO. REB-2414					
WEATHER CONDITIONS: Partly cloudy, calm, no wind & recent heavy rain yesterday.									
WELL DIAMETER (IN.) <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 4 <input type="checkbox"/> 6 <input type="checkbox"/> Other (specify)									
SAMPLE TYPE <input checked="" type="checkbox"/> GROUNDWATER <input type="checkbox"/> WASTEWATER <input type="checkbox"/> SURFACE WATER <input type="checkbox"/> OTHER									
WELL DEPTH (BTOC) 35 FT.		DEPTH TO WATER BEFORE PURGE 23.53							
HEIGHT OF COLUMN OF WATER 12 FT		CALCULATED ONE WELL VOLUME 2.0							
PURGING DEVICE: QED Blaster <input type="checkbox"/> DEDICATED		<input type="checkbox"/> DISPOSABLE <input checked="" type="checkbox"/> DECONTAMINATED							
SAMPLING DEVICE: QED Blaster <input type="checkbox"/> DEDICATED		<input type="checkbox"/> DISPOSABLE <input checked="" type="checkbox"/> DECONTAMINATED							
EQUIP'T DECON: <input type="checkbox"/> TAP WATER WASH <input type="checkbox"/> ISOPROPOANOL <input checked="" type="checkbox"/> ANALYTE FREE FINAL RINSE									
<input type="checkbox"/> ALCONOX WASH <input type="checkbox"/> DIST/DEION 1 RINSE <input type="checkbox"/> OTHER SOLVENT <input type="checkbox"/> DIST/DEION FINAL RINSE									
<input checked="" type="checkbox"/> LIQUINOX WASH <input type="checkbox"/> DIST/DEION 2 RINSE <input type="checkbox"/> TAP WATER FINAL RINSE <input type="checkbox"/> AIR DRY									
CONTAINER PRESERVATION: <input checked="" type="checkbox"/> LAB PRESERVED <input type="checkbox"/> FIELD PRESERVED									
WATER ANALYZER MAKE, MODEL, SERIAL NO. HORIBA U-53 ZUBARSA									
ACTUAL TIME (MIN)	CUMUL. VOLUME PURGED (GAL)	TEMP F °C	pH	SPECIFIC CONDUCT (mS/cm)	TURBIDITY (NTUs)	DISS. OXYGEN (mg/L)	WATER APPEAR	REMARKS: ODOR COLOR PID	
							CL=CLEAR CO-CLOUDY TU=TURBID	DRP	
2:34	INITIAL	THE HORIBA FAILED - CO					- Cloudy, being brown		
2:38	1.5 NO REMAINING WERE OBTAINED CO								
2:41	2.5	IN	MW-4			CO	- "	Aged water	
2:45	4.0					CO	- "	odor	
2:50	5.5					CO	- "	"	
2:54	6.5					CO	- "	"	
2:58	8					CO	- "	"	
DEPTH TO WATER AFTER PURGING (BTOC)		25.87			SAMPLE FILTERED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO SIZE				
NOTES:					SAMPLE TIME: 3:03 ID# MUL-4 DUPLICATE <input type="checkbox"/> TIME: ID# EQUIP. BLANK <input type="checkbox"/> TIME: ID# PREPARED BY: Peter T. Kelley, PE				

VOLUME OF WATER IN 1 FOOT: 0.0102 Gal in 1/2 inch 0.023 Gal in 3/4 inch 0.041 Gal in 1" DIA pipe  
 0.17 Gal in 2" inch 0.65 Gal in 4 inch 1.47 Gal in 6 inch DIA pipe



# WELL PURGING AND SAMPLING DATA

DATE: 8-7-2015		PROJECT NAME: Roswell Cleaners Project		WELL NO: MW-60		PROJECT NO. REB-244		
WEATHER CONDITIONS: Partly cloudy, calm, moist air with recent heavy rain (yesterday)								
WELL DIAMETER (IN.) <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 4 <input type="checkbox"/> 6 <input type="checkbox"/> Other (specify)								
SAMPLE TYPE <input checked="" type="checkbox"/> GROUNDWATER <input type="checkbox"/> WASTEWATER <input type="checkbox"/> SURFACE WATER <input type="checkbox"/> OTHER								
WELL DEPTH (BTOC) 70 FT.		DEPTH TO WATER BEFORE PURGE 21.60						
HEIGHT OF COLUMN OF WATER 48 FT		CALCULATED ONE WELL VOLUME 8.1						
PURGING DEVICE: <input checked="" type="checkbox"/> Bladder <input type="checkbox"/> DEDICATED		<input type="checkbox"/> DISPOSABLE <input checked="" type="checkbox"/> DECONTAMINATED						
SAMPLING DEVICE: <input checked="" type="checkbox"/> Bladder <input type="checkbox"/> DEDICATED		<input type="checkbox"/> DISPOSABLE <input checked="" type="checkbox"/> DECONTAMINATED						
EQUIP'T DECON: <input type="checkbox"/> TAP WATER WASH <input type="checkbox"/> ISOPROPANOL <input type="checkbox"/> ANALYTE FREE FINAL RINSE								
<input type="checkbox"/> ALCONOX WASH <input type="checkbox"/> DIST/DEION 1 RINSE <input type="checkbox"/> OTHER SOLVENT <input type="checkbox"/> DIST/DEION FINAL RINSE								
<input checked="" type="checkbox"/> LIQUINOX WASH <input type="checkbox"/> DIST/DEION 2 RINSE <input type="checkbox"/> TAP WATER FINAL RINSE <input type="checkbox"/> AIR DRY								
CONTAINER PRESERVATION: <input checked="" type="checkbox"/> LAB PRESERVED <input type="checkbox"/> FIELD PRESERVED								
WATER ANALYZER MAKE, MODEL, SERIAL NO. HACH U-53 203 CARSA								
ACTUAL TIME (MIN)	CUMUL. VOLUME PURGED (GAL)	TEMP <input type="checkbox"/> F <input checked="" type="checkbox"/> C	pH	SPECIFIC CONDUCT (mS/cm)	TURBIDITY (NTUs)	DISS. OXYGEN (mg/L)	WATER APPEARANCE	REMARKS: ODOR COLOR PID ORP
1:13	INITIAL	74.94	6.09	0.111	50.1	7.68	CL-CO	very slight beige 309
1:18	2	25.81	6.23	0.112	45.7	7.20	CL	-- -- 273
1:24	4	23.62	6.54	0.114	0.00	5.58	CL	-- -- 284
1:31	6	23.10	6.70	0.115	0.00	9.53	CL	-- -- 260
1:36	8	22.59	6.72	0.116	0.00	6.40	CL	-- -- 259
1:42	10	22.29	6.71	0.116	0.00	10.11	CL	-- -- 254
1:49	12	22.58	6.77	0.117	0.00	9.84	CL	-- -- 252
1:55	14.5	22.38	6.78	0.116	0.00	9.89	CL	-- -- 248
DEPTH TO WATER AFTER PURGING (BTOC)		22.42		SAMPLE FILTERED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		SIZE		
NOTES:								
		SAMPLE TIME: 1:57 ID# MW-60 DUPLICATE <input type="checkbox"/> TIME: ID# EQUIP. BLANK <input type="checkbox"/> TIME: ID#						
		PREPARED BY: Peter T. Kelley, P.E.						

VOLUME OF WATER IN 1 FOOT: 0.0102 Gal in 1/2 inch 0.023 Gal in 3/4 inch 0.041 Gal in 1" DIA pipe  
 0.17 Gal in 2" inch 0.65 Gal in 4 inch 1.47 Gal in 6 inch DIA pipe

## **GROUNDWATER ANALYTICAL RESULTS**

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## Laboratory Report

**ACL Project #: 68228**

**Client Proj #: REB-2414 / Roswell Cleaners**

**Prepared For:**

Atlanta Environmental Consultants  
3440 Blue Springs Rd.  
Suite 503  
Kennesaw, GA 30144-0000

**Attention:** Mr. Peter Kallay

**Report Date:** 08/31/2015

**This report contains 10 pages.**  
(including this cover page and chain of custody)



John Andros  
Lab Manager



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**Explanation of Symbols and Abbreviations**

Listed below are common symbols and abbreviations typically used in reporting technical data:

PQL	Practical Quantitation Limit	MDL	Method Detection Limit
BQL	Below Quantitation Limit	BDL	Below Method Detection Limit
MPN	Most Probable Number	TNTC	Too Numerous To Count
NTU	Nephelometric Turbidity Units	BTU	British Thermal Units
°C	Degrees Centigrade	°F	Degrees Fahrenheit
µmhos/cm	micromhos/cm	cfu	Colony Forming Unit
DF	Dilution Factor	meq	milliequivalents
kg	kilogram(s)	g	gram(s)
mg	milligram(s)	µg	microgram(s)
l or L	liter(s)	ml or mL	milliliter(s)
µl or µL	microliter(s)	m³	cubic meter(s)
lb	pound(s)	ft³	cubic foot(feet)
ft	foot(feet)	su	Standard Units
<	Less than	>	Greater than

mg/L, mg/kg                          Units of concentration in milligrams per liter for liquids and milligrams per kilogram for solids. Also referred to as parts per million or "ppm" when the assumption is made that the specific gravity or density is one (1 g/mL).

µg/L, µg/kg                          Units of concentration in micrograms per liter for liquids and micrograms per kilogram for solids. Also referred to as parts per billion or "ppb" when the assumption is made that the specific gravity or density is one (1 g/mL).

wt %                                  Units of concentration expressed on a weight/weight basis (e.g. grams per 100 grams).

Surrogate                                  Compound(s) added by the laboratory for quality control monitoring.

mg/kg,dw                                  Units of concentration in milligrams per kilogram (dry weight basis).

**Data Qualifiers:**

- B Analyte was also detected in the method blank
- E Estimated value - analyte was detected at concentration greater than upper calibration limit
- F Estimated value - analyte should have been tested as a field parameter
- H Estimated value - sample was analyzed beyond the accepted holding time
- J Estimated value - analyte was detected < PQL and ≥ MDL
- L The batch-specific LCS and/or LCSD was not within lab control limits for this analyte
- M The batch-specific MS and/or MSD was not within lab control limits for this analyte
- R The RPD between batch-specific sample/dup or MS/MSD was not within lab control limits for this analyte
- S The surrogate recovery was not within quality control limits
- Z Laboratory specific qualifier – refer to case narrative
- \* Performed in strict accordance with the procedures and controls of the ACL quality system, but not currently in the NELAC list of certified analytes/methods

Solid samples (i.e. soil, sludge, solid waste) are reported on a wet weight basis unless otherwise noted.  
Estimated uncertainty values are available upon request.

Representation and Limitation of Liability – The accuracy of all analytical results for samples begins as it is received by the laboratory. The integrity of the sample begins at the time it is placed in the possession of authorized ACL personnel. All other warranties, expressed or implied, are disclaimed. Liability is limited to the cost of the analysis.

**Client:** Atlanta Environmental Consultants  
 3440 Blue Springs Rd.  
 Suite 503  
 Kennesaw, GA 30144-0000

**Client Proj #:** REB-2414 / Roswell Cleaners  
**ACL Project #:** 68228  
**Date Received:** 08/07/2015  
**Date Reported:** 08/31/2015

**Contact:** Mr. Peter Kallay

### Volatile Organics (8260B)

<b>Sample ID:</b>	MW-1	<b>Matrix:</b>	Water
<b>ACL Sample #:</b>	307254	<b>Date Sampled:</b>	08/07/2015 12:03
<b>Units:</b>	µg/L	<b>Date Prepared:</b>	
		<b>Date Analyzed:</b>	08/17/2015
		<b>Analyst:</b>	JG

Analyte	Result	PQL	Analyte	Result	PQL
Acetone	BQL	100	1,3-Dichloropropane	BQL	5.0
Acrolein	BQL	50	2,2-Dichloropropane	BQL	5.0
Acrylonitrile	BQL	50	1,1-Dichloropropene	BQL	5.0
Benzene	BQL	5.0	cis-1,3-Dichloropropene	BQL	5.0
Bromobenzene	BQL	5.0	trans-1,3-Dichloropropene	BQL	5.0
Bromoform	BQL	5.0	Ethylbenzene	BQL	5.0
Bromochloromethane	BQL	5.0	Hexachlorobutadiene	BQL	5.0
Bromodichloromethane	BQL	5.0	2-Hexanone	BQL	50
Bromoform	BQL	5.0	Isopropylbenzene	BQL	5.0
Bromomethane	BQL	10	p-Isopropyltoluene	BQL	5.0
2-Butanone	BQL	100	4-Methyl-2-pentanone	BQL	50
n-Butylbenzene	BQL	5.0	Methylene chloride	BQL	5.0
sec-Butylbenzene	BQL	5.0	Naphthalene	BQL	5.0
tert-Butylbenzene	BQL	5.0	n-Propylbenzene	BQL	5.0
Carbon disulfide	BQL	5.0	Styrene	BQL	5.0
Carbon tetrachloride	BQL	5.0	1,1,1,2-Tetrachloroethane	BQL	5.0
Chlorobenzene	BQL	5.0	1,1,2,2-Tetrachloroethane	BQL	5.0
Chloroethane	BQL	10	Tetrachloroethene	BQL	5.0
2-Chloroethylvinyl ether	BQL	10	Toluene	BQL	5.0
Chloroform	BQL	5.0	1,2,3-Trichlorobenzene	BQL	5.0
Chloromethane	BQL	10	1,2,4-Trichlorobenzene	BQL	5.0
2-Chlorotoluene	BQL	5.0	1,1,1-Trichloroethane	BQL	5.0
4-Chlorotoluene	BQL	5.0	1,1,2-Trichloroethane	BQL	5.0
1,2-Dibromo-3-chloropropane	BQL	5.0	Trichloroethene	BQL	5.0
Dibromochloromethane	BQL	5.0	Trichlorofluoromethane	BQL	5.0
1,2-Dibromoethane	BQL	5.0	1,2,3-Trichloropropane	BQL	5.0
Dibromomethane	BQL	5.0	1,2,4-Trimethylbenzene	BQL	5.0
1,2-Dichlorobenzene	BQL	5.0	1,3,5-Trimethylbenzene	BQL	5.0
1,3-Dichlorobenzene	BQL	5.0	Vinyl acetate	BQL	50
1,4-Dichlorobenzene	BQL	5.0	Vinyl chloride	BQL	2.0
Dichlorodifluoromethane	BQL	10	m,p-Xylene	BQL	10
1,1-Dichloroethane	BQL	5.0	o-Xylene	BQL	5.0
1,2-Dichloroethane	BQL	5.0			
1,1-Dichloroethene	BQL	5.0			
cis-1,2-Dichloroethene	BQL	5.0			
trans-1,2-Dichloroethene	BQL	5.0			
1,2-Dichloropropane	BQL	5.0			

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### Volatile Organics (8260B)

<b>Sample ID:</b>	MW-5	<b>Matrix:</b>	Water
<b>ACL Sample #:</b>	307255	<b>Date Sampled:</b>	08/07/2015 12:37
<b>Units:</b>	µg/L	<b>Date Prepared:</b>	
		<b>Date Analyzed:</b>	08/17/2015
		<b>Analyst:</b>	JG

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Analyte</b>	<b>Result</b>	<b>PQL</b>
Acetone	BQL	100	1,3-Dichloropropane	BQL	5.0
Acrolein	BQL	50	2,2-Dichloropropane	BQL	5.0
Acrylonitrile	BQL	50	1,1-Dichloropropene	BQL	5.0
Benzene	BQL	5.0	cis-1,3-Dichloropropene	BQL	5.0
Bromobenzene	BQL	5.0	trans-1,3-Dichloropropene	BQL	5.0
Bromoform	BQL	5.0	Ethylbenzene	BQL	5.0
Bromomethane	BQL	5.0	Hexachlorobutadiene	BQL	5.0
Bromodichloromethane	BQL	5.0	2-Hexanone	BQL	50
Bromoform	BQL	5.0	Isopropylbenzene	BQL	5.0
Bromomethane	BQL	10	p-Isopropyltoluene	BQL	5.0
2-Butanone	BQL	100	4-Methyl-2-pentanone	BQL	50
n-Butylbenzene	BQL	5.0	Methylene chloride	BQL	5.0
sec-Butylbenzene	BQL	5.0	Naphthalene	BQL	5.0
tert-Butylbenzene	BQL	5.0	n-Propylbenzene	BQL	5.0
Carbon disulfide	BQL	5.0	Styrene	BQL	5.0
Carbon tetrachloride	BQL	5.0	1,1,1,2-Tetrachloroethane	BQL	5.0
Chlorobenzene	BQL	5.0	1,1,2,2-Tetrachloroethane	BQL	5.0
Chloroethane	BQL	10	Tetrachloroethene	BQL	5.0
2-Chloroethylvinyl ether	BQL	10	Toluene	BQL	5.0
Chloroform	BQL	5.0	1,2,3-Trichlorobenzene	BQL	5.0
Chloromethane	BQL	10	1,2,4-Trichlorobenzene	BQL	5.0
2-Chlorotoluene	BQL	5.0	1,1,1-Trichloroethane	BQL	5.0
4-Chlorotoluene	BQL	5.0	1,1,2-Trichloroethane	BQL	5.0
1,2-Dibromo-3-chloropropane	BQL	5.0	Trichloroethene	BQL	5.0
Dibromochloromethane	BQL	5.0	Trichlorofluoromethane	BQL	5.0
1,2-Dibromoethane	BQL	5.0	1,2,3-Trichloropropane	BQL	5.0
Dibromomethane	BQL	5.0	1,2,4-Trimethylbenzene	BQL	5.0
1,2-Dichlorobenzene	BQL	5.0	1,3,5-Trimethylbenzene	BQL	5.0
1,3-Dichlorobenzene	BQL	5.0	Vinyl acetate	BQL	50
1,4-Dichlorobenzene	BQL	5.0	Vinyl chloride	BQL	2.0
Dichlorodifluoromethane	BQL	10	m,p-Xylene	BQL	10
1,1-Dichloroethane	BQL	5.0	o-Xylene	BQL	5.0
1,2-Dichloroethane	BQL	5.0			
1,1-Dichloroethene	BQL	5.0			
cis-1,2-Dichloroethene	BQL	5.0			
trans-1,2-Dichloroethene	BQL	5.0			
1,2-Dichloropropane	BQL	5.0			

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### Volatile Organics (8260B)

<b>Sample ID:</b>	MW-3	<b>Matrix:</b>	Water
<b>ACL Sample #:</b>	307256	<b>Date Sampled:</b>	08/07/2015 13:08
<b>Units:</b>	µg/L	<b>Date Prepared:</b>	
		<b>Date Analyzed:</b>	08/17/2015
		<b>Analyst:</b>	JG

Analyte	Result	PQL	Analyte	Result	PQL
Acetone	BQL	100	1,3-Dichloropropane	BQL	5.0
Acrolein	BQL	50	2,2-Dichloropropane	BQL	5.0
Acrylonitrile	BQL	50	1,1-Dichloropropene	BQL	5.0
Benzene	BQL	5.0	cis-1,3-Dichloropropene	BQL	5.0
Bromobenzene	BQL	5.0	trans-1,3-Dichloropropene	BQL	5.0
Bromoform	BQL	5.0	Ethylbenzene	BQL	5.0
Bromomethane	BQL	5.0	Hexachlorobutadiene	BQL	5.0
Bromochloromethane	BQL	5.0	2-Hexanone	BQL	50
Bromodichloromethane	BQL	5.0	Isopropylbenzene	BQL	5.0
2-Butanone	BQL	100	p-Isopropyltoluene	BQL	50
n-Butylbenzene	BQL	5.0	4-Methyl-2-pentanone	BQL	50
sec-Butylbenzene	BQL	5.0	Methylene chloride	BQL	5.0
tert-Butylbenzene	BQL	5.0	Naphthalene	BQL	5.0
Carbon disulfide	BQL	5.0	n-Propylbenzene	BQL	5.0
Carbon tetrachloride	BQL	5.0	Styrene	BQL	5.0
Chlorobenzene	BQL	5.0	1,1,1,2-Tetrachloroethane	BQL	5.0
Chloroethane	BQL	10	1,1,2,2-Tetrachloroethane	BQL	5.0
2-Chloroethylvinyl ether	BQL	10	Tetrachloroethene	BQL	5.0
Chloroform	BQL	5.0	Toluene	BQL	5.0
Chloromethane	BQL	10	1,2,3-Trichlorobenzene	BQL	5.0
2-Chlorotoluene	BQL	5.0	1,2,4-Trichlorobenzene	BQL	5.0
4-Chlorotoluene	BQL	5.0	1,1,1-Trichloroethane	BQL	5.0
1,2-Dibromo-3-chloropropane	BQL	5.0	1,1,2-Trichloroethane	BQL	5.0
Dibromochloromethane	BQL	5.0	Trichloroethene	BQL	5.0
1,2-Dibromoethane	BQL	5.0	Trichlorofluoromethane	BQL	5.0
Dibromomethane	BQL	5.0	1,2,3-Trichloropropane	BQL	5.0
1,2-Dichlorobenzene	BQL	5.0	1,2,4-Trimethylbenzene	BQL	5.0
1,3-Dichlorobenzene	BQL	5.0	Vinyl acetate	BQL	50
1,4-Dichlorobenzene	BQL	5.0	Vinyl chloride	BQL	2.0
Dichlorodifluoromethane	BQL	10	m,p-Xylene	BQL	10
1,1-Dichloroethane	BQL	5.0	o-Xylene	BQL	5.0
1,2-Dichloroethane	BQL	5.0			
1,1-Dichloroethene	BQL	5.0			
cis-1,2-Dichloroethene	10	5.0			
trans-1,2-Dichloroethene	BQL	5.0			
1,2-Dichloropropane	BQL	5.0			

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### Volatile Organics (8260B)

<b>Sample ID:</b>	MW-6D	<b>Matrix:</b>	Water
<b>ACL Sample #:</b>	307257	<b>Date Sampled:</b>	08/07/2015 13:57
<b>Units:</b>	µg/L	<b>Date Prepared:</b>	
		<b>Date Analyzed:</b>	08/17/2015
		<b>Analyst:</b>	JG

Analyte	Result	PQL	Analyte	Result	PQL
Acetone	BQL	100	1,3-Dichloropropane	BQL	5.0
Acrolein	BQL	50	2,2-Dichloropropane	BQL	5.0
Acrylonitrile	BQL	50	1,1-Dichloropropene	BQL	5.0
Benzene	BQL	5.0	cis-1,3-Dichloropropene	BQL	5.0
Bromobenzene	BQL	5.0	trans-1,3-Dichloropropene	BQL	5.0
Bromoform	BQL	5.0	Ethylbenzene	BQL	5.0
Bromomethane	BQL	5.0	Hexachlorobutadiene	BQL	5.0
Bromodichloromethane	BQL	5.0	2-Hexanone	BQL	50
Bromoform	BQL	5.0	Isopropylbenzene	BQL	5.0
Bromomethane	BQL	10	p-Isopropyltoluene	BQL	5.0
2-Butanone	BQL	100	4-Methyl-2-pentanone	BQL	50
n-Butylbenzene	BQL	5.0	Methylene chloride	BQL	5.0
sec-Butylbenzene	BQL	5.0	Naphthalene	BQL	5.0
tert-Butylbenzene	BQL	5.0	n-Propylbenzene	BQL	5.0
Carbon disulfide	BQL	5.0	Styrene	BQL	5.0
Carbon tetrachloride	BQL	5.0	1,1,1,2-Tetrachloroethane	BQL	5.0
Chlorobenzene	BQL	5.0	1,1,2,2-Tetrachloroethane	BQL	5.0
Chloroethane	BQL	10	Tetrachloroethene	BQL	5.0
2-Chloroethylvinyl ether	BQL	10	Toluene	BQL	5.0
Chloroform	27	5.0	1,2,3-Trichlorobenzene	BQL	5.0
Chloromethane	BQL	.10	1,2,4-Trichlorobenzene	BQL	5.0
2-Chlorotoluene	BQL	5.0	1,1,1-Trichloroethane	BQL	5.0
4-Chlorotoluene	BQL	5.0	1,1,2-Trichloroethane	BQL	5.0
1,2-Dibromo-3-chloropropane	BQL	5.0	Trichloroethene	BQL	5.0
Dibromochloromethane	BQL	5.0	Trichlorofluoromethane	BQL	5.0
1,2-Dibromoethane	BQL	5.0	1,2,3-Trichloropropane	BQL	5.0
Dibromomethane	BQL	5.0	1,2,4-Trimethylbenzene	BQL	5.0
1,2-Dichlorobenzene	BQL	5.0	1,3,5-Trimethylbenzene	BQL	5.0
1,3-Dichlorobenzene	BQL	5.0	Vinyl acetate	BQL	50
1,4-Dichlorobenzene	BQL	5.0	Vinyl chloride	BQL	2.0
Dichlorodifluoromethane	BQL	10	m,p-Xylene	BQL	10
1,1-Dichloroethane	BQL	5.0	o-Xylene	BQL	5.0
1,2-Dichloroethane	BQL	5.0			
1,1-Dichloroethene	BQL	5.0			
cis-1,2-Dichloroethene	BQL	5.0			
trans-1,2-Dichloroethene	BQL	5.0			
1,2-Dichloropropane	BQL	5.0			

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**Volatile Organics (8260B)**

<b>Sample ID:</b>	MW-2	<b>Matrix:</b>	Water
<b>ACL Sample #:</b>	307258	<b>Date Sampled:</b>	08/07/2015 14:30
<b>Units:</b>	µg/L	<b>Date Prepared:</b>	
		<b>Date Analyzed:</b>	08/17/2015
		<b>Analyst:</b>	JG

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Analyte</b>	<b>Result</b>	<b>PQL</b>
Acetone	BQL	100	1,3-Dichloropropane	BQL	5.0
Acrolein	BQL	50	2,2-Dichloropropane	BQL	5.0
Acrylonitrile	BQL	50	1,1-Dichloropropene	BQL	5.0
Benzene	BQL	5.0	cis-1,3-Dichloropropene	BQL	5.0
Bromobenzene	BQL	5.0	trans-1,3-Dichloropropene	BQL	5.0
Bromoform	BQL	5.0	Ethylbenzene	BQL	5.0
Bromochloromethane	BQL	5.0	Hexachlorobutadiene	BQL	5.0
Bromodichloromethane	BQL	5.0	2-Hexanone	BQL	50
Bromoform	BQL	5.0	Isopropylbenzene	BQL	5.0
Bromomethane	BQL	10	p-Isopropyltoluene	BQL	5.0
2-Butanone	BQL	100	4-Methyl-2-pentanone	BQL	50
n-Butylbenzene	BQL	5.0	Methylene chloride	BQL	5.0
sec-Butylbenzene	BQL	5.0	Naphthalene	BQL	5.0
tert-Butylbenzene	BQL	5.0	n-Propylbenzene	BQL	5.0
Carbon disulfide	BQL	5.0	Styrene	BQL	5.0
Carbon tetrachloride	BQL	5.0	1,1,1,2-Tetrachloroethane	BQL	5.0
Chlorobenzene	BQL	5.0	1,1,2,2-Tetrachloroethane	BQL	5.0
Chloroethane	BQL	10	Tetrachloroethene	BQL	5.0
2-Chloroethylvinyl ether	BQL	10	Toluene	BQL	5.0
Chloroform	BQL	5.0	1,2,3-Trichlorobenzene	BQL	5.0
Chloromethane	BQL	10	1,2,4-Trichlorobenzene	BQL	5.0
2-Chlorotoluene	BQL	5.0	1,1,1-Trichloroethane	BQL	5.0
4-Chlorotoluene	BQL	5.0	1,1,2-Trichloroethane	BQL	5.0
1,2-Dibromo-3-chloropropane	BQL	5.0	Trichloroethene	BQL	5.0
Dibromochloromethane	BQL	5.0	Trichlorofluoromethane	BQL	5.0
1,2-Dibromoethane	BQL	5.0	1,2,3-Trichloropropane	BQL	5.0
Dibromomethane	BQL	5.0	1,2,4-Trimethylbenzene	BQL	5.0
1,2-Dichlorobenzene	BQL	5.0	1,3,5-Trimethylbenzene	BQL	5.0
1,3-Dichlorobenzene	BQL	5.0	Vinyl acetate	BQL	50
1,4-Dichlorobenzene	BQL	5.0	Vinyl chloride	20	2.0
Dichlorodifluoromethane	BQL	10	m,p-Xylene	BQL	10
1,1-Dichloroethane	BQL	5.0	o-Xylene	BQL	5.0
1,2-Dichloroethane	BQL	5.0			
1,1-Dichloroethene	BQL	5.0			
cis-1,2-Dichloroethene	31	5.0			
trans-1,2-Dichloroethene	BQL	5.0			
1,2-Dichloropropane	BQL	5.0			

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### Volatile Organics (8260B)

<b>Sample ID:</b>	MW-4	<b>Matrix:</b>	Water
<b>ACL Sample #:</b>	307259	<b>Date Sampled:</b>	08/07/2015 15:03
<b>Units:</b>	µg/L	<b>Date Prepared:</b>	
		<b>Date Analyzed:</b>	08/17/2015
		<b>Analyst:</b>	JG

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	100	1,3-Dichloropropane	BQL	5.0
Acrolein	BQL	50	2,2-Dichloropropane	BQL	5.0
Acrylonitrile	BQL	50	1,1-Dichloropropene	BQL	5.0
Benzene	BQL	5.0	cis-1,3-Dichloropropene	BQL	5.0
Bromobenzene	BQL	5.0	trans-1,3-Dichloropropene	BQL	5.0
Bromoform	BQL	5.0	Ethylbenzene	BQL	5.0
Bromomethane	BQL	5.0	Hexachlorobutadiene	BQL	5.0
Bromodichloromethane	BQL	5.0	2-Hexanone	BQL	50
Bromoform	BQL	5.0	Isopropylbenzene	BQL	5.0
Bromomethane	BQL	10	p-Isopropyltoluene	BQL	5.0
2-Butanone	BQL	100	4-Methyl-2-pentanone	BQL	50
n-Butylbenzene	BQL	5.0	Methylene chloride	BQL	5.0
sec-Butylbenzene	BQL	5.0	Naphthalene	BQL	5.0
tert-Butylbenzene	BQL	5.0	n-Propylbenzene	BQL	5.0
Carbon disulfide	BQL	5.0	Styrene	BQL	5.0
Carbon tetrachloride	BQL	5.0	1,1,1,2-Tetrachloroethane	BQL	5.0
Chlorobenzene	BQL	5.0	1,1,2,2-Tetrachloroethane	BQL	5.0
Chloroethane	BQL	10	Tetrachloroethene	260	25
2-Chloroethylvinyl ether	BQL	10	Toluene	BQL	5.0
Chloroform	BQL	5.0	1,2,3-Trichlorobenzene	BQL	5.0
Chloromethane	BQL	10	1,2,4-Trichlorobenzene	BQL	5.0
2-Chlorotoluene	BQL	5.0	1,1,1-Trichloroethane	BQL	5.0
4-Chlorotoluene	BQL	5.0	1,1,2-Trichloroethane	BQL	5.0
1,2-Dibromo-3-chloropropane	BQL	5.0	Trichloroethene	150	5.0
Dibromochloromethane	BQL	5.0	Trichlorofluoromethane	BQL	5.0
1,2-Dibromoethane	BQL	5.0	1,2,3-Trichloropropane	BQL	5.0
Dibromomethane	BQL	5.0	1,2,4-Trimethylbenzene	BQL	5.0
1,2-Dichlorobenzene	BQL	5.0	1,3,5-Trimethylbenzene	BQL	5.0
1,3-Dichlorobenzene	BQL	5.0	Vinyl acetate	BQL	50
1,4-Dichlorobenzene	BQL	5.0	Vinyl chloride	BQL	2.0
Dichlorodifluoromethane	BQL	10	m,p-Xylene	BQL	10
1,1-Dichloroethane	BQL	5.0	o-Xylene	BQL	5.0
1,2-Dichloroethane	BQL	5.0			
1,1-Dichloroethene	BQL	5.0			
cis-1,2-Dichloroethene	140	5.0			
trans-1,2-Dichloroethene	BQL	5.0			
1,2-Dichloropropane	BQL	5.0			

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## Sample Log-in Checklist

**Client Name:** Atlanta Environmental Consultants

**ACL Project Number:** **68228**

### Cooler Check

Ice Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Temperature	3 °C	
Evidence Tape Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Evidence Tape Intact?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

For coolers with a temperature greater than 6°C or with a damaged evidence seal, the bottles affected are identified below.

Chain-of-Custody Form Included?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Field Sampling Sheet Included?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Cooler Shipping and Receipt

**Shipping Method:** Delivered by Customer

**Tracking Number:**

**Receipt Date:** 8/7/2015

**Receipt Time:** 4:06 PM

### Bottle Check

Acid Preserved Sample (pH Check): pH<2? Yes  
(pH for VO vials to be checked upon analysis)

Base Preserved Samples (pH Check): pH>12? N/A

Chlorine Check (Positive, Negative, N/A): N/A

### Condition of Containers:

Evidence Tape Present on Bottles?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Evidence Tape Intact?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Loose Caps?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Broken Bottles?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Cooler Unpacked/Checked By:** JG

**Logged In By:** JG

**Log-in Date:** 8/7/2015

**Comments (if any):**



ADVANCED CHEMISTRY LABS, INC.

**3039 Amwiler Road • Suite 100 • Atlanta, GA 30360 ■ (770) 409-1444 • Fax (770) 409-1844**

**ATTACHMENT**  
**UNITED CONSULTING**  
**PHASE II ENVIRONMENTAL ASSESSMENT**  
**66 NORCROSS STREET**

# REPORT

Phase II  
Environmental Assessment  
Norcross Street Property  
66 Norcross Street  
Roswell, Georgia

Project Number  
**2015.0735.01**

August 5, 2015

August 5, 2015

Mr. Doug Curling  
**New Kent Capital**  
1060 Canton Street  
Roswell, GA 30075

*Via e-mail: [doug@newkentcap.com](mailto:doug@newkentcap.com)*

RE: Report of Phase II Environmental Assessment  
**Norcross Street Property**  
66 Norcross Street  
Roswell, Georgia  
Project No. 2015.0735.01

Dear Mr. Curling:

United Consulting is pleased to submit this report of our Phase II Environmental Assessment for the above-referenced project. We appreciate the opportunity to assist you with this project and look forward to our continued participation. Please contact us if you have any questions or if we can be of further assistance.

Sincerely,

**UNITED CONSULTING**

Michael G. Abernathy  
Project Environmental Specialist

Russell C. Griebel, P.G., C.P.G.  
Associate Environmental Specialist

MGA/RCG/ajp

*SP: Sharepoint: 2015.0735.01.ea2.final*

## TABLE OF CONTENTS

EXECUTIVE SUMMARY	
SITE LOCATION.....	5
PURPOSE .....	5
SCOPE OF WORK.....	5
BACKGROUND .....	6
Site History .....	6
GEOLOGIC/HYDROGEOLOGIC SETTING .....	7
INVESTIGATION.....	8
Overview .....	8
Drilling .....	9
Soil Sampling.....	9
Subsurface Conditions .....	9
Soil Screening .....	10
Groundwater Sampling .....	10
Soil-Gas Sampling .....	10
QUALITY CONTROL.....	11
Procedures .....	11
Decontamination .....	11
QC and QC Samples .....	11
Chain-of-Custody.....	11
ANALYTICAL TEST RESULTS.....	11
Quality Control Analytical Testing.....	11
Soil Analytical Testing.....	12
Groundwater Analytical Testing .....	12
Soil-Gas Results .....	13
DATA EVALUATION AND ENVIRONMENTAL ASSESSMENT.....	14
LIMITATIONS.....	16

### TABLE

- Table 1 – Groundwater Analytical Results Summary
- Table 2 – Soil Analytical Results Summary
- Table 3 – VISL Values Based Upon Groundwater Detections
- Table 4 – Summary of Soil Gas Results
- Table 5 – Summary Of Ambient (Indoor) Air Results

### FIGURES

- Figure 1 – Site Location Map
- Figure 2 – USGS Topographic Site Map
- Figure 3 – Boring Location Plan

### APPENDICES

- Appendix A Boring/Well Logs
- Appendix B Chain of Custody/Laboratory Analytical Testing Data
- Appendix C VISL Calculation Worksheets

## EXECUTIVE SUMMARY

United Consulting has completed a Phase II Environmental Assessment on the **Norcross Street Property** site located at 66 Norcross Street in Roswell, Georgia. This property is hereafter referred to in this report as the Project Site. The results from this investigation are briefly summarized below. The text of the report should be reviewed for a discussion of these items.

1. Three direct push borings were advanced on the Project Site to facilitate soil and groundwater sampling. Sampling was recommended at the Project Site based upon a Phase I assessment which found several recognized environmental conditions (RECs), including a northern adjoining dry-cleaning facility and known groundwater detections of solvents on the Project Site.
2. A total of six soil samples (two from each boring) were collected from the Project Site for analytical testing of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), and RCRA metals.
3. Three groundwater samples were collected for analytical testing of VOCs, SVOCs, and RCRA metals. Two of the groundwater samples were collected from two of the borings advanced by United Consulting, one was collected from a monitoring well previously installed by others.
4. Soil gas samples were also obtained from two borings advanced within the Project Site structure. Borings were advanced through the slab using a hammer drill. Sub slab soil gas samples were submitted for analytical testing of VOCs, as well as an ambient (indoor) air sample.
5. During the drilling process, United Consulting recovered soil samples for field testing using a portable organic vapor monitoring instrument. Elevated organic vapors were not detected in these soil samples.
6. Soil analytical testing indicated the presence various RCRA metals in the samples. The concentrations of metals were below the Response and Remediation Program (RRP) Notification Concentrations (NC) and their Type I residential Risk Reduction Standard (RRS).
7. The following VOCs were detected in soil samples collected from the Project Site; cis-1,2-dichloroethene, tetrachloroethene, vinyl chloride, and acetone. All detections were below the NCs and the Type I RRSs. Regulatory reporting is not required for the detected soil impacts.
8. The following VOC constituents were detected in groundwater samples collected from the Project Site; vinyl chloride, tetrachloroethene, trichloroethene and cis-1,2-dichloroethene. The source of these solvents is likely the adjoining dry-cleaning Hazardous Site Inventory (HSI) facility. With the exception of cis-1,2 dichloroethene, detections were above drinking water Maximum Contaminant Levels (MCLs).

9. In United Consulting's opinion, as these groundwater conditions are different from what resulted in the Project Site being delisted from the HSI, the solvent impacts in the groundwater require notification to the EPD Response and Remediation Program within 30 days of the property owner's knowledge of the release, or you would be required to perform such notification within 30 days of closing on the property. United Consulting recommends the determination of possible relisting of the Project Site on the HSI prior to closing.
10. Using the EPA VISL calculator, the groundwater, soil gas, and ambient (indoor) air concentrations are below the EPA recommended levels of  $10^{-5}$  risk values for cancer risk (one in one hundred thousand or 1:100,000) and 1 for non-carcinogenic hazard; both individually and cumulatively. As such, the impacts at the Project Site do not appear to present excessive risk relative to the possible vapor intrusion pathway.
11. Due to the documented soil and groundwater impacts, United Consulting recommends entering the Project Site into the Georgia Brownfield Program. Certain limitation of liability benefits are afforded to you as a prospective purchaser, which is automatically transferable to future property owners. Also, costs related to the Brownfield redevelopment (i.e. sampling and remediation costs) are recoverable through a tax abatement process. Please note that a Brownfield application must be submitted within 30 days of closing to receive liability protections.

## SITE LOCATION

The Project Site consisted of an approximate 0.3 acre tract located in Roswell, Fulton County, Georgia. The Project Site was located at the street address of 66 Norcross Street and is associated with parcel ID 12 190204120632. More specifically, the Project Site was located north of Norcross Street and approximately 250 feet east of Alpharetta Highway. The general location of the Project Site is illustrated on Figure 1

## PURPOSE

United Consulting was retained by New Kent Capital to perform a Phase II Environmental Assessment of the Project Site to evaluate on- and off-site Recognized Environmental Conditions (RECs), previously identified through a Phase I Environmental Assessment. The purpose of this assessment was to determine if the identified RECs had impacted the soil, soil gas, and/or groundwater on the Project Site.

## SCOPE OF WORK

The scope of services was outlined in United Consulting July 10, 2015 proposal, which was authorized by the client on the next day. The scope generally included the following items.

1. Advance three direct push borings across the Project Site to obtain soil, and groundwater samples.
2. Testing all soil samples obtained from the groundwater borings during drilling for the presence of organic vapors with an Organic Vapor Analyzer/Meter (OVM). Organic vapors indicate the possible presence or absence of hazardous organic materials such as solvents, gasoline, etc.;
3. Obtaining six soil samples (one from each boring) for analytical testing of volatile organic compounds (VOCs), semi-VOCs (SVOCs), and RCRA metals;
4. Obtaining three groundwater samples for analysis of VOCs, SVOCs, and RCRA metals (total and dissolved). Two groundwater samples were collected from the rear of the Project Site structure from borings advanced by United Consulting. The third groundwater sample was collected from an existing monitoring well.
5. Installation of two sub-slab soil gas implants for collecting air samples using soil gas canisters. An ambient gas sample was also collected. Air samples were submitted for analysis of TO-15.

## BACKGROUND

### Site History

United Consulting completed a Phase I Environmental Assessment on the Project Site concurrently with this Phase II assessment. Following is a brief summary of findings from the Phase I executive summary:

1. The Project Site was not listed on the state and federal databases reviewed. There were 12 listed facilities identified in the area of the Project Site. There were four historic cleaners and six historic automotive facilities within a quarter-mile of the Project Site. The majority of these facilities were located in areas which did not appear to be up gradient of the Project Site.
2. The site was formerly sub-listed on the Hazardous Site Inventory (HSI) as part of a northern adjoining property containing a drycleaners. Groundwater impacts were previously identified on the Project Site, although more recent sampling did not show impacts. This drycleaners facility adjoining to the north of the Project Site had groundwater impacts of solvents as recently as 2014. A property adjoining to the northwest contained automotive facilities from as early as the 1940s. A property adjoining to the west contained automotive facilities from as early as 1980. United Consulting identifies these three offsite facilities as recognized environmental conditions (RECs) in connection with the Project Site.
3. The former sub-listing of the Project Site on the HSI (now delisted) represents a historical REC (HREC), and due limiting sampling this HREC also represents an REC.
4. Given the detections of solvents in groundwater both on the Project Site and on the northern adjoining property, a vapor encroachment condition exists at the Project Site.
5. United Consulting did identify significant data gaps that affected the Environmental Professional's ability to provide and opinion concerning the environmental condition of the Project Site. United Consulting recommended the current owner be questioned as to the past operations on the Project Site itself as may relate to environmental issues. United Consulting recommended that an environmental lien and activity and use limitation search be conducted for the Project Site. As the Project Site was previously sub-listed as part of a larger tract which is currently listed as an HSI facility, use restrictions may be applied to the property. We understand this will be conducted by a real estate attorney. If lien or use limitations are identified, this report should be amended.
6. A drum labeled as nonhazardous investigative derived waste (IDW) was observed on the Project Site. These are anticipated to be associated with previous environmental sampling

conducted on the Project Site by others. It is recommended this be removed from the Project Site prior to acquisition.

United Consulting recommended this Phase II Environmental Assessment be performed to assess potential soil, soil vapor, and groundwater impacts from the identified RECs.

## GEOLOGIC/HYDROGEOLOGIC SETTING

The topography, geology and hydrogeology commonly control the migration of chemicals released at a site/facility. The relative location of the properties will often define their potential interaction and hydraulic connection. The description of the physical setting for the Project Site is provided below, starting with the topography and geology. The estimated surface water and groundwater flow directions are then estimated and described.

The Project Site is located in the Piedmont Physiographic Province of Georgia, which is characterized by medium to high-grade metamorphic rocks and scattered igneous intrusions. Topography in the province is variable and ranges from gently rolling hills in the west to moderate to steep hills in the north. Based on the United States Geological Survey (USGS) 7.5-minute topographic quadrangle map of the area, Roswell, Georgia, dated 1992, elevations in the vicinity of the Project Site range from approximately 900 feet above mean sea level (ft amsl) to 1,100 ft amsl. The Project Site was located in an area of moderately sloping topography, with an approximate elevation of 1,070 ft amsl. Topography at the Project Site generally slopes down to the south and east. Surface water flow at the Project Site and immediate vicinity is anticipated to generally flow south and east, eventually flowing to Hog Wallow Creek, approximately 2,000 feet from the Project Site. Figure 2 shows the topography of the Project Site and surrounding areas.

The metamorphic rocks comprising the Piedmont were formed when older “parent” rocks were subjected to high temperatures and/or pressures during regional metamorphism that occurred during the creation of the Appalachian Mountains. The same high temperatures and pressures also caused some “parent” rocks to fully melt and subsequently re-crystallize as intrusive igneous rocks. According to the *Geologic Map of Georgia*, the rock types underlying the general area of the Project Site have been mapped as Mica Schist/ Gneiss/ Amphibolite.

In the Piedmont Physiographic Province, the upper groundwater zone is located in residual soils, which is underlain by bedrock. Groundwater flow in the upper zone is generally unconfined and unfractured. Groundwater flow in this region is generally contained in joints, fractures and other openings in bedrock. Groundwater recharge occurs by seepage of water through the soil and/or rock or by flowing directly into openings in outcropping rock. The primary source of recharge water is from precipitation that falls in the area, but can also originate from river discharge during dry periods. The movement of groundwater typically follows the original surface topography, moving from hilltops and uplands to stream valleys. The water table is generally 30 to 100 feet below the ground surface on hilltops and hillsides, but is at or near the ground surface

in stream valleys and draws. In this type of geologic setting, the direction of groundwater flow can be anticipated to generally conform to that of the surface water.

Based on the USGS topographic map of the area, groundwater below the Project Site is anticipated to flow generally to the southeast. Areas considered up-gradient of the Project Site are within approximately 500 feet north of the Project Site. Groundwater measurements in reviewed files confirm this direction of groundwater flow in the area of the Project Site. This anticipated direction of groundwater flow was used to assist in the evaluation of potential impacts from nearby properties during the Phase I Assessment.

## INVESTIGATION

### Overview

This sampling was conducted in order to assess the Project Site for possible impacts associated with the identified RECs. The investigation included advancing a total of three direct push borings on the Project Site to facilitate the collection of soil, soil gas, and groundwater samples. Two soil samples were collected from each of the three borings; groundwater was collected from two of these borings. Groundwater was also collected from an existing monitoring well on the Project Site, installed by others. United Consulting utilized a hammer drill to install two sub-slab vapor implants for the collection of soil gas from below the existing building. A description of the sampling locations is provided below. The sampling locations are illustrated on Figure 3.

- EB-1 and EB-2 were located north of the Project Site building. These areas were near the property line of the Roswell Cleaners HSI facility. Borings were placed adjacent to weep holes in a retaining wall along the property line. These borings were also located down gradient of the former automotive facility to the northwest of the Project Site. Two soil samples and groundwater samples were collected from these borings. Soil samples were collected at one foot below ground surface (bgs), to assess for impacts from surface runoff from the dry-cleaning facility. Soil samples were also collected from EB-1 at eight feet bgs and six foot bgs at EB-2 to assess for deeper soil impacts.
- Groundwater was also collected from existing monitoring well MW-7, which was previously installed by others at the southern end of the Project Site. Groundwater was collected from this well to determine if groundwater impacts have migrated across the Project Site from the offsite RECs.
- EB-3 was installed just southeast of MW-7. Two soil samples were collected from this boring to assess if soil impacts from the identified RECs had migrated across the Project Site.

All groundwater and soil samples were submitted to an independent laboratory for analytical testing of VOCs, SVOCs, and RCRA metals; analysis was conducted via EPA methods 8260B, 8270D, and 7471B/6010C, respectively.

Decontamination was performed and Chain of Custody was maintained, as discussed in the quality Control section of the report. Sampling at the site was conducted in general accordance with the Sampling at the site was conducted in general accordance with the Environmental Protection Agency's (EPAs), current Field Branches Quality System and Technical Procedures (Updated January/February 2008; the EPA procedures are on the internet at: <http://www.epa.gov/region4/sesd/fbqstp/>).

### **Drilling**

Direct push probe activities were conducted at the Project Site on July 24, 2015. The direct push borings were advanced using a track mounted skid steer GeoProbe®, direct push drilling machine. A GeoProbe® is a hydraulically-powered, percussion/probing machine designed specifically for use in the environmental industry. Soil probing techniques can be thought of as a subcategory of what are commonly referred to as Direct Push techniques. Direct Push refers to tools and sensors that are hydraulically pushed into the ground without the use of rotary drilling to remove soil or to make a path for the sampling tool.

### **Soil Sampling**

Samples selected for analytical testing were taken from the interior of the Macro Core sampler immediately after removal from the ground. The soil sampling equipment was cleaned with an Alconox/water solution before and after each sampling location to reduce the potential for cross-contamination.

This sampling tool retrieved continuous samples on a 4-foot interval. The continuous samples were “pushed” into clear PVC, 1.5-inch diameter, sampling tubes. Once the tubes were removed from the ground, the tubes were cut open to reveal the soils for inspection and sampling. The soils were inspected and visually classified using the visual-manual procedure. At approximately 5 foot intervals, the soil samples were screened for organic vapors with a MiniRAE gas meter to ascertain the presence of organic vapors in the soil, as described below.

A total of six soil samples were recovered during drilling activities for analytical testing of VOCs, SVOCs, and RCRA metals; analysis was conducted via EPA methods 8260B, 8270D, and 7471B/6010C, respectively.

### **Subsurface Conditions**

Soil samples at the borings were classified according to the visual-manual procedure by United Consulting's Environmental Specialist. The typical soil profile observed on the Project Site included naturally-occurring soils of the Piedmont physiographic providence. Fill soils were observed to a depth of approximately four to five feet. The fill soils contained varying amounts of sand, silt and clay. On the day of drilling operations, groundwater was encountered in the borings between approximately 11 and 13 feet bgs. A more detailed description of the subsurface conditions encountered is provided on the Boring Logs included in Appendix A.

### **Soil Screening**

The soil samples recovered from the direct push borings were screened with a MultiRAE to ascertain the presence of organic vapors in the soil. The screening was done by placing each soil sample into a clean zip top bag, sealing the bag to allow for the collection of organic vapors, and placing the probe of the MiniRAE into the headspace of the bag. Elevated organic vapors were not detected in these soil samples. The screening results are included on the boring logs in Appendix A.

### **Groundwater Sampling**

At EB-1 and EB-2, temporary 1-inch diameter PVC well pipes were installed to facilitate the groundwater sampling. At these locations, the grab groundwater samples were obtained using either new, disposable, clear Teflon tubing connected to peristaltic pump (at EB-2) or through the use of a new dedicated bailer and string (at EB-1). A grab groundwater sample was also collected from existing MW-7 with new, disposable, clear Teflon tubing connected to peristaltic pump. The groundwater samples were placed in appropriate, clean, laboratory supplied container, packed on ice, and delivered to an independent analytical laboratory for analytical testing. Three groundwater samples were collected and submitted for analytical testing of VOCs, SVOCs, and RCRA metals (total and dissolved metals); analysis was conducted via EPA methods 8260B, 8270D, and 7471B/6010C, respectively.

### **Soil-Gas Sampling**

Soil-gas sampling was conducted within the existing Project Site structure. To facilitate this sampling, a Teflon soil gas implant was installed in a  $\frac{3}{4}$  inch boring advanced using a hammer drill. The borings were advanced to approximately three inches below the slab. The implants were surrounded by Ottawa sand. The Teflon vapor implants were attached to dedicated Teflon tubing that extended to the ground surface for sampling. The remainder of the annulus spaces between the boreholes and the Teflon tubing were filled with Bentonite/grout, which was hydrated with water and allowed to seal prior to sampling. The grout was left to cure for approximately 72 hours prior to sampling.

An indoor ambient sample was collected along with the samples from the implants inside the building. Prior to soil-gas sampling, the collection systems (implants) were purged with a syringe to remove ambient air from the sampling column/tubing. The soil-gas samples were then collected directly from the sub slab into laboratory supplied Summa canisters equipped with 15-minute regulators. The soil-gas samples were stored at ambient temperature and delivered to an independent analytical laboratory for analytical testing of VOC constituents via testing method TO-15.

## QUALITY CONTROL

### Procedures

Quality control procedures included cleaning, sampling and Chain-of-Custody maintenance. Additional quality control samples were obtained associated with the sampling and analysis procedures. Chain of Custody of the samples was maintained.

### Decontamination

The direct push probe rig, probe rods, and sampling equipment were steam cleaned prior to mobilizing on the Project Site. Probing equipment and sampling equipment were also cleaned between direct push probing locations. This cleaning was performed to reduce the potential for contaminating samples due to the drilling process and to limit the potential for cross-contamination between sampling locations. The soil sampling equipment was cleaned after each sample was obtained and removed from the sampler. New dedicated and pre-cleaned equipment was used for the groundwater sample acquisition.

### QC and QC Samples

A quality control sample, a trip blank, was used during the investigation at the Project Site. The trip blank was a vial of HPLC water prepared in the laboratory. The trip blank sample was transferred with the containers and the groundwater samples through the entire trip from the laboratory, to the field, and back to the laboratory. This was to identify potential external impacts to the sample associated with the laboratory environment, sample collection, and the environment during transport. The trip blank was submitted for VOC analyses. An ambient air sample was also obtained during soil gas sampling, and pre-sampling line leak testing was performed.

### Chain-of-Custody

Chain of Custody was used to maintain control of the samples and the associated containers and tests. Chain of custody forms were developed in the laboratory with the sample containers and custody was passed from individual to individual to maintain control of the materials. As the custody of the samples passed from individuals, this was documented on the Chain of Custody forms. Chain-of-Custody was maintained and documented. The chain of custody forms are reproduced in Appendix B.

## ANALYTICAL TEST RESULTS

### Quality Control Analytical Testing

A trip blank was used during the drilling, sampling, and sample transportation process for quality control (QC) assessment. The QC sample was submitted for analytical testing of VOCs by

United States EPA testing method 8260B. No VOC constituents were detected in the sample. Based on these results, evidence of potential cross-contamination or laboratory artifacts for the soil/groundwater samples is not present, which provides support for the validity of the analytical testing results for the Project Site.

An ambient air sample was collected along with the sub-slab samples; this was used for comparative purposes. Comparison of the results supports the sub-slab data. Limited constituents detected in the sub slab samples were detected in the indoor ambient sample. Further, the concentration of tetrachloroethylene in the sub slab is about an order of magnitude less than that in the indoor ambient sample. This a common attenuation factor from sub slab to indoor air.

A copy of the laboratory analytical testing data is included in Appendix B.

### **Soil Analytical Testing**

A total of six soil samples were recovered during drilling activities for analytical testing of VOCs, SVOCs, and RCRA metals; analysis was conducted via EPA methods 8260B, 8270D, and 7471B/6010C, respectively.

The metals barium, mercury, chromium, and lead were detected within the soil samples above the laboratory detection limits. Their concentrations were below their respective State Notifiaion Concentrations (NCs) and Type I residential Risk Reduction Standards (RRS). The metals concentrations appear to be within typical background ranges.

The following VOCs were detected in soil samples collected from the Project Site; cis-1,2-dichloroethene, tetrachloroethene, vinyl chloride, and acetone. Cis-1,2-dichloroethene, tetrachloroethene, and vinyl chloride are typically associated with drycleaning operations. Acetone is a common laboratory artifact. The concentrations of VOCs were below their NCs and Type I RRS.

No SVOCs were detected above the laboratory reporting limits in the soil samples collected. The soil analytical results are summarized in Table 1.

### **Groundwater Analytical Testing**

Three groundwater samples were collected and submitted for analytical testing of VOCs, SVOCs, and RCRA metals; analysis was conducted via EPA methods 8260B, 8270D, and 7471B/6010C, respectively. No SVOCs were detected in the collected groundwater samples.

Cis-1,2-dichloroethene was detected in groundwater collected from all three samples. Vinyl chloride was detected within groundwater collected from the two borings (EB-1 and EB-2) at the northern end of the Project Site, adjoining the dry-cleaning HSI facility. Tetrachloroethene and trichloroethene were also found in one (EB-2) of the groundwater samples from the northern portion of the Project Site. The concentrations of vinyl chloride, tetrachloroethene, and trichloroethene were above their federal drinking water Maximum Contamint Levels (MCLs).

The following metals were detected in the sampled groundwater; barium, chromium, and lead. To account for turbidity in the groundwater samples, both total and dissolved analysis was conducted. Barium was the only metal constituent to be detected above the reporting limit in the dissolved analysis of groundwater collected from the Project Site. The metals groundwater detections are believed to be associated with background conditions and not indicative of an environmental release.

United Consulting reviewed the groundwater data on the Project Site to conduct an initial analysis relative to possible vapor intrusion risk at the existing (or future) building. United Consulting utilized the EPAs OSWER Vapor Intrusion Assessment, Vapor Intrusion Screening Level (VISL) Calculator to calculate the generally recommended, media-specific, risk-based screening-level concentrations for the aforementioned VOCs detected in the groundwater. The VISLs were based on the EPA recommended  $10^{-5}$  risk values for cancer risk (one in one hundred thousand or 1:100,000) and a Hazard Quotient of 1 for non-cancer risk. The VISL calculator was set for a commercial setting. Average stabilized groundwater temperature according to published EPA documents is 19.4 °C. This is the value EPD Brownfield staff also recommends for the VISL calculator in this region.

The highest concentrations for the detected VOC constituents, vinyl chloride, tetrachlorethene and trichloroethene, were entered into the calculator; cis-1,2 dichloroethene does not currently have a VISL value. The individual compound carcinogenic risk and hazards to not exceed the EPA recommended values. Further, those output risk levels were calculated by the VISL calculator to give a cumulative carcinogenic risk or hazard. Based on the results, the detected groundwater constituents do not exceed the EPA recommended cumulative carcinogenic risk or hazard. The VISLs calculation sheets are included in Appendix C.

The groundwater results are summarized in Table 2, VISL calculations for groundwater are included in Table 3. The laboratory report as well as the Chain-of-Custody is reproduced in the Appendix B.

### **Soil-Gas Results**

Two sub slab soil gas samples were collected and analyzed from below the slab of the Project Site structure, an ambient air sample was also collected from within the building. The samples were obtained with Summa canisters, a highly sensitive sampling method. The samples were submitted for testing by EPA Method TO-15 for volatile chemicals.

The sub slab analysis showed the presence of petroleum, solvent, and other chemicals in the samples. Table 4 lists the identified constituents, the highest concentration detected from the two sub-slab samples, and their associated Vapor Intrusion Carcinogenic Risk and Hazard as obtained using the VISL calculator. The VISL calculator was set for a commercial setting. The individual compound carcinogenic risk and hazards to not exceed the EPA recommended values. Further, those output risk levels were calculated by the VISL calculator to give a cumulative carcinogenic risk or hazard. Based on the results, the detected soil gas constituents do not exceed

the EPA recommended cumulative carcinogenic risk or hazard. The VISLs calculation sheets are included in Appendix C.

The ambient (indoor) air analysis showed the presence of petroleum, solvent, and other chemicals in the samples. Some of the detections can be associated with the laboratory analysis process. Table 5 lists the identified constituents, and their associated Vapor Intrusion Carcinogenic Risk and Hazard as obtained using the VISL calculator. The VISL calculator was set for a commercial setting. The individual compound carcinogenic risk and hazards do not exceed the EPA recommended values. Further, those output risk levels were calculated by the VISL calculator to give a cumulative carcinogenic risk or hazard. Based on the results, the detected ambient (indoor) air constituents do not exceed the EPA recommended cumulative carcinogenic risk or hazard. The VISLs calculation sheets are included in Appendix C.

## DATA EVALUATION AND ENVIRONMENTAL ASSESSMENT

United Consulting previously conducted a Phase I Environmental Assessment, which identified on-and-off site RECs associated with the Project Site. The purpose of this assessment was to determine if the identified RECs had impacted the soil, soil gas, and/or groundwater on the Project Site.

No SVOCs were detected in soils collected from the Project Site.

The following VOCs were detected in soil samples collected from the Project Site; cis-1,2 dichloroethene, tetrachloroethene, vinyl chloride, and acetone. All detections were below the state notification concentrations and the Type I residential RRSs. Regulatory reporting is not required for these soil detections. The acetone detection was found at the southern portion of the Project Site, and may have been the result of a laboratory false positive; which is often the case with acetone. The remaining detections are solvents which are likely associated with the northern adjoining dry-cleaning facility. The borings with detections were near this facility property line, near the retaining wall weep holes.

Metals detected at the Project Site include barium, mercury, chromium, and lead. None of these metals were detected at levels above the State of Georgia Response and Remediation Notification Concentrations (NCs) or the Type I RRSs. Based upon these findings, it appears that the metals detections are representative of background conditions.

Groundwater analytical testing did not indicate the presence of SVOC constituents at concentrations above laboratory reporting limits.

The following VOC constituents were detected in groundwater samples collected from the Project Site; vinyl chloride, tetrachloroethene, trichloroethene and cis-1,2 dichloroethene. With the exception of cis-1,2 dichloroethene, the VOC constituents were detected at concentrations exceeding MCLs for drinking water. These detections were greatest at the borings located

adjoining to the northern drycleaning facility; United Consulting believes this facility to be the source of these impacts.

Groundwater samples were submitted for both dissolved and total analysis of metals. Barium was the only metal which appeared above laboratory detection within the dissolved analysis. This indicated the total metal detections were likely the result of turbid samples. The barium detections were below federal drinking water MCLs; these detections were low and likely the result of suspended solids in the samples. Based upon the results, United Consulting does not believe the metal detections in the groundwater to be the result of a release, but rather background conditions.

As previously stated, the site was sub-listed as part of the northern listed Roswell Cleaners facility. The Project Site has since been de-listed with the issuance of an EPD letter in April 2010. Had the current data been available at the time, the site would have likely remained part of the Hazardous Site Inventory. In United Consulting's opinion, as these groundwater conditions are different from what resulted in the Project Site being delisted from the HSI, these groundwater detections above the MCLs require regulatory reporting. This is required to the EPD Response and Remediation Program within 30 days of the property owner's knowledge of the release, or you would be required to perform such notification within 30 days of closing on the property.

Using the EPA VISL calculator, the groundwater, soil gas, and ambient (indoor) air concentrations are below the EPA recommended levels of  $10^{-5}$  risk values for cancer risk (one in one hundred thousand or 1:100,000) and 1 for non-carcinogenic hazard; both individually and cumulatively. As such, the impacts at the Project Site do not appear to present excessive risk relative to the possible vapor intrusion pathway.

Due to the documented soil and groundwater impacts, United Consulting recommends entering the Project Site into the Georgia Brownfield Program. Certain limitation of liability benefits are afforded to you as a prospective purchaser. Also, costs related to the Brownfield redevelopment (i.e. sampling and remediation costs) are recoverable through a tax abatement process.

Based on the impacts present at the Project Site, acquisition of the property through the Georgia Brownfield's Program (BFP) is recommended. The BFP is for obtaining Limitation of Liability (LoL) coverage for chemically impacted properties under the Brownfields Act. Generally, the Act has been established to provide (transferable) LoL to prospective purchasers of impacted properties for:

- Groundwater impacts
- Third party liability, and
- Regulatory changes.

The application process includes submitting either a Prospective Purchaser Corrective Action Plan (PPCAP) or a Prospective Purchaser Compliance Status Report (PPCSR) along with a non-

refundable application review fee of \$3,000.00 to the EPD. In addition, the application document needs to clarify for the EPD the conditions that qualify the property and the purchaser for the program and its protections. Critically, the application must be submitted to the EPD within 30 days of closing the property.

For specific details on LoL protections, please reference O.C.G.A. § 12-8-200, Article 9—Brownfield Act. The conditional Brownfield approval typically requires 3 to 4 weeks. If entering into the BFP, we recommend establishing a meeting with the BFP staff to develop an agreeable path forward to complete the process.

United Consulting has extensive experience with the RRP and BFP, and can use that experience to assist with this process.

## LIMITATIONS

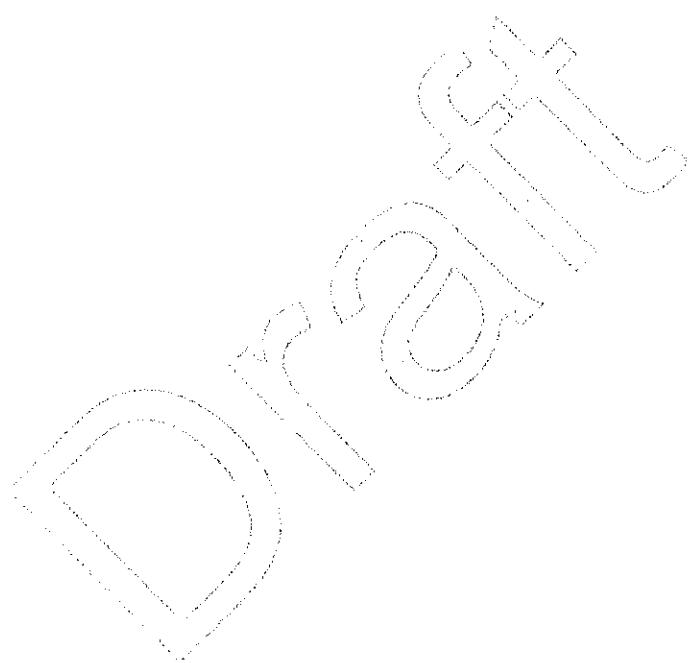
United Consulting has performed appropriate inquiry for this Phase II Environmental Assessment. The analysis and evaluation presented in this report are based on the results of this investigation. Contamination levels should be expected to vary from the boring locations and with time. In addition, regulatory criteria for reporting and/or remediation have changed over time, and will likely be different in the future.

United Consulting's conclusions, opinions and suggestions have been prepared using generally accepted standards prevailing within the relevant disciplines as practiced within the southeastern United States. The data analysis and recommendations stated herein are professional opinions; no warranty is expressed or implied. United Consulting is not responsible for the conclusions, opinions or recommendations of others. Nothing contained within this report is intended to supersede or replace the judgment of the Client. All decisions relating to the aforementioned project or site are the sole responsibility of said users.

This Phase II Environmental Assessment has been prepared on behalf of the client. Should any other person, partnership, or corporation desire to rely upon this report, it will be necessary for United Consulting to update it for the new user. The right to rely upon this report and the data herein may not be assigned without the express written permission of United Consulting. As a prerequisite for the granting of, such permission, the third-party users, (including, but not limited to, the Client's successors and assigns) must agree to be bound by the terms and conditions of the original agreement between United Consulting and the Client. Further, reliance is dependent on similar uses of the property and the document.

## UNITED CONSULTING

**TABLES**



**TABLE 1 SOIL ANALYTICAL RESULTS SUMMARY**

Boring Location	Depth in Feet	SVOCs ug/kg	VOCs ug/kg				RCRA Metals mg/Kg			
			Cis-1,2-dichloroethene	Tetrachloroethene	Vinyl Chloride	Acetone	Barium	Chromium	Lead	Mercury
EB-1	1	BRL	BRL	12	BRL	BRL	107	34.8	14.5	BRL
EB-1	8	BRL	19	BRL	15	BRL	82.8	70.3	66.8	0.153
EB-2	1	BRL	BRL	16	BRL	BRL	67.3	26.4	17.5	BRL
EB-2	6	BRL	35	BRL	BRL	BRL	96.7	35.5	23.3	BRL
EB-3	5	BRL	BRL	BRL	BRL	BRL	55.9	42.7	20.5	BRL
EB-3	10	BRL	BRL	BRL	BRL	85	101	33.9	16.6	BRL
NC*	**		530	180	40	2740	500	1200	400	17
Type I Soil****	**		530	500	40	400	1000	100	75	0.5

BRL=Below laboratory reporting limit

\*NC= Georgia Response and Remediation Notification Concentration

\*\*No SVOC constituents were detected above laboratory reporting limits within the collected soil samples.

\*\*\*Type I Soil Risk Reduction Standards

Constituents not identified in the table were BRL for all soil samples.

**TABLE 2 GROUNDWATER ANALYTICAL RESULTS SUMMARY**

Constituents			EB-1	EB-2	MW-7	MCL
Metals mg/L	Barium	Total	0.0596	0.0684	0.0464	2
		Dissolved	0.0223	0.0320	0.0471	
	Chromium	Total	0.0240	0.0223	BRL	0.1
		Dissolved	BRL	BRL	BRL	
	Lead	Total	0.0133	0.0112	BRL	0.015
		Dissolved	BRL	BRL	BRL	
	VOCs ug/L	Cis-1,2,Dichloroethene	31	43	5.4	70
		Tetrachlorethene	BRL	6.5	BRL	5
		Trichloroethene	BRL	5.5	BRL	5
		Vinyl Chloride	4.9	9.4	BRL	2
SVOCs	BRL		BRL	BRL	BRL	NA

BRL=Below laboratory reporting limit

MCL= Federal maximum contaminant limit for drinking water

Constituents not identified in the table were BRL

Detections in red are above the MCL

**TABLE 3 VISL VALUES BASED UPON GROUNDWATER DETECTIONS**

	Site (maximum) Groundwater Concentration (ug/L)	Calculated Indoor Air Concentration (ug/m <sup>3</sup> )	VI Carcinogenic Risk (CR)	VI Hazard (HQ)
Cis-1,2, Dichloroethene	NA	NA	NA	NA
Tetrachlorethene	6.5E+00	3.46E+00	7.3E-08	2.0E-02
Trichloroethene	5.5E+00	1.69E+00	5.6E-07	1.9E-01
Vinyl Chloride	9.4E+00	9.12E+00	3.3E-06	2.1E-02
	<b>Cumulative CR/HQ:</b>		3.9E-06	2.33E-01
Calculations based upon maximum value measured from across the site.				
NA indicates constituent does not have a VISL calculation value; these constituents are not included in the cumulative calculations.				
Entries in red are over either the Carcinogenic risk of 10E <sup>-5</sup> or the hazard quotient of 1.				

**TABLE 4 SUMMARY OF SOIL GAS RESULTS**

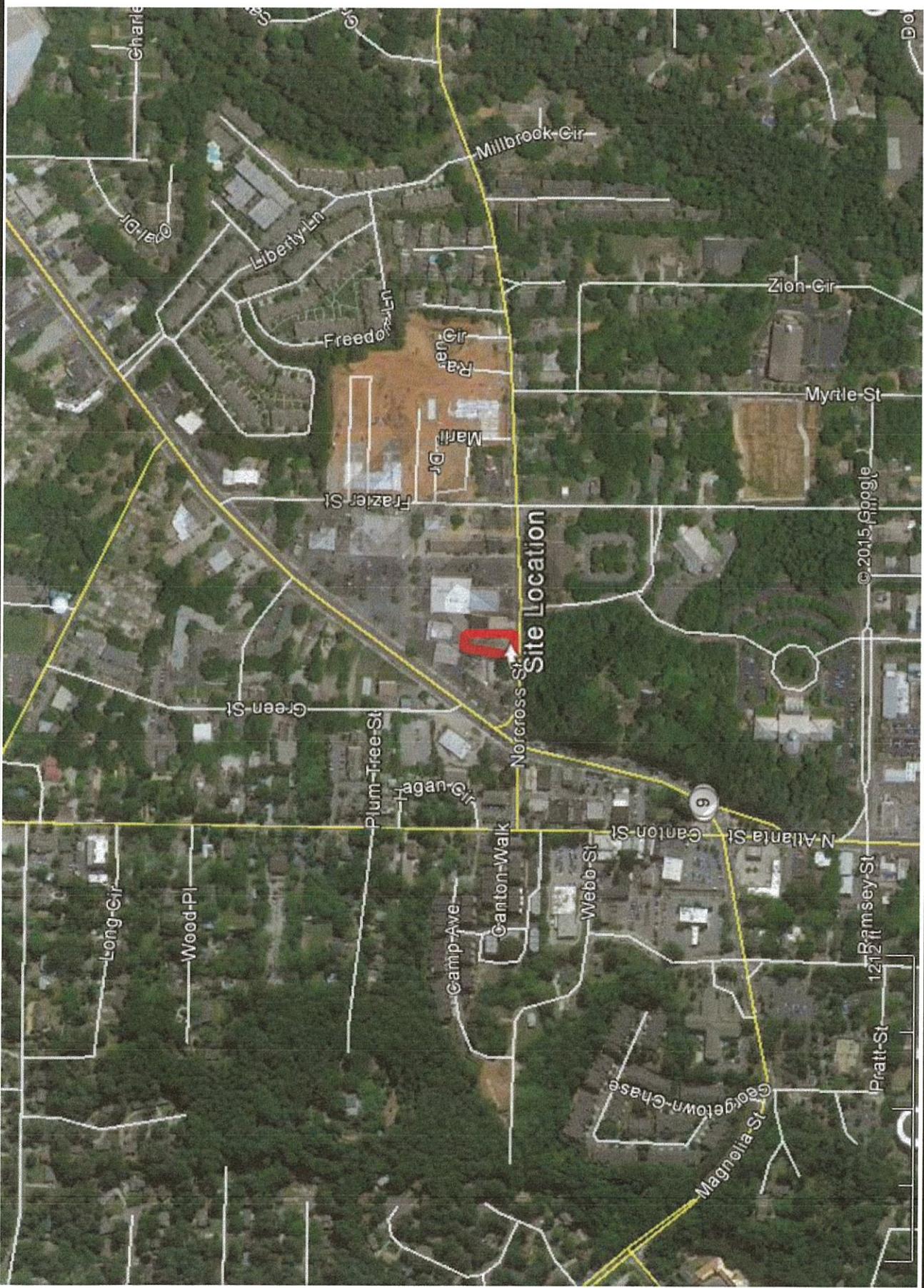
	Site (maximum) Sub Slab Soil Gas Concentration ( $\mu\text{g}/\text{m}^3$ )	Calculated Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	VI Carcinogenic Risk (CR)	VI Hazard (HQ)
Acetone	3.9E+01	1.16E+00	No IUR	8.6E-06
Benzene	2.1E+00	6.30E-02	4.0E-08	4.8E-04
Carbon Disulfide	9.4E+00	2.82E-01	No IUR	9.2E-05
Chloroform	9.2E-01	2.76E-02	5.2E-08	6.4E-05
Cyclohexane	5.0E+00	1.50E-01	No IUR	5.7E-06
Ethyl Acetate	2.3E+00	6.90E-02	No IUR	2.3E-04
Ethylbenzene	9.6E+00	2.88E-01	5.9E-08	6.6E-05
Hexane, N-	6.6E+00	1.98E-01	No IUR	6.5E-05
Hexanone, 2-	3.6E+00	1.08E-01	No IUR	8.2E-04
Methyl Ethyl Ketone (2- Butanone)	9.3E+00	2.79E-01	No IUR	1.3E-05
Methyl Isobutyl Ketone (4- methyl-2-pentanone)	2.3E+00	6.90E-02	No IUR	5.3E-06
Methylene Chloride	3.4E+01	1.01E+00	8.2E-10	3.8E-04
Naphthalene	6.0E+01	1.79E+00	5.0E-06	1.4E-01
Propylene	1.2E+01	3.48E-01	No IUR	2.6E-05
Styrene	6.2E+00	1.86E-01	No IUR	4.2E-05
Tetrachloroethylene	6.5E+01	1.94E+00	4.1E-08	1.1E-02
Toluene	2.2E+01	6.66E-01	No IUR	3.0E-05
Trichloroethane, 1,1,1-	3.2E+00	9.60E-02	No IUR	4.4E-06
Trichloroethylene	4.3E+00	1.29E-01	4.3E-08	1.5E-02
Trimethylbenzene, 1,2,4-	1.8E+00	5.40E-02	No IUR	1.8E-03
Xylenes (total)	9.3E+01	2.78E+00	No IUR	6.3E-03
4-Ethyltoluene	1.07E+01	NA	NA	NA
N-Heptane	3.5E+00	NA	NA	NA
Trimethylbenzene, 1,3,5-	1.03E+01	NA	NA	NA
Trichlorofluoromethane	4.73E+01	NA	NA	NA
	Cumulative CR/HQ:		5.2E-06	1.7E-01

Calculations based upon maximum value measured from across the site.

NA indicates constituent does not have a VISL calculation value; these constituents are not included in the cumulative calculations.

**TABLE 5 SUMMARY OF AMBIENT (INDOOR) AIR RESULTS**

	Site Ambient (Indoor) Air Concentration (ug/m <sup>3</sup> )	VI Carcinogenic Risk (CR)	VI Hazard (HQ)
Acetone	3.90E+01	No IUR	2.9E-04
Chloromethane	1.00E+00	No IUR	2.5E-03
Hexane, N-	2.30E+00	No IUR	7.5E-04
Methyl Ethyl Ketone (2- Butanone)	6.40E+00	No IUR	2.9E-04
Methylene Chloride	7.60E+00	6.2E-09	2.9E-03
Tetrachloroethylene	6.10E+00	1.3E-07	3.5E-02
Toluene	4.30E+00	No IUR	2.0E-04
Trichlorofluoromethane	5.06E+01	No IUR	1.7E-02
<b>Cumulative CR/HQ:</b>		1.42E-07	5.8E-02
Calculations based upon maximum value measured from single ambient sample (near V-2).			
NA indicates constituent does not have a VISL calculation value; these constituents are not included in the cumulative calculations.			



**FIG. 1**

Client:	New Kent Capital
Site:	Noncross Street Property
Title:	Site Location

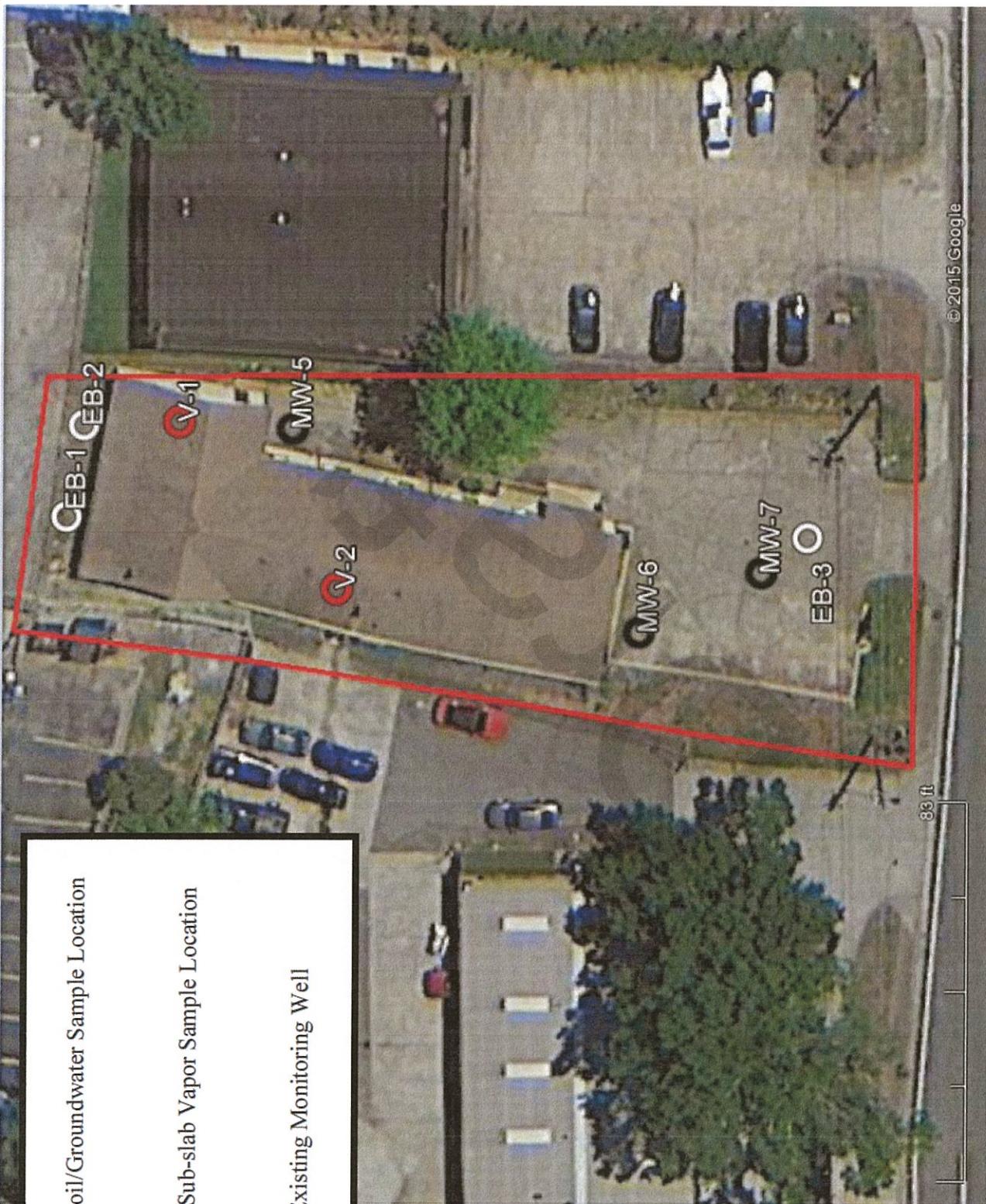
Notes:

Scale: As Shown  
Prepared: MGA  
Checked:  
Project No.: 2015.07335.01



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**A** We're here for you





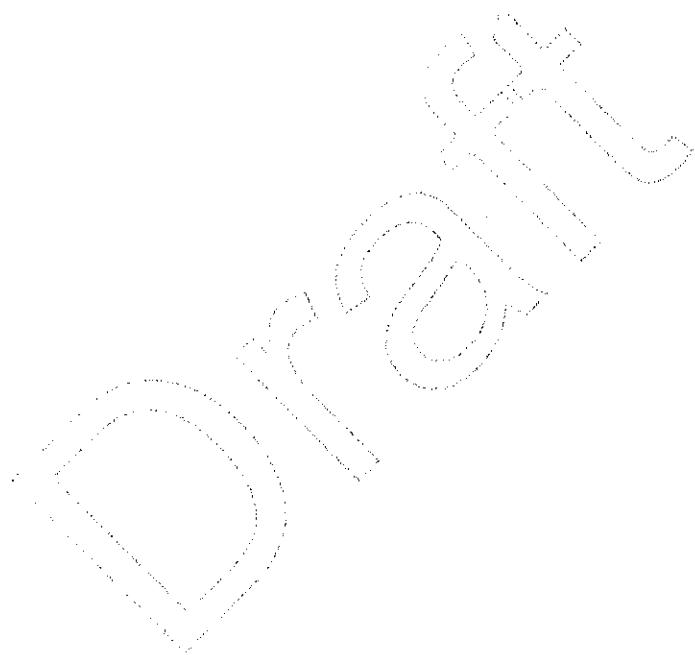
○ Soil/Groundwater Sample Location

○ Sub-slab Vapor Sample Location

○ Existing Monitoring Well

FIG. 3	
Client:	New Kent Capital
Site:	Norcross Street Property
Title:	Boring Location Plan
Scale: Prepared: Checked: Project No.:	As Shown MGA RG 2015.07335.01
N 	
We're here for you UNITED CONSULTING	

**APPENDIX A – BORING/WELL LOGS**





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NORCROSS, GEORGIA 30071  
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Sheet 1 of 1

## BORING LOG

CONTRACTED WITH: New KentCapital  
PROJECT NAME: NORCROSS STREET PROPERTY  
JOB NO.: 2015.3735.01 DRILLER: EMS

BORING NO.: EB-1  
DATE: 7/24/15  
LOGGED BY: MGA

ELEV.	DESCRIPTION	DEPTH in FEET	SAMPLES					NOTES
			NO.	TYPE	BLOWS/6"	RECOV.	W%	
	FOUR INCHES OF TOP SOIL							
	SANDY SILT, TRACE CLAY, RED (FILL)							
		5						
	CLAYEY SILT, TRACE SAND RED/BLACK (RES)							OVM-0.0
	SILT, TRACE SAND, TRACE MICA, TAN/BLACK							
		10						
	SILT, SOME CLAY, SOME SAND, GRAY							OVM=0.0
		15						
	SAND, SOME SILT, ORANGE/TAN							
	BORING TERMINATED AT 20 FEET							OVM=0.0
		20						
		25						
		30						
		35						
		40						



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Sheet 1 of 1

## BORING LOG

CONTRACTED WITH: New KentCapital  
PROJECT NAME: NORCROSS STREET PROPERTY  
JOB NO.: 2015.3735.01 DRILLER: EMS

BORING NO.: EB-2  
DATE: 7/24/15  
LOGGED BY: MGA

ELEV.	DESCRIPTION	DEPTH IN FEET	SAMPLES					NOTES
			NO.	TYPE	BLOWS/6"	RECOV.	W%	
	FOUR INCHES OF TOP SOIL SANDY SILT, TRACE CLAY, RED (FILL)							
		5						OVM-0.0
	CLAYEY SILT, TRACE SAND RED/ BLACK (RES)							
	SILT, TRACE SAND, TRACE MICA, TAN/BLACK							OVM=0.0
	SILT, SOME CLAY, SOME SAND, GRAY	10						
		15						GROUND WATER AT 12 FEET AT TIME OF DRILLING
	SAND, SOME SILT, SOME CLAY, TRACE MICA ORANGE/TAN	20						OVM=0.0
	BORING TERMINATED AT 20 FEET	25						OVM=0.0
		30						
		35						
		40						



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Sheet 1 of 1

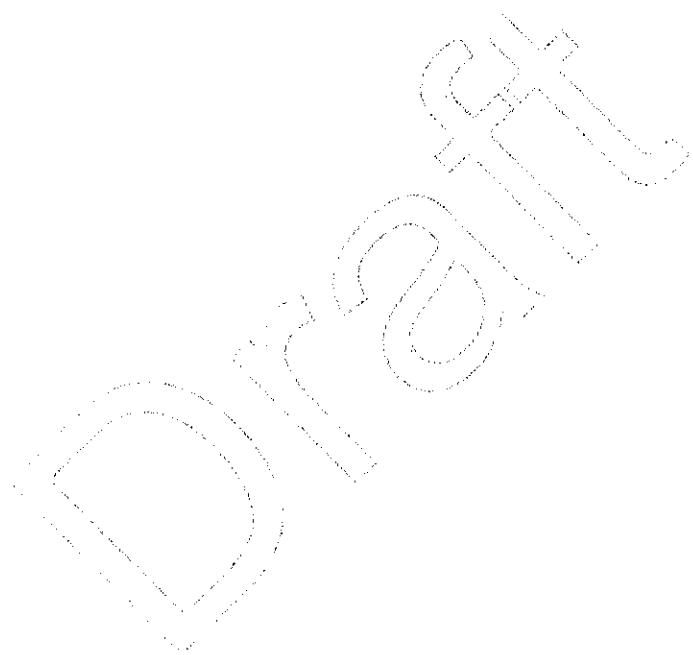
## BORING LOG

CONTRACTED WITH: New KentCapital  
PROJECT NAME: NORCROSS STREET PROPERTY  
JOB NO.: 2015.3735.01 DRILLER: EMS

BORING NO.: EB-3  
DATE: 7/24/15  
LOGGED BY: MGA

ELEV.	DESCRIPTION	DEPTH in FEET	SAMPLES					NOTES
			NO.	TYPE	BLOWS/6"	RECOV.	W%	
	SIX INCHES OF CONCRETE							
	SANDY SILT, TRACE CLAY, RED/BROWN (FILL)							
	SILT SOME CLAY AND SAND, RED/ORANGE (RES)	5						OVM-0.0
		10						OVM=0.0
		15						GROUND WATER AT 13 FEET AT TIME OF DRILLING
	SANDY SILT, SOME CLAY, SOME PWR, RED/ORANGE/BLACK	20						OVM=0.0
	BORING TERMINATED AT 20 FEET	25						OVM=0.0
		30						
		35						
		40						

**APPENDIX B - CHAIN OF CUSTODY/LABORATORY ANALYTICAL  
TESTING DATA**





## ANALYTICAL ENVIRONMENTAL SERVICES, INC.

July 31, 2015

Michael Abernathy  
United Consulting Group Inc.  
625 Holcomb Bridge Rd  
Norcross            GA    30071

TEL: (770) 209-0029  
FAX: (770) 582-2900

RE: 66 Norcross St

Dear Michael Abernathy:

Order No: 1507L22

Analytical Environmental Services, Inc. received 10 samples on 7/24/2015 3:15:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.

AES' certifications are as follows:

- NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
- AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Nicole Jessup  
Project Manager

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB1-1
Project Name:	66 Norcross St	Collection Date:	7/24/2015 9:40:00 AM
Lab ID:	1507L22-001	Matrix:	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TOTAL MERCURY SW7471B					(SW7471B)			
Mercury	BRL	0.111		mg/Kg-dry	210684	1	07/28/2015 17:29	TA
TCL-SEMICVOLATILE ORGANICS SW8270D					(SW3550C)			
1,1'-Biphenyl	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
2,4,5-Trichlorophenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
2,4,6-Trichlorophenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
2,4-Dichlorophenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
2,4-Dimethylphenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
2,4-Dinitrophenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
2,4-Dinitrotoluene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
2,6-Dinitrotoluene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
2-Chloronaphthalene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
2-Chlorophenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
2-Methylnaphthalene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
2-Methylphenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
2-Nitroaniline	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
2-Nitrophenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
3,3'-Dichlorobenzidine	BRL	790		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
3-Nitroaniline	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
4,6-Dinitro-2-methylphenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
4-Bromophenyl phenyl ether	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
4-Chloro-3-methylphenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
4-Chloroaniline	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
4-Chlorophenyl phenyl ether	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
4-Methylphenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
4-Nitroaniline	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
4-Nitrophenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Acenaphthene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Acenaphthylene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Acetophenone	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Anthracene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Atrazine	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Benz(a)anthracene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Benzaldehyde	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Benzo(a)pyrene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Benzo(b)fluoranthene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Benzo(g,h,i)perylene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Benzo(k)fluoranthene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Bis(2-chloroethoxy)methane	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Bis(2-chloroethyl)ether	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Bis(2-chloroisopropyl)ether	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH

Qualifiers: \* Value exceeds maximum contaminant level  
 BRL Below reporting limit  
 H Holding times for preparation or analysis exceeded  
 N Analyte not NELAC certified  
 B Analyte detected in the associated method blank  
 > Greater than Result value

E Estimated (value above quantitation range)  
 S Spike Recovery outside limits due to matrix  
 Narr See case narrative  
 NC Not confirmed  
 < Less than Result value  
 J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.		Client Sample ID:	EB1-1				
Project Name:	66 Norcross St		Collection Date:	7/24/2015 9:40:00 AM				
Lab ID:	1507L22-001		Matrix:	Soil				
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL-SEMOVOLATILE ORGANICS SW8270D</b>						<b>(SW3550C)</b>		
Bis(2-ethylhexyl)phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Butyl benzyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Caprolactam	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Carbazole	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Chrysene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Di-n-butyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Di-n-octyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Dibenz(a,h)anthracene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Dibenzofuran	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Diethyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Dimethyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Fluoranthene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Fluorene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Hexachlorobenzene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Hexachlorobutadiene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Hexachlorocyclopentadiene	BRL	780		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Hexachloroethane	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Indeno(1,2,3-cd)pyrene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Isophorone	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
N-Nitrosodi-n-propylamine	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
N-Nitrosodiphenylamine	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Naphthalene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Nitrobenzene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Pentachlorophenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Phenanthrene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Phenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Pyrene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 16:23	YH
Surr: 2,4,6-Tribromophenol	68.1	41-128	%REC	210655	1	07/28/2015 16:23	YH	
Surr: 2-Fluorobiphenyl	75.8	47-120	%REC	210655	1	07/28/2015 16:23	YH	
Surr: 2-Fluorophenol	68.3	38.3-120	%REC	210655	1	07/28/2015 16:23	YH	
Surr: 4-Terphenyl-d14	87.6	51.4-125	%REC	210655	1	07/28/2015 16:23	YH	
Surr: Nitrobenzene-d5	73.7	40.1-120	%REC	210655	1	07/28/2015 16:23	YH	
Surr: Phenol-d5	73.8	40.3-120	%REC	210655	1	07/28/2015 16:23	YH	
<b>TCL VOLATILE ORGANICS SW8260B</b>						<b>(SW5035)</b>		
1,1,1-Trichloroethane	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
1,1,2,2-Tetrachloroethane	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
1,1,2-Trichloroethane	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
1,1-Dichloroethane	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
1,1-Dichloroethene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
1,2,4-Trichlorobenzene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG

Qualifiers: \* Value exceeds maximum contaminant level

E Estimated (value above quantitation range)

BRL Below reporting limit

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

Narr See case narrative

N Analyte not NELAC certified

NC Not confirmed

B Analyte detected in the associated method blank

&lt; Less than Result value

&gt; Greater than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB1-1
Project Name:	66 Norcross St	Collection Date:	7/24/2015 9:40:00 AM
Lab ID:	1507L22-001	Matrix:	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>								
1,2-Dibromo-3-chloropropane	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
1,2-Dibromoethane	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
1,2-Dichlorobenzene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
1,2-Dichloroethane	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
1,2-Dichloropropane	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
1,3-Dichlorobenzene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
1,4-Dichlorobenzene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
2-Butanone	BRL	40		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
2-Hexanone	BRL	8.1		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
4-Methyl-2-pentanone	BRL	8.1		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Acetone	BRL	81		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Benzene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Bromodichloromethane	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Bromoform	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Bromomethane	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Carbon disulfide	BRL	8.1		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Carbon tetrachloride	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Chlorobenzene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Chloroethane	BRL	8.1		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Chloroform	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Chloromethane	BRL	8.1		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
cis-1,2-Dichloroethene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
cis-1,3-Dichloropropene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Cyclohexane	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Dibromochloromethane	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Dichlorodifluoromethane	BRL	8.1		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Ethylbenzene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Freon-113	BRL	8.1		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Isopropylbenzene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
m,p-Xylene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Methyl acetate	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Methyl tert-butyl ether	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Methylcyclohexane	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Methylene chloride	BRL	16		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
o-Xylene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Styrene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Tetrachloroethene		12	4.0	ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Toluene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
trans-1,2-Dichloroethene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
trans-1,3-Dichloropropene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Trichloroethene	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG

Qualifiers: \* Value exceeds maximum contaminant level  
 BRL Below reporting limit  
 H Holding times for preparation or analysis exceeded  
 N Analyte not NELAC certified  
 B Analyte detected in the associated method blank  
 > Greater than Result value

E Estimated (value above quantitation range)  
 S Spike Recovery outside limits due to matrix  
 Narr See case narrative  
 NC Not confirmed  
 < Less than Result value  
 J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

<b>Client:</b>	United Consulting Group Inc.	<b>Client Sample ID:</b>	EB1-1
<b>Project Name:</b>	66 Norcross St	<b>Collection Date:</b>	7/24/2015 9:40:00 AM
<b>Lab ID:</b>	1507L22-001	<b>Matrix:</b>	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>								
Trichlorofluoromethane	BRL	4.0		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Vinyl chloride	BRL	8.1		ug/Kg-dry	210805	1	07/29/2015 23:54	CG
Surr: 4-Bromofluorobenzene	77.1	70-128	%REC		210805	1	07/29/2015 23:54	CG
Surr: Dibromofluoromethane	89.3	78.2-128	%REC		210805	1	07/29/2015 23:54	CG
Surr: Toluene-d8	86.2	76.5-116	%REC		210805	1	07/29/2015 23:54	CG
<b>METALS, TOTAL SW6010C</b>								
Arsenic	BRL	5.51		mg/Kg-dry	210732	1	07/29/2015 15:31	IO
Barium	107	5.51		mg/Kg-dry	210732	1	07/29/2015 15:31	IO
Cadmium	BRL	2.75		mg/Kg-dry	210732	1	07/29/2015 15:31	IO
Chromium	34.8	2.75		mg/Kg-dry	210732	1	07/29/2015 15:31	IO
Lead	14.5	5.51		mg/Kg-dry	210732	1	07/29/2015 15:31	IO
Selenium	BRL	5.51		mg/Kg-dry	210732	1	07/29/2015 15:31	IO
Silver	BRL	2.75		mg/Kg-dry	210732	1	07/29/2015 15:31	IO
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	15.7	0.	wt%		R296994	1	07/30/2015 10:00	PF

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
BRL	Below reporting limit	S Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr See case narrative
N	Analyte not NELAC certified	NC Not confirmed
B	Analyte detected in the associated method blank	< Less than Result value
>	Greater than Result value	J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

<b>Client:</b>	United Consulting Group Inc.	<b>Client Sample ID:</b>	EB1-8					
<b>Project Name:</b>	66 Norcross St	<b>Collection Date:</b>	7/24/2015 9:45:00 AM					
<b>Lab ID:</b>	1507L22-002	<b>Matrix:</b>	Soil					
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TOTAL MERCURY SW7471B</b>								<b>(SW7471B)</b>
Mercury	0.153	0.106		mg/Kg-dry	210684	1	07/28/2015 17:31	TA
<b>TCL-SEMOVOLATILE ORGANICS SW8270D</b>								<b>(SW3550C)</b>
1,1'-Biphenyl	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
2,4,5-Trichlorophenol	BRL	2100		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
2,4,6-Trichlorophenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
2,4-Dichlorophenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
2,4-Dimethylphenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
2,4-Dinitrophenol	BRL	2100		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
2,4-Dinitrotoluene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
2,6-Dinitrotoluene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
2-Chloronaphthalene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
2-Chlorophenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
2-Methylnaphthalene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
2-Methylphenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
2-Nitroaniline	BRL	2100		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
2-Nitrophenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
3,3'-Dichlorobenzidine	BRL	820		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
3-Nitroaniline	BRL	2100		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
4,6-Dinitro-2-methylphenol	BRL	2100		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
4-Bromophenyl phenyl ether	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
4-Chloro-3-methylphenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
4-Chloroaniline	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
4-Chlorophenyl phenyl ether	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
4-Methylphenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
4-Nitroaniline	BRL	2100		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
4-Nitrophenol	BRL	2100		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Acenaphthene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Acenaphthylene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Acetophenone	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Anthracene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Atrazine	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Benz(a)anthracene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Benzaldehyde	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Benzo(a)pyrene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Benzo(b)fluoranthene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Benzo(g,h,i)perylene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Benzo(k)fluoranthene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Bis(2-chloroethoxy)methane	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Bis(2-chloroethyl)ether	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Bis(2-chloroisopropyl)ether	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH

Qualifiers: \* Value exceeds maximum contaminant level

BRL Below reporting limit

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

&gt; Greater than Result value

E Estimated (value above quantitation range)

S Spike Recovery outside limits due to matrix

Narr See case narrative

NC Not confirmed

&lt; Less than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

<b>Client:</b>	United Consulting Group Inc.	<b>Client Sample ID:</b>	EB1-8
<b>Project Name:</b>	66 Norcross St	<b>Collection Date:</b>	7/24/2015 9:45:00 AM
<b>Lab ID:</b>	1507L22-002	<b>Matrix:</b>	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL-SEMOVOLATILE ORGANICS SW8270D</b>		<b>(SW3550C)</b>						
Bis(2-ethylhexyl)phthalate	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Butyl benzyl phthalate	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Caprolactam	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Carbazole	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Chrysene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Di-n-butyl phthalate	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Di-n-octyl phthalate	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Dibenz(a,h)anthracene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Dibenzofuran	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Diethyl phthalate	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Dimethyl phthalate	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Fluoranthene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Fluorene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Hexachlorobenzene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Hexachlorobutadiene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Hexachlorocyclopentadiene	BRL	810		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Hexachloroethane	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Indeno(1,2,3-cd)pyrene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Isophorone	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
N-Nitrosodi-n-propylamine	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
N-Nitrosodiphenylamine	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Naphthalene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Nitrobenzene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Pentachlorophenol	BRL	2100		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Phenanthrene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Phenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Pyrene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 16:49	YH
Surr: 2,4,6-Tribromophenol	82.7	41-128	%REC		210655	1	07/28/2015 16:49	YH
Surr: 2-Fluorobiphenyl	89.3	47-120	%REC		210655	1	07/28/2015 16:49	YH
Surr: 2-Fluorophenol	68.3	38.3-120	%REC		210655	1	07/28/2015 16:49	YH
Surr: 4-Terphenyl-d14	99.6	51.4-125	%REC		210655	1	07/28/2015 16:49	YH
Surr: Nitrobenzene-d5	90.1	40.1-120	%REC		210655	1	07/28/2015 16:49	YH
Surr: Phenol-d5	82	40.3-120	%REC		210655	1	07/28/2015 16:49	YH
<b>TCL VOLATILE ORGANICS SW8260B</b>		<b>(SW5035)</b>						
1,1,1-Trichloroethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
1,1,2,2-Tetrachloroethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
1,1,2-Trichloroethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
1,1-Dichloroethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
1,1-Dichloroethene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
1,2,4-Trichlorobenzene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG

Qualifiers: \* Value exceeds maximum contaminant level

E Estimated (value above quantitation range)

BRL Below reporting limit

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

Narr See case narrative

N Analyte not NELAC certified

NC Not confirmed

B Analyte detected in the associated method blank

&lt; Less than Result value

&gt; Greater than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB1-8					
Project Name:	66 Norcross St	Collection Date:	7/24/2015 9:45:00 AM					
Lab ID:	1507L22-002	Matrix:	Soil					
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>								
<b>(SW5035)</b>								
1,2-Dibromo-3-chloropropane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
1,2-Dibromoethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
1,2-Dichlorobenzene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
1,2-Dichloroethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
1,2-Dichloropropane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
1,3-Dichlorobenzene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
1,4-Dichlorobenzene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
2-Butanone	BRL	39		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
2-Hexanone	BRL	7.8		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
4-Methyl-2-pentanone	BRL	7.8		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Acetone	BRL	78		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Benzene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Bromodichloromethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Bromoform	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Bromomethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Carbon disulfide	BRL	7.8		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Carbon tetrachloride	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Chlorobenzene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Chloroethane	BRL	7.8		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Chloroform	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Chloromethane	BRL	7.8	-	ug/Kg-dry	210805	1	07/30/2015 00:19	CG
cis-1,2-Dichloroethene	BRL	19		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
cis-1,3-Dichloropropene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Cyclohexane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Dibromochloromethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Dichlorodifluoromethane	BRL	7.8		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Ethylbenzene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Freon-113	BRL	7.8		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Isopropylbenzene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
m,p-Xylene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Methyl acetate	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Methyl tert-butyl ether	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Methylcyclohexane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Methylene chloride	BRL	16		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
o-Xylene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Styrene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Tetrachloroethene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Toluene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
trans-1,2-Dichloroethene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
trans-1,3-Dichloropropene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Trichloroethene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG

Qualifiers: \* Value exceeds maximum contaminant level

E Estimated (value above quantitation range)

BRL Below reporting limit

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

Narr See case narrative

N Analyte not NELAC certified

NC Not confirmed

B Analyte detected in the associated method blank

&lt; Less than Result value

&gt; Greater than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB1-8
Project Name:	66 Norcross St	Collection Date:	7/24/2015 9:45:00 AM
Lab ID:	1507L22-002	Matrix:	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>								
Trichlorofluoromethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Vinyl chloride	15	7.8		ug/Kg-dry	210805	1	07/30/2015 00:19	CG
Surr: 4-Bromofluorobenzene	81.4	70-128		%REC	210805	1	07/30/2015 00:19	CG
Surr: Dibromofluoromethane	93.8	78.2-128		%REC	210805	1	07/30/2015 00:19	CG
Surr: Toluene-d8	86.8	76.5-116		%REC	210805	1	07/30/2015 00:19	CG
<b>METALS, TOTAL SW6010C</b>								
Arsenic	BRL	5.84		mg/Kg-dry	210732	1	07/29/2015 15:40	IO
Barium	82.8	5.84		mg/Kg-dry	210732	1	07/29/2015 15:40	IO
Cadmium	BRL	2.92		mg/Kg-dry	210732	1	07/29/2015 15:40	IO
Chromium	70.3	2.92		mg/Kg-dry	210732	1	07/29/2015 15:40	IO
Lead	66.8	5.84		mg/Kg-dry	210732	1	07/29/2015 15:40	IO
Selenium	BRL	5.84		mg/Kg-dry	210732	1	07/29/2015 15:40	IO
Silver	BRL	2.92		mg/Kg-dry	210732	1	07/29/2015 15:40	IO
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	18.8	0		wt%	R296994	1	07/30/2015 10:00	PF

Qualifiers: \* Value exceeds maximum contaminant level  
 BRL Below reporting limit  
 H Holding times for preparation or analysis exceeded  
 N Analyte not NELAC certified  
 B Analyte detected in the associated method blank  
 > Greater than Result value

E Estimated (value above quantitation range)  
 S Spike Recovery outside limits due to matrix  
 Narr See case narrative  
 NC Not confirmed  
 < Less than Result value  
 J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB2-1
Project Name:	66 Norcross St	Collection Date:	7/24/2015 10:16:00 AM
Lab ID:	1507L22-003	Matrix:	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TOTAL MERCURY SW7471B					(SW7471B)			
Mercury	BRL	0.111		mg/Kg-dry	210684	1	07/28/2015 17:43	TA
TCL-SEMICVOLATILE ORGANICS SW8270D					(SW3550C)			
1,1'-Biphenyl	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
2,4,5-Trichlorophenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
2,4,6-Trichlorophenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
2,4-Dichlorophenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
2,4-Dimethylphenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
2,4-Dinitrophenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
2,4-Dinitrotoluene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
2,6-Dinitrotoluene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
2-Chloronaphthalene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
2-Chlorophenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
2-Methylnaphthalene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
2-Methylphenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
2-Nitroaniline	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
2-Nitrophenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
3,3'-Dichlorobenzidine	BRL	780		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
3-Nitroaniline	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
4,6-Dinitro-2-methylphenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
4-Bromophenyl phenyl ether	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
4-Chloro-3-methylphenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
4-Chloroaniline	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
4-Chlorophenyl phenyl ether	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
4-Methylphenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
4-Nitroaniline	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
4-Nitrophenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Acenaphthene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Acenaphthylene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Acetophenone	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Anthracene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Atrazine	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Benz(a)anthracene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Benzaldehyde	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Benzo(a)pyrene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Benzo(b)fluoranthene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Benzo(g,h,i)perylene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Benzo(k)fluoranthene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Bis(2-chloroethoxy)methane	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Bis(2-chloroethyl)ether	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Bis(2-chloroisopropyl)ether	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH

Qualifiers: \* Value exceeds maximum contaminant level

E Estimated (value above quantitation range)

BRL Below reporting limit

S Spike Recovery outside limits due to matrix

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Narr See case narrative

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## Analytical Environmental Services, Inc

Date: 31-Jul-15

<b>Client:</b>	United Consulting Group Inc.	<b>Client Sample ID:</b>	EB2-1
<b>Project Name:</b>	66 Norcross St	<b>Collection Date:</b>	7/24/2015 10:16:00 AM
<b>Lab ID:</b>	1507L22-003	<b>Matrix:</b>	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL-SEMOVOLATILE ORGANICS SW8270D</b>								
<b>(SW3550C)</b>								
Bis(2-ethylhexyl)phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Butyl benzyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Caprolactam	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Carbazole	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Chrysene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Di-n-butyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Di-n-octyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Dibenz(a,h)anthracene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Dibenzofuran	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Diethyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Dimethyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Fluoranthene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Fluorene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Hexachlorobenzene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Hexachlorobutadiene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Hexachlorocyclopentadiene	BRL	770		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Hexachloroethane	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Indeno(1,2,3-cd)pyrene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Isophorone	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
N-Nitrosodi-n-propylamine	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
N-Nitrosodiphenylamine	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Naphthalene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Nitrobenzene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Pentachlorophenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Phenanthrene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Phenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Pyrene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 17:17	YH
Surr: 2,4,6-Tribromophenol		73.4	41-128	%REC	210655	1	07/28/2015 17:17	YH
Surr: 2-Fluorobiphenyl		76.7	47-120	%REC	210655	1	07/28/2015 17:17	YH
Surr: 2-Fluorophenol		71.6	38.3-120	%REC	210655	1	07/28/2015 17:17	YH
Surr: 4-Terphenyl-d14		87.5	51.4-125	%REC	210655	1	07/28/2015 17:17	YH
Surr: Nitrobenzene-d5		78.7	40.1-120	%REC	210655	1	07/28/2015 17:17	YH
Surr: Phenol-d5		78.1	40.3-120	%REC	210655	1	07/28/2015 17:17	YH
<b>TCL VOLATILE ORGANICS SW8260B</b>								
<b>(SW5035)</b>								
1,1,1-Trichloroethane	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
1,1,2-Trichloroethane	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
1,1-Dichloroethane	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
1,1-Dichloroethene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
1,2,4-Trichlorobenzene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG

Qualifiers: \* Value exceeds maximum contaminant level

BRL Below reporting limit

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

&gt; Greater than Result value

E Estimated (value above quantitation range)

S Spike Recovery outside limits due to matrix

Narr See case narrative

NC Not confirmed

&lt; Less than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB2-1					
Project Name:	66 Norcross St	Collection Date:	7/24/2015 10:16:00 AM					
Lab ID:	1507L22-003	Matrix:	Soil					
<hr/>								
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>				<b>(SW5035)</b>				
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
1,2-Dibromoethane	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
1,2-Dichlorobenzene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
1,2-Dichloroethane	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
1,2-Dichloropropane	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
1,3-Dichlorobenzene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
1,4-Dichlorobenzene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
2-Butanone	BRL	50		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
2-Hexanone	BRL	10		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
4-Methyl-2-pentanone	BRL	10		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Acetone	BRL	100		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Benzene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Bromodichloromethane	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Bromoform	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Bromomethane	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Carbon disulfide	BRL	10		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Carbon tetrachloride	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Chlorobenzene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Chloroethane	BRL	10		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Chloroform	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Chloromethane	BRL	10		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
cis-1,2-Dichloroethene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
cis-1,3-Dichloropropene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Cyclohexane	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Dibromochloromethane	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Dichlorodifluoromethane	BRL	10		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Ethylbenzene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Freon-113	BRL	10		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Isopropylbenzene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
m,p-Xylene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Methyl acetate	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Methyl tert-butyl ether	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Methylcyclohexane	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Methylene chloride	BRL	20		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
o-Xylene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Styrene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Tetrachloroethene		16		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Toluene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
trans-1,2-Dichloroethene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
trans-1,3-Dichloropropene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Trichloroethene	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG

Qualifiers: \* Value exceeds maximum contaminant level

E Estimated (value above quantitation range)

BRL Below reporting limit

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

Narr See case narrative

N Analyte not NELAC certified

NC Not confirmed

B Analyte detected in the associated method blank

&lt; Less than Result value

&gt; Greater than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

<b>Client:</b>	United Consulting Group Inc.	<b>Client Sample ID:</b>	EB2-1
<b>Project Name:</b>	66 Norcross St	<b>Collection Date:</b>	7/24/2015 10:16:00 AM
<b>Lab ID:</b>	1507L22-003	<b>Matrix:</b>	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>								
Trichlorofluoromethane	BRL	5.0		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Vinyl chloride	BRL	10		ug/Kg-dry	210805	1	07/30/2015 00:45	CG
Surr: 4-Bromofluorobenzene	76.5	70-128	%REC		210805	1	07/30/2015 00:45	CG
Surr: Dibromofluoromethane	89.2	78.2-128	%REC		210805	1	07/30/2015 00:45	CG
Surr: Toluene-d8	85.5	76.5-116	%REC		210805	1	07/30/2015 00:45	CG
<b>METALS, TOTAL SW6010C</b>								
Arsenic	BRL	5.54		mg/Kg-dry	210732	1	07/29/2015 15:44	IO
Barium	67.3	5.54		mg/Kg-dry	210732	1	07/29/2015 15:44	IO
Cadmium	BRL	2.77		mg/Kg-dry	210732	1	07/29/2015 15:44	IO
Chromium	26.4	2.77		mg/Kg-dry	210732	1	07/29/2015 15:44	IO
Lead	17.5	5.54		mg/Kg-dry	210732	1	07/29/2015 15:44	IO
Selenium	BRL	5.54		mg/Kg-dry	210732	1	07/29/2015 15:44	IO
Silver	BRL	2.77		mg/Kg-dry	210732	1	07/29/2015 15:44	IO
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	14.5	0	wt%		R296994	1	07/30/2015 10:00	PF

Qualifiers:

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.		Client Sample ID:	EB2-6				
Project Name:	66 Norcross St		Collection Date:	7/24/2015 10:20:00 AM				
Lab ID:	1507L22-004		Matrix:	Soil				
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TOTAL MERCURY SW7471B</b>						<b>(SW7471B)</b>		
Mercury	BRL	0.123		mg/Kg-dry	210684	1	07/28/2015 17:45	TA
<b>TCL-SEMOVOLATILE ORGANICS SW8270D</b>						<b>(SW3550C)</b>		
1,1'-Biphenyl	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
2,4,5-Trichlorophenol	BRL	2100		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
2,4,6-Trichlorophenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
2,4-Dichlorophenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
2,4-Dimethylphenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
2,4-Dinitrophenol	BRL	2100		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
2,4-Dinitrotoluene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
2,6-Dinitrotoluene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
2-Chloronaphthalene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
2-Chlorophenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
2-Methylnaphthalene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
2-Methylphenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
2-Nitroaniline	BRL	2100		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
2-Nitrophenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
3,3'-Dichlorobenzidine	BRL	820		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
3-Nitroaniline	BRL	2100		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
4,6-Dinitro-2-methylphenol	BRL	2100		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
4-Bromophenyl phenyl ether	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
4-Chloro-3-methylphenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
4-Chloroaniline	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
4-Chlorophenyl phenyl ether	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
4-Methylphenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
4-Nitroaniline	BRL	2100		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
4-Nitrophenol	BRL	2100		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Acenaphthene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Acenaphthylene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Acetophenone	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Anthracene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Atrazine	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Benz(a)anthracene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Benzaldehyde	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Benzo(a)pyrene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Benzo(b)fluoranthene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Benzo(g,h,i)perylene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Benzo(k)fluoranthene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Bis(2-chloroethoxy)methane	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Bis(2-chloroethyl)ether	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Bis(2-chloroisopropyl)ether	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH

Qualifiers: \* Value exceeds maximum contaminant level

E Estimated (value above quantitation range)

BRL Below reporting limit

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

Narr See case narrative

N Analyte not NELAC certified

NC Not confirmed

B Analyte detected in the associated method blank

&lt; Less than Result value

&gt; Greater than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

<b>Client:</b>	United Consulting Group Inc.	<b>Client Sample ID:</b>	EB2-6
<b>Project Name:</b>	66 Norcross St	<b>Collection Date:</b>	7/24/2015 10:20:00 AM
<b>Lab ID:</b>	1507L22-004	<b>Matrix:</b>	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
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TCL-SEMOVOLATILE ORGANICS SW8270D	(SW3550C)							
Bis(2-ethylhexyl)phthalate	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Butyl benzyl phthalate	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Caprolactam	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Carbazole	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Chrysene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Di-n-butyl phthalate	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Di-n-octyl phthalate	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Dibenz(a,h)anthracene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Dibenzofuran	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Diethyl phthalate	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Dimethyl phthalate	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Fluoranthene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Fluorene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Hexachlorobenzene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Hexachlorobutadiene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Hexachlorocyclopentadiene	BRL	810		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Hexachloroethane	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Indeno(1,2,3-cd)pyrene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Isophorone	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
N-Nitrosodi-n-propylamine	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
N-Nitrosodiphenylamine	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Naphthalene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Nitrobenzene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Pentachlorophenol	BRL	2100		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Phenanthrene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Phenol	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Pyrene	BRL	410		ug/Kg-dry	210655	1	07/28/2015 17:44	YH
Surr: 2,4,6-Tribromophenol		81.3	41-128	%REC	210655	1	07/28/2015 17:44	YH
Surr: 2-Fluorobiphenyl		83.6	47-120	%REC	210655	1	07/28/2015 17:44	YH
Surr: 2-Fluorophenol		77.2	38.3-120	%REC	210655	1	07/28/2015 17:44	YH
Surr: 4-Terphenyl-d14		95.3	51.4-125	%REC	210655	1	07/28/2015 17:44	YH
Surr: Nitrobenzene-d5		85.8	40.1-120	%REC	210655	1	07/28/2015 17:44	YH
Surr: Phenol-d5		83.7	40.3-120	%REC	210655	1	07/28/2015 17:44	YH

TCL VOLATILE ORGANICS SW8260B	(SW5035)							
1,1,1-Trichloroethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
1,1,2,2-Tetrachloroethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
1,1,2-Trichloroethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
1,1-Dichloroethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
1,1-Dichloroethene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
1,2,4-Trichlorobenzene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG

Qualifiers:	*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
	BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
	H	Holding times for preparation or analysis exceeded	Narr	See case narrative
	N	Analyte not NELAC certified	NC	Not confirmed
	B	Analyte detected in the associated method blank	<	Less than Result value
	>	Greater than Result value	J	Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB2-6					
Project Name:	66 Norcross St	Collection Date:	7/24/2015 10:20:00 AM					
Lab ID:	1507L22-004	Matrix:	Soil					
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>								
<b>(SW5035)</b>								
1,2-Dibromo-3-chloropropane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
1,2-Dibromoethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
1,2-Dichlorobenzene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
1,2-Dichloroethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
1,2-Dichloropropane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
1,3-Dichlorobenzene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
1,4-Dichlorobenzene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
2-Butanone	BRL	39		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
2-Hexanone	BRL	7.8		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
4-Methyl-2-pentanone	BRL	7.8		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Acetone	BRL	78		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Benzene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Bromodichloromethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Bromoform	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Bromomethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Carbon disulfide	BRL	7.8		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Carbon tetrachloride	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Chlorobenzene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Chloroethane	BRL	7.8		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Chloroform	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Chloromethane	BRL	7.8		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
cis-1,2-Dichloroethene		35	3.9	ug/Kg-dry	210805	1	07/30/2015 02:02	CG
cis-1,3-Dichloropropene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Cyclohexane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Dibromochloromethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Dichlorodifluoromethane	BRL	7.8		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Ethylbenzene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Freon-113	BRL	7.8		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Isopropylbenzene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
m,p-Xylene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Methyl acetate	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Methyl tert-butyl ether	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Methylcyclohexane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Methylene chloride	BRL	16		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
o-Xylene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Styrene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Tetrachloroethene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Toluene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
trans-1,2-Dichloroethene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
trans-1,3-Dichloropropene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Trichloroethene	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG

Qualifiers: \* Value exceeds maximum contaminant level

E Estimated (value above quantitation range)

BRL Below reporting limit

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

Narr See case narrative

N Analyte not NELAC certified

NC Not confirmed

B Anslyte detected in the associated method blank

&lt; Less than Result value

&gt; Greater than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

<b>Client:</b>	United Consulting Group Inc.	<b>Client Sample ID:</b>	EB2-6
<b>Project Name:</b>	66 Norcross St	<b>Collection Date:</b>	7/24/2015 10:20:00 AM
<b>Lab ID:</b>	1507L22-004	<b>Matrix:</b>	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>								
Trichlorofluoromethane	BRL	3.9		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Vinyl chloride	BRL	7.8		ug/Kg-dry	210805	1	07/30/2015 02:02	CG
Surr: 4-Bromofluorobenzene	73.7	70-128		%REC	210805	1	07/30/2015 02:02	CG
Surr: Dibromofluoromethane	98.6	78.2-128		%REC	210805	1	07/30/2015 02:02	CG
Surr: Toluene-d8	91	76.5-116		%REC	210805	1	07/30/2015 02:02	CG
<b>METALS, TOTAL SW6010C</b>								
Arsenic	BRL	6.06		mg/Kg-dry	210732	1	07/29/2015 15:48	IO
Barium	96.7	6.06		mg/Kg-dry	210732	1	07/29/2015 15:48	IO
Cadmium	BRL	3.03		mg/Kg-dry	210732	1	07/29/2015 15:48	IO
Chromium	35.5	3.03		mg/Kg-dry	210732	1	07/29/2015 15:48	IO
Lead	23.3	6.06		mg/Kg-dry	210732	1	07/29/2015 15:48	IO
Selenium	BRL	6.06		mg/Kg-dry	210732	1	07/29/2015 15:48	IO
Silver	BRL	3.03		mg/Kg-dry	210732	1	07/29/2015 15:48	IO
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	18.7	0		wt%	R296994	1	07/30/2015 10:00	PF

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
BRL	Below reporting limit	S Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr See case narrative
N	Analyte not NELAC certified	NC Not confirmed
B	Analyte detected in the associated method blank	< Less than Result value
>	Greater than Result value	J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB2-GW					
Project Name:	66 Norcross St	Collection Date:	7/24/2015 10:45:00 AM					
Lab ID:	1507L22-005	Matrix:	Groundwater					
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL-SEMOVOLATILE ORGANICS SW8270D</b>							<b>(SW3510C)</b>	
1,1'-Biphenyl	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
2,4,5-Trichlorophenol	BRL	25		ug/L	210653	1	07/29/2015 20:19	YH
2,4,6-Trichlorophenol	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
2,4-Dichlorophenol	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
2,4-Dimethylphenol	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
2,4-Dinitrophenol	BRL	25		ug/L	210653	1	07/29/2015 20:19	YH
2,4-Dinitrotoluene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
2,6-Dinitrotoluene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
2-Chloronaphthalene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
2-Chlorophenol	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
2-Methylnaphthalene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
2-Methylphenol	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
2-Nitroaniline	BRL	25		ug/L	210653	1	07/29/2015 20:19	YH
2-Nitrophenol	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
3,3'-Dichlorobenzidine	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
3-Nitroaniline	BRL	25		ug/L	210653	1	07/29/2015 20:19	YH
4,6-Dinitro-2-methylphenol	BRL	25		ug/L	210653	1	07/29/2015 20:19	YH
4-Bromophenyl phenyl ether	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
4-Chloro-3-methylphenol	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
4-Chloroaniline	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
4-Chlorophenyl phenyl ether	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
4-Methylphenol	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
4-Nitroaniline	BRL	25		ug/L	210653	1	07/29/2015 20:19	YH
4-Nitrophenol	BRL	25		ug/L	210653	1	07/29/2015 20:19	YH
Acenaphthene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Acenaphthylene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Acetophenone	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Anthracene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Atrazine	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Benz(a)anthracene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Benzaldehyde	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Benzo(a)pyrene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Benzo(b)fluoranthene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Benzo(k)fluoranthene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Bis(2-chloroethoxy)methane	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Bis(2-chlorooctyl)ether	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Bis(2-chloroisopropyl)ether	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Bis(2-ethylhexyl)phthalate	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Butyl benzyl phthalate	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Caprolactam	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH

Qualifiers: \* Value exceeds maximum contaminant level

BRL Below reporting limit

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

&gt; Greater than Result value

E Estimated (value above quantitation range)

S Spike Recovery outside limits due to matrix

Narr See case narrative

NC Not confirmed

&lt; Less than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB2-GW					
Project Name:	66 Norcross St	Collection Date:	7/24/2015 10:45:00 AM					
Lab ID:	1507L22-005	Matrix:	Groundwater					
<b>TCL-SEMICVOLATILE ORGANICS SW8270D</b>								
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>(SW3510C)</b>								
Carbazole	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Chrysene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Di-n-butyl phthalate	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Di-n-octyl phthalate	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Dibenz(a,h)anthracene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Dibenzofuran	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Diethyl phthalate	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Dimethyl phthalate	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Fluoranthene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Fluorene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Hexachlorobenzene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Hexachlorobutadiene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Hexachlorocyclopentadiene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Hexachloroethane	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Indeno(1,2,3-cd)pyrene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Isophorone	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
N-Nitrosodi-n-propylamine	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
N-Nitrosodiphenylamine	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Naphthalene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Nitrobenzene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Pentachlorophenol	BRL	25		ug/L	210653	1	07/29/2015 20:19	YH
Phenanthrene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Phenol	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Pyrene	BRL	10		ug/L	210653	1	07/29/2015 20:19	YH
Surr: 2,4,6-Tribromophenol	104	52-133	%REC		210653	1	07/29/2015 20:19	YH
Surr: 2-Fluorobiphenyl	86.3	50-121	%REC		210653	1	07/29/2015 20:19	YH
Surr: 2-Fluorophenol	63.8	27.5-120	%REC		210653	1	07/29/2015 20:19	YH
Surr: 4-Terphenyl-d14	101	46.3-137	%REC		210653	1	07/29/2015 20:19	YH
Surr: Nitrobenzene-d5	89.8	41.2-121	%REC		210653	1	07/29/2015 20:19	YH
Surr: Phenol-d5	44.1	14.3-120	%REC		210653	1	07/29/2015 20:19	YH
<b>TCL VOLATILE ORGANICS SW8260B</b>								
<b>(SW5030B)</b>								
1,1,1-Trichloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
1,1,2-Trichloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
1,1-Dichloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
1,1-Dichloroethene	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
1,2-Dibromoethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
1,2-Dichlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH

Qualifiers: \* Value exceeds maximum contaminant level

BRL Below reporting limit

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

&gt; Greater than Result value

E Estimated (value above quantitation range)

S Spike Recovery outside limits due to matrix

Narr See case narrative

NC Not confirmed

&lt; Less than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.		Client Sample ID:	EB2-GW				
Project Name:	66 Norcross St		Collection Date:	7/24/2015 10:45:00 AM				
Lab ID:	1507L22-005		Matrix:	Groundwater				
<b>Analyses</b>								
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>					<b>(SW5030B)</b>			
1,2-Dichloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
1,2-Dichloropropane	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
1,3-Dichlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
1,4-Dichlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
2-Butanone	BRL	50		ug/L	210738	1	07/29/2015 17:31	CH
2-Hexanone	BRL	10		ug/L	210738	1	07/29/2015 17:31	CH
4-Methyl-2-pentanone	BRL	10		ug/L	210738	1	07/29/2015 17:31	CH
Acetone	BRL	50		ug/L	210738	1	07/29/2015 17:31	CH
Benzene	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Bromodichloromethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Bromoform	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Bromomethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Carbon disulfide	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Carbon tetrachloride	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Chlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Chloroethane	BRL	10		ug/L	210738	1	07/29/2015 17:31	CH
Chloroform	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Chloromethane	BRL	10		ug/L	210738	1	07/29/2015 17:31	CH
cis-1,2-Dichloroethene	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
cis-1,3-Dichloropropene	BRL	43		ug/L	210738	1	07/29/2015 17:31	CH
Cyclohexane	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Dibromochloromethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Dichlorodifluoromethane	BRL	10		ug/L	210738	1	07/29/2015 17:31	CH
Ethylbenzene	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Freon-113	BRL	10		ug/L	210738	1	07/29/2015 17:31	CH
Isopropylbenzene	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
m,p-Xylene	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Methyl acetate	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Methyl tert-butyl ether	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Methylcyclohexane	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Methylene chloride	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
o-Xylene	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Styrene	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Tetrachloroethene		6.5		ug/L	210738	1	07/29/2015 17:31	CH
Toluene	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
trans-1,2-Dichloroethene	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
trans-1,3-Dichloropropene	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Trichloroethene		5.5		ug/L	210738	1	07/29/2015 17:31	CH
Trichlorofluoromethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:31	CH
Vinyl chloride		9.4	2.0	ug/L	210738	1	07/29/2015 17:31	CH
Surr: 4-Bromofluorobenzene		91.1	70.6-123	%REC	210738	1	07/29/2015 17:31	CH

Qualifiers: \* Value exceeds maximum contaminant level

E Estimated (value above quantitation range)

BRL Below reporting limit

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

Narr See case narrative

N Analyte not NELAC certified

NC Not confirmed

B Analyte detected in the associated method blank

&lt; Less than Result value

&gt; Greater than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB2-GW					
Project Name:	66 Norcross St	Collection Date:	7/24/2015 10:45:00 AM					
Lab ID:	1507L22-005	Matrix:	Groundwater					
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>						<b>(SW5030B)</b>		
Surr: Dibromofluoromethane	88.8	78.7-124	%REC	210738	1	07/29/2015 17:31	CH	
Surr: Toluene-d8	94.8	81.3-120	%REC	210738	1	07/29/2015 17:31	CH	
<b>METALS, DISSOLVED SW6010C</b>						<b>(SW3005A)</b>		
Arsenic	BRL	0.0500	mg/L	210621	1	07/27/2015 19:36	IO	
Barium	0.0320	0.0200	mg/L	210621	1	07/27/2015 19:36	IO	
Cadmium	BRL	0.0050	mg/L	210621	1	07/27/2015 19:36	IO	
Chromium	BRL	0.0100	mg/L	210621	1	07/27/2015 19:36	IO	
Lead	BRL	0.0100	mg/L	210621	1	07/27/2015 19:36	IO	
Selenium	BRL	0.0200	mg/L	210621	1	07/27/2015 19:36	IO	
Silver	BRL	0.0100	mg/L	210621	1	07/27/2015 19:36	IO	
<b>Mercury, Total SW7470A</b>						<b>(SW7470A)</b>		
Mercury	BRL	0.00020	mg/L	210740	1	07/29/2015 15:03	TA	
<b>Mercury, Dissolved SW7470A</b>						<b>(SW7470A)</b>		
Mercury	BRL	0.00020	mg/L	210741	1	07/29/2015 15:50	TA	
<b>METALS, TOTAL SW6010C</b>						<b>(SW3010A)</b>		
Arsenic	BRL	0.0500	mg/L	210645	1	07/29/2015 17:59	IO	
Barium	0.0684	0.0200	mg/L	210645	1	07/29/2015 17:59	IO	
Cadmium	BRL	0.0050	mg/L	210645	1	07/29/2015 17:59	IO	
Chromium	0.0223	0.0100	mg/L	210645	1	07/29/2015 17:59	IO	
Lead	0.0112	0.0100	mg/L	210645	1	07/29/2015 17:59	IO	
Selenium	BRL	0.0200	mg/L	210645	1	07/29/2015 17:59	IO	
Silver	BRL	0.0100	mg/L	210645	1	07/29/2015 17:59	IO	

Qualifiers: \* Value exceeds maximum contaminant level  
 BRL Below reporting limit  
 H Holding times for preparation or analysis exceeded  
 N Analyte not NELAC certified  
 B Analyte detected in the associated method blank  
 > Greater than Result value

E Estimated (value above quantitation range)  
 S Spike Recovery outside limits due to matrix  
 Narr See case narrative  
 NC Not confirmed  
 < Less than Result value  
 J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB3-5					
Project Name:	66 Norcross St	Collection Date:	7/24/2015 11:30:00 AM					
Lab ID:	1507L22-006	Matrix:	Soil					
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TOTAL MERCURY SW7471B</b>								<b>(SW7471B)</b>
Mercury	BRL	0.112		mg/Kg-dry	210684	1	07/28/2015 17:47	TA
<b>TCL-SEMOVOLATILE ORGANICS SW8270D</b>								<b>(SW3550C)</b>
1,1'-Biphenyl	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
2,4,5-Trichlorophenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
2,4,6-Trichlorophenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
2,4-Dichlorophenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
2,4-Dimethylphenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
2,4-Dinitrophenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
2,4-Dinitrotoluene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
2,6-Dinitrotoluene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
2-Chloronaphthalene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
2-Chlorophenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
2-Methylnaphthalene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
2-Methylphenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
2-Nitroaniline	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
2-Nitrophenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
3,3'-Dichlorobenzidine	BRL	800		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
3-Nitroaniline	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
4,6-Dinitro-2-methylphenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
4-Bromophenyl phenyl ether	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
4-Chloro-3-methylphenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
4-Chloroaniline	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
4-Chlorophenyl phenyl ether	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
4-Methylphenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
4-Nitroaniline	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
4-Nitrophenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Acenaphthene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Acenaphthylene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Acetophenone	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Anthracene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Atrazine	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Benz(a)anthracene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Benzaldehyde	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Benzo(a)pyrene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Benzo(b)fluoranthene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Benzo(g,h,i)perylene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Benzo(k)fluoranthene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Bis(2-chloroethoxy)methane	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Bis(2-chloroethyl)ether	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Bis(2-chloroisopropyl)ether	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH

Qualifiers: \* Value exceeds maximum contaminant level

E Estimated (value above quantitation range)

BRL Below reporting limit

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

Narr See case narrative

N Analyte not NELAC certified

NC Not confirmed

B Analyte detected in the associated method blank

&lt; Less than Result value

&gt; Greater than Result value

J Estimated value detected below Reporting Limit

Client:	United Consulting Group Inc.		Client Sample ID:	EB3-5				
Project Name:	66 Norcross St		Collection Date:	7/24/2015 11:30:00 AM				
Lab ID:	1507L22-006		Matrix:	Soil				
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL-SEMOVOLATILE ORGANICS SW8270D</b>						<b>(SW3550C)</b>		
Bis(2-ethylhexyl)phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Butyl benzyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Caprolactam	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Carbazole	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Chrysene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Di-n-butyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Di-n-octyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Dibenz(a,h)anthracene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Dibenzofuran	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Diethyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Dimethyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Fluoranthene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Fluorene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Hexachlorobenzene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Hexachlorobutadiene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Hexachlorocyclopentadiene	BRL	790		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Hexachloroethane	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Indeno(1,2,3-cd)pyrene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Isophorone	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
N-Nitrosodi-n-propylamine	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
N-Nitrosodiphenylamine	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Naphthalene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Nitrobenzene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Pentachlorophenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Phenanthrene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Phenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Pyrene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:11	YH
Surr: 2,4,6-Tribromophenol	64.7	41-128	%REC	210655	1	07/28/2015 18:11	YH	
Surr: 2-Fluorobiphenyl	75.8	47-120	%REC	210655	1	07/28/2015 18:11	YH	
Surr: 2-Fluorophenol	72.3	38.3-120	%REC	210655	1	07/28/2015 18:11	YH	
Surr: 4-Terphenyl-d14	82.4	51.4-125	%REC	210655	1	07/28/2015 18:11	YH	
Surr: Nitrobenzene-d5	80.7	40.1-120	%REC	210655	1	07/28/2015 18:11	YH	
Surr: Phenol-d5	80.3	40.3-120	%REC	210655	1	07/28/2015 18:11	YH	
<b>TCL VOLATILE ORGANICS SW8260B</b>						<b>(SW5035)</b>		
1,1,1-Trichloroethane	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
1,1,2,2-Tetrachloroethane	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
1,1,2-Trichloroethane	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
1,1-Dichloroethane	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
1,1-Dichloroethene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
1,2,4-Trichlorobenzene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG

Qualifiers: \* Value exceeds maximum contaminant level

BRL Below reporting limit

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

&gt; Greater than Result value

E Estimated (value above quantitation range)

S Spike Recovery outside limits due to matrix

Narr See case narrative

NC Not confirmed

&lt; Less than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB3-5					
Project Name:	66 Norcross St	Collection Date:	7/24/2015 11:30:00 AM					
Lab ID:	1507L22-006	Matrix:	Soil					
<hr/>								
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>				<b>(SW5035)</b>				
1,2-Dibromo-3-chloropropane	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
1,2-Dibromoethane	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
1,2-Dichlorobenzene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
1,2-Dichloroethane	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
1,2-Dichloropropane	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
1,3-Dichlorobenzene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
1,4-Dichlorobenzene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
2-Butanone	BRL	46		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
2-Hexanone	BRL	9.2		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
4-Methyl-2-pentanone	BRL	9.2		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Acetone	BRL	92		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Benzene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Bromodichloromethane	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Bromoform	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Bromomethane	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Carbon disulfide	BRL	9.2		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Carbon tetrachloride	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Chlorobenzene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Chloroethane	BRL	9.2		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Chloroform	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Chloromethane	BRL	9.2		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
cis-1,2-Dichloroethene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
cis-1,3-Dichloropropene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Cyclohexane	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Dibromochloromethane	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Dichlorodifluoromethane	BRL	9.2		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Ethylbenzene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Freon-113	BRL	9.2		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Isopropylbenzene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
m,p-Xylene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Methyl acetate	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Methyl tert-butyl ether	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Methylcyclohexane	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Methylene chloride	BRL	18		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
o-Xylene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Styrene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Tetrachloroethene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Toluene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
trans-1,2-Dichloroethene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
trans-1,3-Dichloropropene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Trichloroethene	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG

Qualifiers: \* Value exceeds maximum contaminant level

BRL Below reporting limit

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

&gt; Greater than Result value

E Estimated (value above quantitation range)

S Spike Recovery outside limits due to matrix

Narr See case narrative

NC Not confirmed

&lt; Less than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB3-5
Project Name:	66 Norcross St	Collection Date:	7/24/2015 11:30:00 AM
Lab ID:	1507L22-006	Matrix:	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>								
Trichlorofluoromethane	BRL	4.6		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Vinyl chloride	BRL	9.2		ug/Kg-dry	210805	1	07/30/2015 01:11	CG
Surr: 4-Bromofluorobenzene	78.6	70-128	%REC		210805	1	07/30/2015 01:11	CG
Surr: Dibromofluoromethane	93.4	78.2-128	%REC		210805	1	07/30/2015 01:11	CG
Surr: Toluene-d8	87.9	76.5-116	%REC		210805	1	07/30/2015 01:11	CG
<b>METALS, TOTAL SW6010C</b>								
Arsenic	BRL	5.84		mg/Kg-dry	210732	1	07/29/2015 14:09	IO
Barium	55.9	5.84		mg/Kg-dry	210732	1	07/29/2015 14:09	IO
Cadmium	BRL	2.92		mg/Kg-dry	210732	1	07/29/2015 14:09	IO
Chromium	42.7	2.92		mg/Kg-dry	210732	1	07/29/2015 14:09	IO
Lead	20.5	5.84		mg/Kg-dry	210732	1	07/29/2015 14:09	IO
Selenium	BRL	5.84		mg/Kg-dry	210732	1	07/29/2015 14:09	IO
Silver	BRL	2.92		mg/Kg-dry	210732	1	07/29/2015 14:09	IO
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	16.0	0		wt%	R296994	1	07/30/2015 10:00	PF

Qualifiers:	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB3-10					
Project Name:	66 Norcross St	Collection Date:	7/24/2015 11:35:00 AM					
Lab ID:	1507L22-007	Matrix:	Soil					
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TOTAL MERCURY SW7471B</b>								<b>(SW7471B)</b>
Mercury	BRL	0.113		mg/Kg-dry	210684	1	07/28/2015 17:20	TA
<b>TCL-SEMOVOLATILE ORGANICS SW8270D</b>								<b>(SW3550C)</b>
1,1'-Biphenyl	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
2,4,5-Trichlorophenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
2,4,6-Trichlorophenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
2,4-Dichlorophenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
2,4-Dimethylphenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
2,4-Dinitrophenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
2,4-Dinitrotoluene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
2,6-Dinitrotoluene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
2-Chloronaphthalene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
2-Chlorophenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
2-Methylnaphthalene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
2-Methylphenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
2-Nitroaniline	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
2-Nitrophenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
3,3'-Dichlorobenzidine	BRL	780		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
3-Nitroaniline	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
4,6-Dinitro-2-methylphenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
4-Bromophenyl phenyl ether	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
4-Chloro-3-methylphenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
4-Chloroaniline	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
4-Chlorophenyl phenyl ether	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
4-Methylphenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
4-Nitroaniline	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
4-Nitrophenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Acenaphthene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Acenaphthylene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Acetophenone	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Anthracene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Atrazine	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Benz(a)anthracene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Benzaldehyde	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Benzo(a)pyrene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Benzo(b)fluoranthene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Benzo(g,h,i)perylene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Benzo(k)fluoranthene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Bis(2-chloroethoxy)methane	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Bis(2-chloroethyl)ether	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Bis(2-chloroisopropyl)ether	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH

Qualifiers: \* Value exceeds maximum contaminant level

E Estimated (value above quantitation range)

BRL Below reporting limit

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

Narr See case narrative

N Analyte not NELAC certified

NC Not confirmed

B Analyte detected in the associated method blank

&lt; Less than Result value

&gt; Greater than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.		Client Sample ID:	EB3-10				
Project Name:	66 Norcross St		Collection Date:	7/24/2015 11:35:00 AM				
Lab ID:	1507L22-007		Matrix:	Soil				
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL-SEMOVOLATILE ORGANICS SW8270D</b>						<b>(SW3550C)</b>		
Bis(2-ethylhexyl)phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Butyl benzyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Caprolactam	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Carbazole	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Chrysene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Di-n-butyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Di-n-octyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Dibenz(a,h)anthracene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Dibenzofuran	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Diethyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Dimethyl phthalate	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Fluoranthene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Fluorene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Hexachlorobenzene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Hexachlorobutadiene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Hexachlorocyclopentadiene	BRL	770		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Hexachloroethane	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Indeno(1,2,3-cd)pyrene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Isophorone	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
N-Nitrosodi-n-propylamine	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
N-Nitrosodiphenylamine	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Naphthalene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Nitrobenzene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Pentachlorophenol	BRL	2000		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Phenanthrene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Phenol	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Pyrene	BRL	390		ug/Kg-dry	210655	1	07/28/2015 18:38	YH
Surr: 2,4,6-Tribromophenol	72.9	41-128		%REC	210655	1	07/28/2015 18:38	YH
Surr: 2-Fluorobiphenyl	77.6	47-120		%REC	210655	1	07/28/2015 18:38	YH
Surr: 2-Fluorophenol	66	38.3-120		%REC	210655	1	07/28/2015 18:38	YH
Surr: 4-Terphenyl-d14	92.3	51.4-125		%REC	210655	1	07/28/2015 18:38	YH
Surr: Nitrobenzene-d5	79	40.1-120		%REC	210655	1	07/28/2015 18:38	YH
Surr: Phenol-d5	76.8	40.3-120		%REC	210655	1	07/28/2015 18:38	YH
<b>TCL VOLATILE ORGANICS SW8260B</b>						<b>(SW5035)</b>		
1,1,1-Trichloroethane	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
1,1,2,2-Tetrachloroethane	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
1,1,2-Trichloroethane	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
1,1-Dichloroethane	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
1,1-Dichloroethene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
1,2,4-Trichlorobenzene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG

Qualifiers: \* Value exceeds maximum contaminant level

BRL Below reporting limit

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

&gt; Greater than Result value

E Estimated (value above quantitation range)

S Spike Recovery outside limits due to matrix

Narr See case narrative

NC Not confirmed

&lt; Less than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB3-10					
Project Name:	66 Norcross St	Collection Date:	7/24/2015 11:35:00 AM					
Lab ID:	1507L22-007	Matrix:	Soil					
<hr/>								
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>				<b>(SW5035)</b>				
1,2-Dibromo-3-chloropropane	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
1,2-Dibromoethane	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
1,2-Dichlorobenzene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
1,2-Dichloroethane	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
1,2-Dichloropropane	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
1,3-Dichlorobenzene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
1,4-Dichlorobenzene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
2-Butanone	BRL	42		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
2-Hexanone	BRL	8.4		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
4-Methyl-2-pentanone	BRL	8.4		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Acetone	85	84		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Benzene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Bromodichloromethane	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Bromoform	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Bromomethane	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Carbon disulfide	BRL	8.4		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Carbon tetrachloride	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Chlorobenzene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Chloroethane	BRL	8.4		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Chloroform	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Chloromethane	BRL	8.4		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
cis-1,2-Dichloroethene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
cis-1,3-Dichloropropene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Cyclohexane	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Dibromochloromethane	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Dichlorodifluoromethane	BRL	8.4		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Ethylbenzene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Freon-113	BRL	8.4		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Isopropylbenzene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
m,p-Xylene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Methyl acetate	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Methyl tert-butyl ether	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Methylcyclohexane	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Methylene chloride	BRL	17		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
o-Xylene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Styrene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Tetrachloroethene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Toluene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
trans-1,2-Dichloroethene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
trans-1,3-Dichloropropene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Trichloroethene	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG

Qualifiers: \* Value exceeds maximum contaminant level

BRL Below reporting limit

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

&gt; Greater than Result value

E Estimated (value above quantitation range)

S Spike Recovery outside limits due to matrix

Narr See case narrative

NC Not confirmed

&lt; Less than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB3-10					
Project Name:	66 Norcross St	Collection Date:	7/24/2015 11:35:00 AM					
Lab ID:	1507L22-007	Matrix:	Soil					
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>								<b>(SW5035)</b>
Trichlorofluoromethane	BRL	4.2		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Vinyl chloride	BRL	8.4		ug/Kg-dry	210805	1	07/30/2015 01:36	CG
Surr: 4-Bromofluorobenzene	73	70-128	%REC		210805	1	07/30/2015 01:36	CG
Surr: Dibromofluoromethane	86.7	78.2-128	%REC		210805	1	07/30/2015 01:36	CG
Surr: Toluene-d8	83.8	76.5-116	%REC		210805	1	07/30/2015 01:36	CG
<b>METALS, TOTAL SW6010C</b>								<b>(SW3050B)</b>
Arsenic	BRL	5.67		mg/Kg-dry	210732	1	07/29/2015 15:52	IO
Barium	101	5.67		mg/Kg-dry	210732	1	07/29/2015 15:52	IO
Cadmium	BRL	2.84		mg/Kg-dry	210732	1	07/29/2015 15:52	IO
Chromium	33.9	2.84		mg/Kg-dry	210732	1	07/29/2015 15:52	IO
Lead	16.6	5.67		mg/Kg-dry	210732	1	07/29/2015 15:52	IO
Selenium	BRL	5.67		mg/Kg-dry	210732	1	07/29/2015 15:52	IO
Silver	BRL	2.84		mg/Kg-dry	210732	1	07/29/2015 15:52	IO
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	14.6	0	wt%		R296994	1	07/30/2015 10:00	PF

Qualifiers: \* Value exceeds maximum contaminant level  
 BRL Below reporting limit  
 H Holding times for preparation or analysis exceeded  
 N Analyte not NELAC certified  
 B Analyte detected in the associated method blank  
 > Greater than Result value

E Estimated (value above quantitation range)  
 S Spike Recovery outside limits due to matrix  
 Narr See case narrative  
 NC Not confirmed  
 < Less than Result value  
 J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.		Client Sample ID:	EB1-GW				
Project Name:	66 Norcross St		Collection Date:	7/24/2015 12:11:00 PM				
Lab ID:	1507L22-008		Matrix:	Groundwater				
<hr/>								
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL-SEMOVOLATILE ORGANICS SW8270D</b>					<b>(SW3510C)</b>			
1,1'-Biphenyl	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
2,4,5-Trichlorophenol	BRL	25		ug/L	210653	1	07/29/2015 20:45	YH
2,4,6-Trichlorophenol	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
2,4-Dichlorophenol	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
2,4-Dimethylphenol	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
2,4-Dinitrophenol	BRL	25		ug/L	210653	1	07/29/2015 20:45	YH
2,4-Dinitrotoluene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
2,6-Dinitrotoluene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
2-Chloronaphthalene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
2-Chlorophenol	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
2-Methylnaphthalene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
2-Methylphenol	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
2-Nitroaniline	BRL	25		ug/L	210653	1	07/29/2015 20:45	YH
2-Nitrophenol	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
3,3'-Dichlorobenzidine	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
3-Nitroaniline	BRL	25		ug/L	210653	1	07/29/2015 20:45	YH
4,6-Dinitro-2-methylphenol	BRL	25		ug/L	210653	1	07/29/2015 20:45	YH
4-Bromophenyl phenyl ether	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
4-Chloro-3-methylphenol	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
4-Chloroaniline	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
4-Chlorophenyl phenyl ether	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
4-Methylphenol	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
4-Nitroaniline	BRL	25		ug/L	210653	1	07/29/2015 20:45	YH
4-Nitrophenol	BRL	25		ug/L	210653	1	07/29/2015 20:45	YH
Acenaphthene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Acenaphthylene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Acetophenone	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Anthracene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Atrazine	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Benz(a)anthracene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Benzaldehyde	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Benzo(a)pyrene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Benzo(b)fluoranthene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Benzo(k)fluoranthene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Bis(2-chloroethoxy)methane	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Bis(2-chloroethyl)ether	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Bis(2-chloroisopropyl)ether	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Bis(2-ethylhexyl)phthalate	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Butyl benzyl phthalate	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Caprolactam	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH

Qualifiers: \* Value exceeds maximum contaminant level

E Estimated (value above quantitation range)

BRL Below reporting limit

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

Narr See case narrative

N Analyte not NELAC certified

NC Not confirmed

B Analyte detected in the associated method blank

&lt; Less than Result value

&gt; Greater than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.		Client Sample ID:	EB1-GW				
Project Name:	66 Norcross St		Collection Date:	7/24/2015 12:11:00 PM				
Lab ID:	1507L22-008		Matrix:	Groundwater				
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL-SEMOVOLATILE ORGANICS SW8270D</b>						<b>(SW3510C)</b>		
Carbazole	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Chrysene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Di-n-butyl phthalate	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Di-n-octyl phthalate	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Dibenz(a,h)anthracene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Dibenzofuran	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Diethyl phthalate	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Dimethyl phthalate	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Fluoranthene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Fluorene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Hexachlorobenzene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Hexachlorobutadiene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Hexachlorocyclopentadiene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Hexachloroethane	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Indeno(1,2,3-cd)pyrene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Isophorone	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
N-Nitrosodi-n-propylamine	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
N-Nitrosodiphenylamine	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Naphthalene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Nitrobenzene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Pentachlorophenol	BRL	25		ug/L	210653	1	07/29/2015 20:45	YH
Phenanthrene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Phenol	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Pyrene	BRL	10		ug/L	210653	1	07/29/2015 20:45	YH
Sur: 2,4,6-Tribromophenol	114	52-133	%REC	210653	1	07/29/2015 20:45	YH	
Sur: 2-Fluorobiphenyl	95.1	50-121	%REC	210653	1	07/29/2015 20:45	YH	
Sur: 2-Fluorophenol	67.9	27.5-120	%REC	210653	1	07/29/2015 20:45	YH	
Sur: 4-Terphenyl-d14	109	46.3-137	%REC	210653	1	07/29/2015 20:45	YH	
Sur: Nitrobenzene-d5	95.3	41.2-121	%REC	210653	1	07/29/2015 20:45	YH	
Sur: Phenol-d5	49.4	14.3-120	%REC	210653	1	07/29/2015 20:45	YH	
<b>TCL VOLATILE ORGANICS SW8260B</b>						<b>(SW5030B)</b>		
1,1,1-Trichloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
1,1,2-Trichloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
1,1-Dichloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
1,1-Dichloroethene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
1,2-Dibromoethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
1,2-Dichlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH

Qualifiers: \* Value exceeds maximum contaminant level

BRL Below reporting limit

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

&gt; Greater than Result value

E Estimated (value above quantitation range)

S Spike Recovery outside limits due to matrix

Narr See case narrative

NC Not confirmed

&lt; Less than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB1-GW
Project Name:	66 Norcross St	Collection Date:	7/24/2015 12:11:00 PM
Lab ID:	1507L22-008	Matrix:	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>		<b>(SW5030B)</b>						
1,2-Dichloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
1,2-Dichloropropane	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
1,3-Dichlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
1,4-Dichlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
2-Butanone	BRL	50		ug/L	210738	1	07/29/2015 17:55	CH
2-Hexanone	BRL	10		ug/L	210738	1	07/29/2015 17:55	CH
4-Methyl-2-pentanone	BRL	10		ug/L	210738	1	07/29/2015 17:55	CH
Acetone	BRL	50		ug/L	210738	1	07/29/2015 17:55	CH
Benzene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Bromodichloromethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Bromoform	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Bromomethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Carbon disulfide	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Carbon tetrachloride	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Chlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Chloroethane	BRL	10		ug/L	210738	1	07/29/2015 17:55	CH
Chloroform	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Chloromethane	BRL	10		ug/L	210738	1	07/29/2015 17:55	CH
cis-1,2-Dichloroethene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
cis-1,3-Dichloropropene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Cyclohexane	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Dibromochloromethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Dichlorodifluoromethane	BRL	10		ug/L	210738	1	07/29/2015 17:55	CH
Ethylbenzene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Freon-113	BRL	10		ug/L	210738	1	07/29/2015 17:55	CH
Isopropylbenzene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
m,p-Xylene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Methyl acetate	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Methyl tert-butyl ether	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Methylcyclohexane	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Methylene chloride	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
o-Xylene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Styrene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Tetrachloroethene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Toluene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
trans-1,2-Dichloroethene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
trans-1,3-Dichloropropene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Trichloroethene	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Trichlorofluoromethane	BRL	5.0		ug/L	210738	1	07/29/2015 17:55	CH
Vinyl chloride		4.9	2.0	ug/L	210738	1	07/29/2015 17:55	CH
Surr: 4-Bromofluorobenzene		95.3	70.6-123	%REC	210738	1	07/29/2015 17:55	CH

Qualifiers: \* Value exceeds maximum contaminant level

E Estimated (value above quantitation range)

BRL Below reporting limit

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

Narr See case narrative

N Analyte not NELAC certified

NC Not confirmed

B Analyte detected in the associated method blank

&lt; Less than Result value

&gt; Greater than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	EB1-GW					
Project Name:	66 Norcross St	Collection Date:	7/24/2015 12:11:00 PM					
Lab ID:	1507L22-008	Matrix:	Groundwater					
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>								(SW5030B)
Surf: Dibromofluoromethane	87.3	78.7-124	%REC	210738	1	07/29/2015 17:55	CH	
Surf: Toluene-d8	95.1	81.3-120	%REC	210738	1	07/29/2015 17:55	CH	
<b>METALS, DISSOLVED SW6010C</b>								(SW3005A)
Arsenic	BRL	0.0500	mg/L	210621	1	07/27/2015 19:40	IO	
Barium	0.0223	0.0200	mg/L	210621	1	07/27/2015 19:40	IO	
Cadmium	BRL	0.0050	mg/L	210621	1	07/27/2015 19:40	IO	
Chromium	BRL	0.0100	mg/L	210621	1	07/27/2015 19:40	IO	
Lead	BRL	0.0100	mg/L	210621	1	07/27/2015 19:40	IO	
Selenium	BRL	0.0200	mg/L	210621	1	07/27/2015 19:40	IO	
Silver	BRL	0.0100	mg/L	210621	1	07/27/2015 19:40	IO	
<b>Mercury, Total SW7470A</b>								(SW7470A)
Mercury	BRL	0.00020	mg/L	210740	1	07/29/2015 15:05	TA	
<b>Mercury, Dissolved SW7470A</b>								(SW7470A)
Mercury	BRL	0.00020	mg/L	210741	1	07/29/2015 15:57	TA	
<b>METALS, TOTAL SW6010C</b>								(SW3010A)
Arsenic	BRL	0.0500	mg/L	210645	1	07/29/2015 18:03	IO	
Barium	0.0596	0.0200	mg/L	210645	1	07/29/2015 18:03	IO	
Cadmium	BRL	0.0050	mg/L	210645	1	07/29/2015 18:03	IO	
Chromium	0.0240	0.0100	mg/L	210645	1	07/29/2015 18:03	IO	
Lead	0.0133	0.0100	mg/L	210645	1	07/29/2015 18:03	IO	
Selenium	BRL	0.0200	mg/L	210645	1	07/29/2015 18:03	IO	
Silver	BRL	0.0100	mg/L	210645	1	07/29/2015 18:03	IO	

Qualifiers: \* Value exceeds maximum contaminant level  
 BRL Below reporting limit  
 H Holding times for preparation or analysis exceeded  
 N Analyte not NELAC certified  
 B Analyte detected in the associated method blank  
 > Greater than Result value

E Estimated (value above quantitation range)  
 S Spike Recovery outside limits due to matrix  
 Narr See case narrative  
 NC Not confirmed  
 < Less than Result value  
 J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.		Client Sample ID:	MW7-GW				
Project Name:	66 Norcross St		Collection Date:	7/24/2015 12:35:00 PM				
Lab ID:	1507L22-009		Matrix:	Groundwater				
<hr/>								
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL-SEMOVOLATILE ORGANICS SW8270D</b>					<b>(SW3510C)</b>			
1,1'-Biphenyl	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
2,4,5-Trichlorophenol	BRL	25		ug/L	210653	1	07/29/2015 21:12	YH
2,4,6-Trichlorophenol	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
2,4-Dichlorophenol	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
2,4-Dimethylphenol	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
2,4-Dinitrophenol	BRL	25		ug/L	210653	1	07/29/2015 21:12	YH
2,4-Dinitrotoluene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
2,6-Dinitrotoluene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
2-Chloronaphthalene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
2-Chlorophenol	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
2-Methylnaphthalene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
2-Methylphenol	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
2-Nitroaniline	BRL	25		ug/L	210653	1	07/29/2015 21:12	YH
2-Nitrophenol	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
3,3'-Dichlorobenzidine	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
3-Nitroaniline	BRL	25		ug/L	210653	1	07/29/2015 21:12	YH
4,6-Dinitro-2-methylphenol	BRL	25		ug/L	210653	1	07/29/2015 21:12	YH
4-Bromophenyl phenyl ether	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
4-Chloro-3-methylphenol	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
4-Chloroaniline	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
4-Chlorophenyl phenyl ether	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
4-Methylphenol	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
4-Nitroaniline	BRL	25		ug/L	210653	1	07/29/2015 21:12	YH
4-Nitrophenol	BRL	25		ug/L	210653	1	07/29/2015 21:12	YH
Acenaphthene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Acenaphthylene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Acetophenone	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Anthracene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Atrazine	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Benz(a)anthracene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Benzaldehyde	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Benzo(a)pyrene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Benzo(b)fluoranthene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Benzo(k)fluoranthene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Bis(2-chloroethoxy)methane	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Bis(2-chloroethyl)ether	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Bis(2-chloroisopropyl)ether	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Bis(2-ethylhexyl)phthalate	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Butyl benzyl phthalate	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Caprolactam	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH

Qualifiers: \* Value exceeds maximum contaminant level

E Estimated (value above quantitation range)

BRL Below reporting limit

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

Narr See case narrative

N Analyte not NELAC certified

NC Not confirmed

B Analyte detected in the associated method blank

&lt; Less than Result value

&gt; Greater than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

<b>Client:</b>	United Consulting Group Inc.	<b>Client Sample ID:</b>	MW7-GW
<b>Project Name:</b>	66 Norcross St	<b>Collection Date:</b>	7/24/2015 12:35:00 PM
<b>Lab ID:</b>	1507L22-009	<b>Matrix:</b>	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL-SEMOVOLATILE ORGANICS SW8270D</b>								
<b>(SW3510C)</b>								
Carbazole	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Chrysene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Di-n-butyl phthalate	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Di-n-octyl phthalate	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Dibenz(a,h)anthracene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Dibenzofuran	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Diethyl phthalate	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Dimethyl phthalate	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Fluoranthene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Fluorene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Hexachlorobenzene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Hexachlorobutadiene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Hexachlorocyclopentadiene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Hexachloroethane	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Indeno(1,2,3-cd)pyrene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Isophorone	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
N-Nitrosodi-n-propylamine	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
N-Nitrosodiphenylamine	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Naphthalene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Nitrobenzene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Pentachlorophenol	BRL	25		ug/L	210653	1	07/29/2015 21:12	YH
Phenanthrene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Phenol	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Pyrene	BRL	10		ug/L	210653	1	07/29/2015 21:12	YH
Surr: 2,4,6-Tribromophenol		112	52-133	%REC	210653	1	07/29/2015 21:12	YH
Surr: 2-Fluorobiphenyl		93.3	50-121	%REC	210653	1	07/29/2015 21:12	YH
Surr: 2-Fluorophenol		67.5	27.5-120	%REC	210653	1	07/29/2015 21:12	YH
Surr: 4-Terphenyl-d14		112	46.3-137	%REC	210653	1	07/29/2015 21:12	YH
Surr: Nitrobenzene-d5		101	41.2-121	%REC	210653	1	07/29/2015 21:12	YH
Surr: Phenol-d5		47	14.3-120	%REC	210653	1	07/29/2015 21:12	YH
<b>TCL VOLATILE ORGANICS SW8260B</b>								
<b>(SW5030B)</b>								
1,1,1-Trichloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
1,1,2-Trichloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
1,1-Dichloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
1,1-Dichloroethene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
1,2-Dibromoethane	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
1,2-Dichlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH

Qualifiers: \* Value exceeds maximum contaminant level

E Estimated (value above quantitation range)

BRL Below reporting limit

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

Narr See case narrative

N Analyte not NELAC certified

NC Not confirmed

B Analyte detected in the associated method blank

&lt; Less than Result value

&gt; Greater than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

<b>Client:</b>	United Consulting Group Inc.	<b>Client Sample ID:</b>	MW7-GW
<b>Project Name:</b>	66 Norcross St	<b>Collection Date:</b>	7/24/2015 12:35:00 PM
<b>Lab ID:</b>	1507L22-009	<b>Matrix:</b>	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>		<b>(SW5030B)</b>						
1,2-Dichloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
1,2-Dichloropropane	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
1,3-Dichlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
1,4-Dichlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
2-Butanone	BRL	50		ug/L	210738	1	07/29/2015 18:19	CH
2-Hexanone	BRL	10		ug/L	210738	1	07/29/2015 18:19	CH
4-Methyl-2-pentanone	BRL	10		ug/L	210738	1	07/29/2015 18:19	CH
Acetone	BRL	50		ug/L	210738	1	07/29/2015 18:19	CH
Benzene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Bromodichloromethane	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Bromoform	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Bromomethane	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Carbon disulfide	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Carbon tetrachloride	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Chlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Chloroethane	BRL	10		ug/L	210738	1	07/29/2015 18:19	CH
Chloroform	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Chloromethane	BRL	10		ug/L	210738	1	07/29/2015 18:19	CH
cis-1,2-Dichloroethene	BRL	5.4	5.0	ug/L	210738	1	07/29/2015 18:19	CH
cis-1,3-Dichloropropene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Cyclohexane	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Dibromochloromethane	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Dichlorodifluoromethane	BRL	10		ug/L	210738	1	07/29/2015 18:19	CH
Ethylbenzene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Freon-113	BRL	10		ug/L	210738	1	07/29/2015 18:19	CH
Isopropylbenzene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
m,p-Xylene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Methyl acetate	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Methyl tert-butyl ether	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Methylecyclohexane	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Methylene chloride	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
o-Xylene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Styrene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Tetrachloroethene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Toluene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
trans-1,2-Dichloroethene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
trans-1,3-Dichloropropene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Trichloroethene	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Trichlorofluoromethane	BRL	5.0		ug/L	210738	1	07/29/2015 18:19	CH
Vinyl chloride	BRL	2.0		ug/L	210738	1	07/29/2015 18:19	CH
Surr: 4-Bromofluorobenzene	89.6	70.6-123	%REC		210738	1	07/29/2015 18:19	CH

Qualifiers: \* Value exceeds maximum contaminant level

E Estimated (value above quantitation range)

BRL Below reporting limit

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

Narr See case narrative

N Analyte not NELAC certified

NC Not confirmed

B Analyte detected in the associated method blank

&lt; Less than Result value

&gt; Greater than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.		Client Sample ID:	MW7-GW				
Project Name:	66 Norcross St		Collection Date:	7/24/2015 12:35:00 PM				
Lab ID:	1507L22-009		Matrix:	Groundwater				
Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>						<b>(SW5030B)</b>		
Surr: Dibromofluoromethane	88.8	78.7-124	%REC	210738	1	07/29/2015 18:19	CH	
Surr: Toluene-d8	92.5	81.3-120	%REC	210738	1	07/29/2015 18:19	CH	
<b>METALS, DISSOLVED SW6010C</b>						<b>(SW3005A)</b>		
Arsenic	BRL	0.0500	mg/L	210621	1	07/27/2015 19:44	IO	
Barium	0.0471	0.0200	mg/L	210621	1	07/27/2015 19:44	IO	
Cadmium	BRL	0.0050	mg/L	210621	1	07/27/2015 19:44	IO	
Chromium	BRL	0.0100	mg/L	210621	1	07/27/2015 19:44	IO	
Lead	BRL	0.0100	mg/L	210621	1	07/27/2015 19:44	IO	
Selenium	BRL	0.0200	mg/L	210621	1	07/27/2015 19:44	IO	
Silver	BRL	0.0100	mg/L	210621	1	07/27/2015 19:44	IO	
<b>Mercury, Total SW7470A</b>						<b>(SW7470A)</b>		
Mercury	BRL	0.00020	mg/L	210740	1	07/29/2015 15:07	TA	
<b>Mercury, Dissolved SW7470A</b>						<b>(SW7470A)</b>		
Mercury	BRL	0.00020	mg/L	210741	1	07/29/2015 15:59	TA	
<b>METALS, TOTAL SW6010C</b>						<b>(SW3010A)</b>		
Arsenic	BRL	0.0500	mg/L	210645	1	07/29/2015 18:07	IO	
Barium	0.0464	0.0200	mg/L	210645	1	07/29/2015 18:07	IO	
Cadmium	BRL	0.0050	mg/L	210645	1	07/29/2015 18:07	IO	
Chromium	BRL	0.0100	mg/L	210645	1	07/29/2015 18:07	IO	
Lead	BRL	0.0100	mg/L	210645	1	07/29/2015 18:07	IO	
Selenium	BRL	0.0200	mg/L	210645	1	07/29/2015 18:07	IO	
Silver	BRL	0.0100	mg/L	210645	1	07/29/2015 18:07	IO	

Qualifiers:

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	TRIP BLANK
Project Name:	66 Norcross St	Collection Date:	7/24/2015
Lab ID:	1507L22-010	Matrix:	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>		<b>(SW5030B)</b>						
1,1,1-Trichloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
1,1,2-Trichloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
1,1-Dichloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
1,1-Dichloroethene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
1,2-Dibromoethane	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
1,2-Dichlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
1,2-Dichloroethane	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
1,2-Dichloropropane	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
1,3-Dichlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
1,4-Dichlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
2-Butanone	BRL	50		ug/L	210738	1	07/29/2015 14:39	CH
2-Hexanone	BRL	10		ug/L	210738	1	07/29/2015 14:39	CH
4-Methyl-2-pentanone	BRL	10		ug/L	210738	1	07/29/2015 14:39	CH
Acetone	BRL	50		ug/L	210738	1	07/29/2015 14:39	CH
Benzene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Bromodichloromethane	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Bromoform	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Bromomethane	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Carbon disulfide	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Carbon tetrachloride	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Chlorobenzene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Chloroethane	BRL	10		ug/L	210738	1	07/29/2015 14:39	CH
Chloroform	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Chloromethane	BRL	10		ug/L	210738	1	07/29/2015 14:39	CH
cis-1,2-Dichloroethene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
cis-1,3-Dichloropropene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Cyclohexane	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Dibromochloromethane	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Dichlorodifluoromethane	BRL	10		ug/L	210738	1	07/29/2015 14:39	CH
Ethylbenzene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Freon-113	BRL	10		ug/L	210738	1	07/29/2015 14:39	CH
Isopropylbenzene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
m,p-Xylene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Methyl acetate	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Methyl tert-butyl ether	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Methylcyclohexane	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Methylene chloride	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
o-Xylene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH

Qualifiers: \* Value exceeds maximum contaminant level

E Estimated (value above quantitation range)

BRL Below reporting limit

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

Narr See case narrative

N Analyte not NELAC certified

NC Not confirmed

B Analyte detected in the associated method blank

&lt; Less than Result value

&gt; Greater than Result value

J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc

Date: 31-Jul-15

Client:	United Consulting Group Inc.	Client Sample ID:	TRIP BLANK
Project Name:	66 Norcross St	Collection Date:	7/24/2015
Lab ID:	1507L22-010	Matrix:	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>		<b>(SW5030B)</b>						
Styrene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Tetrachloroethene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Toluene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
trans-1,2-Dichloroethene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
trans-1,3-Dichloropropene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Trichloroethene	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Trichlorofluoromethane	BRL	5.0		ug/L	210738	1	07/29/2015 14:39	CH
Vinyl chloride	BRL	2.0		ug/L	210738	1	07/29/2015 14:39	CH
Surr: 4-Bromofluorobenzene	89.3	70.6-123	%REC		210738	1	07/29/2015 14:39	CH
Surr: Dibromofluoromethane	87.1	78.7-124	%REC		210738	1	07/29/2015 14:39	CH
Surr: Toluene-d8	94.9	81.3-120	%REC		210738	1	07/29/2015 14:39	CH

Qualifiers: \* Value exceeds maximum contaminant level  
 BRL Below reporting limit  
 H Holding times for preparation or analysis exceeded  
 N Analyte not NELAC certified  
 B Analyte detected in the associated method blank  
 > Greater than Result value

E Estimated (value above quantitation range)  
 S Spike Recovery outside limits due to matrix  
 Narr See case narrative  
 NC Not confirmed  
 < Less than Result value  
 J Estimated value detected below Reporting Limit

## Analytical Environmental Services, Inc.

## Sample/Cooler Receipt Checklist

Client United ConsultingWork Order Number 1507L22Checklist completed by Katie Forum 7/24/15

Signature

Date

Carrier name: FedEx  UPS  Courier  Client  US Mail  Other \_\_\_\_\_Shipping container/coolers in good condition? Yes  No  Not Present Custody seals intact on shipping container/coolers? Yes  No  Not Present Custody seals intact on sample bottles? Yes  No  Not Present Container/Temp Blank temperature in compliance? (0°≤6°C)\* Yes  No Cooler #1 3.4°C Cooler #2 \_\_\_\_\_ Cooler #3 \_\_\_\_\_ Cooler #4 \_\_\_\_\_ Cooler #5 \_\_\_\_\_ Cooler #6 \_\_\_\_\_Chain of custody present? Yes  No Chain of custody signed when relinquished and received? Yes  No Chain of custody agrees with sample labels? Yes  No Samples in proper container/bottle? Yes  No Sample containers intact? Yes  No Sufficient sample volume for indicated test? Yes  No All samples received within holding time? Yes  No Was TAT marked on the COC? Yes  No Proceed with Standard TAT as per project history? Yes  No  Not Applicable Water - VOA vials have zero headspace? No VOA vials submitted  Yes  No Water - pH acceptable upon receipt? Yes  No  Not Applicable Adjusted? \_\_\_\_\_ Checked by KFSample Condition: Good  Other(Explain) \_\_\_\_\_(For diffusive samples or All-IA lead) Is a known blank included? Yes  No 

See Case Narrative for resolution of the Non-Conformance.

\* Samples do not have to comply with the given range for certain parameters.

## Analytical Environmental Services, Inc

Client: United Consulting Group Inc.  
 Project Name: 66 Norcross St  
 Workorder: 1507L22

Date: 3-Aug-15

## ANALYTICAL QC SUMMARY REPORT

BatchID: 210621

Sample ID:	MB-210621	Client ID:	TestCode:	METALS, DISSOLVED	SW6010C		Units:	mg/L	Prep Date:	07/27/2015	Run No:	296696
SampleType:	MIBJK	TestCode:	METALS, DISSOLVED	SW6010C			BatchID:	210621	Analysis Date:	07/27/2015	Seq No:	6329643
Analyte		Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	0.0500										
Barium	BRL	0.0200										
Cadmium	BRL	0.0050										
Chromium	BRL	0.0100										
Lead	BRL	0.0100										
Selenium	BRL	0.0200										
Silver	BRL	0.0100										

Sample ID:	LCS-210621	Client ID:	TestCode:	METALS, DISSOLVED	SW6010C		Units:	mg/L	Prep Date:	07/27/2015	Run No:	296696
SampleType:	LCS	TestCode:	METALS, DISSOLVED	SW6010C			BatchID:	210621	Analysis Date:	07/27/2015	Seq No:	6329644
Analyte		Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic		0.9954	0.0500	1.000			99.5	80		120		
Barium		1.004	0.0200	1.000			100	80		120		
Cadmium		1.027	0.0050	1.000			103	80		120		
Chromium		0.9979	0.0100	1.000			99.8	80		120		
Lead		1.009	0.0100	1.000			101	80		120		
Selenium		0.9490	0.0200	1.000			94.9	80		120		
Silver		0.1010	0.0100	0.1000			101	80		120		

Sample ID:	1507H88-001CMS	Client ID:	TestCode:	METALS, DISSOLVED	SW6010C		Units:	mg/L	Prep Date:	07/27/2015	Run No:	296696
SampleType:	MS	TestCode:	METALS, DISSOLVED	SW6010C			BatchID:	210621	Analysis Date:	07/27/2015	Seq No:	6329646
Analyte		Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic		0.9948	0.0500	1.000			99.5	75		125		
Barium		1.033	0.0200	1.000	0.04547		98.7	75		125		
Cadmium		1.013	0.0050	1.000			101	75		125		
Chromium		0.9882	0.0100	1.000	0.0009403		98.7	75		125		

Qualifiers: &gt; Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

&lt; Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

### Analytical Environmental Services, Inc

Date: 3-Aug-15

Client: United Consulting Group Inc.  
Project Name: 66 Norcross St  
Workorder: 1507L22

### ANALYTICAL QC SUMMARY REPORT

BatchID: 210621

	Sample ID: 1507H88-001CMS	Client ID: TestCode: METALS, DISSOLVED	SW604OC			Units: mg/L	Prep Date: 07/27/2015	Run No: 296696
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	Analysis Date: 07/27/2015 Seq No: 6329646
Lead	0.9908	0.0100	1.000		99.1	75	125	
Selenium	0.9563	0.0200	1.000	0.005742	95.1	75	125	
Silver	0.09892	0.0100	0.1000		98.9	75	125	

	Sample ID: 1507H88-001CMSD	Client ID: TestCode: METALS, DISSOLVED	SW604OC			Units: mg/L	Prep Date: 07/27/2015	Run No: 296696
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	Analysis Date: 07/27/2015 Seq No: 6329647
Arsenic	0.9740	0.0500	1.000		97.4	75	125	
Barium	1.007	0.0200	1.000	0.04547	96.1	75	125	
Cadmium	0.9829	0.0050	1.000		98.3	75	125	
Chromium	0.9603	0.0100	1.000	0.0009403	95.9	75	125	
Lead	0.9629	0.0100	1.000		96.3	75	125	
Selenium	0.9472	0.0200	1.000	0.005742	94.1	75	125	
Silver	0.09497	0.0100	0.1000		95.0	75	125	

Qualifiers:	> Greater than Result value	< Less than Result value	B Analyte detected in the associated method blank
	BRL Below reporting limit	E Estimated (value above quantitation range)	H Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N Analyte not NELAC certified	R RPD outside limits due to matrix
	Rpt Lim Reporting Limit:	S Spike Recovery outside limits due to matrix	
			42 of 67

## Analytical Environmental Services, Inc

Date: 3-Aug-15

## ANALYTICAL QC SUMMARY REPORT

Client: United Consulting Group Inc.  
 Project Name: 66 Norcross St  
 Workorder: 1507L22

BatchID: 210645

Sample ID:	MB-210645	Client ID:	BatchID: METALS, TOTAL	Units: mg/L	Prep Date: 07/28/2015	Run No: 296963				
Sample Type:	MBLK	TestCode:	SW6010C	BatchID: 210645	Analysis Date: 07/29/2015	Seq No: 6336203				
Analyte	Result	RPT Limit	SPK value	%REC	Low Limit	High Limit	RPD RefVal	%RPD	RPD Limit	Qual
Arsenic	BRL	0.0500								
Barium	BRL	0.0200								
Cadmium	BRL	0.0050								
Chromium	BRL	0.0100								
Lead	BRL	0.0100								
Selenium	BRL	0.0200								
Silver	BRL	0.0100								

Sample ID:	LCS-210645	Client ID:	BatchID: METALS, TOTAL	Units: mg/L	Prep Date: 07/28/2015	Run No: 296963				
Sample Type:	LCS	TestCode:	SW6010C	BatchID: 210645	Analysis Date: 07/29/2015	Seq No: 6336204				
Analyte	Result	RPT Limit	SPK value	%REC	Low Limit	High Limit	RPD RefVal	%RPD	RPD Limit	Qual
Arsenic	1.019	0.0500	1.000		102	80	120			
Barium	1.001	0.0200	1.000		100	80	120			
Cadmium	1.018	0.0050	1.000		102	80	120			
Chromium	1.008	0.0100	1.000	0.002616	101	80	120			
Lead	1.013	0.0100	1.000	0.007430	101	80	120			
Selenium	1.019	0.0200	1.000	0.007015	101	80	120			
Silver	0.09918	0.0100	0.1000		99.2	80	120			

Sample ID:	1507K54-001CMS	Client ID:	BatchID: METALS, TOTAL	Units: mg/L	Prep Date: 07/28/2015	Run No: 296963				
Sample Type:	MS	TestCode:	SW6010C	BatchID: 210645	Analysis Date: 07/29/2015	Seq No: 6336206				
Analyte	Result	RPT Limit	SPK value	%REC	Low Limit	High Limit	RPD RefVal	%RPD	RPD Limit	Qual
Arsenic	0.9989	0.0500	1.000	0.003323	99.6	75	125			
Barium	1.005	0.0200	1.000	0.02276	98.2	75	125			
Cadmium	0.9850	0.0050	1.000		98.5	75	125			
Chromium	1.007	0.0100	1.000	0.0007917	101	75	125			

Qualifiers: &gt; Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

B Analytic detected in the associated method blank

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

### Analytical Environmental Services, Inc

Date: 3-Aug-15

### ANALYTICAL QC SUMMARY REPORT

Client: United Consulting Group Inc.  
Project Name: 66 Norcross St  
Workorder: 1507122

Sample ID: 1507K54-001CMS		Client ID: TestCode: METALS, TOTAL	Units: mg/L		Prep Date: 07/28/2015	Run No: 296963
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	Analysis Date: 07/29/2015	Seq No: 6336206
Lead	0.9866	0.0100	1.000	98.7	75	125
Selenium	0.9987	0.0200	1.000	99.1	75	125
Silver	0.09591	0.0100	0.1000	95.9	75	125

Sample ID: 1507K54-001CMSD		Client ID: TestCode: METALS, TOTAL	Units: mg/L		Prep Date: 07/28/2015	Run No: 296963
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	Analysis Date: 07/29/2015	Seq No: 6336207
Arsenic	1.016	0.0500	1.000	0.003323	101	125
Barium	1.017	0.0200	1.000	0.02276	99.5	125
Cadmium	1.011	0.0050	1.000	101	75	125
Chromium	1.016	0.0100	1.000	0.0007917	102	75
Lead	1.000	0.0100	1.000	100	75	125
Selenium	1.020	0.0200	1.000	0.007608	101	75
Silver	0.09823	0.0100	0.1000	98.2	75	125

Qualifiers:	>	Greater than Result value	<	Less than Result value
BRL		Below reporting limit	E	Estimated (value above quantitation range)
J		Estimated value detected below Reporting Limit	N	Analyte not NELAC certified
Rpt Lim		Reporting Limit	S	Spike Recovery outside limits due to matrix
44 of 67				

**Analytical Environmental Services, Inc**

**Client:** United Consulting Group Inc.  
**Project Name:** 66 Norcross St  
**Workorder:** 1507122

Date: 3-Aug-15

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 210653

Sample ID: MB-210653	Client ID: TestCode: TCL-SEMI-VOLATILE ORGANICS SW8270D	Units: ug/L BatchID: 210653	Prep Date: 07/28/2015	Run No: 296860
Analyte	Result	RPT Limit	SPK value	SPK Ref Val
1,1'-Biphenyl	BRL	10		
2,4,5-Trichlorophenol	BRL	25		
2,4,6-Trichlorophenol	BRL	10		
2,4-Dichlorophenol	BRL	10		
2,4-Dimethylphenol	BRL	10		
2,4-Dinitrophenol	BRL	25		
2,4-Dinitrotoluene	BRL	10		
2,6-Dinitrotoluene	BRL	10		
2-Chloronaphthalene	BRL	10		
2-Chlorophenol	BRL	10		
2-Methylnaphthalene	BRL	10		
2-Methylphenol	BRL	10		
2-Nitroaniline	BRL	25		
2-Nitrophenol	BRL	10		
3,3'-Dichlorobenzidine	BRL	10		
3-Nitroaniline	BRL	25		
4,6-Dinitro-2-methylphenol	BRL	25		
4-Bromophenyl phenyl ether	BRL	10		
4-Chloro-3-methylphenol	BRL	10		
4-Chloroaniline	BRL	10		
4-Chlorophenyl phenyl ether	BRL	10		
4-Methylphenol	BRL	10		
4-Nitroaniline	BRL	25		
4-Nitrophenol	BRL	25		
Acenaphthene	BRL	10		
Acenaphthylene	BRL	10		
Acetophenone	BRL	10		

Qualifiers:	>	Greater than Result value	B	Analyte detected in the associated method blank
	BRL	Below reporting limit	E	Estimated (value above quantitation range)
J		Estimated value detected below Reporting Limit	H	Holding times for preparation or analysis exceeded
N		Analyte not NELAC certified	R	RPD outside limits due to matrix
S		Spike Recovery outside limits due to matrix		

**Analytical Environmental Services, Inc**

Client: United Consulting Group Inc.  
Project Name: 66 Norcross St  
Workorder: 1507L22

Date: 3-Aug-15

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 210653

Sample ID:	MB-210653	Client ID:	TestCode:	TCL-SEMIVOLATILE ORGANICS	SW8270D	Units:	ug/L	Prep Date:	07/28/2015	Run No:	296860	
Sample Type:	MBLK					BatchID:	210653	Analysis Date:	07/29/2015	Seq No:	6333760	
Analyte		Result	RPT Limit	SPK value	SPK RefVal	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Aanthracene		BRL	10									
Atrazine		BRL	10									
Benz(a)anthracene		BRL	10									
Benzaldehyde		BRL	10									
Benzo(a)pyrene		BRL	10									
Benzo(b)fluoranthene		BRL	10									
Benzo(e,h,i)perylene		BRL	10									
Benzo(k)fluoranthene		BRL	10									
Bis(2-chloroethoxy)methane		BRL	10									
Bis(2-chloroethyl)ether		BRL	10									
Bis(2-ethylhexyl)phthalate		BRL	10									
Butyl benzyl phthalate		BRL	10									
Caprolactam		BRL	10									
Carbazole		BRL	10									
Chrysene		BRL	10									
Di-n-butyl phthalate		BRL	10									
Di-n-octyl phthalate		BRL	10									
Dibenz(a,h)anthracene		BRL	10									
Dibenzofuran		BRL	10									
Diethyl phthalate		BRL	10									
Dimethyl phthalate		BRL	10									
Fluoranthene		BRL	10									
Fluorene		BRL	10									
Hexachlorobenzene		BRL	10									
Hexachlorobutadiene		BRL	10									
Hexachlorocyclopentadiene		BRL	10									

Qualifiers: &gt; Greater than Result value

BRL Below reporting limit

B Analyte detected in the associated method blank

E Estimated (value above quantitation range)

H Holding times for preparation or analysis exceeded

J Estimated value detected below Reporting Limit

N Analyte not NFLAC certified

Rpt Lim Reporting Limit

S Spike Recovery outside limits due to matrix

**Analytical Environmental Services, Inc**

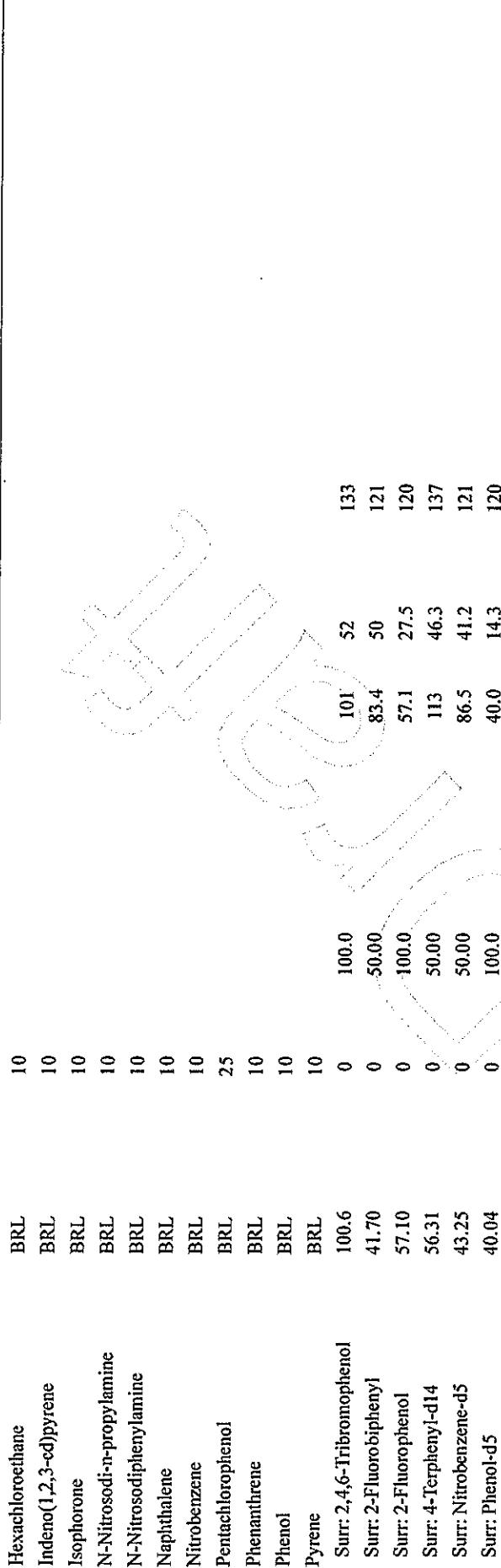
Date: 3-Aug-15

Client: United Consulting Group Inc.  
 Project Name: 66 Norcross St  
 Workorder: 1507L22

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 210653

Sample ID: MB-210653	Client ID: TestCode: TCL-SEMIVOLATILE ORGANICS	Units: ug/L	Prep Date: 07/28/2015	Run No: 296360							
Sample Type: MBLK	BatchID: 210653	Analysis Date: 07/29/2015	Seq No: 6333760								
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Hexachloroethane	BRL	10									
Indeno(1,2,3-cd)pyrene	BRL	10									
Isophorone	BRL	10									
N-Nitrosodi-n-propylamine	BRL	10									
N-Nitrosodiphenylamine	BRL	10									
Naphthalene	BRL	10									
Nitrobenzene	BRL	10									
Pentachlorophenol	BRL	25									
Phenanthrene	BRL	10									
Phenol	BRL	10									
Pyrene	BRL	10									
Surr: 2,4,6-Tribromophenol	100.6	0	100.0								
Surr: 2-Fluorobiphenyl	41.70	0	50.00								
Surr: 2-Fluorophenol	57.10	0	100.0								
Surr: 4-Terphenyl-d14	56.31	0	50.00								
Surr: Nitrobenzene-d5	43.25	0	50.00								
Surr: Phenol-d5	40.04	0	100.0								



Qualifiers:	>	Greater than Result value	<	Less than Result value	
BRL	Below reporting limit		E	Estimated (value above quantitation range)	
J	Estimated value detected below Reporting Limit		H	Holding times for preparation or analysis exceeded	
Rpt Lim	Reporting Limit		N	Analyte not NELAC certified	
			S	Spike Recovery outside limits due to matrix	

## Analytical Environmental Services, Inc

Client: United Consulting Group Inc.  
 Project Name: 66 Norcross St  
 Workorder: 1507122

Date: 3-Aug-15

## ANALYTICAL QC SUMMARY REPORT

BatchID: 210653

Sample ID: LCS-210653		Client ID: TestCode: TCL-SEMIVOLATILE ORGANICS SW8270D				Units: ug/L		Prep Date: 07/28/2015		Run No: 296860	
						BatchID: 210653		Analysis Date: 07/29/2015		Seq No: 6333761	
Analyte	Result	RPT Limit	SPK value	SPK RefVal	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pentachlorophenol	110.2	25	100.0			110	50.2				
Phenol	45.58	10	100.0			45.6	25.6				
Pyrene	119.8	10	100.0			120	70.1				
Surr: 2,4,6-Tribromophenol	108.9	0	100.0			109	52				
Surr: 2-Fluorobiphenyl	49.53	0	50.00			99.1	50				
Surr: 2-Fluorophenol	72.09	0	100.0			72.1	27.5				
Surr: 4-Terphenyl-d14	59.48	0	50.00			119	46.3				
Surr: Nitrobenzene-d5	51.71	0	50.00			103	41.2				
Surr: Phenol-d5	49.78	0	100.0			49.8	14.3				
Sample ID: 1507L50-004BMS		Client ID: TestCode: TCL-SEMIVOLATILE ORGANICS SW8270D				Units: ug/L		Prep Date: 07/28/2015		Run No: 296860	
						BatchID: 210653		Analysis Date: 07/29/2015		Seq No: 6335982	
Analyte	Result	RPT Limit	SPK value	SPK RefVal	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	111.3	10	100.0			111	50.5				
2-Chlorophenol	90.27	10	100.0			90.3	51.4				
4-Chloro-3-methylphenol	108.7	10	100.0			109	50				
4-Nitrophenol	104.2	25	100.0			104	23.7				
Acenaphthene	94.65	10	100.0			94.6	53.9				
N-Nitrosodim-n-propylamine	108.1	10	100.0			108	52.6				
Pentachlorophenol	148.2	25	100.0			27.17					
Phenol	59.44	10	100.0								
Pyrene	113.5	10	100.0								
Surr: 2,4,6-Tribromophenol	123.1	0	100.0								
Surr: 2-Fluorobiphenyl	52.75	0	50.00								
Surr: 2-Fluorophenol	85.20	0	100.0								
Surr: 4-Terphenyl-d14	59.49	0	50.00								
Surr: Nitrobenzene-d5	57.94	0	50.00								

Qualifiers: &gt; Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

&lt; Less than Result value

E Estimated (value above quantitation range)

N Analyte not NFLAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

**Analytical Environmental Services, Inc**

**Client:** United Consulting Group Inc.  
**Project Name:** 66 Norcross St  
**Workorder:** 1507L22

Date: 3-Aug-15

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 210653

Sample ID: 1507L50-004BMS		Client ID: TestCode: TCL-SEMIVOLATILE ORGANICS		SW8270D		Units: ug/L		Prep Date: 07/28/2015		Run No: 296860		
Sample Type: MSD		Analyte		Result	RPT Limit	SPK value	SPK RefVal	%REC	Low Limit	High Limit	Analysis Date: 07/29/2015	Seq No: 6335982
Surr: Phenol-d5	71.87			0	100.0			71.9	14.3	120		
Sample ID: 1507L50-004BMSD		Client ID: TestCode: TCL-SEMIVOLATILE ORGANICS		SW8270D		Units: ug/L		Prep Date: 07/28/2015		Run No: 296860		
Sample Type: MSD		Analyte		Result	RPT Limit	SPK value	SPK RefVal	%REC	Low Limit	High Limit	Analysis Date: 07/29/2015	Seq No: 6334722
2,4-Dinitrotoluene	107.9			10	100.0			108	50.5	120		
2-Chlorophenol	89.62			10	100.0			89.6	51.4	120	104.8	15.6
4-Chloro-3-methylphenol	105.1			10	100.0			105	50	121	119.8	13.1
4-Nitrophenol	96.93			25	100.0			96.9	23.7	120	112.7	15.1
Acenaphthene	92.09			10	100.0			92.1	53.9	120	105.5	13.6
N-Nitrosodi-n-propylamine	105.9			10	100.0			106	52.6	122	122.1	14.2
Pentachlorophenol	139.7			25	100.0			27.17	113	42.1	134	164.2
Phenol	60.40			10	100.0			60.4	31	120	68.87	13.1
Pyrene	111.6			10	100.0			112	53	112	128.8	14.3
Surr: 2,4,6-Tribromophenol	108.2			0	100.0			108	52	133	133.6	0
Surr: 2-Fluorobiphenyl	48.31			0	50.00			96.6	50	121	58.93	0
Surr: 2-Fluorophenol	79.53			0	100.0			79.5	27.5	120	98.25	0
Surr: 4-Terphenyl-d14	54.51			0	50.00			109	46.3	137	67.76	0
Surr: Nitrobenzene-d5	53.02			0	50.00			106	41.2	121	66.27	0
Surr: Phenol-d5	66.85			0	100.0			66.8	14.3	120	83.78	0

**Qualifiers:** > Greater than Result value      < Less than Result value  
 BRL Below reporting limit      E Estimated (value above quantitation range)  
 J Estimated value detected below Reporting Limit      N Analyte not NELAC certified  
 Rpt Lim Reporting Limit      S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank  
 H Holding times for preparation or analysis exceeded  
 R RPD outside limits due to matrix

**Analytical Environmental Services, Inc**

**Client:** United Consulting Group Inc.  
**Project Name:** 66 Norcross St  
**Workorder:** 1507L22

Date: 3-Aug-15

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 210655

Sample ID:	MB-210655	Client ID:	TestCode:	TCL-SEMOVOLATILE ORGANICS	SW3270B	Units:	ug/Kg	Prep Date:	07/28/2015	Run No:	296762	
Analyte		Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1'-Biphenyl	BRL	330										
2,4,5-Trichlorophenol	BRL	1700										
2,4,6-Trichlorophenol	BRL	330										
2,4-Dichlorophenol	BRL	330										
2,4-Dimethylphenol	BRL	330										
2,4-Dinitrophenol	BRL	1700										
2,4-Dinitrotoluene	BRL	330										
2,6-Dinitrotoluene	BRL	330										
2-Chloronaphthalene	BRL	330										
2-Chlorophenol	BRL	330										
2-Methylnaphthalene	BRL	330										
2-Methylphenol	BRL	330										
2-Nitroaniline	BRL	1700										
2-Nitrophenol	BRL	330										
3,3'-Dichlorobenzidine	BRL	670										
3-Nitroaniline	BRL	1700										
4,6-Dinitro-2-methylphenol	BRL	1700										
4-Bromophenyl phenyl ether	BRL	330										
4-Chloro-3-methylphenol	BRL	330										
4-Chloroaniline	BRL	330										
4-Chlorophenyl phenyl ether	BRL	330										
4-Methylphenol	BRL	330										
4-Nitroaniline	BRL	1700										
4-Nitrophenol	BRL	1700										
Acenaphthene	BRL	330										
Acenaphthylen	BRL	330										
Acetophenone	BRL	330										

Qualifiers:	>	Greater than Result value	<	Less than Result value
	BRL	Below reporting limit	E	Estimated (value above quantitation range)
	f	Estimated value detected below Reporting Limit	N	Analyte not NFLAC certified
	Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix
				50 of 67

**Analytical Environmental Services, Inc**

Date: 3-Aug-15

**ANALYTICAL QC SUMMARY REPORT**

**Client:** United Consulting Group Inc.  
**Project Name:** 66 Norcross St  
**Workorder:** 1507L22

**BatchID:** 210655

Sample ID: MB-210655	Client ID: TestCode: TCL-SEMOVOLATILE ORGANICS	Units: ug/Kg	Prep Date: 07/28/2015	Run No: 296762
Sample Type: MBLJK	BatchID: 210655	Analysis Date: 07/28/2015	Seq No: 633116	

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD	Ref Val	%RPD	RPD Limit	Qual
Anthracene	BRL	330										
Atrazine	BRL	330										
Benz(a)anthracene	BRL	330										
Benzaldehyde	BRL	330										
Benzo(a)pyrene	BRL	330										
Benzo(b)fluoranthene	BRL	330										
Benzo(e,h,i)perylene	BRL	330										
Benz(k)fluoranthene	BRL	330										
Bis(2-chloroethoxy)methane	BRL	330										
Bis(2-chloroethyl)ether	BRL	330										
Bis(2-ethylhexyl)phthalate	BRL	330										
Butyl benzyl phthalate	BRL	330										
Caprolactam	BRL	330										
Carbazole	BRL	330										
Chrysene	BRL	330										
Di-n-butyl phthalate	BRL	330										
Di-n-octyl phthalate	BRL	330										
Dibenzo(a,h)anthracene	BRL	330										
Dibenzofuran	BRL	330										
Diethyl phthalate	BRL	330										
Dimethyl phthalate	BRL	330										
Fluoranthene	BRL	330										
Fluorene	BRL	330										
Hexachlorobenzene	BRL	330										
Hexachlorobutadiene	BRL	330										
Hexachlorocyclopentadiene	BRL	660										

Qualifier:	>	Greater than Result value	<	Less than Result value
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix	
51 of 67				

## Analytical Environmental Services, Inc

Date: 3-Aug-15

## ANALYTICAL QC SUMMARY REPORT

BatchID: 210655

Client: United Consulting Group Inc.  
 Project Name: 66 Norcross St  
 Workorder: 1507L22

Sample ID:	MB-210655	Client ID:	TCL-SEMIVOLATILE ORGANICS	TestCode:	SW8270D	Units:	ug/Kg	Prep Date:	07/28/2015	Run No:	296762		
Sample Type:	MBLK				<th>BatchID:</th> <td>210655</td> <th>Analysis Date:</th> <td>07/28/2015</td> <th>Seq No:</th> <td>6331116</td>	BatchID:	210655	Analysis Date:	07/28/2015	Seq No:	6331116		
Analyte		Result	RPT Limit	SPK value	SPK Ref Val	%REC		Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Hexachloroethane	BRL	330											
Indeno(1,2,3-cd)pyrene	BRL	330											
Isophorone	BRL	330											
N-Nitrosodi-n-propylamine	BRL	330											
N-Nitrosodiphenylamine	BRL	330											
Naphthalene	BRL	330											
Nitrobenzene	BRL	330											
Pentachlorophenol	BRL	1700											
Phenanthrene	BRL	330											
Phenol	BRL	330											
Pyrene	BRL	330											
Surr: 2,4,6-Tribromophenol	2219	0	3333					66.6	41	128			
Surr: 2-Fluorobiphenyl	1373	0	1667					82.4	47	120			
Surr: 2-Fluorophenol	2874	0	3333					86.2	38.3	120			
Surr: 4-Terphenyl-d14	1470	0	1667					88.2	51.4	125			
Surr: Nitrobenzene-d5	1506	0	1667					90.3	40.1	120			
Surr: Phenol-d5	3017	0	3333					90.5	40.3	120			

Sample ID:	LCS-210655	Client ID:	TCL-SEMIVOLATILE ORGANICS	TestCode:	SW8270D	Units:	ug/Kg	Prep Date:	07/28/2015	Run No:	296762		
Sample Type:	LCS				<th>BatchID:</th> <td>210655</td> <th>Analysis Date:</th> <td>07/28/2015</td> <th>Seq No:</th> <td>6331119</td>	BatchID:	210655	Analysis Date:	07/28/2015	Seq No:	6331119		
Analyte		Result	RPT Limit	SPK value	SPK Ref Val	%REC		Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	2947	330	3333					88.4	56.9	120			
2-Chlorophenol	2928	330	3333					87.8	51	120			
4-Chloro-3-methylphenol	3556	330	3333					107	54	120			
4-Nitrophenol	2628	1700	3333					78.9	40.7	120			
Acenaphthene	3148	330	3333					94.4	57.9	120			
N-Nitrosodi-n-propylamine	3755	330	3333					113	56.5	124			

Qualifier: &gt; Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

&lt; Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Halving times for preparation or analysis exceeded

R RPD outside limits due to matrix

## Analytical Environmental Services, Inc

Date: 3-Aug-15

## ANALYTICAL QC SUMMARY REPORT

Client: United Consulting Group Inc.  
 Project Name: 66 Norcross St  
 Workorder: 1507122

BatchID: 210655

Sample ID: LCS-210655		Client ID: TestCode: TCLSEMVOLATILE ORGANICS		SW8270D		Units: ug/Kg		Prep Date: 07/28/2015		Run No: 296762	
Sample Type: LCS		Client ID: TestCode: TCLSEMVOLATILE ORGANICS		BatchID: 210655		Analysis Date: 07/28/2015		Seq No: 633119			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pentachlorophenol	1820	1700	3333		54.6	41.8	120				
Phenol	2956	330	3333		88.7	50.1	120				
Pyrene	3611	330	3333		108	59.4	120				
Surr: 2,4,6-Tribromophenol	2777	0	3333		83.3	41	128				
Surr: 2-Fluorobiphenyl	1568	0	1667		94.1	47	120				
Surr: 2-Fluorophenol	2929	0	3333		87.9	38.3	120				
Surr: 4-Terphenyl-d14	1744	0	1667		105	51.4	125				
Surr: Nitrobenzene-d5	1680	0	1667		101	40.1	120				
Surr: Phenol-d5	3202	0	3333		96.1	40.3	120				

Sample ID: 1507392-001BMS		Client ID: TestCode: TCLSEMVOLATILE ORGANICS		SW8270D		Units: ug/Kg-dry		Prep Date: 07/28/2015		Run No: 296762	
Sample Type: MS		Client ID: TestCode: TCLSEMVOLATILE ORGANICS		BatchID: 210655		Analysis Date: 07/28/2015		Seq No: 6333430			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	3068	400	4084		75.1	41.7	120				
2-Chlorophenol	3236	400	4084		79.2	42.9	120				
4-Chloro-3-methylphenol	3895	400	4084		95.4	41.1	120				
4-Nitrophenol	2686	2100	4084		65.8	32	120				
Acenaphthene	3374	400	4084		82.6	51.5	120				
N-Nitrosodi-n-propylamine	4175	400	4084		102	50.2	120				
Pentachlorophenol	3725	2100	4084	555.8	77.6	38.4	120				
Phenol	3311	400	4084		81.1	41.5	120				
Pyrene	3874	400	4084		94.9	45.2	120				
Surr: 2,4,6-Tribromophenol	3139	0	4084		76.9	41	128				
Surr: 2-Fluorobiphenyl	1715	0	2042		84.0	47	120				
Surr: 2-Fluorophenol	3193	0	4084		78.2	38.3	120				
Surr: 4-Terphenyl-d14	1833	0	2042		89.8	51.4	125				
Surr: Nitrobenzene-d5	1801	0	2042		88.2	40.1	120				

Qualifiers:

&gt; Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

S Spike Recovery outside limits due to matrix

&lt; Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Harding times for preparation or analysis exceeded

R RPD outside limits due to matrix

**Analytical Environmental Services, Inc**

Date: 3-Aug-15

 Client: United Consulting Group Inc.  
 Project Name: 66 Norcross St  
 Workorder: 1507122

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 210655

Sample ID:	1507J82-001BMS	Client ID:	TCL-SEMIVOLATILE ORGANICS	SW8270D		Units:	ug/Kg-dry	Prep Date:	07/28/2015	Run No:	296762	
Sample Type:	MS	TestCode:	TCL-SEMIVOLATILE ORGANICS	SW8270D		BatchID:	210655	Analysis Date:	07/28/2015	Seq No:	6333430	
Analyte		Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: Phenol-d5	3529	0	4084			86.4	40.3	120				
Sample ID:	1507J82-001BMSD	Client ID:	TCL-SEMIVOLATILE ORGANICS	SW8270D		Units:	ug/Kg-dry	Prep Date:	07/28/2015	Run No:	296762	
Sample Type:	MSD	TestCode:	TCL-SEMIVOLATILE ORGANICS	SW8270D		BatchID:	210655	Analysis Date:	07/28/2015	Seq No:	6333432	
Analyte		Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrooluene	3061	400	4084			74.9	41.7	120	3068	0.240		33.1
2-Chlorophenol	3085	400	4084			75.5	42.9	120	3236	4.78		30.7
4-Chloro-3-methylphenol	3681	400	4084			90.1	41.1	120	3895	5.67		40.5
4-Nitrophenol	2825	2100	4084			69.2	32	120	2686	5.07		37.9
Acenaphthene	3296	400	4084			80.7	51.5	120	3374	2.35		26.3
N-Nitrosodi-n-propylamine	4126	400	4084			101	50.2	120	4175	1.18		34.9
Pentachlorophenol	3196	2100	4084			555.8	64.6	120	3725	15.3		35.9
Phenol	3213	400	4084			78.7	41.5	120	3311	3.03		37.4
Pyrene	3881	400	4084			95.0	45.2	120	3874	0.169		35
Surr: 2,4,6-Tribromophenol	3018	0	4084			73.9	41	128	3139	0		0
Surr: 2-Fluorobiphenyl	1639	0	2042			80.2	47	120	1715	0		0
Surr: 2-Fluorophenol	3025	0	4084			74.1	38.3	120	3193	0		0
Surr: 4-Terphenyl-d14	1823	0	2042			89.3	51.4	125	1833	0		0
Surr: Nitrobenzene-d5	1708	0	2042			83.6	40.1	120	1801	0		0
Surr: Phenol-d5	3473	0	4084			85.0	40.3	120	3529	0		0

**Qualifiers:** > Greater than Result value      < Less than Result value  
 BRL Below reporting limit      E Estimated (value above quantitation range)  
 J Estimated value detected below Reporting Limit      N Analyte not NELAC certified  
 Rpt Lim Reporting Limit      S Spike Recovery outside limits due to matrix

## Analytical Environmental Services, Inc

Date: 3-Aug-15

Client: United Consulting Group Inc.  
 Project Name: 66 Norcross St  
 Workorder: 1507L22

## ANALYTICAL QC SUMMARY REPORT

BatchID: 210684

Sample ID:	MB-210684	Client ID:	TOTAL MERCURY	SW7471B			Units:	mg/Kg	Prep Date:	07/28/2015	Run No:	296820
Sample Type:	MBLK	TestCode:	TOTAL MERCURY	SW7471B			BatchID:	210684	Analysis Date:	07/28/2015	Seq No:	6332674
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual	
Mercury	BRL	0.100										
Sample ID:	LCS-210684	Client ID:	TOTAL MERCURY	SW7471B			Units:	mg/Kg	Prep Date:	07/28/2015	Run No:	296820
Sample Type:	LCS	TestCode:	TOTAL MERCURY	SW7471B			BatchID:	210684	Analysis Date:	07/28/2015	Seq No:	6332675
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual	
Mercury	0.4436	0.100	0.4000		111	80	120					
Sample ID:	1507L22-007CMS	Client ID:	EB3-10	SW7471B			Units:	mg/Kg-dry	Prep Date:	07/28/2015	Run No:	296820
Sample Type:	MS	TestCode:	TOTAL MERCURY	SW7471B			BatchID:	210684	Analysis Date:	07/28/2015	Seq No:	6332677
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual	
Mercury	0.5391	0.113	0.4513	0.05492	107	70	130					
Sample ID:	1507L22-007CMSD	Client ID:	EB3-10	SW7471B			Units:	mg/Kg-dry	Prep Date:	07/28/2015	Run No:	296820
Sample Type:	MSD	TestCode:	TOTAL MERCURY	SW7471B			BatchID:	210684	Analysis Date:	07/28/2015	Seq No:	6332688
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual	
Mercury	0.5310	0.114	0.4566	0.05492	104	70	130	0.5391	1.51	30		

Qualifiers:	>	Greater than Result value	<	Less than Result value
	BRL	Below reporting limit	E	Estimated (value above quantitation range)
J		Estimated value detected below Reporting Limit	N	Analyte not NELAC certified
Rpt Lim	Reporting Limit:		S	Spike Recovery outside limits due to matrix
			H	Holding times for preparation or analysis exceeded
			R	RPD outside limits due to matrix
				55 of 67

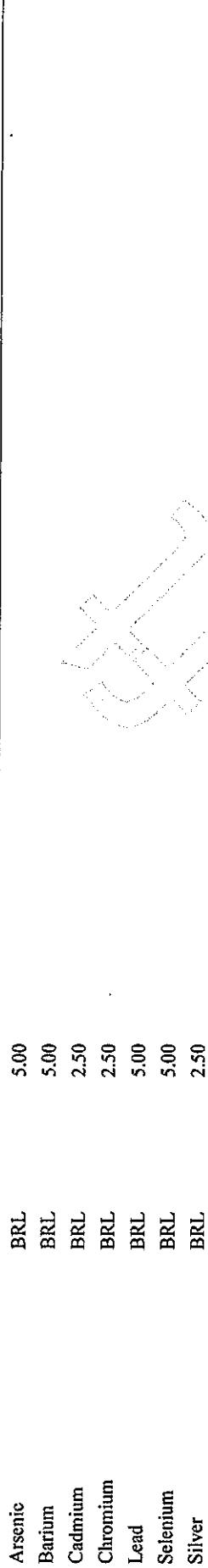
## Analytical Environmental Services, Inc

Date: 3-Aug-15

## ANALYTICAL QC SUMMARY REPORT

Client: United Consulting Group Inc.  
 Project Name: 66 Norcross St  
 Workorder: 1507122

Sample ID: MB-210732	Client ID: TestCode: METALS, TOTAL	SW6010C				Units: mg/Kg	Prep Date: 07/28/2015	Run No: 296881
SampleType: MBLK						BatchID: 210732	Analysis Date: 07/29/2015	Seq No: 6334053
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD RefVal %RPD RPD Limit Qual
Arsenic	BRL	5.00						
Barium	BRL	5.00						
Cadmium	BRL	2.50						
Chromium	BRL	2.50						
Lead	BRL	5.00						
Selenium	BRL	5.00						
Silver	BRL	2.50						



Sample ID: LCS-210732	Client ID: TestCode: METALS, TOTAL	SW6010C				Units: mg/Kg	Prep Date: 07/28/2015	Run No: 296881
SampleType: LCS						BatchID: 210732	Analysis Date: 07/29/2015	Seq No: 6334054
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD RefVal %RPD RPD Limit Qual
Arsenic	49.65	5.00	50.00			99.3	80	120
Barium	50.06	5.00	50.00			100	80	120
Cadmium	49.10	2.50	50.00			98.2	80	120
Chromium	50.95	2.50	50.00	0.1202		102	80	120
Lead	49.51	5.00	50.00			99.0	80	120
Selenium	49.73	5.00	50.00			99.5	80	120
Silver	4.853	2.50	5.000			97.1	80	120

Sample ID: 1507122-006CMS	Client ID: EB3-5					Units: mg/Kg-dry	Prep Date: 07/28/2015	Run No: 296881
SampleType: MS	TestCode: METALS, TOTAL	SW6010C				BatchID: 210732	Analysis Date: 07/29/2015	Seq No: 6334061
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD RefVal %RPD RPD Limit Qual
Arsenic	50.41	5.84	58.38	1.488		83.8	75	125
Barium	97.62	5.84	58.38	55.91		71.4	75	125
Cadmium	52.96	2.92	58.38			90.7	75	125
Chromium	87.38	2.92	58.38	42.75		76.5	75	125

Qualifiers: > Greater than Result value      < Less than Result value  
 BRL Below reporting limit      E Estimated (value above quantitation range)  
 J Estimated value detected below Reporting Limit      N Analyte not NELAC certified  
 Rpt Lim Reporting Limit      S Spike Recovery outside limits due to matrix  
 S Holding times for preparation or analysis exceeded  
 R RP D outside limits due to matrix

### Analytical Environmental Services, Inc

Client: United Consulting Group Inc.  
 Project Name: 66 Norcross St  
 Workorder: 1507L22

Date: 3-Aug-15

### ANALYTICAL QC SUMMARY REPORT

BatchID: 210732

	Sample ID: 1507L22-006CMS	Client ID: EB3-5	Units: mg/Kg-dry	Prep Date: 07/28/2015	Run No: 296881						
	Sample Type: MS	TestCode: METALS, TOTAL	BatchID: 210732	Analysis Date: 07/29/2015	Seq No: 6334061						
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Lead	65.97	5.84	58.38	20.53	77.8	75	125				
Selenium	48.28	5.84	58.38		82.7	75	125				
Silver	4.923	2.92	5.838	0.03311	83.8	75	125				
	Sample ID: 1507L22-006CMSD	Client ID: EB3-5	Units: mg/Kg-dry	Prep Date: 07/28/2015	Run No: 296881						
	Sample Type: MSD	TestCode: METALS, TOTAL	BatchID: 210732	Analysis Date: 07/29/2015	Seq No: 6334064						
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	51.09	5.84	58.36	1.488	85.0	75	125	50.41	1.34	20	
Barium	93.49	5.84	58.36	55.91	64.4	75	125	97.62	4.32	20	S
Cadmium	53.51	2.92	58.36		91.7	75	125	52.96	1.05	20	
Chromium	100.9	2.92	58.36	42.75	99.7	75	125	87.38	14.4	20	
Lead	65.70	5.84	58.36	20.53	77.4	75	125	65.97	0.410	20	
Selenium	49.09	5.84	58.36		84.1	75	125	48.28	1.65	20	
Silver	5.017	2.92	5.836	0.03311	85.4	75	125	4.923	1.89	20	

**Qualifiers:** > Greater than Result value      B Analyte detected in the associated method blank  
 BRL Below reporting limit      E Estimated (value above quantitation range)  
 J Estimated value detected below Reporting Limit      N Analyte not NELAC certified  
 Rpt Lin Reporting Limit      S Spike Recovery outside limits due to matrix

**Analytical Environmental Services, Inc**

Client: United Consulting Group Inc.  
Project Name: 66 Norcross St  
Workorder: 1507122

Date: 3-Aug-15

**ANALYTICAL QC SUMMARY REPORT**

Sample ID: MB-210738	Client ID: TestCode: TCL VOLATILE ORGANICS SW8260B	Units: ug/L			Prep Date: 07/28/2015	Run No: 29673						
Sample Type: MBLK		BatchID: 210738			Analysis Date: 07/28/2015	Seq No: 632537						
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD	Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0										
1,1,2,2-Tetrachloroethane	BRL	5.0										
1,1,2-Trichloroethane	BRL	5.0										
1,1-Dichloroethane	BRL	5.0										
1,1-Dichloroethene	BRL	5.0										
1,2,4-Trichlorobenzene	BRL	5.0										
1,2-Dibromo-3-chloropropane	BRL	5.0										
1,2-Dibromoethane	BRL	5.0										
1,2-Dichlorobenzene	BRL	5.0										
1,2-Dichloroethane	BRL	5.0										
1,2-Dichloropropane	BRL	5.0										
1,3-Dichlorobenzene	BRL	5.0										
1,4-Dichlorobenzene	BRL	5.0										
2-Butanone	BRL	50										
2-Hexanone	BRL	10										
4-Methyl-2-pentanone	BRL	10										
Acetone	BRL	50										
Benzene	BRL	5.0										
Bromodichloromethane	BRL	5.0										
Bromoform	BRL	5.0										
Bromomethane	BRL	5.0										
Carbon disulfide	BRL	5.0										
Carbon tetrachloride	BRL	5.0										
Chlorobenzene	BRL	5.0										
Chlorehthane	BRL	10										
Chloroform	BRL	5.0										
Chlormethane	BRL	10										

Qualifiers: > Greater than Result value      < Less than Result value  
BRL Below reporting limit      E Estimated (value above quantitation range)  
J Estimated value detected below Reporting Limit      N Analyte not NFLAC certified  
Rpt Lim Reporting Limit      S Spike Recovery outside limits due to matrix

**Analytical Environmental Services, Inc**

Date: 3-Aug-15

**Client:** United Consulting Group Inc.  
**Project Name:** 66 Norcross St  
**Workorder:** 1507L22

**ANALYTICAL QC SUMMARY REPORT****BatchID: 210738**

Sample ID: MB-210738	Client ID: TestCode: TCL VOLATILE ORGANICS SW8260B	Units: ug/L	Prep Date: 07/28/2015	Run No: 296773
Sample Type: MBLK	BatchID: 210738	Analysis Date: 07/28/2015	Seq No: 633257	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val
cis-1,2-Dichloroethene	BRL	5.0		
cis-1,3-Dichloropropene	BRL	5.0		
Cyclohexane	BRL	5.0		
Dibromo-chloromethane	BRL	5.0		
Dichlorodifluoromethane	BRL	10		
Ethylbenzene	BRL	5.0		
Freon-113	BRL	10		
Isopropylbenzene	BRL	5.0		
m,p-Xylene	BRL	5.0		
Methyl acetate	BRL	5.0		
Methyl tert-butyl ether	BRL	5.0		
Methylcyclohexane	BRL	5.0		
Methylene chloride	BRL	5.0		
o-Xylene	BRL	5.0		
Styrene	BRL	5.0		
Tetrachloroethene	BRL	5.0		
Toluene	BRL	5.0		
trans-1,2-Dichloroethene	BRL	5.0		
trans-1,3-Dichloropropene	BRL	5.0		
Trichloroethene	BRL	5.0		
Trichlorofluoromethane	BRL	5.0		
Vinyl chloride	BRL	2.0		
Surr: 4-Bromo fluorobenzene	47.61	0	50.00	95.2      70.6      123
Surr: Dibromo fluoromethane	46.92	0	50.00	93.8      78.7      124
Surr: Toluene-d8	46.82	0	50.00	93.6      81.3      120

Qualifiers:	>	Greater than Result value	<	Less than Result value
	BRL	Below reporting limit	E	Estimated (value above quantitation range)
J		Estimated value detected below Reporting Limit	N	Analyte not NELAC certified
Rpt Lim Reporting Limit			S	Spike Recovery outside limits due to matrix
59 of 67				

## Analytical Environmental Services, Inc

Client: United Consulting Group Inc.  
 Project Name: 66 Norcross St  
 WorkOrder: 1507122

Date: 3-Aug-15

## ANALYTICAL QC SUMMARY REPORT

BatchID: 210738

Sample ID: LCS-210738	Client ID: TestCode: TCL VOLATILE ORGANICS SW8260B					Units: ug/L	Prep Date: 07/28/2015	Run No: 296896		
Sample Type: LCS			RPT Limit	SPK value	SPK RefVal	%REC	Low Limit	High Limit	Analysis Date: 07/29/2015	Seq No: 6334252
Analyte	Result									
1,1-Dichloroethene	56.88	5.0	50.00			114	64.2	137		
Benzene	51.80	5.0	50.00			104	72.8	128		
Chlorobenzene	52.70	5.0	50.00			105	72.3	126		
Toluene	52.67	5.0	50.00			105	74.9	127		
Trichloroethene	48.34	5.0	50.00			96.7	70.5	134		
Surr: 4-Bromofluorobenzene	44.83	0	50.00			89.7	70.6	123		
Surr: Dibromo fluoromethane	39.78	0	50.00			79.6	78.7	124		
Surr: Toluene-d8	44.30	0	50.00			88.6	81.3	120		

Sample ID: 1507160-001AMS	Client ID: TestCode: TCL VOLATILE ORGANICS SW8260B					Units: ug/L	Prep Date: 07/28/2015	Run No: 296896		
Sample Type: MS			RPT Limit	SPK value	SPK RefVal	%REC	Low Limit	High Limit	Analysis Date: 07/29/2015	Seq No: 6335081
Analyte	Result									
1,1-Dichloroethene	55.94	5.0	50.00			112	60.5	156		
Benzene	51.50	5.0	50.00			103	70	135		
Chlorobenzene	48.55	5.0	50.00			97.1	70.5	132		
Toluene	53.01	5.0	50.00			106	70.5	137		
Trichloroethene	49.15	5.0	50.00			98.3	71.8	139		
Surr: 4-Bromofluorobenzene	48.41	0	50.00			96.8	70.6	123		
Surr: Dibromo fluoromethane	44.34	0	50.00			88.7	78.7	124		
Surr: Toluene-d8	48.38	0	50.00			96.8	81.3	120		

Sample ID: 1507160-001AMSD	Client ID: TestCode: TCL VOLATILE ORGANICS SW8260B					Units: ug/L	Prep Date: 07/28/2015	Run No: 296896		
Sample Type: MSD			RPT Limit	SPK value	SPK RefVal	%REC	Low Limit	High Limit	Analysis Date: 07/29/2015	Seq No: 6335082
Analyte	Result									
1,1-Dichloroethene	50.46	5.0	50.00			101	60.5	156		
Benzene	50.48	5.0	50.00			101	70	135		

Qualifiers: &gt; Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

&lt; Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

## Analytical Environmental Services, Inc

Client: United Consulting Group Inc.  
 Project Name: 66 Norcross St  
 Workorder: 15071.22

Date: 3-Aug-15

## ANALYTICAL QC SUMMARY REPORT

BatchID: 210738

Sample ID: 1507JG0-001AMSD	Client ID: TestCode: TCL VOLATILE ORGANICS SW8260B				Units: ug/L	Prep Date: 07/28/2015	Run No: 296396					
SampleType: MSD					BatchID: 210738	Analysis Date: 07/29/2015	Seq No: 6335082					
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD	Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	49.90	5.0	50.00		99.8	70.5	132	48.55		2.74	20	
Toluene	50.90	5.0	50.00		102	70.5	137	53.01		4.06	20	
Trichloroethene	46.87	5.0	50.00		93.7	71.8	139	49.15		4.75	20	
Surr: 4-Bromo fluorobenzene	45.01	0	50.00		90.0	70.6	123	48.41		0	0	
Surr: Dibromo fluoromethane	43.60	0	50.00		87.2	78.7	124	44.34		0	0	
Surr: Toluene-d8	47.02	0	50.00		94.0	81.3	120	48.38		0	0	

Qualifiers: > Greater than Result value < Less than Result value  
 BRL Below reporting limit E Estimated (value above quantitation range)  
 J Estimated value detected below Reporting Limit N Analyte not NEIAC certified  
 Rpt Lim Reporting Limit S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank  
 H Holding times for preparation or analysis exceeded  
 R RPD outside limits due to matrix

## Analytical Environmental Services, Inc

Date: 3-Aug-15

**Client:** United Consulting Group Inc.  
**Project Name:** 66 Norcross St  
**Workorder:** 1507L22

## ANALYTICAL QC SUMMARY REPORT

BatchID: 210740

Sample ID:	MH-210740	Client ID:	mg/L	Prep Date:	07/29/2015	Run No:	296504				
Sample Type:	MIBLK	TestCode:	Mercury, Total	BatchID:	210740	Analysis Date:	07/29/2015	Seq No:	6334407		
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									
Sample ID:	LCS-210740	Client ID:	mg/L	Prep Date:	07/29/2015	Run No:	296504				
Sample Type:	LCS	TestCode:	Mercury, Total	BatchID:	210740	Analysis Date:	07/29/2015	Seq No:	6334408		
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005122	0.00020	0.0050		102	80	120				
Sample ID:	1507L14-002BMS	Client ID:	mg/L	Prep Date:	07/29/2015	Run No:	296504				
Sample Type:	MS	TestCode:	Mercury, Total	BatchID:	210740	Analysis Date:	07/29/2015	Seq No:	6334410		
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004947	0.00020	0.0050		98.9	70	130				
Sample ID:	1507L14-002BMSD	Client ID:	mg/L	Prep Date:	07/29/2015	Run No:	296504				
Sample Type:	MSD	TestCode:	Mercury, Total	BatchID:	210740	Analysis Date:	07/29/2015	Seq No:	6334411		
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005112	0.00020	0.0050		102	70	130	0.004947	3.30	20	

Qualifiers: > Greater than Result value < Less than Result value  
 BRL Below reporting limit E Estimated (value above quantitation range)  
 J Estimated value detected below Reporting Limit N Analyte not NEIAC certified  
 Rpt Lim Reporting Limit S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank  
 H Holding times for preparation or analysis exceeded  
 R RPD outside limits due to matrix

**Analytical Environmental Services, Inc**

**Client:** United Consulting Group Inc.  
**Project Name:** 66 Norcross St  
**Workorder:** 15071.22

Date: 3-Aug-15

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 210741

Sample ID: MB-210741		Client ID: Client ID: TestCode: Mercury, Dissolved	SW7470A	Units: mg/L		Prep Date: 07/29/2015	Run No: 296906				
Sample Type: MBLK		TestCode: Mercury, Dissolved	SW7470A	BatchID: 210741		Analysis Date: 07/29/2015	Seq No: 6334455				
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	RPD Qual
Mercury	BRL	0.00020									
Sample ID: LCS-210741		Client ID: Client ID: TestCode: Mercury, Dissolved	SW7470A	Units: mg/L		Prep Date: 07/29/2015	Run No: 296906				
Sample Type: LCS		TestCode: Mercury, Dissolved	SW7470A	BatchID: 210741		Analysis Date: 07/29/2015	Seq No: 6334458				
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	RPD Qual
Mercury	0.004386	0.00020	0.0050		87.7	80	120				
Sample ID: 15071.22-005DMS		Client ID: EB2-GW	SW7470A	Units: mg/L		Prep Date: 07/29/2015	Run No: 296906				
Sample Type: MS		TestCode: Mercury, Dissolved	SW7470A	BatchID: 210741		Analysis Date: 07/29/2015	Seq No: 6334460				
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	RPD Qual
Mercury	0.002776	0.00020	0.0050		55.5	70	130				S
Sample ID: 15071.22-005DMSD		Client ID: EB2-GW	SW7470A	Units: mg/L		Prep Date: 07/29/2015	Run No: 296906				
Sample Type: MSD		TestCode: Mercury, Dissolved	SW7470A	BatchID: 210741		Analysis Date: 07/29/2015	Seq No: 6334461				
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	RPD Qual
Mercury	0.002781	0.00020	0.0050		55.6	70	130	0.002776	0.179	20	S

Qualifier:	>	Greater than Result value	<	Less than Result value
	BRL	Below reporting limit	E	Estimated (value above quantitation range)
J		Estimated value detected below Reporting Limit	N	Analyte not NELAC certified
Rpt Lim	Reporting Limit		S	Strike Recovery outside limits due to matrix
63 of 67				

**Analytical Environmental Services, Inc**

**Client:** United Consulting Group Inc.  
**Project Name:** 66 Norcross St  
**Workorder:** 1507L22

Date: 3-Aug-15

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 210805

Sample ID: MB-210805	Client ID: TCL VOLATILE ORGANICS SW3260B	Units: ug/Kg	Prep Date: 07/29/2015	Run No: 296951
Sample Type: MBLK	TestCode: 210805	BatchID: 210805	Analysis Date: 07/29/2015	Seq No: 6335876
Analyte	Result	RPT Limit	SPK value	SPK Ref Val
1,1,1-Trichloroethane	BRL	5.0		
1,1,2,2-Tetrachloroethane	BRL	5.0		
1,1,2-Trichloroethane	BRL	5.0		
1,1-Dichloroethane	BRL	5.0		
1,1-Dichloroethene	BRL	5.0		
1,2,4-Trichlorobenzene	BRL	5.0		
1,2-Dibromo-3-chloropropane	BRL	5.0		
1,2-Dibromoethane	BRL	5.0		
1,2-Dichlorobenzene	BRL	5.0		
1,2-Dichloroethane	BRL	5.0		
1,2-Dichloropropane	BRL	5.0		
1,3-Dichlorobenzene	BRL	5.0		
1,4-Dichlorobenzene	BRL	5.0		
2-Butanone	BRL	50		
2-Hexanone	BRL	10		
4-Methyl-2-pentanone	BRL	10		
Acetone	BRL	100		
Benzene	BRL	5.0		
Bromodichloromethane	BRL	5.0		
Bromoform	BRL	5.0		
Bromomethane	BRL	5.0		
Carbon disulfide	BRL	10		
Carbon tetrachloride	BRL	5.0		
Chlorobenzene	BRL	5.0		
Chloroethane	BRL	10		
Chloroform	BRL	5.0		
Chloromethane	BRL	10		

Qualifiers:	>	Greater than Result value	<	Less than Result value
	BRL	Below reporting limit	E	Estimated (value above quantitation range)
J		Estimated value detected below Reporting Limit	N	Analyte not NELAC certified
Rpt Lim	Reporting Limit		S	Spike Recovery outside limits due to matrix

**Analytical Environmental Services, Inc**

**Client:** United Consulting Group Inc.  
**Project Name:** 66 Norcross St  
**Workorder:** 1507122

Date: 3-Aug-15

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 210805

Sample ID: MB-210805	Client ID: TestCode: TCL VOLATILE ORGANICS SW8360B	Units: ug/Kg	Prep Date: 07/29/2015	Run No: 296951							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Isopropylbenzene	BRL	5.0									
m,p-Xylene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	20									
o-Xylene	BRL	5.0									
Styrene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl chloride	BRL	10									
Surr: 4-Bromofluorobenzene	38.95	0	50.00			77.9	70	128			
Surr: Dibromo fluoromethane	46.77	0	50.00			93.5	78.2	128			
Surr: Toluene-d8	43.48	0	50.00			87.0	76.5	116			

Qualifiers: > Greater than Result value  
 BRL Below reporting limit  
 J Estimated value detected below Reporting Limit  
 Rpt Lim Reporting Limit

< Less than Result value  
 E Estimated (value above quantitation range)  
 N Analyte not NELAC certified  
 S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank  
 H Holding times for preparation or analysis exceeded  
 R RPD outside limits due to matrix

## Analytical Environmental Services, Inc

Client: United Consulting Group Inc.  
 Project Name: 66 Norcross St  
 Workorder: 1507L22

Date: 3-Aug-15

## ANALYTICAL QC SUMMARY REPORT

BatchID: 210805

Sample ID:	LCS-210805	Client ID:	TCL VOLATILE ORGANICS SW8260B				Units:	ug/Kg	Prep Date:	07/29/2015	Run No:	296951
SampleType:	LCS	TestCode:	TCL VOLATILE ORGANICS SW8260B				BatchID:	210805	Analysis Date:	07/29/2015	Seq No:	6335871
Analyte	Result	RPT Limit	SPK value	SPK RefVal	%REC		Low Limit	High Limit	RPD RefVal	%RPD	RPD Limit	Qual
1,1-Dichloroethene	52.46	5.0	50.00		105		69.9	145				
Benzene	44.02	5.0	50.00		88.0		72.3	130				
Chlorobenzene	46.56	5.0	50.00		93.1		69	130				
Toluene	44.09	5.0	50.00		88.2		71.1	130				
Trichloroethene	42.97	5.0	50.00		85.9		71.7	136				
Surr: 4-Bromofluorobenzene	39.43	0	50.00		78.9		70	128				
Surr: Dibromofluoromethane	46.50	0	50.00		93.0		78.2	128				
Surr: Toluene-d8	42.60	0	50.00		85.2		76.5	116				

Sample ID:	1507M16-001AMS	Client ID:	TCL VOLATILE ORGANICS SW8260B				Units:	ug/Kg-dry	Prep Date:	07/29/2015	Run No:	296951
SampleType:	MSD	TestCode:	TCL VOLATILE ORGANICS SW8260B				BatchID:	210805	Analysis Date:	07/29/2015	Seq No:	6335874
Analyte	Result	RPT Limit	SPK value	SPK RefVal	%REC		Low Limit	High Limit	RPD RefVal	%RPD	RPD Limit	Qual
1,1-Dichloroethene	68.64	6.7	66.96		102		56.6	151				
Benzene	61.45	6.7	66.96		91.8		70.4	130				
Chlorobenzene	62.20	6.7	66.96		92.9		67.5	132				
Toluene	59.08	6.7	66.96		88.2		70.4	130				
Trichloroethene	57.20	6.7	66.96		85.4		70.1	137				
Surr: 4-Bromofluorobenzene	50.44	0	66.96		75.3		70	128				
Surr: Dibromofluoromethane	57.74	0	66.96		86.2		78.2	128				
Surr: Toluene-d8	55.15	0	66.96		82.4		76.5	116				

Sample ID:	1507M16-001AMS	Client ID:	TCL VOLATILE ORGANICS SW8260B				Units:	ug/Kg-dry	Prep Date:	07/29/2015	Run No:	296951
SampleType:	MSD	TestCode:	TCL VOLATILE ORGANICS SW8260B				BatchID:	210805	Analysis Date:	07/29/2015	Seq No:	6335875
Analyte	Result	RPT Limit	SPK value	SPK RefVal	%REC		Low Limit	High Limit	RPD RefVal	%RPD	RPD Limit	Qual
1,1-Dichloroethene	70.10	6.7	66.96		105		56.6	151	68.64	2.10	20.4	
Benzene	60.55	6.7	66.96		90.4		70.4	130	61.45	1.47	16.9	

Qualifiers: &gt; Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

&lt; Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

**Analytical Environmental Services, Inc**Client: United Consulting Group Inc.  
Project Name: 66 Norcross St  
Workorder: 1507L22

Date: 3-Aug-15

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 210805

Sample ID:	1507M16-001AMSD	Client ID:		Units:	ug/Kg-dry	Prep Date:	07/29/2015	Run No:	296951
Sample Type:	MSD	TestCode:	TCL VOLATILE ORGANICS SW8260B	BatchID:	210805	Analysis Date:	07/29/2015	Seq No:	6335875
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD
Chlorobenzene	64.10	6.7	66.96		95.7	67.5	132	62.20	3.01
Toluene	60.16	6.7	66.96		89.8	70.4	130	59.08	1.82
Trichloroethene	57.09	6.7	66.96		85.3	70.1	137	57.20	0.187
Surr: 4-Bromo fluorobenzene	50.84	0	66.96		75.9	70	128	50.44	0
Surr: Dibromo fluoromethane	60.68	0	66.96		90.6	78.2	128	57.74	0
Surr: Toluene-d8	56.25	0	66.96		84.0	76.5	116	55.15	0

Qualifiers:	>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
	BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holdings times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix	
Rpt Lin	Reporting Limit	S	Spike Recovery outside limits due to matrix			

August 03, 2015

Michael Abernathy  
United Consulting  
625 Holcomb Brigde Rd  
Norcross, GA 30071

RE: Project: 66 NORCROSS ST 2015.0677.02  
Pace Project No.: 92260603

Dear Michael Abernathy:

Enclosed are the analytical results for sample(s) received by the laboratory on July 28, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin  
kevin.godwin@pacelabs.com  
Project Manager

Enclosures

cc: Accounts Payable, United Consulting



#### REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, Inc..

## CERTIFICATIONS

Project: 66 NORCROSS ST 2015.0677.02  
 Pace Project No.: 92260603

### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414  
 A2LA Certification #: 2926.01  
 Alaska Certification #: UST-078  
 Alaska Certification #MN00064  
 Alabama Certification #40770  
 Arizona Certification #: AZ-0014  
 Arkansas Certification #: 88-0680  
 California Certification #: 01155CA  
 Colorado Certification #Pace  
 Connecticut Certification #: PH-0256  
 EPA Region 8 Certification #: 8TMS-L  
 Florida/NELAP Certification #: E87605  
 Guam Certification #: 14-008r  
 Georgia Certification #: 959  
 Georgia EPD #: Pace  
 Idaho Certification #: MN00064  
 Hawaii Certification #MN00064  
 Illinois Certification #: 200011  
 Indiana Certification#C-MN-01  
 Iowa Certification #: 368  
 Kansas Certification #: E-10167  
 Kentucky Dept of Envi. Protection - DW #90062  
 Kentucky Dept of Envi. Protection - WW #90062  
 Louisiana DEQ Certification #: 3086  
 Louisiana DHH #: LA140001  
 Maine Certification #: 2013011  
 Maryland Certification #: 322  
 Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137  
 Mississippi Certification #: Pace  
 Montana Certification #: MT0092  
 Nevada Certification #: MN\_00064  
 Nebraska Certification #: Pace  
 New Jersey Certification #: MN-002  
 New York Certification #: 11647  
 North Carolina Certification #: 530  
 North Carolina State Public Health #: 27700  
 North Dakota Certification #: R-036  
 Ohio EPA #: 4150  
 Ohio VAP Certification #: CL101  
 Oklahoma Certification #: 9507  
 Oregon Certification #: MN200001  
 Oregon Certification #: MN300001  
 Pennsylvania Certification #: 68-00563  
 Puerto Rico Certification  
 Saipan (CNMI) #: MP0003  
 South Carolina #: 74003001  
 Texas Certification #: T104704192  
 Tennessee Certification #: 02818  
 Utah Certification #: MN000642013-4  
 Virginia DGS Certification #: 251  
 Virginia/VELAP Certification #: Pace  
 Washington Certification #: C486  
 West Virginia Certification #: 382  
 West Virginia DHHR #: 9952C  
 Wisconsin Certification #: 999407970

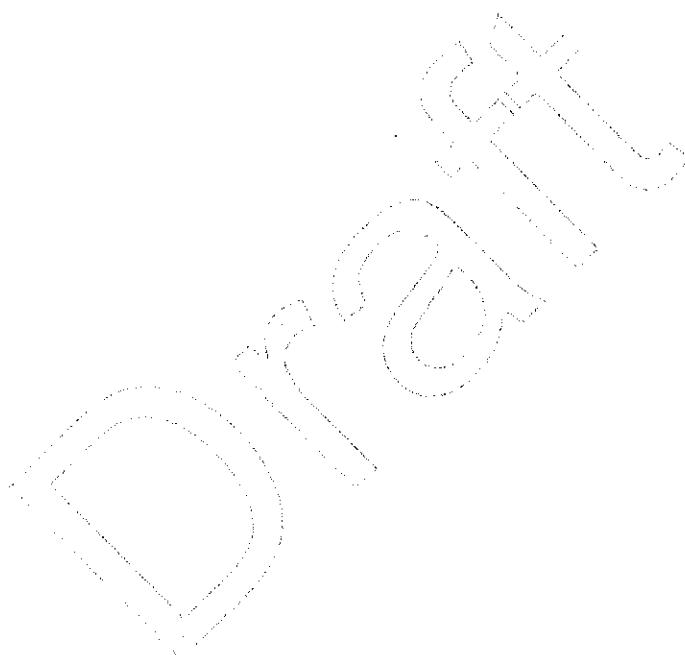
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## SAMPLE ANALYTE COUNT

Project: 66 NORCROSS ST 2015.0677.02  
Pace Project No.: 92260603

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92260603001	V-2	TO-15	DR1	58	PASI-M
92260603002	V-A	TO-15	DR1	58	PASI-M
92260603003	V-1	TO-15	DR1	58	PASI-M



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## ANALYTICAL RESULTS

Project: 66 NORCROSS ST 2015.0677.02

Pace Project No.: 92260603

Sample: V-2	Lab ID: 92260603001	Collected: 07/27/15 10:40	Received: 07/28/15 10:00	Matrix: Air				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15						
Acetone	16.2	ug/m3	4.2	1.74		07/30/15 21:58	67-64-1	
Benzene	2.1	ug/m3	0.57	1.74		07/30/15 21:58	71-43-2	
Bromodichloromethane	ND	ug/m3	2.4	1.74		07/30/15 21:58	75-27-4	
Bromoform	ND	ug/m3	3.7	1.74		07/30/15 21:58	75-25-2	
Bromomethane	ND	ug/m3	1.4	1.74		07/30/15 21:58	74-83-9	
1,3-Butadiene	ND	ug/m3	0.78	1.74		07/30/15 21:58	106-99-0	
2-Butanone (MEK)	3.8	ug/m3	1.0	1.74		07/30/15 21:58	78-93-3	
Carbon disulfide	9.4	ug/m3	1.1	1.74		07/30/15 21:58	75-15-0	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		07/30/15 21:58	56-23-5	
Chlorobenzene	ND	ug/m3	1.6	1.74		07/30/15 21:58	108-90-7	
Chloroethane	ND	ug/m3	0.94	1.74		07/30/15 21:58	75-00-3	
Chloroform	ND	ug/m3	0.86	1.74		07/30/15 21:58	67-66-3	
Chloromethane	ND	ug/m3	0.73	1.74		07/30/15 21:58	74-87-3	
Cyclohexane	5.0	ug/m3	3.0	1.74		07/30/15 21:58	110-82-7	
Dibromochloromethane	ND	ug/m3	3.0	1.74		07/30/15 21:58	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	2.7	1.74		07/30/15 21:58	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	2.1	1.74		07/30/15 21:58	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	2.1	1.74		07/30/15 21:58	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	2.1	1.74		07/30/15 21:58	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	1.8	1.74		07/30/15 21:58	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.74		07/30/15 21:58	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.71	1.74		07/30/15 21:58	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.74		07/30/15 21:58	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		07/30/15 21:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		07/30/15 21:58	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.6	1.74		07/30/15 21:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	1.6	1.74		07/30/15 21:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	1.6	1.74		07/30/15 21:58	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.5	1.74		07/30/15 21:58	76-14-2	
Ethyl acetate	ND	ug/m3	1.3	1.74		07/30/15 21:58	141-78-6	
Ethylbenzene	9.6	ug/m3	1.5	1.74		07/30/15 21:58	100-41-4	
4-Ethyltoluene	10.5	ug/m3	1.7	1.74		07/30/15 21:58	622-96-8	
n-Heptane	3.1	ug/m3	1.4	1.74		07/30/15 21:58	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	3.8	1.74		07/30/15 21:58	87-68-3	
n-Hexane	6.6	ug/m3	1.3	1.74		07/30/15 21:58	110-54-3	
2-Hexanone	ND	ug/m3	1.4	1.74		07/30/15 21:58	591-78-6	
Methylene Chloride	33.5	ug/m3	6.1	1.74		07/30/15 21:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	2.1	ug/m3	1.4	1.74		07/30/15 21:58	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		07/30/15 21:58	1634-04-4	
Naphthalene	59.7	ug/m3	4.6	1.74		07/30/15 21:58	91-20-3	SS
Propylene	8.9	ug/m3	0.61	1.74		07/30/15 21:58	115-07-1	
Styrene	5.6	ug/m3	1.5	1.74		07/30/15 21:58	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.2	1.74		07/30/15 21:58	79-34-5	
Tetrachloroethylene	64.5	ug/m3	1.2	1.74		07/30/15 21:58	127-18-4	
Tetrahydrofuran	ND	ug/m3	1.0	1.74		07/30/15 21:58	109-99-9	
Toluene	22.2	ug/m3	1.3	1.74		07/30/15 21:58	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	6.6	1.74		07/30/15 21:58	120-82-1	

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## ANALYTICAL RESULTS

Project: 66 NORCROSS ST 2015.0677.02

Pace Project No.: 92260603

Sample: V-2	Lab ID: 92260603001	Collected: 07/27/15 10:40	Received: 07/28/15 10:00	Matrix: Air				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15						
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.74		07/30/15 21:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		07/30/15 21:58	79-00-5	
Trichloroethene	4.3	ug/m3	0.96	1.74		07/30/15 21:58	79-01-6	
Trichlorofluoromethane	31.4	ug/m3	2.0	1.74		07/30/15 21:58	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.8	1.74		07/30/15 21:58	76-13-1	
1,2,4-Trimethylbenzene	43.8	ug/m3	1.7	1.74		07/30/15 21:58	95-63-6	
1,3,5-Trimethylbenzene	10.3	ug/m3	1.7	1.74		07/30/15 21:58	108-67-8	
Vinyl acetate	ND	ug/m3	1.2	1.74		07/30/15 21:58	108-05-4	
Vinyl chloride	ND	ug/m3	0.45	1.74		07/30/15 21:58	75-01-4	
m&p-Xylene	62.2	ug/m3	3.1	1.74		07/30/15 21:58	179601-23-1	
o-Xylene	30.3	ug/m3	1.5	1.74		07/30/15 21:58	95-47-6	

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## ANALYTICAL RESULTS

Project: 66 NORCROSS ST 2015.0677.02

Pace Project No.: 92260603

Sample: V-A	Lab ID: 92260603002	Collected: 07/27/15 10:40	Received: 07/28/15 10:00	Matrix: Air				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15						
Acetone	39.0	ug/m3	4.2	1.74		07/30/15 22:30	67-64-1	
Benzene	0.65	ug/m3	0.57	1.74		07/30/15 22:30	71-43-2	
Bromodichloromethane	ND	ug/m3	2.4	1.74		07/30/15 22:30	75-27-4	
Bromoform	ND	ug/m3	3.7	1.74		07/30/15 22:30	75-25-2	
Bromomethane	ND	ug/m3	1.4	1.74		07/30/15 22:30	74-83-9	
1,3-Butadiene	ND	ug/m3	0.78	1.74		07/30/15 22:30	106-99-0	
2-Butanone (MEK)	6.4	ug/m3	1.0	1.74		07/30/15 22:30	78-93-3	
Carbon disulfide	ND	ug/m3	1.1	1.74		07/30/15 22:30	75-15-0	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		07/30/15 22:30	56-23-5	
Chlorobenzene	ND	ug/m3	1.6	1.74		07/30/15 22:30	108-90-7	
Chloroethane	ND	ug/m3	0.94	1.74		07/30/15 22:30	75-00-3	
Chloroform	ND	ug/m3	0.86	1.74		07/30/15 22:30	67-66-3	
Chloromethane	1.0	ug/m3	0.73	1.74		07/30/15 22:30	74-87-3	
Cyclohexane	ND	ug/m3	3.0	1.74		07/30/15 22:30	110-82-7	
Dibromochloromethane	ND	ug/m3	3.0	1.74		07/30/15 22:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	2.7	1.74		07/30/15 22:30	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	2.1	1.74		07/30/15 22:30	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	2.1	1.74		07/30/15 22:30	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	2.1	1.74		07/30/15 22:30	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	1.8	1.74		07/30/15 22:30	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.74		07/30/15 22:30	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.71	1.74		07/30/15 22:30	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.74		07/30/15 22:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		07/30/15 22:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		07/30/15 22:30	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.6	1.74		07/30/15 22:30	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	1.6	1.74		07/30/15 22:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	1.6	1.74		07/30/15 22:30	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.5	1.74		07/30/15 22:30	76-14-2	
Ethyl acetate	ND	ug/m3	1.3	1.74		07/30/15 22:30	141-78-6	
Ethylbenzene	ND	ug/m3	1.5	1.74		07/30/15 22:30	100-41-4	
4-Ethyltoluene	ND	ug/m3	1.7	1.74		07/30/15 22:30	622-96-8	
n-Heptane	2.1	ug/m3	1.4	1.74		07/30/15 22:30	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	3.8	1.74		07/30/15 22:30	87-68-3	
n-Hexane	2.3	ug/m3	1.3	1.74		07/30/15 22:30	110-54-3	
2-Hexanone	ND	ug/m3	1.4	1.74		07/30/15 22:30	591-78-6	
Methylene Chloride	7.6	ug/m3	6.1	1.74		07/30/15 22:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	1.4	1.74		07/30/15 22:30	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		07/30/15 22:30	1634-04-4	
Naphthalene	ND	ug/m3	4.6	1.74		07/30/15 22:30	91-20-3	
Propylene	ND	ug/m3	0.61	1.74		07/30/15 22:30	115-07-1	
Styrene	ND	ug/m3	1.5	1.74		07/30/15 22:30	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.2	1.74		07/30/15 22:30	79-34-5	
Tetrachloroethylene	6.1	ug/m3	1.2	1.74		07/30/15 22:30	127-18-4	
Tetrahydrofuran	ND	ug/m3	1.0	1.74		07/30/15 22:30	109-99-9	
Toluene	4.3	ug/m3	1.3	1.74		07/30/15 22:30	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	6.6	1.74		07/30/15 22:30	120-82-1	

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## ANALYTICAL RESULTS

Project: 66 NORCROSS ST 2015.0677.02

Pace Project No.: 92260603

Sample: V-A	Lab ID: 92260603002	Collected: 07/27/15 10:40	Received: 07/28/15 10:00	Matrix: Air				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15						
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.74		07/30/15 22:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		07/30/15 22:30	79-00-5	
Trichloroethene	ND	ug/m3	0.96	1.74		07/30/15 22:30	79-01-6	
Trichlorofluoromethane	50.6	ug/m3	2.0	1.74		07/30/15 22:30	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.8	1.74		07/30/15 22:30	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/m3	1.7	1.74		07/30/15 22:30	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.74		07/30/15 22:30	108-67-8	
Vinyl acetate	ND	ug/m3	1.2	1.74		07/30/15 22:30	108-05-4	
Vinyl chloride	ND	ug/m3	0.45	1.74		07/30/15 22:30	75-01-4	
m&p-Xylene	ND	ug/m3	3.1	1.74		07/30/15 22:30	179601-23-1	
o-Xylene	ND	ug/m3	1.5	1.74		07/30/15 22:30	95-47-6	

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## ANALYTICAL RESULTS

Project: 66 NORCROSS ST 2015.0677.02

Pace Project No.: 92260603

Sample: V-1	Lab ID: 92260603003	Collected: 07/27/15 10:50	Received: 07/28/15 10:00	Matrix: Air				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15						
Acetone	38.8	ug/m3	4.2	1.74		07/30/15 23:01	67-64-1	
Benzene	1.8	ug/m3	0.57	1.74		07/30/15 23:01	71-43-2	
Bromodichloromethane	ND	ug/m3	2.4	1.74		07/30/15 23:01	75-27-4	
Bromoform	ND	ug/m3	3.7	1.74		07/30/15 23:01	75-25-2	
Bromomethane	ND	ug/m3	1.4	1.74		07/30/15 23:01	74-83-9	
1,3-Butadiene	ND	ug/m3	0.78	1.74		07/30/15 23:01	106-99-0	
2-Butanone (MEK)	9.3	ug/m3	1.0	1.74		07/30/15 23:01	78-93-3	
Carbon disulfide	6.7	ug/m3	1.1	1.74		07/30/15 23:01	75-15-0	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		07/30/15 23:01	56-23-5	
Chlorobenzene	ND	ug/m3	1.6	1.74		07/30/15 23:01	108-90-7	
Chloroethane	ND	ug/m3	0.94	1.74		07/30/15 23:01	75-00-3	
Chloroform	0.92	ug/m3	0.86	1.74		07/30/15 23:01	67-66-3	
Chloromethane	ND	ug/m3	0.73	1.74		07/30/15 23:01	74-87-3	
Cyclohexane	ND	ug/m3	3.0	1.74		07/30/15 23:01	110-82-7	
Dibromochloromethane	ND	ug/m3	3.0	1.74		07/30/15 23:01	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	2.7	1.74		07/30/15 23:01	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	2.1	1.74		07/30/15 23:01	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	2.1	1.74		07/30/15 23:01	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	2.1	1.74		07/30/15 23:01	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	1.8	1.74		07/30/15 23:01	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.74		07/30/15 23:01	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.71	1.74		07/30/15 23:01	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.74		07/30/15 23:01	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		07/30/15 23:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		07/30/15 23:01	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.6	1.74		07/30/15 23:01	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	1.6	1.74		07/30/15 23:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	1.6	1.74		07/30/15 23:01	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.5	1.74		07/30/15 23:01	76-14-2	
Ethyl acetate	2.3	ug/m3	1.3	1.74		07/30/15 23:01	141-78-6	
Ethylbenzene	ND	ug/m3	1.5	1.74		07/30/15 23:01	100-41-4	
4-Ethyltoluene	ND	ug/m3	1.7	1.74		07/30/15 23:01	622-96-8	
n-Heptane	3.5	ug/m3	1.4	1.74		07/30/15 23:01	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	3.8	1.74		07/30/15 23:01	87-68-3	
n-Hexane	4.9	ug/m3	1.3	1.74		07/30/15 23:01	110-54-3	
2-Hexanone	3.6	ug/m3	1.4	1.74		07/30/15 23:01	591-78-6	
Methylene Chloride	6.9	ug/m3	6.1	1.74		07/30/15 23:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	2.3	ug/m3	1.4	1.74		07/30/15 23:01	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		07/30/15 23:01	1634-04-4	
Naphthalene	ND	ug/m3	4.6	1.74		07/30/15 23:01	91-20-3	
Propylene	11.6	ug/m3	0.61	1.74		07/30/15 23:01	115-07-1	
Styrene	6.2	ug/m3	1.5	1.74		07/30/15 23:01	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.2	1.74		07/30/15 23:01	79-34-5	
Tetrachloroethene	9.9	ug/m3	1.2	1.74		07/30/15 23:01	127-18-4	
Tetrahydrofuran	ND	ug/m3	1.0	1.74		07/30/15 23:01	109-99-9	
Toluene	10.5	ug/m3	1.3	1.74		07/30/15 23:01	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	6.6	1.74		07/30/15 23:01	120-82-1	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 66 NORCROSS ST 2015.0677.02

Pace Project No.: 92260603

Sample: V-1	Lab ID: 92260603003	Collected: 07/27/15 10:50	Received: 07/28/15 10:00	Matrix: Air				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15						
1,1,1-Trichloroethane	3.2	ug/m3		1.9	1.74		07/30/15 23:01	71-55-6
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74			07/30/15 23:01	79-00-5
Trichloroethene	3.1	ug/m3	0.96	1.74			07/30/15 23:01	79-01-6
Trichlorofluoromethane	47.3	ug/m3	2.0	1.74			07/30/15 23:01	75-69-4
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.8	1.74			07/30/15 23:01	76-13-1
1,2,4-Trimethylbenzene	1.8	ug/m3	1.7	1.74			07/30/15 23:01	95-63-6
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.74			07/30/15 23:01	108-67-8
Vinyl acetate	ND	ug/m3	1.2	1.74			07/30/15 23:01	108-05-4
Vinyl chloride	ND	ug/m3	0.45	1.74			07/30/15 23:01	75-01-4
m&p-Xylene	3.8	ug/m3	3.1	1.74			07/30/15 23:01	179601-23-1
o-Xylene	ND	ug/m3	1.5	1.74			07/30/15 23:01	95-47-6

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**QUALITY CONTROL DATA**

Project: 66 NORCROSS ST 2015.0677.02

Pace Project No.: 92260603

QC Batch:	AIR/23823	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR Low Level
Associated Lab Samples:	92260603001, 92260603002, 92260603003		

METHOD BLANK: 2036824 Matrix: Air

Associated Lab Samples: 92260603001, 92260603002, 92260603003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	07/30/15 16:24	
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.70	07/30/15 16:24	
1,1,2-Trichloroethane	ug/m3	ND	0.55	07/30/15 16:24	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	1.6	07/30/15 16:24	
1,1-Dichloroethane	ug/m3	ND	0.82	07/30/15 16:24	
1,1-Dichloroethene	ug/m3	ND	0.81	07/30/15 16:24	
1,2,4-Trichlorobenzene	ug/m3	ND	3.8	07/30/15 16:24	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	07/30/15 16:24	
1,2-Dibromoethane (EDB)	ug/m3	ND	1.6	07/30/15 16:24	
1,2-Dichlorobenzene	ug/m3	ND	1.2	07/30/15 16:24	
1,2-Dichloroethane	ug/m3	ND	0.41	07/30/15 16:24	
1,2-Dichloropropane	ug/m3	ND	0.94	07/30/15 16:24	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	07/30/15 16:24	
1,3-Butadiene	ug/m3	ND	0.45	07/30/15 16:24	
1,3-Dichlorobenzene	ug/m3	ND	1.2	07/30/15 16:24	
1,4-Dichlorobenzene	ug/m3	ND	1.2	07/30/15 16:24	
2-Butanone (MEK)	ug/m3	ND	0.60	07/30/15 16:24	
2-Hexanone	ug/m3	ND	0.83	07/30/15 16:24	
4-Ethyltoluene	ug/m3	ND	1.0	07/30/15 16:24	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	0.83	07/30/15 16:24	
Acetone	ug/m3	ND	2.4	07/30/15 16:24	
Benzene	ug/m3	ND	0.32	07/30/15 16:24	
Bromodichloromethane	ug/m3	ND	1.4	07/30/15 16:24	
Bromoform	ug/m3	ND	2.1	07/30/15 16:24	
Bromomethane	ug/m3	ND	0.79	07/30/15 16:24	
Carbon disulfide	ug/m3	ND	0.63	07/30/15 16:24	
Carbon tetrachloride	ug/m3	ND	0.64	07/30/15 16:24	
Chlorobenzene	ug/m3	ND	0.94	07/30/15 16:24	
Chloroethane	ug/m3	ND	0.54	07/30/15 16:24	
Chloroform	ug/m3	ND	0.50	07/30/15 16:24	
Chloromethane	ug/m3	ND	0.42	07/30/15 16:24	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	07/30/15 16:24	
cis-1,3-Dichloropropene	ug/m3	ND	0.92	07/30/15 16:24	
Cyclohexane	ug/m3	ND	1.7	07/30/15 16:24	
Dibromochloromethane	ug/m3	ND	1.7	07/30/15 16:24	
Dichlorodifluoromethane	ug/m3	ND	1.0	07/30/15 16:24	
Dichlorotetrafluoroethane	ug/m3	ND	1.4	07/30/15 16:24	
Ethyl acetate	ug/m3	ND	0.73	07/30/15 16:24	
Ethylbenzene	ug/m3	ND	0.88	07/30/15 16:24	
Hexachloro-1,3-butadiene	ug/m3	ND	2.2	07/30/15 16:24	
m&p-Xylene	ug/m3	ND	1.8	07/30/15 16:24	

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**REPORT OF LABORATORY ANALYSIS**

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## QUALITY CONTROL DATA

Project: 66 NORCROSS ST 2015.0677.02

Pace Project No.: 92260603

METHOD BLANK: 2036824

Matrix: Air

Associated Lab Samples: 92260603001, 92260603002, 92260603003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methyl-tert-butyl ether	ug/m3	ND	0.73	07/30/15 16:24	
Methylene Chloride	ug/m3	ND	3.5	07/30/15 16:24	
n-Heptane	ug/m3	ND	0.83	07/30/15 16:24	
n-Hexane	ug/m3	ND	0.72	07/30/15 16:24	
Naphthalene	ug/m3	ND	2.7	07/30/15 16:24	
o-Xylene	ug/m3	ND	0.88	07/30/15 16:24	
Propylene	ug/m3	ND	0.35	07/30/15 16:24	
Styrene	ug/m3	ND	0.87	07/30/15 16:24	
Tetrachloroethene	ug/m3	ND	0.69	07/30/15 16:24	
Tetrahydrofuran	ug/m3	ND	0.60	07/30/15 16:24	
Toluene	ug/m3	ND	0.77	07/30/15 16:24	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	07/30/15 16:24	
trans-1,3-Dichloropropene	ug/m3	ND	0.92	07/30/15 16:24	
Trichloroethene	ug/m3	ND	0.55	07/30/15 16:24	
Trichlorofluoromethane	ug/m3	ND	1.1	07/30/15 16:24	
Vinyl acetate	ug/m3	ND	0.72	07/30/15 16:24	
Vinyl chloride	ug/m3	ND	0.26	07/30/15 16:24	

LABORATORY CONTROL SAMPLE: 2036825

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	52.1	94	72-140	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	64.0	92	68-137	
1,1,2-Trichloroethane	ug/m3	55.5	50.5	91	66-138	
1,1,2-Trichlorotrifluoroethane	ug/m3	77.9	74.3	95	70-132	
1,1-Dichloroethane	ug/m3	41.2	39.0	95	68-137	
1,1-Dichloroethene	ug/m3	40.3	38.6	96	73-138	
1,2,4-Trichlorobenzene	ug/m3	75.5	88.1	117	48-150 SS	
1,2,4-Trimethylbenzene	ug/m3	50	49.0	98	75-134	
1,2-Dibromoethane (EDB)	ug/m3	78.1	78.8	101	75-132	
1,2-Dichlorobenzene	ug/m3	61.2	65.8	108	71-129	
1,2-Dichloroethane	ug/m3	41.2	40.9	99	73-139	
1,2-Dichloropropane	ug/m3	47	46.1	98	70-130	
1,3,5-Trimethylbenzene	ug/m3	50	48.6	97	75-133	
1,3-Butadiene	ug/m3	22.5	20.8	92	66-135	
1,3-Dichlorobenzene	ug/m3	61.2	65.2	107	75-131	
1,4-Dichlorobenzene	ug/m3	61.2	64.5	106	69-135	
2-Butanone (MEK)	ug/m3	30	32.7	109	67-131	
2-Hexanone	ug/m3	41.7	48.0	115	72-130	
4-Ethyltoluene	ug/m3	50	49.5	99	75-130	
4-Methyl-2-pentanone (MIBK)	ug/m3	41.7	44.0	106	68-134	
Acetone	ug/m3	24.2	20.5	85	63-144	
Benzene	ug/m3	32.5	31.4	97	64-139	
Bromodichloromethane	ug/m3	68.2	65.9	97	75-134	

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## QUALITY CONTROL DATA

Project: 66 NORCROSS ST 2015.0677.02

Pace Project No.: 92260603

LABORATORY CONTROL SAMPLE: 2036825

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/m3	105	106	101	72-130	
Bromomethane	ug/m3	39.5	37.7	95	71-132	
Carbon disulfide	ug/m3	31.7	30.5	96	56-139	
Carbon tetrachloride	ug/m3	64	61.0	95	75-150	
Chlorobenzene	ug/m3	46.8	47.2	101	71-132	
Chloroethane	ug/m3	26.8	25.7	96	71-129	
Chloroform	ug/m3	49.7	46.3	93	73-136	
Chloromethane	ug/m3	21	19.8	94	52-143	
cis-1,2-Dichloroethene	ug/m3	40.3	36.6	91	64-137	
cis-1,3-Dichloropropene	ug/m3	46.2	46.9	102	75-128	
Cyclohexane	ug/m3	35	30.3	86	62-143	
Dibromochloromethane	ug/m3	86.6	85.0	98	75-136	
Dichlorodifluoromethane	ug/m3	50.3	50.0	99	70-141	
Dichlorotetrafluoroethane	ug/m3	71.1	67.8	95	71-139	
Ethyl acetate	ug/m3	36.6	37.8	103	64-137	
Ethylbenzene	ug/m3	44.2	41.9	95	71-136	
Hexachloro-1,3-butadiene	ug/m3	108	114	105	51-150 SS	
m&p-Xylene	ug/m3	88.3	85.3	97	71-134	
Methyl-tert-butyl ether	ug/m3	36.7	35.3	96	73-134	
Methylene Chloride	ug/m3	35.3	32.3	91	64-130	
n-Heptane	ug/m3	41.7	39.9	96	63-135	
n-Hexane	ug/m3	35.8	32.8	92	69-135	
Naphthalene	ug/m3	53.3	61.4	115	43-150 SS	
o-Xylene	ug/m3	44.2	40.8	92	75-134	
Propylene	ug/m3	17.5	14.7	84	58-135	
Styrene	ug/m3	43.3	44.6	103	75-133	
Tetrachloroethene	ug/m3	69	67.0	97	66-137	
Tetrahydrofuran	ug/m3	30	26.2	87	58-135	
Toluene	ug/m3	38.3	35.9	94	70-129	
trans-1,2-Dichloroethene	ug/m3	40.3	36.8	91	61-140	
trans-1,3-Dichloropropene	ug/m3	46.2	49.5	107	75-134	
Trichloroethene	ug/m3	54.6	55.7	102	70-134	
Trichlorofluoromethane	ug/m3	57.1	55.2	97	67-140	
Vinyl acetate	ug/m3	35.8	39.9	111	60-139	
Vinyl chloride	ug/m3	26	25.5	98	72-129	

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## QUALIFIERS

Project: 66 NORCROSS ST 2015.0677.02

Pace Project No.: 92260603

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

### SAMPLE QUALIFIERS

Sample: 92260603001

[1] The internal standard recoveries associated with this sample exceed the lower control limit. The reported results should be considered estimated values.

### ANALYTE QUALIFIERS

SS This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

## REPORT OF LABORATORY ANALYSIS

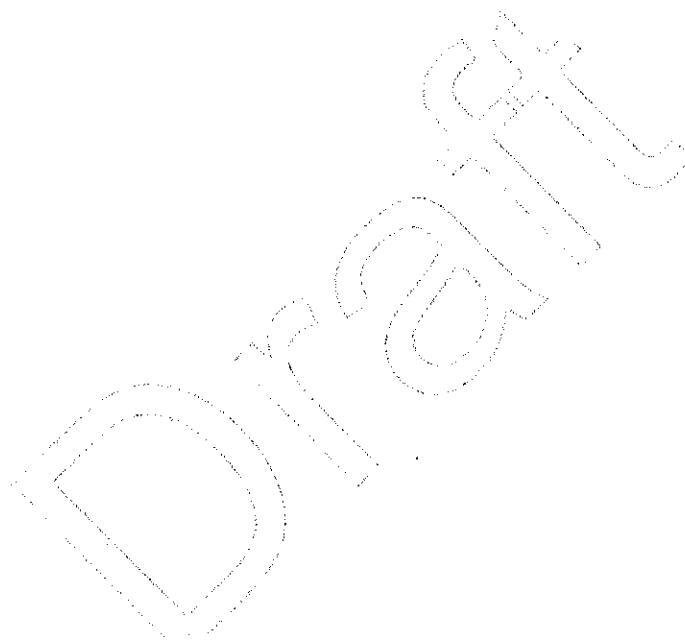
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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 66 NORCROSS ST 2015.0677.02

Pace Project No.: 92260603

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92260603001	V-2	TO-15	AIR/23823		
92260603002	V-A	TO-15	AIR/23823		
92260603003	V-1	TO-15	AIR/23823		



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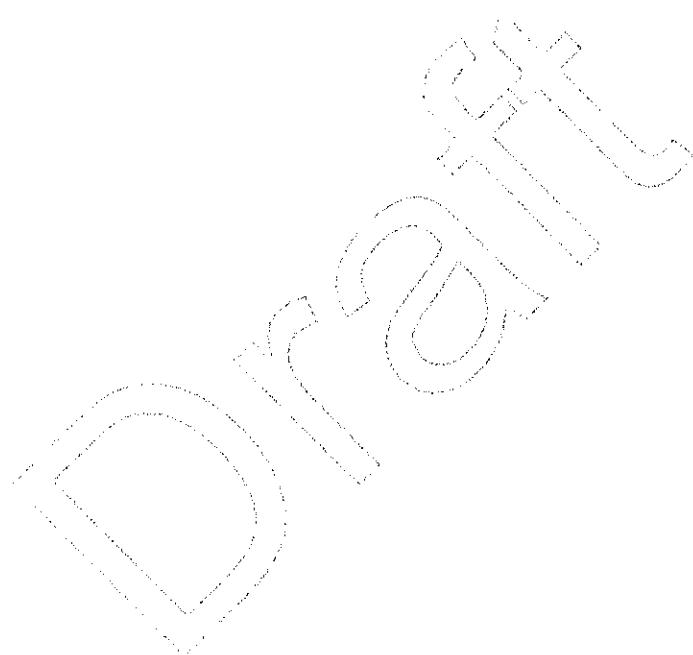


AIR: CHAIN-OF-CSI/STORY / Analytical Report Basement-Substrate

Page 16 of 16

Section A Required Client Information:		Section B Required Project Information:		Section C Sampled At		Section D Method/Technique		Section E Program	
Company: <b>United Consulting</b> Address: <b>625 Holcomb St. Rd.</b>		Report To: <b>Michael Abernathy</b> Email: <b>Michael.Abernathy@utl.com</b> Phone: <b>(309) 457-1700</b> Fax: <b>(309) 457-1701</b>		Comments: <b>Worcross, IL</b> Requisition Date/Initials: <b>8-2-15</b>		Location: <b>Worcross</b> Address: <b>Worcross, IL</b>		UST: <b>Superfund</b> Voluntary Clean Up: <b>Dry Clean</b> RCRA: <b>RCRA</b> Other: <b>Clean Air Act</b>	
Item #		Purchase Order No.: <b>85651</b> Project Name: <b>66 Nodules - 56</b> Project Number: <b>2015.06.27.92</b>		Sample ID: <b>AIR SAMPLE ID</b> Sample ID'S MUST BE UNIQUE		Pesticide Reference: Project Manager/Sales Rep.: <b>Mike</b> Phone/Fax: <b>(309) 457-1700</b>		Emissions: <b>None</b> Responsible Party: <b>None</b> PPM: <b>None</b> PPMV: <b>None</b> Other: <b>None</b>	
'Section D Required Client Information'		Yard Waste Code: <b>CODE</b> Media Code: <b>TB</b> Tote Bag 1 liter Sample Can <b>1LC</b> 5 liter Sample Can <b>5LC</b> 10 liter Sample Can <b>10LC</b> 100 liter Sample Can <b>100LC</b> Hazardous Waste <b>HWP</b> Other <b>None</b>		COLLECTED		Method: Canister Pressure (Initial Field - psig) Canister Pressure (Final Field - psig)		Program: TO-10 3C-Fixed Gas (3G) TO-3 TO-31 (Merchandise) TO-4 (PCB) TO-13 (PAH) TO-14 TO-15 TO-15 Short List <sup>*</sup> TO-16 TO-17 TO-18 TO-19 TO-20 TO-21 TO-22 TO-23 TO-24 TO-25 TO-26 TO-27 TO-28 TO-29 TO-30 TO-31 TO-32 TO-33 TO-34 TO-35 TO-36 TO-37 TO-38 TO-39 TO-40 TO-41 TO-42 TO-43 TO-44 TO-45 TO-46 TO-47 TO-48 TO-49 TO-50 TO-51 TO-52 TO-53 TO-54 TO-55 TO-56 TO-57 TO-58 TO-59 TO-60 TO-61 TO-62 TO-63 TO-64 TO-65 TO-66 TO-67 TO-68 TO-69 TO-70 TO-71 TO-72 TO-73 TO-74 TO-75 TO-76 TO-77 TO-78 TO-79 TO-80 TO-81 TO-82 TO-83 TO-84 TO-85 TO-86 TO-87 TO-88 TO-89 TO-90 TO-91 TO-92 TO-93 TO-94 TO-95 TO-96 TO-97 TO-98 TO-99 TO-100 TO-101 TO-102 TO-103 TO-104 TO-105 TO-106 TO-107 TO-108 TO-109 TO-110 TO-111 TO-112 TO-113 TO-114 TO-115 TO-116 TO-117 TO-118 TO-119 TO-120 TO-121 TO-122 TO-123 TO-124 TO-125 TO-126 TO-127 TO-128 TO-129 TO-130 TO-131 TO-132 TO-133 TO-134 TO-135 TO-136 TO-137 TO-138 TO-139 TO-140 TO-141 TO-142 TO-143 TO-144 TO-145 TO-146 TO-147 TO-148 TO-149 TO-150 TO-151 TO-152 TO-153 TO-154 TO-155 TO-156 TO-157 TO-158 TO-159 TO-160 TO-161 TO-162 TO-163 TO-164 TO-165 TO-166 TO-167 TO-168 TO-169 TO-170 TO-171 TO-172 TO-173 TO-174 TO-175 TO-176 TO-177 TO-178 TO-179 TO-180 TO-181 TO-182 TO-183 TO-184 TO-185 TO-186 TO-187 TO-188 TO-189 TO-190 TO-191 TO-192 TO-193 TO-194 TO-195 TO-196 TO-197 TO-198 TO-199 TO-200 TO-201 TO-202 TO-203 TO-204 TO-205 TO-206 TO-207 TO-208 TO-209 TO-210 TO-211 TO-212 TO-213 TO-214 TO-215 TO-216 TO-217 TO-218 TO-219 TO-220 TO-221 TO-222 TO-223 TO-224 TO-225 TO-226 TO-227 TO-228 TO-229 TO-230 TO-231 TO-232 TO-233 TO-234 TO-235 TO-236 TO-237 TO-238 TO-239 TO-240 TO-241 TO-242 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**APPENDIX C – VISL CALCULATION SHEETS**



**OSWER VAPOR INTRUSION ASSESSMENT**  
Sub-slab or Exterior Soil Gas Concentration to Indoor Air Concentration (SGC-JAC) Calculator Version 3.4, June 2015 RSIs

Parameter	Symbol	Value	Instructions
Exposure Scenario			Select residential or commercial scenario from pull down list
Target Risk for Carcinogens	TCR	1.00E-06	Enter target risk for carcinogens (for comparison to the calculated VI carcinogenic risk in column F)
Target Hazard Quotient for Non-Carcinogens	THQ	1	Enter target hazard quotient for non-carcinogens (for comparison to the calculated VI hazard in column G)

CAS	Chemical Name	Site Sub-slab or Exterior Soil Gas Concentration Csg (ug/m <sup>3</sup> )	Calculated Indoor Air Concentration Cia (ug/m <sup>3</sup> )	VI Hazard		Reference Concentration RFC (mg/m <sup>3</sup> )	Mutagenic Indicator
				CR	HQ		
x 67-64-1	Acetone	3.9E-01	1.16E+00	No IUR	8.0E-06	3.10E+01	A
x 71-43-2	Benzene	2.1E+00	6.30E-02	4.0E-08	4.0E-04	3.00E-02	-
x 75-15-0	Carbon Disulfide	9.4E+00	2.82E-01	No IUR	9.2E-05	7.00E-01	-
x 67-66-3	Chloroform	9.2E-01	2.79E-02	5.2E-08	6.4E-05	9.80E-02	A
x 110-82-7	Cyclohexane	5.0E+00	1.50E-01	No IUR	5.1E-06	6.00E+00	-
x 141-28-6	Ethyl Acetate	2.3E+00	6.90E-02	No IUR	2.3E-04	7.00E-02	P
x 100-41-4	Ethylbenzene	9.6E+00	2.88E-01	6.8E-08	6.8E-05	2.50E-06	CA
x 110-54-3	Hexane, N-	6.6E+00	1.98E-01	No IUR	6.8E-05	1.00E+00	-
x 591-78-6	Hexanone, 2-	3.6E+00	1.09E-01	No IUR	6.8E-05	7.00E-01	-
x 78-93-3	Methyl Ethyl Ketone (2-Butanone)	9.3E+00	2.79E-01	No IUR	8.0E-04	3.00E-02	-
x 103-0-1	Methyl Isobutyl Ketone (4-methyl-2-pentanone)	2.3E+00	6.90E-02	No IUR	5.3E-06	5.00E+00	-
x 75-09-2	Methylene Chloride	3.4E+01	1.01E+00	8.3E-10	3.0E-04	3.00E+00	-
x 91-20-3	Naphthalene	6.0E+01	1.79E+00	5.6E-06	1.0E-01	6.00E-01	Mut
x 115-07-1	Propylene	1.2E+01	3.48E-01	No IUR	2.4E-05	3.00E-03	-
x 100-42-5	Styrene	6.2E+00	1.86E-01	No IUR	4.2E-05	3.00E+00	CA
x 122-18-4	Tetrachloroethylene	6.5E+01	1.94E+00	4.1E-08	1.1E-02	1.00E+00	-
x 108-48-3	Toluene	2.2E+01	6.68E-01	No IUR	3.0E-05	4.00E-02	-
x 71-55-6	Trichloroethane, 1,1,1-	3.2E+00	9.80E-02	No IUR	4.4E-06	5.00E+00	-
x 79-01-6	Trichloroethylene	4.3E+00	1.29E-01	4.3E-08	1.5E-02	4.10E-06	-
x 95-63-6	Trimethylbenzene, 1,2,4-	1.8E+00	5.40E-02	No IUR	1.8E-03	2.00E-03	Mut
x 1330-20-7	Xylenes	9.3E-01	2.78E+00	No IUR	6.3E-03	7.00E-03	P

CAS	Chemical Name	Site Sub-slab or Exterior Soil Gas Concentration Csg (ug/m <sup>3</sup> )	Calculated Indoor Air Concentration Cia (ug/m <sup>3</sup> )	VI Hazard		Reference Concentration RFC (mg/m <sup>3</sup> )	Mutagenic Indicator
				IUR	Source*		
x 67-64-1	Acetone	3.9E-01	1.16E+00	No IUR	8.0E-06	3.10E+01	A

**OWNER VAPOR INTRUSION ASSESSMENT**  
Groundwater Concentration to Indoor Air Concentration (GWC-IAC) Calculator Version 3.4, June 2015 RSLs

Parameter	Symbol	Value	Instructions
Exposure Scenario	Scenario	Select residential or commercial scenario from pull down list	
Target Risk for Carcinogens	TCR	1.00E-05	Enter target risk for carcinogens (for comparison to the calculated VI carcinogenic risk in column F)
Target Hazard Quotient for Non-Carcinogens	THQ	1	Enter target hazard quotient for non-carcinogens (for comparison to the calculated VI hazard in column G)
Average Groundwater Temperature (°C)	Tavg	19.4	Enter average of the stabilized groundwater temperature to correct Henry's Law Constant for groundwater target concentrations

Notes:

(1) Inhalation Pathway Exposure Parameters (RME):

Exposure Scenario  
Averaging time for carcinogens  
Exposure duration  
Exposure frequency  
Exposure time

Units

Site	Calculated Indoor Air Concentration		VI Hazard	Inhalation Unit Risk	Reference Concentration	RFC Source*	Mutagenic Indicator
	Groundwater Concentration	Indoor Air Concentration					
Cia	(ug/L)	(ug/m <sup>3</sup> )	CR	IUR <sub>c</sub> (ug/m <sup>3</sup> ) <sup>-1</sup>	(mg/m <sup>3</sup> )		
Cia,nc	(ug/L)	(ug/m <sup>3</sup> )	HQ				
6.5E+00	3.4E+00	7.3E-08	2.0E-02	2.60E-07	4.00E-02		
5.5E+00	1.69E+00	5.6E-07	1.9E-01	4.10E-06	2.00E-03		Mut
9.4E+00	9.12E+00	3.3E-06	2.33E-01	4.40E-06	1.00E-01		Mut
	Cumulative						

Entered average of the stabilized groundwater temperature to correct Henry's Law Constant for groundwater target concentrations

Selected (based on scenario)

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_R_GW	26	ATC_C_GW	25
ED_R_GW	26	ED_C_GW	25
EF_R_GW	350	EF_C_GW	250
ET_R_GW	24	ET_C_GW	8

Residential Commercial

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_C_GW	26	ED_C_GW	25
EF_C_GW	350	EF_C_GW	250
ET_C_GW	24	ET_C_GW	8

Selected (based on scenario)

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_GW	25	ED_GW	25
EF_GW	250	EF_GW	250
ET_GW	8	ET_GW	8

Residential Commercial

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_C_GW	26	ED_C_GW	25
EF_C_GW	350	EF_C_GW	250
ET_C_GW	24	ET_C_GW	8

Selected (based on scenario)

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_GW	25	ED_GW	25
EF_GW	250	EF_GW	250
ET_GW	8	ET_GW	8

Residential Commercial

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_C_GW	26	ED_C_GW	25
EF_C_GW	350	EF_C_GW	250
ET_C_GW	24	ET_C_GW	8

Selected (based on scenario)

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_GW	25	ED_GW	25
EF_GW	250	EF_GW	250
ET_GW	8	ET_GW	8

Residential Commercial

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_C_GW	26	ED_C_GW	25
EF_C_GW	350	EF_C_GW	250
ET_C_GW	24	ET_C_GW	8

Selected (based on scenario)

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_GW	25	ED_GW	25
EF_GW	250	EF_GW	250
ET_GW	8	ET_GW	8

Residential Commercial

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_C_GW	26	ED_C_GW	25
EF_C_GW	350	EF_C_GW	250
ET_C_GW	24	ET_C_GW	8

Selected (based on scenario)

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_GW	25	ED_GW	25
EF_GW	250	EF_GW	250
ET_GW	8	ET_GW	8

Residential Commercial

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_C_GW	26	ED_C_GW	25
EF_C_GW	350	EF_C_GW	250
ET_C_GW	24	ET_C_GW	8

Selected (based on scenario)

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_GW	25	ED_GW	25
EF_GW	250	EF_GW	250
ET_GW	8	ET_GW	8

Residential Commercial

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_C_GW	26	ED_C_GW	25
EF_C_GW	350	EF_C_GW	250
ET_C_GW	24	ET_C_GW	8

Selected (based on scenario)

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_GW	25	ED_GW	25
EF_GW	250	EF_GW	250
ET_GW	8	ET_GW	8

Residential Commercial

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_C_GW	26	ED_C_GW	25
EF_C_GW	350	EF_C_GW	250
ET_C_GW	24	ET_C_GW	8

Selected (based on scenario)

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_GW	25	ED_GW	25
EF_GW	250	EF_GW	250
ET_GW	8	ET_GW	8

Residential Commercial

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_C_GW	26	ED_C_GW	25
EF_C_GW	350	EF_C_GW	250
ET_C_GW	24	ET_C_GW	8

Selected (based on scenario)

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_GW	25	ED_GW	25
EF_GW	250	EF_GW	250
ET_GW	8	ET_GW	8

Residential Commercial

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_C_GW	26	ED_C_GW	25
EF_C_GW	350	EF_C_GW	250
ET_C_GW	24	ET_C_GW	8

Selected (based on scenario)

Symbol	Value	Symbol	Value
ATC_R_GW	70	ATC_C_GW	70
ATC_C_GW	26	ATC_C_GW	25
ED_GW	25	ED_GW	25
EF_GW	250	EF_GW	250
ET_GW	8	ET_GW	8

Residential Commercial

Symbol	Value	Symbol	Value


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**OSWER VAPOR INTRUSION ASSESSMENT**  
Groundwater Concentration to Indoor Air Concentration (GWC-JAC) Calculator Version 3.4, June 2015 RSLS

Parameter	Symbol	Value	Instructions
Exposure Scenario	Scenario	Commercial	Select residential or commercial scenario from pull down list
Target Risk for Carcinogens	TCR	1.00E-05	Enter target risk for carcinogens (for comparison to the calculated VI carcinogenic risk in column F)
Target Hazard Quotient for Non-Carcinogens	THQ	1	Enter target hazard quotient for non-carcinogens (for comparison to the calculated VI hazard in column G)
Average Groundwater Temperature (°C)	Taw	19.4	Enter average of the stabilized groundwater temperature to corrected Henry's Law Constant for groundwater target concentrations

CAS	Chemical Name	Site	Calculated		VI	Carcinogenic Risk	VI Hazard	Inhalation Unit Risk	Reference Concentration	RFC Source*	Mutagenic Indicator
			Groundwater Concentration	Indoor Air Concentration							

Yellow highlighting indicates site-specific parameters that may be edited by the user.  
 Blue highlighting indicates exposure factors that are based on Risk Assessment Guidance for Superfund (RAGS) or EPA vapor intrusion guidance, which generally should not be changed.  
 Pink highlighting indicates VI carcinogenic risk greater than the target risk for carcinogens (TCR) or VI hazard greater than or equal to the target hazard quotient for non-carcinogens (THQ).

**OSWER VAPOR INTRUSION ASSESSMENT**  
Indoor Air Concentration to Risk (IAC-Risk) Calculator Version 3.4, June 2015 RSLs

Parameter	Symbol	Value	Instructions
Exposure Scenario	Scenario	Commercial	Select residential or commercial scenario from pull down list.
Target Risk for Carcinogens	TCR	1.0E-05	Enter target risk for carcinogens (for comparison to the calculated VI carcinogenic risk in column E)
Target Hazard Quotient for Non-Carcinogens	THQ	1	Enter target hazard quotient for non-carcinogens (for comparison to the calculated VI hazard in column F)

CAS	Chemical Name	VI		VI Hazard	Carcinogenic Risk	VI Hazard	VI Hazard
		Site Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	CR	HQ	Reference Concentration ( $\text{ng}/\text{m}^3$ )	RFC Source*	Mutagenic Indicator
67-64-1	Acetone	3.90E+01	No IUR	2.9E-04			I
x 74-87-3	Chloromethane	1.00E+00	No IUR	2.5E-03			
x 10-54-3	Hexane, N-	2.30E+00	No IUR	7.5E-04		9.0E-02	
x 78-93-3	Methyl Ethyl Ketone (2-Butanone)	6.40E+00	No IUR	2.9E-04		7.0E-01	
x 75-08-2	Methylene Chloride	7.60E+00	No IUR	6.2E-09		5.0E+00	
x 127-18-4	Tetrachloroethylene	6.10E+00	1.3E-07	3.5E-02	1.00E-08	6.0E-01	
x 108-88-3	Toluene	4.30E+00	No IUR	2.0E-04	2.60E-07	4.0E-02	
x 56-63-4	Trichloroform/methane	5.06E+01	No IUR	1.7E-02		5.0E+00	
x		Cumulative	1.4E+07	5.8E-02		7.0E-01	H

Notes:

(1) Inhalation Pathway Exposure Parameters (RMF):

Exposure Scenario	Units	Residential	Commercial
Averaging time for carcinogens (yrs)		$\text{ATc\_R\_IA}$	$\text{ATC\_C\_IA}$
Averaging time for non-carcinogens (yrs)		$\text{ATnc\_R\_IA}$	$\text{ATNC\_C\_IA}$
Exposure duration (days/year)		$\text{ED\_R\_IA}$	$\text{ED\_C\_IA}$
Exposure frequency (times/year)		$\text{EF\_R\_IA}$	$\text{EF\_C\_IA}$
Exposure time (hrs/day)		$\text{ET\_R\_IA}$	$\text{ET\_C\_IA}$

(2) Generic Attenuation Factors:

Source Medium of Vapors	(-)	Residential	Commercial
Groundwater	$\text{AFgw\_R\_IA}$	0.001	$\text{AFgw\_C\_IA}$
Sub-Slab and Exterior Soil Gas	$\text{AFss\_R\_IA}$	0.03	$\text{AFss\_C\_IA}$

(3) Formulas:

$$\begin{aligned} \text{Cia, target} &= \text{MIN}(\text{Cia,c}, \text{Cia,nc}) \\ \text{Cia, c } (\mu\text{g}/\text{m}^3) &= \text{TCR} \times \text{ATc} \times (365 \text{ days/yr}) \times (24 \text{ hrs/day}) / (\text{ED} \times \text{EF} \times \text{ET}) \\ \text{Cia, nc } (\mu\text{g}/\text{m}^3) &= \text{THQ} \times \text{ATnc} \times (365 \text{ days/yr}) \times (24 \text{ hrs/day}) / (\text{RIC} \times (1000 \text{ ug/mg}) / (\text{ED} \times \text{EF} \times \text{ET})) \end{aligned}$$

(4) Special Case Chemicals

Trichloroethylene

Mutagenic Chemicals

Age Cohort	Exposure Duration	Age-dependent adjustment factor
0 - 2 years	2	10
2 - 6 years	4	3
6 - 16 years	10	3
16 - 26 years	10	1

Mutagenic-mode-of-action (MMOA) adjustment factor

25

This factor is used in the equations for mutagenic chemicals.

Vinyl Chloride

See the Navigation Guide equation for Cia,c for vinyl chloride.

Note: This section applies to trichloroethylene and other mutagenic chemicals, but not to vinyl chloride.

Notation:

I = IRIS: EPA Integrated Risk Information System (IRIS). Available online at: <http://www.epa.gov/iris/substances/index.html>

P = PPRTV: EPA Provisional Peer Reviewed Toxicity Values (PPRTVs). Available online at: <http://ntp.niehs.nih.gov/prrtvshrm.html>

A = Agency for Toxic Substances and Disease Registry (ATSDR) Minimum Risk Levels (MRLs). Available online at: <http://www.atsdr.cdc.gov/mrls/mrlsindex.html>

CA = California Environmental Protection Agency/Office of Environmental Protection Assessments. Available online at: <http://www.oehha.ca.gov/its/ChemicalDB/index.asp>

**OSWER VAPOR INTRUSION ASSESSMENT**  
Indoor Air Concentration to Risk (IAC-Risk) Calculator Version 3.4, June 2015 RSLs

Parameter	Symbol	Value	Instructions
Exposure Scenario	Scenario	Commercial	Selected residential or commercial scenario from pull down list
Target Risk for Carcinogens	TCR	1.00E-05	Enter target risk for carcinogens (for comparison to the calculated VI carcinogenic risk in column E)
Target Hazard Quotient for Non-Carcinogens	THQ	1	Enter target hazard quotient for non-carcinogens (for comparison to the calculated VI hazard in column F)

CAS	Chemical Name	VI			VI Hazard		
		Site Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Carcinogenic Risk CR	HQ	Inhalation Unit Risk IUR	Reference Concentration RFC	Mutagenic Indicator
							-

H = HEAST: EPA Superfund and Health Effects Assessment Summary Tables (HEAST) database. Available online at:

S = See RSL User Guide, Section 5

X = PPRTV/Appendix

Mut = Chemical acts according to the mutagenic-mode-of-action, special exposure parameters apply (see footnote (4) above).

VC = Special exposure equation for vinyl chloride applies (see Navigation Guide for equation).

TCE = Special mutagenic and non-mutagenic IURs for trichloroethylene apply (see footnote (4) above).

Yellow highlighting indicates site-specific parameters, that may be edited by the user.

Blue highlighting indicates exposure factors that are based on Risk Assessment Guidance for Superfund (RAGS) or EPA Vapor Intrusion guidance, which generally should not be changed.

Pink highlighting indicates VI carcinogenic risk greater than or equal to the target risk for carcinogens (TCR) or VI Hazard (THQ).

<http://epa-heast.stml>