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October 30, 2017

Mr. Benjamin McPherson
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue
Buffalo, New York 14203-2915

Re: Allied Chemical – Tonawanda
Site No. 915003
EPA ID NYD051816262
Tonawanda, Erie County

Dear Mr. McPherson;

Thank you for your September 26, 2017 correspondence summarizing the Department's review of the Tonawanda Plastics Investigation Summary Report [July 2017]. Following, Honeywell has responded to your comments and questions and understands a separate Investigation Work Plan is being requested by the Department.

Prior to submission of an additional workplan, Honeywell respectfully requests a discussion of the below-noted responses, via phone conference. The purpose of the conference will be to ensure that Honeywell and DEC are in agreement with the basic scope of any additional investigation. In reference to the phone conference, we will opt to include our counsel for this project, Dale Desnoyers, as well as our consultant, Parsons. We hope a conference can be organized, at the Department's convenience, during the first half of November, 2017.

Per the items noted in your recent letter, please review Honeywell's comments and background information, noted below. A revised report, encorporating the necessary revisions is also attached.

Comments from NYSDEC's Septemeber 26, 2017 letter are highlighted, followed by Honeywell's response:

1) Section 2.0, Fourth Paragraph: it will be clarified if the "TCC property" referenced in the last sentence of this paragraph is referring to the 3875 or 3821 River Road property;

Response: The property referenced in the fourth paragraph of Section 2.0 refers to the 3821 River Road property. This property was the former Allied Chemicals Tonawanda Plastics Plant; it is currently owned by Tonawanda Coke Corporation (TCC).

2) Section 4.2, Photoionization Detector (PID): it will be clarified why a PID equipped with an 11.7electronvolt lamp was used to screen soil samples;

Response: A PID with an 11.7 electronvolt (eV) bulb was used to screen the soil samples collected during the installation of replacement wells MW-11R and MW-12R, as presented in the approved Work Plan. The 11.7eV bulb was selected due to the higher ionization potential of certain compounds which have been detected at the site. These include methylene chloride (11.35 eV), and 1,2-dichloroethane (11.04 eV).

3) Section 4.2, Fourth Paragraph: there are two references to "MW-11R" in this paragraph. It is believed that the second reference should be corrected to "MW-12R". This section will be revised accordingly;

Response: Agreed; the second reference to MW-11R should read MW-12R. This paragraph will be amended.

4) Section 4.2, Replacement Well Depth: as noted in the report, replacement wells MW-11R and MW-12R were installed at a greater depth than the historic site monitoring wells and it is not clear that they are hydraulically connect to the historic wells. Given these factors, the replacement wells provide little evidence to support the assertion that lateral contaminant migration is limited;

Response: Replacement wells MW-11R and MW-12R were both installed within ten feet (horizontally) of the original wells (i.e., MW-11 and MW-12). During the installation of the replacement wells, no water-bearing zones were identified within the same lithological unit as the original wells. The replacement wells were installed in the first-encountered water-bearing zone. The variations in depth to water may be a factor of seasonal fluctuations or due to localized variations in permeability of interbedded lacustrine clays.

Notwithstanding the well depth, groundwater analytical data collected from wells MW11R and MW-12R show that contaminates of concern are not migrating toward the west.

5) Section 4.5, Groundwater Infiltration: based on groundwater contours, the 36" storm sewer appears to be acting as a groundwater sink for at least portions of the year. It is unclear if the sewer or its bedding material area acting as an off-site migration pathway. Additional investigation is required to assess this potential migration pathway.

Honeywell response: Multiple rounds of sampling have produced no evidence to show the 36-inch sewer is a conduit for the transportation of any separate-phase chemicals or any notable amounts of dissolved-phase chemicals. Sufficient site data is available to demonstrate that impacted water is not infiltrating into the sewer. Further, there is no evidence to suggest that chemicals of concern may be concentrating in backfill under the sewer, as there are no notable detections of chemicals of concern in sediments or standing water at the sewer outfall.

The average depth to water measured in the existing site monitoring wells suggests that the static water table is above the invert of the 36-inch storm sewer.

Samples of water from the 36-inch sewer outfall were collected on at least four occasions between 1999 and 2016. During the 1999 and 2001 sampling, concentrations of benzene and cis-1,2-dichelroethene (recorded at 6 µg/L and 8 µg/L, respectively, versus Class A Surface Water Standards of 1 µg/L and 5 µg/L) and naphthalene, recorded at 57 µg/L versus a Class A Surface Water Standard of 10 µg/L, were detected. However, samples collected in 2014 and 2016, reported only a single exceedance for benzene, at 1.6 µg/L. Simply, these data do not suggest a continuing source.

Further, TCC holds a SPDES permit that allows the discharge of process water to the Niagara River. TCC process water commingles with the discharge from the 36-inch storm sewer prior to entering the river. It appears that the allowable loading of chemicals of concern to the river, as allowed in the SPDES permit, may exceed the concentrations of residual chemicals observed on the Tonawanda Plastics property.

6) <u>Section 6.1, Fourth Paragraph:</u> details of the statistical method used to make this determination will be provided in the report or as an attachment;

Response: In this section, the report noted that, "There was no statistical change in the SVOC concentration when comparing the 2001 values with the more recent three sampling rounds." As the data set may be too small to perform a valid statistical analysis, the wording of the paragraph will be amended.

7) <u>Section 8.0, Boring Logs:</u> In addition to MW-11R and MW-12R, the boring logs and monitoring well installation details for all existing wells will be included in the report;

Response: Boring logs and monitoring well installation records for MW-9, 10, 11, and 12 are included in the 2002 Site Investigation Report completed by OBG. Those records will be included in Appendix A of a revised report. A review of all available historical site records and reports, including those obtained from the NYSDEC, was completed. Well logs for MW-1 through MW-8 were not located. Appendix C in the report does include a summary of the information that is known about these wells.

8) <u>NYSDEC Comment; Overall Site Conditions:</u> the investigation and remedial efforts to date have focused on discrete areas of the site and have not fully characterized the nature and extent of upgradient on-site groundwater or soil contamination. As discussed previously, apparent coal tar deposits have been identified on the ground surface in the northwestern portion of the site. These areas have not been investigated and the extent of these coal tar deposits is unknown. In order to address these concerns, the Department will require that the coal tar deposits be investigated and the remaining areas of the site previously not investigated be characterized to determine if additional contamination is present.

Response: Honeywell maintains that coal tar was not utilized in the plastics manufacturing process – and any coal tar that is identified on the Tonawanda Plastics site is not associated with that Plant's operation.

However, in the interest of seeking a path to closure, Honeywell is willing to discuss with DEC the installation of a series of test pits along the eastern portion of the site. The number and placement of the pits will require the concurrence of TCC, who is the owner of the property. As we discussed in our most recent in-person meeting, it is important to also have data collected on the TCC property to accurately determine the extent of any tar that may be located in the area and determine appropriate next steps. It is our understanding that DEC is pursuing such data from TCC.

Following your review of this information, please contact me so we can identify a date for a phone conference to further discuss these matters. If there are any questions, feel free to contact me at any time at mark.sweitzer@honeywell.com or via phone at 215-292-0519.

Best Regards,

Mark A. Sweitzer, P.G.

Cc: Jeffrey Poulsen, PG - Parsons
Dale Desnoyer – Allen & Desnoyer

PARSONS

INVESTIGATION SUMMARY REPORT

TONAWANDA PLASTICS
EPA ID NYD051816262

Prepared for:

Honeywell International Inc.
6100 Philadelphia Pike
Claymont, Delaware 19703

Prepared by:

PARSONS
40 LaRiviere Drive, Suite 350
Buffalo, New York 14202

October 2017

Parsons PN 450115

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APPENDICES

ACRONYMS

Acronym	Definition / Description
Bgs	Below ground surface
BTEX	Benzene, toluene, ethylbenzene and xylene
COC	Chemical of concern
Honeywell	Honeywell International Inc.
µg/L	Microgram per liter
NYSDEC	New York State Department of Environmental Conservation
OBG	O'Brien & Gere Engineers, Inc.
PAH	Polycyclic aromatic hydrocarbons
PID	Photoionization detector
PVC	Polyvinyl chloride
SVOC	Semivolatile organic compound
SVI	Soil vapor intrusion
TAL	TestAmerica Laboratories
TCC	Tonawanda Coke Corporation
VOC	Volatile organic compound

1.0 INTRODUCTION

This report describes investigation activities that have been completed at the Tonawanda Plastics Site in Tonawanda, New York (the Site). This work was completed in response to comments received from the New York State Department of Environmental Conservation (NYSDEC) following its review of the Investigation Summary Report submitted in December 2015 (Parsons 2015). The work described herein is a continuation of the investigation that the NYSDEC requested be completed to evaluate whether Site-related chemical constituents were migrating off-site in groundwater or through the storm sewer system.

The work plan for the investigation was submitted to the NYSDEC by letter dated September 1, 2016. In a letter dated September 28, 2016, the NYSDEC accepted the work plan with one modification to the scope. The investigation activities were conducted between October 2016 and January 2017. The scope of work and results of the investigation activities are summarized in the following sections.

2.0 SITE DESCRIPTION

The approximately 17-acre Site is located at 3821 River Road in Tonawanda, New York (Figure 1). It is currently owned by Rouse Breihan, Inc.; a subsidiary of Tonawanda Coke Corporation (TCC).

The area of investigation is in the southwestern corner of the property (Figure 2) and is primarily grass-covered. A grass-covered berm lies between the Site and River Road on the western side of the investigation area. To the north and east of the investigation area are at-grade buildings; some area vacant and some are used by TCC for storage of equipment and materials. TCC maintains an office building and a laboratory building approximately 300 feet east of the investigation area. The office building is a two-story masonry structure with no known basement. The laboratory building is an older building of similar construction and is used for offices, storage, as well as the testing of raw materials, finished coke, and associated materials related to the operation of the coking plant. To the south of the investigation area are an access road and the perimeter fence. Additional site features are shown on Figure 2.

A 36-inch- and a 48-inch-diameter storm sewer cross the property. The exact route of the sewer piping is not known. The locations included on the attached site maps are based on information included in historical reports, as well as more recent field observations. The 36-inch diameter line conveys water from the utility right-of-way south of the Site, under the western side of the property, and discharging to the outfall located in the northwest corner of the property.

Available site maps show the sewer outlets discharging to an open ditch and combining with TCC discharge. Based on information from the TCC State Pollution Discharge Elimination System permit, the discharge includes non-contact cooling water, boiler blowdown, storm water runoff, and coal-pile runoff. When viewing the outfall area in July, 2016 and October, 2016, the area was overgrown with dense vegetation and was not easily accessible. Ultimately, the combined flow discharges to the Niagara River. There are no known catch basins on the TCC property located at 3821 River Road that drain to this sewer line.

The 48-inch diameter line conveys water from the utility right-of-way south of the Site, through the central portion of the TCC property to discharge to the outfall located in the northwest corner of the Site. Twelve on-site groundwater monitoring wells are in the investigation area.

3.0 BACKGROUND

Tonawanda Plastics, a subsidiary of Allied Chemical, operated this facility as a manufacturing plant from the 1950's through 1982. Historical site information suggests that an approximately 40-foot diameter former blow down pit was used by Allied Chemical from 1958 to 1962 for the disposal of spent catalyst containing chromium compounds such as magnesium chromate and dichromate impregnated on potassium, and associated with wastes such as aluminum silicate, polyethylene and scrap chlorinated polyethylene. Quantities of waste disposed in the area are unknown.

Investigations completed in the 1980's determined that soils at or near this facility had chromium and lead exceedances. Groundwater samples from five original site wells (MW-1 through MW-5) reported exceedances of cyanide, benzene, ethylbenzene, toluene, xylene, and polycyclic aromatic hydrocarbons (PAHs).

In 1988, soil samples taken from the blow down pit area showed high levels of chromium and elevated levels of lead. Sediment from an on-site catch basin exhibited elevated metals concentrations, but off-site sewer samples showed no source migration. In May, 1991, an Administrative Order on Consent was signed for remediation of site-specific impact.

Also in 1991, chromium-contaminated soil and fill was excavated from the blow down pit. The area was backfilled with clean soil. An Implementation Report (ERM 1991) was submitted and accepted by the NYSDEC. Based on the results of confirmatory soil samples, no further activity related to the blow down pit was required by NYSDEC.

Continuing investigations were completed by O'Brien and Gere in 1999 and 2001 to document groundwater, subsurface soil and sewer conditions. Investigation reports were submitted to NYSDEC at the time.

By letter dated October 2013, the NYSDEC responded to the 2001 investigation report and requested that Honeywell continue investigation efforts.

In December 2015, Honeywell submitted a report to the NYSDEC detailing the results of additional investigation which included the results of sampling efforts conducted in October 2014 and April 2015 (Parsons 2015). No significant changes in the concentrations of chemicals of concern (COCs) in the groundwater were observed during the recent investigations, when compared to the results reported in 2000 and 2001. The investigations completed between 2014 and 2016 show that groundwater quality has not changed when compared to 2001 analytical data and no evidence of impact migration is apparent. The 2014 and 2015 sampling did not provide evidence of apparent migration from groundwater to the site storm sewer system

Further, groundwater modeling presented in Parsons' report to the NYSDEC, dated December 2015, concluded that the plume is in a steady state, is not migrating off site and no sensitive receptors are present.

4.0 SCOPE OF WORK

4.1 Well Decommissioning

On October 3, 2016, existing monitoring wells MW-11 and MW-12 were decommissioned in accordance with procedures outlined in the NYSDEC CP-43: Groundwater Monitoring Well Decommissioning Policy. Fieldwork completed in 2014 and 2015 determined that MW-12 was damaged and could not be sampled and well MW-11 contained insufficient water to collect a sample.

Drilling subcontractor (Parratt Wolff, Inc.), under the supervision of Parsons, removed the existing protective and downhole casings at MW-12. The entire borehole was tremie grouted with a bentonite/cement mixture. The driller was not able to remove the existing protective casing at MW-11 and instead cut the riser below grade. The entire borehole at MW-11 was also tremie grouted closed with a bentonite/cement mixture.

4.2 Well Installation

From October 3 through October 5, 2016, monitoring wells MW-11R and MW-12R were drilled and installed to replace decommissioned wells MW-11 and MW-12. The replacement wells were installed approximately 10 feet south of the respective decommissioned wells.

Before the wells were drilled, their locations were cleared for the presence of underground utilities by contacting DigSafely New York. The top five feet of material at each location was excavated by hand to confirm no underground utilities were present.

Wells were drilled using a truck-mounted drill rig and the borings were advanced using hollow-stem auger drilling methods. Split-spoon samples were collected continuously for soil classification by a Parsons Geologist. All soil samples were screened for the presence of volatile organic compounds (VOCs) with a photoionization detector (PID) equipped with an 11.7 electrovolt bulb. The 11.7eV was selected due to the higher ionization potential of certain compounds which have been detected at the site. None of the soil samples recovered had a PID reading exceeding 10 parts per million (ppm).

Borings at both locations were advanced to auger refusal, which occurred at approximately 44 feet below ground surface (bgs) at MW-11R and approximately 36.4 feet bgs at MW-12R. The borings were completed as groundwater monitoring wells with the screened intervals corresponding to the first encountered water bearing zone. Wells were constructed using 2-inch-diameter, schedule 40 polyvinyl chloride (PVC) risers with 10 feet of 0.01-inch slotted screen. Both wells were completed with stick-up protective casings. Well construction details and boring logs for wells MW-9 through MW-12R can be found in Appendix A. Logs have not been located for wells MW-1 through MW-8. A summary of the information that is available for these wells is included in Appendix C.

4.3 Well Development

Following installation, wells MW-11R and MW-12R were developed to remove fine-grained sediments from the water column. Wells were developed by Parsons on October 13, 2016, using surging and bailing techniques with a weighted bailer. Well development logs are included in Appendix B.

4.4 Surveying

Wendel, Inc. surveyed the wells on October 25 and October 28, 2016. All monitoring wells (including the newly installed wells MW-11R and MW-12R) were surveyed for northing and easting coordinates and casing elevation. The three sewer sampling locations (Inlet A, Inlet B, and Outlet A) were also surveyed for location and sewer invert elevations. Each horizontal datum is referenced to the North American Datum of 1983 (NAD83). Each vertical datum is referenced to the site datum obtained from the ERM 1991 Report. Survey data are included in Appendix C.

4.5 Groundwater Measurements

On October 24, 2016, water levels and total well depths were measured and recorded for each monitoring well prior to groundwater sampling. A second round of measurements was completed on January 23, 2017. The results from these measurement events are included in Appendix C.

Groundwater potentiometric surface maps were prepared based on the water level measurements and are included as Figures 3 (October 2016) and 4 (January 2017).

Regionally, groundwater flow direction is to the west or southwest toward the north flowing Niagara River. Information provided in historical reports indicates that groundwater in the vicinity is perched in alluvial/lacustrine sediments, which primarily consist of graded silts and clay. Subsurface information gathered from the newly installed monitoring wells (MW-11R and MW-12R) did not indicate a perched groundwater layer; the first water was encountered in the zone directly above auger refusal, which is presumed to be the top of bedrock.

A cross section (Figure 5) shows the groundwater monitoring well locations and the potentiometric surface elevation of Site groundwater in relation to the 36-inch storm sewer that transects the Site. Perched groundwater in most of the wells in the study area is above the invert elevation of the 36-inch sewer. The groundwater sampled from the MW-11R and MW-12R wells is likely not hydraulically connected to the other wells.

The thickness and density of the clay encountered in wells MW-11R and 12R suggests that the potential for migration of impacted water, either vertically, or to the west (toward the Niagara River) is significantly limited.

4.6 Groundwater Sampling

The Site monitoring wells were sampled between October 24 and October 26, 2016. Prior to sampling, the wells were purged of stagnant water. A low-flow sampling method was used, and field parameters were measured during purging. Field parameters included pH, temperature, conductivity, turbidity, dissolved oxygen, oxidation reduction potential, and total dissolved solids. Wells were sampled once a sufficient volume of water had been removed and the field parameters had stabilized. In some cases, the well did not produce a sufficient volume of water and went dry. Wells that were purged dry were allowed to recover, and samples were collected within 24 hours. The field sampling data for each well are summarized and included in Appendix D.

During both sampling rounds, samples were collected for quality assurance/quality control purposes, including matrix spike/matrix spike duplicate and field duplicate samples. All groundwater samples were submitted for analysis to TestAmerica Laboratories (TAL) in Amherst, New York (ELAP No.10026). Samples were analyzed

for VOCs, semivolatile organics (SVOCS), and inorganic parameters. Validated chemical analytical results for the sampling events in 2001, 2014, 2015, and 2016 are included on Table 1 (VOCs), Table 2 (SVOCs), and Table 3 (inorganics).

4.7 Storm Sewer and Sediment Sampling

The locations of the 36-inch- and 48-inch-diameter storm sewers were surveyed, and the inlet and outlet points were located (Figure 2). On October 26, 2016, samples were collected from water flowing into (Inlet A) and out of (Outlet A) the 36-inch sewer. A sample of the water flowing into the 48-inch sewer (Inlet B) was also collected. A sample was not collected from the outlet (Outlet B) for the 48-inch sewer as the outlet location has not been identified. It is speculated that the 48-inch sewer has been tied into another storm water conveyance pipe. Evidence to support this speculation is not available. Surface water samples were analyzed for VOCs, SVOCs, and inorganics.

One sample each was collected from the accumulated sediment at the inlet to the 36-inch sewer (Inlet A) and the inlet to the 48-inch sewer (Inlet B). These were analyzed for VOCs, SVOC, and inorganics. The sediment quantities at the 36-inch outlet were insufficient for sampling.

Validated chemical analytical results for the surface water samples were compared to the October 2014 results and the New York State Class A Surface Water Standard. The results are provided in Table 4. Validated chemical analytical results for the sediment samples were compared to the October 2014 results and are provided in Table 5.

4.8 Soil Vapor Intrusion Study

A soil vapor intrusion (SVI) investigation was completed for the Tonawanda Coke Office and Laboratory Buildings (Figure 2). Sample locations were selected at the southeast and southwest corners of each building and included indoor air (IA) and sub-slab (SS) air samples. The air sampling was conducted from November 30 through December 1, 2016.

The SVI procedures, results and discussion are included as Appendix E.

5.0 DATA VALIDATION

Analytical results from samples collected between October 24 and December 1, 2016, were validated and reviewed by Parsons for usability with respect to the following requirements:

- Work plan
- July 2005 NYSDEC Analytical Services Protocol, and
- USEPA Region 2 Standard Operation Procedures.

The analytical laboratory for this project were TestAmerica Limited in Buffalo, New York, and Burlington, Vermont. These laboratories are certified to conduct project analyses through the New York State Department of Health and the National Environmental Laboratory Accreditation Program.

The data submitted by the laboratory have been reviewed and validated. The analytical data were found to be acceptable for deliverable completeness, accuracy, precision, representativeness, and comparability.

A copy of the data usability summary report is included in Appendix F.

6.0 ANALYTICAL RESULTS

6.1 Groundwater Samples

Validated groundwater sample results from the October 2016 sampling event were tabulated and compared with the results from the previous investigations and to the New York State Class GA Groundwater Standards and Guidance values.

The groundwater results from October 2016 were consistent with those from previous sampling events completed in 2001, 2014, and 2015. Benzene, toluene, ethylbenzene, and xylene (BTEX) compounds were detected at concentrations above the Class GA Standards in samples collected from MW-1, MW-6, MW-7, MW-9 and MW-10. Figure 6 shows a site plan and includes benzene results from the 2001, 2014, 2015, and 2016 groundwater sampling events for wells with at least one result exceeding the Class GA Standard of 1 microgram per liter (µg/L). The highest benzene concentrations detected during 2014, 2015 and 2016 sampling events were in wells MW-6 (92 ug/L) and MW-7 (50 ug/L). Benzene concentrations in these five noted wells remain virtually unchanged when compared to concentrations reported in 2001 samples.

Considering 2014, 2015 and 2016 groundwater results, chlorinated VOCs with concentrations above the Class GA were detected in MW-4 (cis-1,2-dichloroethene, trichloroethene, and vinyl chloride), MW-5 (vinyl chloride), MW-7 (1,2-dichloroethane) and MW-9 (cis-1,2-dichloroethene, vinyl chloride). Figure 7 shows vinyl chloride results from the 2001, 2014, 2015, and 2016 groundwater sampling events for wells with at least one result exceeding the Class GA Standard of 2 µg/L. The highest concentration of vinyl chloride recorded in any well was 7.1 ppb.

SVOCs, primarily PAHs, were detected at concentrations above the Class GA values in five wells: MW-1(biphenyl, naphthalene), MW-6 (biphenyl, naphthalene), MW-7 (2-methylphenol, biphenyl, benzo(a)anthracene, naphthalene), MW-8 (bis(2-ethylhexyl)phthalate) and MW-9 (naphthalene). Figure 8 shows naphthalene results from the 2001, 2014, 2015, and 2016 groundwater sampling events for wells with at least one result exceeding the Class GA Guidance value of 10 µg/L. There was no notable variation in SVOC concentrations when comparing the 2001 values with the more recent three sampling rounds.

All wells sampled contained metals with concentrations exceeding the Class GA standards. Chromium was detected at or above the Class GA Standard in six of the wells. Figure 9 shows chromium results from the 2001, 2014, 2015, and 2016 groundwater sampling events for wells with at least one result exceeding the Class GA Standard of 50 µg/L. Note that there is very limited variation in detected concentrations when comparing the historical data set.

Cyanide was detected at or above the Class GA Standard in 10 monitoring wells (MW-1 through MW-10). Figure 10 shows cyanide results from the 2001, 2014, 2015, 2016 groundwater sampling events for wells with at least one result exceeding the Class GA Standard of 200 µg/L. Cyanide concentrations also show minimal variation when comparing the historical data set.

Although low levels of multiple metals have been detected, concentrations are generally consistent and stable when viewing the historical data set. There is no evidence to suggest a continuing source or migration toward the down gradient site boundary.

6.2 Storm Sewer and Sediment Samples

No VOCs were detected with concentrations exceeding the NYSDEC Class A Surface Water Standards in samples collected at storm sewer influent location SW-36INF (Inlet A) and SW-48INF (Inlet B). Four VOCs (benzene, acetone, cis-1,2-dichloroethene and carbon disulfide) were detected in the effluent from the 36-inch sewer (SW-36EFF/Outlet A). Three of these compounds (benzene, cis-1,2-dichlorothene, and carbon disulfide) were not detected at the influent location. The concentration of benzene in the 36-inch storm sewer effluent (1.5 µg/L) was above the New York State Class A Surface Water Standard of 1 µg/L.

No SVOCs were detected in the surface water samples collected at the storm sewer influent locations. Four PAHs (benzo-a-anthracene, benzo(b)anthracene, fluoranthene, and phenanthrene) were identified in the sediment samples collected from the 36-inch sewer inlet (SW-36INF/Inlet A) and 48-inch sewer inlet (SW-48INF/Inlet B).

7.0 WASTE MANAGEMENT

Seven drums of subsurface soils and drill cuttings were generated during well drilling and installation. One additional drum containing used PVC casings, used decontamination pad materials, and plastic sheeting and one drum (approximately 55 gallons) of decontamination water were generated.

Approximately 55-gallons of purge water was recovered during the October 2016 groundwater sampling event.

The waste from the October 2016 well installation and groundwater sampling events was removed from the Site on November 30, 2016. The waste material was disposed of through Veolia North America at their facility in West Carrollton, Ohio. Copies of the completed waste manifests are included in Appendix G.

8.0 SUMMARY AND CONCLUSIONS

The analytical results from the sampling discussed in this report confirm that the extent of the groundwater that has been impacted by Site COCs is limited in area. The subsurface stratigraphy described on historical reports, and logged during the installation of the two most recent groundwater monitoring wells (2016) confirm the presence of a dense clay layer along the down gradient property line. This subsurface clay restricts the transport of COCs and prevents offsite migration.

The vertical migration of contaminants is restricted by the layer of clay underlying the Site. The results from samples collected from the borings completed for MW-11R and MW-12 indicate that the clay extends to the west and there is no perched groundwater on the west side of the Site. This confirms the findings discussed in the OBG report submitted in May 2001, which concluded that the compounds and concentrations present in the groundwater were indicative of residual contamination rather than from a continuing source and that there is no migration of contaminants to the west.

Recent groundwater sampling results indicate that there has been no significant change in COC concentrations when compared to analytical data collected during the 2001, 2014, and 2015 sampling events.

A review of historical aerial photographs shows that the area where the 36-inch sewer line is currently located was previously an open drainage-way. The borings logs for MW-9 and MW-10 show that there is fill material at those locations to a depth of approximately 10 feet bgs. This is consistent with the depth of the 36-inch sewer and the depth at which the screens were installed in the groundwater monitoring wells. Boring logs for wells MW-1 through MW-8 have not been located.

Groundwater from a limited area of the Site could be migrating into the sewer system. Effluent concentrations from the 36-inch storm sewer indicate the presence of COCs (benzene, cis-1,2-dichloroethene, and carbon disulfide) that are not detected in the influent concentrations; however, only benzene was present at a concentration exceeding the NYS Class A Surface Water Standard.

Multiple rounds of sampling have produced no evidence to show the 36-inch sewer is a conduit for the transportation of any separate-phase chemicals, or any notable amounts or dissolved-phase chemicals. Sufficient site data is available to demonstrate that impacted water is not infiltrating into the sewer. Further, there is no evidence to suggest that chemicals of concern may be concentrating in backfill under the sewer, as there are no notable detections of chemicals of concern in sediments or standing water at the sewer outfall.

The average depth to water measured in the existing site monitoring wells suggests that the static water table is above the invert of the 36-inch storm sewer. Samples of water from the 36-inch sewer outfall were collected on at least four occasions between 1999 and 2016. During the 1999 and 2001 sampling, concentrations of benzene and cis-1,2-dichelroethene (recorded at 6 µg/L and 8 µg/L, respectively, versus Class A Surface Water Standards of 1 µg/L and 5 µg/L) and naphthalene, recorded at 57 µg/L versus a Class A Surface Water Standard of 10 µg/L, were detected. However, samples collected in 2014 and 2016, reported only a single exceedance for benzene, at 1.6 µg/L.

Additionally, DEC and DOH have observed tar boils near the 36-inch sewer outlet, which is located near the Tonawanda Coke Corporation (TCC) / Tonawanda Plastics property boundary. These tar boils have the potential to contribute concentrations of chemicals of concern to surface water which may exceed those potentially being contributed through

the sewer system. Further, TCC holds a State Pollutant Discharge Elimination System (SPDES) permit that allows the discharge of process water to the Niagara River. TCC process water commingles with the discharge from the 36-inch storm sewer prior to entering the river. It appears that the allowable loading of chemicals of concern to the river, per the SPDES permit, may exceed the concentrations of residual chemicals observed on the Tonawanda Plastics property.

The results of the groundwater, storm sewer sampling, and soil vapor intrusion investigation are consistent with past investigations and support closure of this site. There is no evidence that there are continuing sources and there is no defined risk related to activities associated with past operations of the Tonawanda Plastics operations.

The soil vapor intrusion study completed for the office and laboratory building found that there were concentrations of chemical compounds in the indoor air. No connection was found between the groundwater quality and the chemical concentrations detected in the air samples. Further, the inventory identified the presence of similar chemicals stored in the laboratory which could be the source of indoor detections.

9.0 REFERENCES

ERM, 1991. Cleanup Plan Implementation Report, ERM-Northeast, July 1991.

OBG, 2001. Letter to Mr. Timothy DiGiuilio, NYSDEC, Re: Letter to transmit results of sediments sampling, O'Brien and Gere Engineers, Inc., May 31, 2001

OBG, 1999. Investigation Report Re: Former Allied Specialty Chemical Site, O'Brien and Gere Engineers, Inc., November 9, 1999.

OBG, 2002. Letter to Mr. Bruce Terbush, NYSDEC, Re: Additional Investigation/IRM Activities – Former Allied Specialty Chemical Site, February 19, 2002.

Parsons, 2015. Investigation Summary Report, Tonawanda Plastics EPA ID NYD051816262, Parsons Inc., December 2015.

FIGURES

N

RIVER ROAD

SITE

266

SAWYER AVE

NEW YORK

Site

Aerial Source: Esri Basemap

PARSONS

FIGURE 1: SITE LOCATION MAP
Tonawanda Plastics Site
Tonawanda, NY

0 300 600 1,200 Feet

1 inch equals 600 feet

Y, Rappaport	3/7/2017	
Revision: 3/7/2017	Figure No.: 1	Parsons Project No. 450115.02400
File Name: Site_location_YR_20170307.mxd		

C:\Users\p0084374\Documents_BTS\PE\Tonawanda\MXD\Site_location_YR_20170307.mxd

PARSONS

FIGURE 2: SITE PLAN
Tonawanda Plastics Site
Tonawanda, NY

0 37.5 75 150 Feet

1 inch equals 75 feet

Y, Rappaport	3/7/2017	
Revision: 3/7/2017	Figure No.: 2	Parsons Project No. 450115.02400
File Name: Site_Plan_YR_20170307.mxd		

C:\Users\p0084374\Documents_BTS\PE\Tonawanda\MXD\Site_Plan_YR_20170307.mxd

Aerial Source: Esri Basemap

Note: Groundwater elevations based on site datum

PARSONS

FIGURE 3: GROUNDWATER POTENTIOMETRIC SURFACE MAP, OCTOBER 24, 2016
Tonawanda Plastics Site
Tonawanda, NY

0 20 40 80 Feet

1 inch equals 40 feet

Y. Rappaport	3/8/2017	
Revision: 3/8/2017	Figure No.: 3	Parsons Project No. 450115.02400
File Name: Site_location_WL_YR_20170116.mxd		

C:\Users\p0084374\Documents_BTSYPE\Tonawanda\MXD\Site_location_WL_YR_20170116.mxd

N

36" STORMSEWER

8" STORMSEWER

48" STORMSEWER

BLDG. 4 & 5 WAREHOUSE

EXTRUDER WAREHOUSE

STORES & MACHINE SHOP

STORAGE

OFFICE BLDG.

UNITS 4 & 5

FORMER PIT

LOCKER BLDG.

MW-12R
566.23

MW-4
578.13

MW-3
577.43

MW-2
578.06

MW-6
576.27

MW-1
577.47

MW-8
581.73

MW-9
577.84

MW-7
576.28

MW-11R
569.01

MW-5
580.15

MW-10
578.07

578

577

575

581

580

579

578

577

576

575

576

578

LEGEND

580.15 Groundwater Elevation (FT)
Groundwater Monitoring Wells

Groundwater Flow Direction

Water Level Contours (01/23/2017)

Storm Sewer

Building Footprint

Property Boundary

Aerial Source: Esri Basemap

Note: Groundwater elevations based on site datum

PARSONS

FIGURE 4: GROUNDWATER POTENTIOMETRIC SURFACE MAP, JANUARY 23, 2017
Tonawanda Plastics Site
Tonawanda, NY

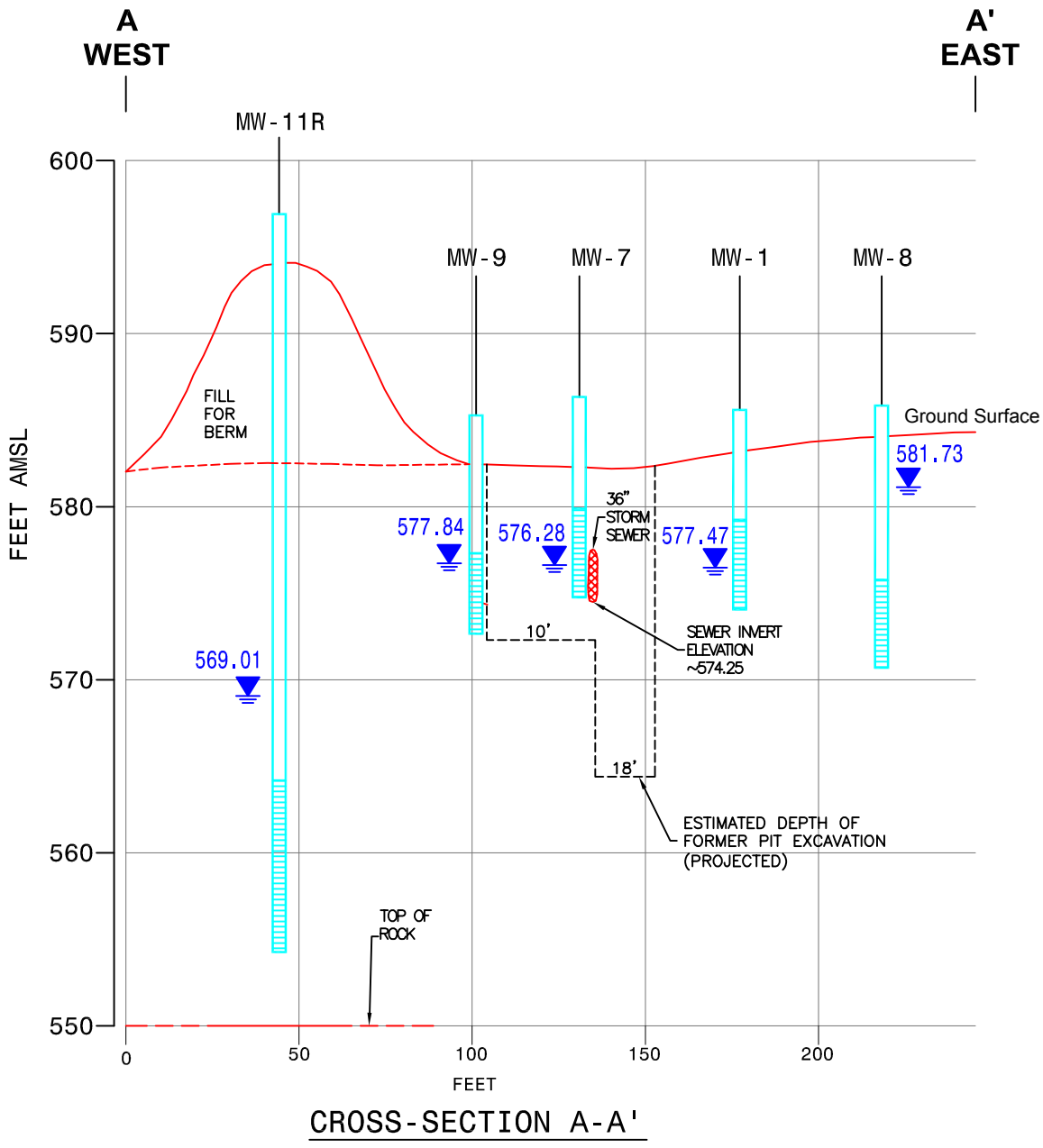
0 20 40 80 Feet

1 inch equals 40 feet

Y, Rappaport	3/8/2017	
Revision: 3/8/2017	Figure No.: 4	Parsons Project No. 450115.02400

File Name: Site_location_WL_YR_20170123.mxd

C:\Users\p0084374\Documents_BTS\PE\Tonawanda\MXD\Site_location_WL_YR_20170123.mxd



CROSS-SECTION A-A'

LEGEND

STORM SEWER

SCREENED INTERVAL

JANUARY 2017 WATER LEVEL ELEVATION (FT AMSL)

10
0
50

VERTICAL SCALE: 1" = 10 FT
HORIZONTAL SCALE: 1" = 50 FT

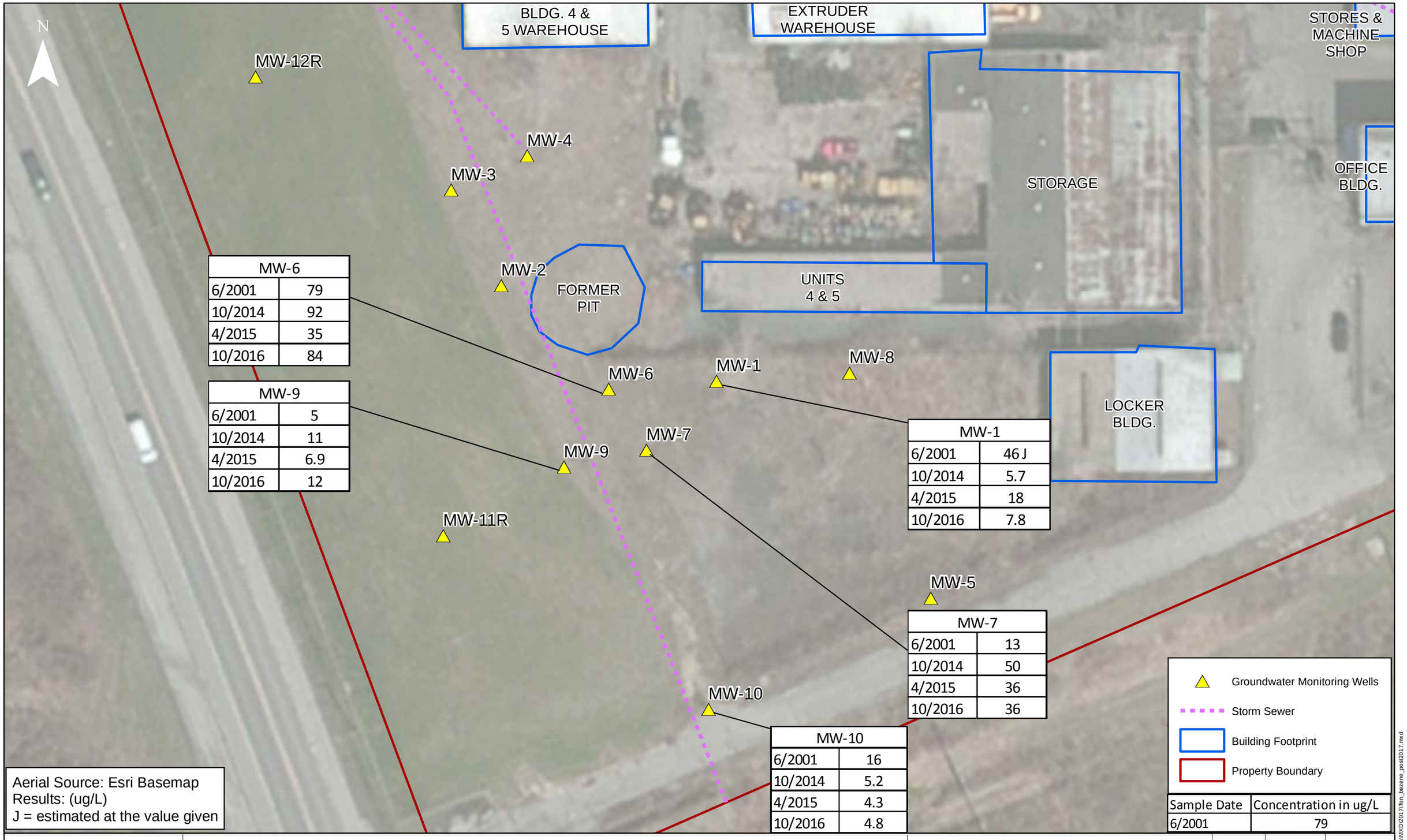
HONEYWELL TONAWANDA PLASTICS

FIGURE 5

CROSS SECTION A-A'

PARSONS
40 LA RIVIERE DRIVE, SUITE 350, BUFFALO. NEW YORK 14202 PHONE: 716-541-0730

450115.02400
P:\HONEYWELL_TONAWANDA_PLASTICS\CAD\HONEYWELL_TONAWANDA_PLASTICS_A-A'_022217.DWG



PARSONS

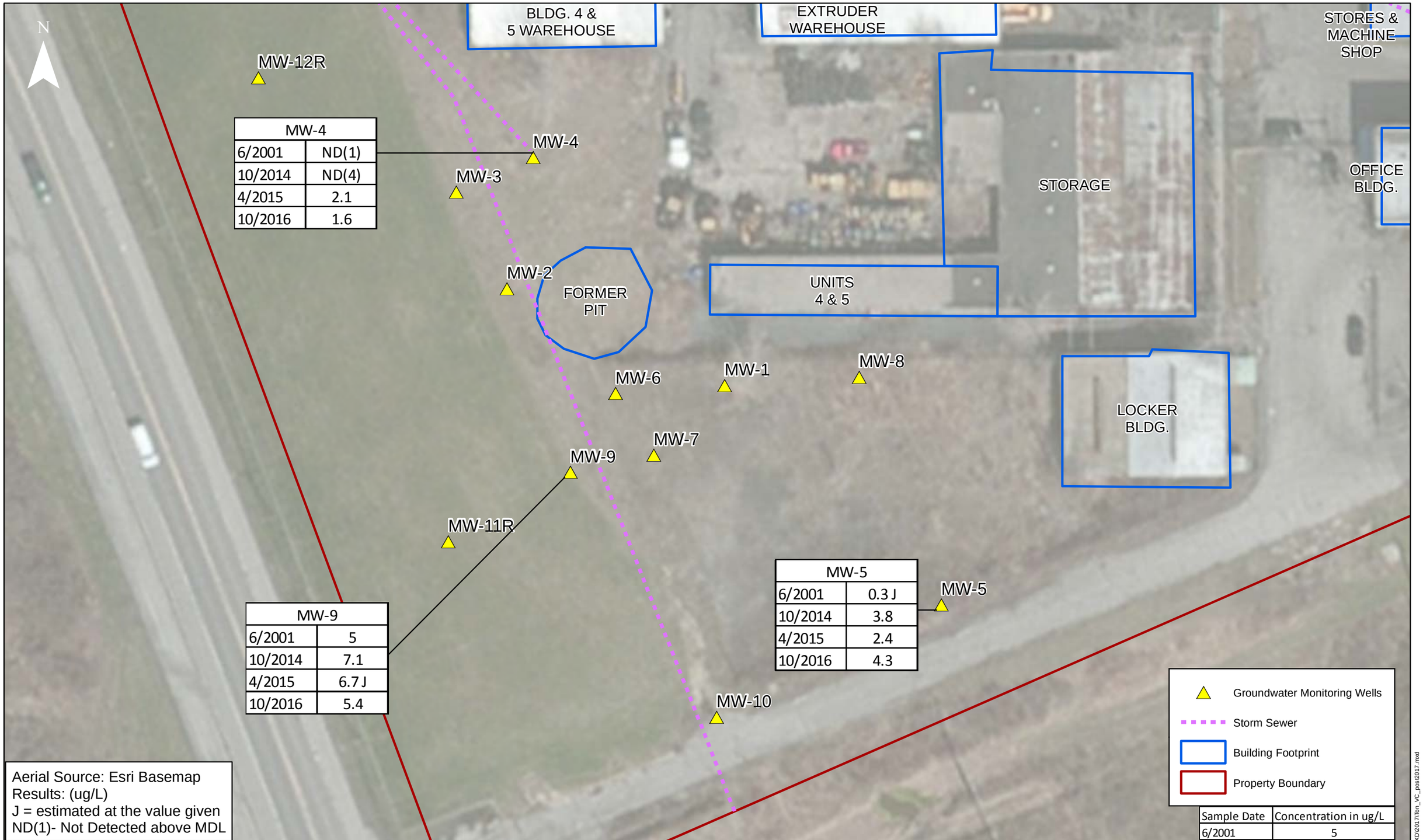
Figure 6 Benzene Concentrations Exceeding
Class GA Standard (1 ug/L) in Groundwater
Tonawanda Plastics Site
Tonawanda, NY

Feet
0 37.5 75
1 inch equals 37 feet

C. Oneal	3/8/2017	
Revision: 3/8/2017	Figure No.: 6	Parsons Project No. 448965.01100

File Name: Ton_bezene_post2017.mxd

D:\GIS\Honeywell\Tonawanda\MXD\2017\Ton_bezene_post2017.mxd



Aerial Source: Esri Basemap
Results: (ug/L)
J = estimated at the value given
ND(1)- Not Detected above MDL

PARSONS

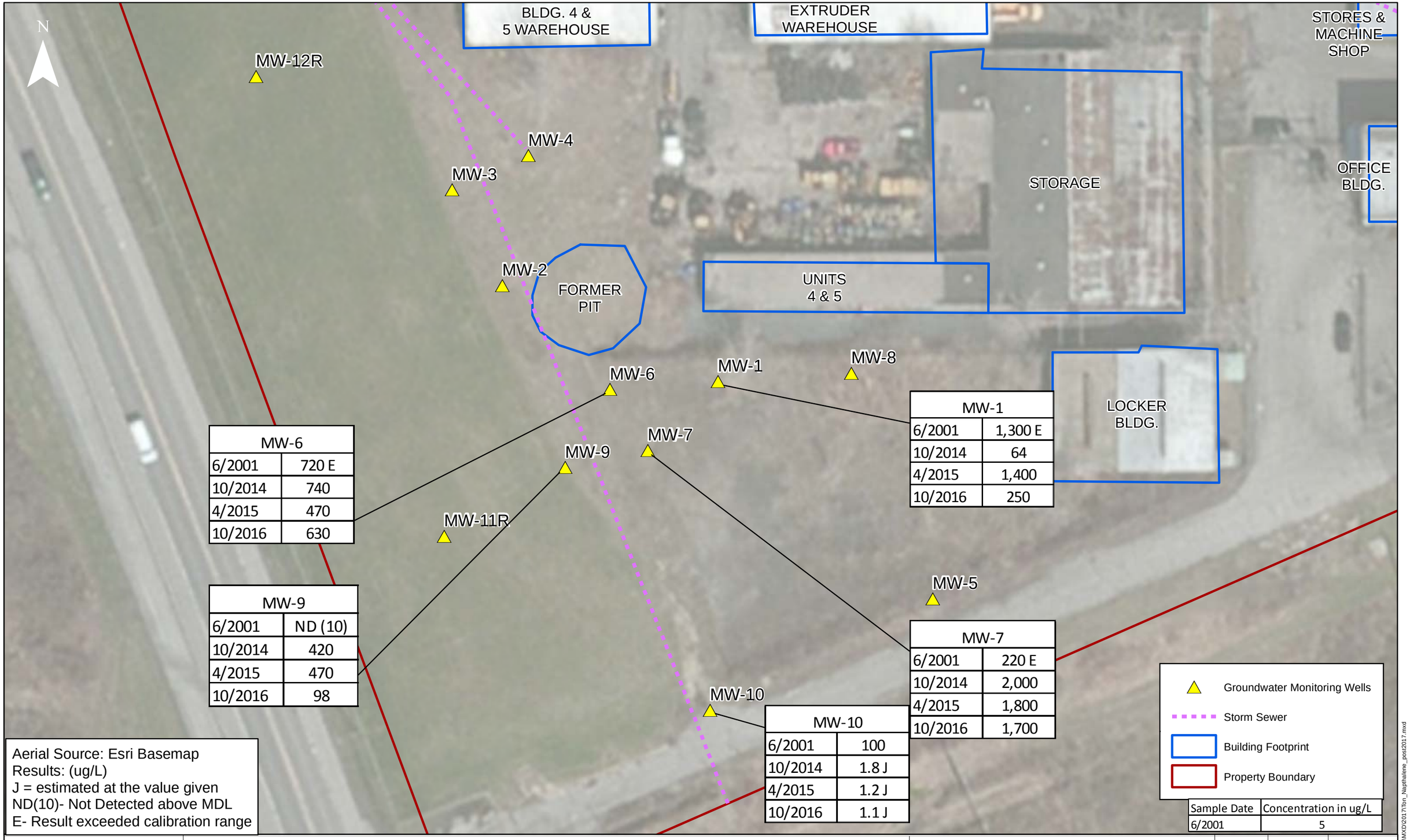
Figure 7 Vinyl Chloride Concentrations Exceeding Class GA Standard (2 ug/L) in Groundwater
Tonawanda Plastics Site
Tonawanda, NY

0 37.5 75 Feet
1 inch equals 37 feet

C. Oneal	3/8/2017	
Revision: 3/8/2017	Figure No.: 7	Parsons Project No. 450115.02400

File Name: Ton_VC_post2017.mxd

D:\GIS\Honeywell\Tonawanda\MXD\2017\Ton_VC_post2017.mxd



MW-6	
6/2001	720 E
10/2014	740
4/2015	470
10/2016	630

MW-1	
6/2001	1,300 E
10/2014	64
4/2015	1,400
10/2016	250

MW-9	
6/2001	ND (10)
10/2014	420
4/2015	470
10/2016	98

MW-7	
6/2001	220 E
10/2014	2,000
4/2015	1,800
10/2016	1,700

MW-10	
6/2001	100
10/2014	1.8 J
4/2015	1.2 J
10/2016	1.1 J

PARSONS

Figure 8 Naphthalene Concentrations Exceeding Class GA Guidance (10 ug/L) in Groundwater Tonawanda Plastics Site Tonawanda, NY

0 37.5 75 Feet

1 inch equals 37 feet

C. Oneal	3/8/2017	
Revision: 3/8/2017	Figure No.: 8	Parsons Project No. 450115.02400

File Name: Ton_Naphthalene_post2017.mxd

D:\GIS\Honeywell\Tonawanda\MXD\2017\Ton_Naphthalene_post2017.mxd

PARSONS

Figure 9 Chromium Concentrations Exceeding Class GA Standard (50 ug/L) in Groundwater
Tonawanda Plastics Site
Tonawanda, NY

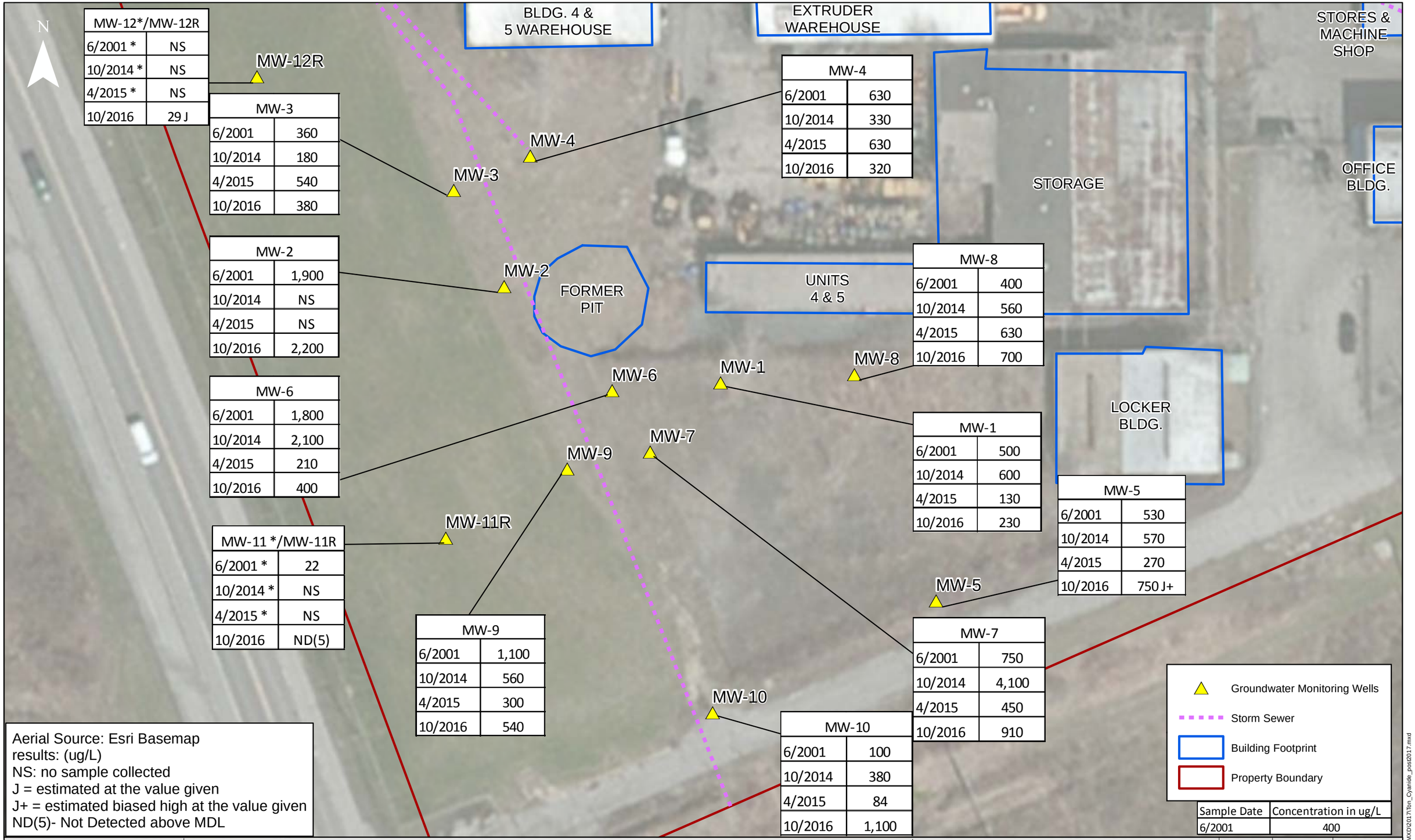
0 37.5 75 Feet

1 inch equals 37 feet

C. Oneal	3/8/2017	
Revision: 3/8/2017	Figure No.: 9	Parsons Project No. 450115.02400

File Name: Ton_Cr_post2017.mxd

D:\GIS\Honeywell\Tonawanda\MXD\2017\Ton_Cr_post2017.mxd



Aerial Source: Esri Basemap
results: (ug/L)
NS: no sample collected
J = estimated at the value given
J+ = estimated biased high at the value given
ND(5)- Not Detected above MDL

PARSONS

Figure 10 Cyanide Concentrations Exceeding Class GA Standard (200 ug/L) in Groundwater
Tonawanda Plastics Site
Tonawanda, NY

0 37.5 75 Feet
1 inch equals 37 feet

C. Oneal	3/8/2017	
Revision: 3/8/2017	Figure No.: 10	Parsons Project No. 450115.02400

File Name: Ton_Cyanide_post2017.mxd

D:\GIS\Honeywell\Tonawanda\MXD\2017\Ton_Cyanide_post2017.mxd

TABLES

TABLE 1
TONAWANDA PLASTICS
GROUNDWATER ANALYTICAL RESULTS
JUNE 2001, OCTOBER 2014, APRIL 2015, OCTOBER 2016
Volatile Organic Compounds

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [(1)]	Location ID: Sample ID: Lab Sample Id: Matrix: Sampled: Validated:	MW-1 6/5/2001	MW-1 MW-1_2014-10-07 480-68758-2 WATER 10/7/2014	MW-1 MW-1_2015-04-22 480-78955-4 WATER 4/22/2015	MW-1 TP-0001-02 WATER 10/24/2016	MW-2 MW-2-2015-04-23 480-79068-4 WATER 4/23/2015	MW-2 TP-0002-07 WATER 10/25/2016
CAS NO.	COMPOUND		UNITS:						
	VOLATILES								
	BTEX								
71-43-2	Benzene	1	ug/L	46 J	5.7	18	7.8	ND(1)	ND(1)
100-41-4	Ethylbenzene	5	ug/L	14 J	ND(4)	6.9	2.8	ND(1)	ND(1)
108-88-3	Toluene	5	ug/L	17 J	ND(4)	8.5	2.5	ND(1)	ND(1)
1330-20-7	Xylenes, Total	5	ug/L	86	ND(8)	46	12	ND(2)	ND(2)
	OTHER VOLATILES								
67-64-1	Acetone	50 (G)	ug/L	ND(1000)	20 J	6.8 J	18	ND(10)	ND(10) J
75-15-0	Carbon disulfide	--	ug/L	15J	ND(4)	5.1 J	0.7 J	ND(1)	0.2 J
75-34-3	1,1-Dichloroethane	5	ug/L	-	ND(4)	ND(1)	0.47 J	ND(1)	ND(1)
107-06-2	1,2-Dichloroethane	0.6	ug/L	-	ND(4)	ND(1)	ND(1)	ND(1)	ND(1)
156-59-2	cis-1,2-Dichloroethene	5	ug/L	ND(50)	ND(4)	ND(1)	ND(1)	ND(1)	ND(1)
98-82-8	Isopropylbenzene	5	ug/L	-	ND(4)	1.2	ND(1)	ND(1)	ND(1)
110-82-7	Cyclohexane	--	ug/L	-	ND(4)	ND(1)	ND(1)	ND(1)	ND(1)
75-09-2	Methylene Chloride	5	ug/L	ND(200)	ND(4)	ND(1)	ND(1)	ND(1)	ND(1)
79-01-6	Trichloroethene	5	ug/L	ND(50)	ND(4)	0.57 J	ND(1)	ND(1)	ND(1)
75-01-4	Vinyl chloride	2	ug/L	ND(100)	ND(4)	ND(1)	ND(1)	ND(1)	ND(1)

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [(1)]	Location ID: Sample ID: Lab Sample Id: Matrix: Sampled: Validated:	MW-3 6/9/2001	MW-3 MW-3_2014-10-07 480-68758-4 WATER 10/7/2014	MW-3 TP-0002-04 WATER 10/25/2016	MW-4 06/09/2001	MW-4 MW-4_2014-10-07 480-68758-9 WATER 10/07/2014	MW-4 MW-4-2015-04-23 480-79068-3 WATER 04/23/2015	MW-4 TP-0001-04 WATER 10/24/2016
CAS NO.	COMPOUND		UNITS:							
	VOLATILES									
	BTEX									
71-43-2	Benzene	1	ug/L	0.1 J	ND(4)	ND(1)	ND(0.5)	ND(4)	0.81	ND(1)
100-41-4	Ethylbenzene	5	ug/L	ND(0.5)	ND(4)	ND(1)	ND(0.5)	ND(4)	ND(1)	ND(1)
108-88-3	Toluene	5	ug/L	ND(0.5)	ND(4)	ND(1)	ND(0.5)	ND(4)	ND(1)	ND(1)
1330-20-7	Xylenes, Total	5	ug/L	ND(0.5)	ND(8)	ND(2)	ND(0.5)	ND(8)	ND(2)	ND(2)
	OTHER VOLATILES									
67-64-1	Acetone	50 (G)	ug/L	6 J	ND(40)	4.5 J	3 J	ND(40)	ND(5)	ND(10)
75-15-0	Carbon disulfide	--	ug/L	ND(0.5)	ND(4)	ND(1)	ND(0.5)	ND(4)	ND(1)	ND(1)
75-34-3	1,1-Dichloroethane	5	ug/L	-	ND(4)	ND(1)	-	ND(4)	ND(1)	ND(1)
107-06-2	1,2-Dichloroethane	0.6	ug/L	-	ND(4)	ND(1)	-	ND(4)	ND(1)	ND(1)
156-59-2	cis-1,2-Dichloroethene	5	ug/L	20	ND(4)	ND(1)	ND(0.5)	15	6	50
98-82-8	Isopropylbenzene	5	ug/L	-	ND(4)	ND(1)	-	ND(4)	ND(1)	ND(1)
110-82-7	Cyclohexane	--	ug/L	-	ND(4)	ND(1)	-	ND(4)	ND(1)	ND(1)
75-09-2	Methylene Chloride	5	ug/L	ND(2)	ND(4)	ND(1)	0.4 J	ND(4)	ND(1)	ND(1)
79-01-6	Trichloroethene	5	ug/L	6	ND(4)	ND(1)	ND(0.5)	ND(4)	0.53 J	5.9
75-01-4	Vinyl chloride	2	ug/L	0.7 J	ND(4)	ND(1)	ND(1)	ND(4)	2.1	1.6

TABLE 1
TONAWANDA PLASTICS
GROUNDWATER ANALYTICAL RESULTS
JUNE 2001, OCTOBER 2014, APRIL 2015, OCTOBER 2016
Volatile Organic Compounds

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Matrix: Sampled: Validated:	MW-5 6/7/2001	MW-5 MW-5_2014-10-07 480-68883-1 WATER 10/7/2014	MW-5 MW-5_2014-10-07 480-68883-1 WATER 10/7/2014	MW-5 TP-0002-03 WATER 10/25/2016	MW-6 6/6/2001	MW-6 MW-6_2014-10-07 480-68758-5 WATER 10/7/2014	MW-6 MW-6_2015-04-22 480-78955-5 WATER 4/22/2015	MW-6 TP-0002-08 WATER 10/25/2016
CAS NO.	COMPOUND		UNITS:								
	VOLATILES										
	BTEX										
71-43-2	Benzene	1	ug/L	ND(0.5)	ND(1)	ND(1)	ND(1)	79	92	35	84
100-41-4	Ethylbenzene	5	ug/L	ND(0.5)	ND(1)	ND(1)	ND(1)	17 J	26	16	20
108-88-3	Toluene	5	ug/L	0.1 J	ND(1)	ND(1)	ND(1)	ND(50)	6.7	4.1	7.8 J
1330-20-7	Xylenes, Total	5	ug/L	ND(0.5)	ND(2)	ND(2)	ND(2)	49 J	43	23	24
	OTHER VOLATILES										
67-64-1	Acetone	50 (G)	ug/L	10 J	ND(10)	ND(10)	3.9 J	ND(1000)	ND(40)	ND(10)	ND(100) J
75-15-0	Carbon disulfide	--	ug/L	ND(0.5)	0.3 J	0.61 J	0.22 J	12 J	18	24 J	28
75-34-3	1,1-Dichloroethane	5	ug/L	-	ND(1)	ND(1)	ND(1)	-	ND(4)	ND(1)	ND(10)
107-06-2	1,2-Dichloroethane	0.6	ug/L	-	ND(1)	ND(1)	ND(1)	-	ND(4)	ND(1)	ND(10)
156-59-2	cis-1,2-Dichloroethene	5	ug/L	2	0.87 J	ND(1)	1	ND(50)	ND(4)	2.8	ND(10)
98-82-8	Isopropylbenzene	5	ug/L	-	ND(1)	ND(1)	ND(1)	-	ND(4)	1.3	ND(10)
110-82-7	Cyclohexane	--	ug/L	-	ND(1)	ND(1)	ND(1)	-	ND(4)	ND(1)	ND(10)
75-09-2	Methylene Chloride	5	ug/L	ND(2)	ND(1)	ND(1)	ND(1)	14 J	ND(4)	ND(1)	ND(10)
79-01-6	Trichloroethene	5	ug/L	0.7	0.96 J	2	2.6	ND(50)	4.1	3.6	ND(10)
75-01-4	Vinyl chloride	2	ug/L	0.3 J	3.8	2.4	4.3	ND(100)	ND(4)	ND(1)	ND(10)

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Matrix: Sampled: Validated:	MW-7 6/6/2001	MW-7 MW-7_2014_10_06 480-68673-1 WATER 10/6/2014	MW-7 MW-7-2015-04-23 480-79068-2 WATER 4/23/2015	MW-7 TP-0001-03 WATER 10/24/2016	MW-8 6/5/2001	MW-8 MW-8_2014-10-07 480-68758-3 WATER 10/7/2014	MW-8 MW-8-2015-04-23 480-79068-6 WATER 4/23/2015	MW-8 TP-0001-01 WATER 10/24/2016
CAS NO.	COMPOUND		UNITS:								
	VOLATILES										
	BTEX										
71-43-2	Benzene	1	ug/L	13	50	36	36	ND(5)	ND(4)	ND(1)	ND(1)
100-41-4	Ethylbenzene	5	ug/L	2 J	8.8	7.2	ND(10)	ND(5)	ND(4)	ND(1)	ND(1)
108-88-3	Toluene	5	ug/L	4 J	10	12	12	ND(5)	ND(4)	ND(1)	ND(1)
1330-20-7	Xylenes, Total	5	ug/L	9	45	44	34	ND(5)	ND(8)	ND(2)	ND(2)
	OTHER VOLATILES										
67-64-1	Acetone	50 (G)	ug/L	14 J	18 J	ND(40)	82 J	4 J	ND(40)	ND(10)	ND(10)
75-15-0	Carbon disulfide	--	ug/L	13	130	97	110	ND(0.5)	ND(4)	ND(1)	ND(1)
75-34-3	1,1-Dichloroethane	5	ug/L	-	ND(4)	ND(4)	ND(10)		ND(4)	1.1	1.6
107-06-2	1,2-Dichloroethane	0.6	ug/L	-	ND(4)	1.4J	ND(10)		ND(4)	ND(1)	ND(1)
156-59-2	cis-1,2-Dichloroethene	5	ug/L	ND(5)	ND(4)	ND(4)	ND(10)	0.8	ND(4)	0.98 J	2
98-82-8	Isopropylbenzene	5	ug/L	-	ND(4)	ND(4)	ND(10)		ND(4)	ND(1)	ND(1)
110-82-7	Cyclohexane	--	ug/L	-	ND(4)	ND(4)	ND(10)	NA	ND(4)	ND(1)	ND(1)
75-09-2	Methylene Chloride	5	ug/L	2 J	ND(4)	ND(4)	ND(10)	ND(2)	ND(4)	ND(1)	ND(1)
79-01-6	Trichloroethene	5	ug/L	ND (5)	ND(4)	ND(4)	ND(10)	0.2 J	ND(4)	ND(1)	ND(1)
75-01-4	Vinyl chloride	2	ug/L	ND (10)	ND(4)	ND(4)	ND(10)	ND(1)	ND(4)	ND(1)	ND(1)

TABLE 1
TONAWANDA PLASTICS
GROUNDWATER ANALYTICAL RESULTS
JUNE 2001, OCTOBER 2014, APRIL 2015, OCTOBER 2016
Volatile Organic Compounds

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Matrix: Sampled: Validated:	MW-9 6/6/2001	MW-9 MW-9_2014_10_06 480-68673-2 WATER 10/6/2014	MW-9 MW-9_2015-04-22 480-78955-7 WATER 4/22/2015	MW-9 TP-0001-05 WATER 10/24/2016	MW-10 6/5/2001	MW-10 MW-10_2014-10-07 480-68758-1 WATER 10/7/2014	MW-10 MW-10_2015-04-22 480-78955-6 WATER 4/22/2015	MW-10 TP-0002-02 WATER 10/25/2016
CAS NO.	COMPOUND		UNITS:								
	VOLATILES										
	BTEX										
71-43-2	Benzene	1	ug/L	5	11	6.9	12	16	5.2	4.3	4.8
100-41-4	Ethylbenzene	5	ug/L	7	13	14	5.3	1 J	ND(4)	ND(1)	ND(1)
108-88-3	Toluene	5	ug/L	1 J	ND(4)	ND(4)	0.51 J	3 J	ND(4)	ND(1)	ND(1)
1330-20-7	Xylenes, Total	5	ug/L	5	ND(8)	9.1	2	5	ND(8)	ND(2)	ND(2)
	OTHER VOLATILES										
67-64-1	Acetone	50 (G)	ug/L	ND(20)	ND(40)	ND(40)	ND(10)	ND(100)	25 J	8.9	ND(10)
75-15-0	Carbon disulfide	--	ug/L	ND(1)	ND(4)	ND(4) J	ND(1)	ND(5)	ND(4)	ND(1)	ND(1)
75-34-3	1,1-Dichloroethane	5	ug/L	-	ND(4)	ND(4)	ND(1)	ND(5)	ND(4)	ND(1)	ND(1)
107-06-2	1,2-Dichloroethane	0.6	ug/L	-	ND(4)	ND(4)	ND(1)	ND(5)	ND(4)	ND(1)	ND(1)
156-59-2	cis-1,2-Dichloroethene	5	ug/L	8	13	8.9	8.5	ND(5)	ND(4)	ND(1)	2.5
98-82-8	Isopropylbenzene	5	ug/L	-	ND(4)	ND(4)	0.84 J	ND(5)	ND(4)	ND(1)	ND(1)
110-82-7	Cyclohexane	--	ug/L	-	5.6	ND(4)	6	NA	ND(4)	ND(1)	ND(1)
75-09-2	Methylene Chloride	5	ug/L	0.4 J	ND(4)	ND(4)	ND(1)	ND(20)	ND(4)	ND(1)	ND(1)
79-01-6	Trichloroethene	5	ug/L	2	ND(4)	1.9 J	0.52 J	ND(5)	ND(4)	ND(1)	ND(1)
75-01-4	Vinyl chloride	2	ug/L	5	7.1	6.7 J	5.4	ND(10)	ND(4)	ND(1)	ND(1)

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Matrix: Sampled: Validated:	MW-11 6/7/2001	MW-11R TP-0003-02 WATER 10/26/2016	MW-12R TP-0002-06 WATER 10/25/2016
CAS NO.	COMPOUND		UNITS:			
	VOLATILES					
	BTEX					
71-43-2	Benzene	1	ug/L	0.6	ND(1)	ND(1)
100-41-4	Ethylbenzene	5	ug/L	ND(5)	ND(1)	ND(1)
108-88-3	Toluene	5	ug/L	0.1J	ND(1)	ND(1)
1330-20-7	Xylenes, Total	5	ug/L	0.1J	ND(2)	ND(2)
	OTHER VOLATILES					
67-64-1	Acetone	50 (G)	ug/L	6J	ND(10) J	ND(10) J
75-15-0	Carbon disulfide	--	ug/L	ND(0.5)	ND(1)	ND(1)
75-34-3	1,1-Dichloroethane	5	ug/L	-	ND(1)	ND(1)
107-06-2	1,2-Dichloroethane	0.6	ug/L	-	ND(1)	ND(1)
156-59-2	cis-1,2-Dichloroethene	5	ug/L	1	ND(1)	ND(1)
98-82-8	Isopropylbenzene	5	ug/L	-	ND(1)	ND(1)
110-82-7	Cyclohexane	--	ug/L	-	ND(1)	ND(1)
75-09-2	Methylene Chloride	5	ug/L	0.1J	ND(1)	ND(1)
79-01-6	Trichloroethene	5	ug/L	2	ND(1)	ND(1)
75-01-4	Vinyl chloride	2	ug/L	0.3J	ND(1)	ND(1)

Notes:

	Indicates concentration exceeds standard or guidance value.
(G)	Indicates guidance value.
NS	No standard or guidance value available.
ND(4)	Indicates compound was not detected (detection limt)
J	Indicates an estimated concentration.
ug/L	micrograms per liter
(1)	taken from NYSDEC TOGs 1.1.1

TABLE 2
TONAWANDA PLASTICS
GROUNDWATER ANALYTICAL RESULTS
JUNE 2001, OCTOBER 2014, APRIL 2015, OCTOBER 2016
Semivolatile Organic Compounds

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Source: SDG: Matrix: Sampled: Validated:	MW-1 6/5/2001	MW-1 MW-1_2014-10-07 TAL-BUFF 480-68758 WATER 10/7/2014	MW-1 MW-1_2015-04-22 TAL-BUFF 480-78955-1 WATER 4/22/2015	MW-1 TP-0001-02 TAL-BUFF 480-108321-1 WATER 10/24/2016	MW-2 MW-2-2015-04-23 TAL-BUFF 480-79068-1 WATER 4/23/2015	MW-2 TP-0002-07 TAL-BUFF 480-108378-1 WATER 10/25/2016
CAS NO.	COMPOUND		UNITS:						
	SEMIVOLATILES								
95-48-7	2-Methylphenol	1	ug/L	4 J	ND(4.6)	ND(480)	0.83 J	ND(4.9)	ND(6.2)
98-86-2	Acetophenone	--	ug/L	NA	ND(4.6)	ND(480)	4.5 J	ND(4.9)	ND(6.2)
100-52-7	Benzaldehyde	--	ug/L	NA	ND(4.6)	ND(480) J	ND(5.2)	ND(4.9)	ND(6.2)
92-52-4	Biphenyl	5	ug/L	NA	11	ND(480)	7.4	ND(4.9)	ND(6.2)
117-81-7	Bis(2-ethylhexyl) phthalate	5	ug/L	ND(5)	ND (4.6)	ND(480)	ND(5.2)	ND(4.9)	ND(6.2)
86-74-8	Carbazole	--	ug/L	67	27	34 J	18	ND(4.9)	ND(6.2)
132-64-9	Dibenzofuran	--	ug/L	25	7.2 J	ND(970)	5.8 J	ND(9.7)	ND(12)
84-74-2	Di-n-butyl phthalate	50	ug/L	-	ND(4.6)	ND(480)	ND(5.2)	ND(4.9)	ND(6.2)
	PAHs								
91-57-6	2-Methylnaphthalene	--	ug/L	200E	6.3	120 J	19	ND(4.9)	ND(6.2)
83-32-9	Acenaphthene	20 (G)	ug/L	12	6.4	ND(480)	5 J	ND(4.9)	ND(6.2)
208-96-8	Acenaphthylene	--	ug/L	10J	8.2	ND(480)	5.7	ND(4.9)	ND(6.2)
120-12-7	Anthracene	50 (G)	ug/L	5J	4 J	ND(480)	ND(5.2)	ND(4.9)	ND(6.2)
56-55-3	Benzo(a)anthracene	0.002 (G)	ug/L	ND(5)	ND(4.6)	ND(480)	ND(5.2)	ND(4.9)	ND(6.2)
205-99-2	Benzo(b)fluoranthene	0.002 (G)	ug/L	ND(10)	ND(4.6)	ND(480)	ND(5.2)	ND(4.9)	ND(6.2)
191-24-2	Benzo(g,h,i)perylene	--	ug/L	ND(10)	ND(4.6)	ND(480)	ND(5.2)	ND(4.9)	ND(6.2)
206-44-0	Fluoranthene	50 (G)	ug/L	3J	1.7 J	ND(480)	1.2 J	ND(4.9)	ND(6.2)
86-73-7	Fluorene	50 (G)	ug/L	41	23	ND(480)	17	ND(4.9)	ND(6.2)
91-20-3	Naphthalene	10 (G)	ug/L	1300E	64	1400	250	ND(4.9)	ND(6.2)
85-01-8	Phenanthrene	50 (G)	ug/L	30	20	ND(480)	11	ND(4.9)	ND(6.2)
129-00-0	Pyrene	50 (G)	ug/L	3J	1.9 J	ND(480)	1.4 J	ND(4.9)	ND(6.2)

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	MW-3 6/9/2001	MW-3 MW-3_2014-10-07 480-68758-4 TAL-BUFF 480-68758 WATER 10/7/2014	MW-3 MW-3_2015-04-22 480-78955-3 TAL-BUFF 480-78955-1 WATER 4/22/2015	MW-3 TP-0002-04 TAL-BUFF 480-108378-1 WATER 10/25/2016	MW-4 6/9/2001	MW-4 MW-4_2014-10-07 480-68758-9 TAL-BUFF 480-68758 WATER 10/7/2014	MW-4 MW-4-2015-04-23 480-79068-3 TAL-BUFF 480-79068-1 WATER 4/23/2015	MW-4 TP-0001-04 TAL-BUFF 480-108321-1 WATER 10/24/2016
CAS NO.	COMPOUND		UNITS:								
	SEMIVOLATILES										
95-48-7	2-Methylphenol	1	ug/L	ND(10)	ND(4.7)	ND (4.8)	ND(5)	ND(5)	ND(4.8)	ND(4.8)	ND(4.7)
98-86-2	Acetophenone	--	ug/L	NA	ND(4.7)	ND (4.8)	ND(5)	NA	ND(4.8)	ND(4.8)	ND(4.7)
100-52-7	Benzaldehyde	--	ug/L	NA	ND(4.7)	ND (4.8)	ND(5)	NA	ND(4.8)	ND(4.8)	ND(4.7)
92-52-4	Biphenyl	5	ug/L	NA	ND(4.7)	ND (4.8)	ND(5)	NA	ND(4.8)	ND(4.8)	ND(4.7)
117-81-7	Bis(2-ethylhexyl) phthalate	5	ug/L	14	ND(4.7)	ND (4.8)	ND(5)	10	ND(4.8)	ND(4.8)	2.8
86-74-8	Carbazole	--	ug/L	ND(10)	ND(4.7)	ND (4.8)	ND(5)	ND(10)	ND(4.8)	ND(4.8)	ND(4.7)
132-64-9	Dibenzofuran	--	ug/L	ND(5)	ND(9.5)	ND(9.5)	ND(10)	ND(5)	ND(9.5)	ND (9.6)	ND(9.5)
84-74-2	Di-n-butyl phthalate	50	ug/L	-	ND(4.7)	ND(4)	ND(5)	-	ND(4.8)	ND(4.8)	ND(4.7)
	PAHs										
91-57-6	2-Methylnaphthalene	--	ug/L	ND(10)	ND(4.7)	ND (4.8)	ND(5)	ND(10)	ND(4.8)	ND(4.8)	ND(4.7)
83-32-9	Acenaphthene	20 (G)	ug/L	ND(10)	ND(4.7)	ND (4.8)	ND(5)	ND(10)	ND(4.8)	ND(4.8)	ND(4.7)
208-96-8	Acenaphthylene	--	ug/L	ND(10)	ND(4.7)	ND (4.8)	ND(5)	ND(10)	ND(4.8)	ND(4.8)	ND(4.7)
120-12-7	Anthracene	50 (G)	ug/L	ND(10)	ND(4.7)	ND (4.8)	ND(5)	ND(10)	ND(4.8)	ND(4.8)	ND(4.7)
56-55-3	Benzo(a)anthracene	0.002 (G)	ug/L	ND(5)	ND(4.7)	ND (4.8)	ND(5)	ND(5)	ND(4.8)	ND(4.8)	ND(4.7)
205-99-2	Benzo(b)fluoranthene	0.002 (G)	ug/L	ND(10)	ND(4.7)	ND (4.8)	ND(5)	ND(10)	ND(4.8)	ND(4.8)	ND(4.7)
191-24-2	Benzo(g,h,i)perylene	--	ug/L	ND(10)	ND(4.7)	ND (4.8)	ND(5)	ND(10)	ND(4.8)	ND(4.8)	ND(4.7)
206-44-0	Fluoranthene	50 (G)	ug/L	ND(10)	ND(4.7)	ND (4.8)	ND(5)	ND(10)	ND(4.8)	ND(4.8)	ND(4.7)
86-73-7	Fluorene	50 (G)	ug/L	ND(10)	ND(4.7)	ND (4.8)	ND(5)	ND(10)	ND(4.8)	ND(4.8)	ND(4.7)
91-20-3	Naphthalene	10 (G)	ug/L	ND(10)	ND(4.7)	ND (4.8)	ND(5)	ND(10)	ND(4.8)	ND(4.8)	ND(4.7)
85-01-8	Phenanthrene	50 (G)	ug/L	ND(10)	ND(4.7)	ND (4.8)	ND(5)	ND(10)	ND(4.8)	ND(4.8)	ND(4.7)
129-00-0	Pyrene	50 (G)	ug/L	ND(10)	ND(4.7)	ND (4.8)	ND(5)	ND(10)	ND(4.8)	ND(4.8)	ND(4.7)

TABLE 2
TONAWANDA PLASTICS
GROUNDWATER ANALYTICAL RESULTS
JUNE 2001, OCTOBER 2014, APRIL 2015, OCTOBER 2016
Semivolatile Organic Compounds

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	MW-5 6/7/2001	MW-5 MW-5_2014-10-07 480-68883-1 TAL-BUFF 480-68883 WATER 10/7/2014	MW-5 MW-5_2014-10-07 480-68883-1 TAL-BUFF 480-68883 WATER 10/7/2014	MW-5 TP-0003-08 TAL-BUFF 480-108455-1 WATER 10/26/2016	MW-6 6/6/2001	MW-6 MW-6_2014-10-07 480-68758-5 TAL-BUFF 480-68758 WATER 10/7/2014	MW-6 MW-6_2015-04-22 480-78955-5 TAL-BUFF 480-78955-1 WATER 4/22/2015	MW-6 TP-0002-08 TAL-BUFF 480-108378-1 WATER 10/25/2016
CAS NO.	COMPOUND		UNITS:								
	SEMIVOLATILES										
95-48-7	2-Methylphenol	1	ug/L	ND(6)	ND(6.9)	ND(4.8)	ND(29)	ND(5)	ND(250)	ND(93)	ND(4.9)
98-86-2	Acetophenone	--	ug/L	NA	ND(6.9)	ND(4.8)	ND(29)	NA	ND(250)	ND(93)	ND(4.9)
100-52-7	Benzaldehyde	--	ug/L	NA	ND(6.9)	ND(4.8)	ND(29)	NA	ND(250)	ND(93) J	ND(4.9)
92-52-4	Biphenyl	5	ug/L	NA	1 J	ND(4.8)	ND(29)	NA	ND(250)	25 J	31
117-81-7	Bis(2-ethylhexyl) phthalate	5	ug/L	4J	ND(6.9)	ND(4.8)	ND(29)	ND(5)	ND(250)	ND(93)	ND(4.9)
86-74-8	Carbazole	--	ug/L	15	ND(6.9)	ND(4.8)	ND(29)	15	ND(250)	14 J	18
132-64-9	Dibenzofuran	--	ug/L	9	ND(14)	ND(9.6)	ND(57)	5J	ND(490)	ND(190)	4.3
84-74-2	Di-n-butyl phthalate	50	ug/L	-	ND(6.9)	ND(4.8)	ND(29)	-	ND(250)	ND(93)	ND(4.9)
	PAHs										
91-57-6	2-Methylnaphthalene	--	ug/L	ND(13)	ND(6.9)	ND(4.8)	ND(29)	ND(10)	73 J	72 J	110
83-32-9	Acenaphthene	20 (G)	ug/L	ND(13)	ND(6.9)	ND(4.8)	ND(29)	1J	ND(250)	8.1 J	11
208-96-8	Acenaphthylene	--	ug/L	ND(13)	ND(6.9)	ND(4.8)	ND(29)	3J	ND(250)	ND(93)	ND(4.9)
120-12-7	Anthracene	50 (G)	ug/L	ND(13)	ND(6.9)	ND(4.8)	ND(29)	5J	ND(250)	ND(93)	4.8 J
56-55-3	Benzo(a)anthracene	0.002 (G)	ug/L	ND(6)	0.51 J	ND(4.8)	ND(29)	ND(5)	ND(250)	ND(93)	ND(4.9)
205-99-2	Benzo(b)fluoranthene	0.002 (G)	ug/L	ND(13)	1.1 J	ND(4.8)	ND(29)	ND(10)	ND(250)	ND(93)	ND(4.9)
191-24-2	Benzo(g,h,i)perylene	--	ug/L	ND(13)	0.66 J	ND(4.8)	ND(29)	ND(10)	ND(250)	ND(93)	ND(4.9)
206-44-0	Fluoranthene	50 (G)	ug/L	ND(13)	0.77 J	ND(4.8)	ND(29)	3J	ND(250)	ND(93)	2.7 J
86-73-7	Fluorene	50 (G)	ug/L	ND(13)	ND(6.9)	ND(4.8)	ND(29)	34	34 J	25 J	32
91-20-3	Naphthalene	10 (G)	ug/L	ND(13)	ND(6.9)	ND(4.8)	ND(29)	720E	740	470	630
85-01-8	Phenanthrene	50 (G)	ug/L	ND(13)	0.61 J	ND(4.8)	ND(29)	35	33 J	24 J	32
129-00-0	Pyrene	50 (G)	ug/L	ND(13)	0.76 J	ND(4.8)	ND(29)	3 J	ND(250)	ND(93)	3.3 J

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	MW-7 6/6/2001	MW-7 MW-7_2014_10_06 480-68673-1 TAL-BUFF 480-68673 WATER 10/6/2014	MW-7 MW-7-2015-04-23 480-79068-2 TAL-BUFF 480-79068-1 WATER 4/23/2015	MW-7 TP-0001-03 TAL-BUFF 480-108321-1 WATER 10/24/2016	MW-8 6/5/2001	MW-8 MW-8_2014-10-07 480-68758-3 TAL-BUFF 480-68758 WATER 10/7/2014	MW-8 MW-8-2015-04-23 480-79068-6 TAL-BUFF 480-79068-1 WATER 4/23/2015	MW-8 TP-0001-01 TAL-BUFF 480-108321-1 WATER 10/24/2016
CAS NO.	COMPOUND		UNITS:								
	SEMIVOLATILES										
95-48-7	2-Methylphenol	1	ug/L	ND(5)	ND(470)	ND(240)	4.9 J	ND(10)	ND(100)	ND(4.7)	ND(5.2)
98-86-2	Acetophenone	--	ug/L	NA	ND(470)	ND(240)	6.1	NA	ND(100)	ND(4.7)	ND(5.2)
100-52-7	Benzaldehyde	--	ug/L	NA	ND(470)	ND(240)	ND(5.3)	NA	ND(100)	ND(4.7)	ND(5.2)
92-52-4	Biphenyl	5	ug/L	NA	ND(470)	ND(240)	6	NA	ND(100)	ND(4.7)	ND(5.2)
117-81-7	Bis(2-ethylhexyl) phthalate	5	ug/L	ND(5)	ND(470)	ND(240)	ND(5.3)	ND(5)	ND(5)	ND(4.7)	34
86-74-8	Carbazole	--	ug/L	1J	ND(470)	18 J	25	ND(10)	ND(100)	ND(4.7)	ND(5.2)
132-64-9	Dibenzofuran	--	ug/L	ND(5)	ND(950)	ND(480)	3.4 J	ND(5)	ND(250)	ND(9.4)	ND(10)
84-74-2	Di-n-butyl phthalate	50	ug/L	-	ND(470)	ND(240)	ND(5.3)	-	ND(100)	ND(4.7)	ND(5.2)
	PAHs										
91-57-6	2-Methylnaphthalene	--	ug/L	2J	80 J	100 J	90 J	ND(10)	ND(100)	ND(4.7)	ND(5.2)
83-32-9	Acenaphthene	20 (G)	ug/L	1J	ND(470)	ND(240)	6.9	ND(10)	ND(100)	ND(4.7)	ND(5.2)
208-96-8	Acenaphthylene	--	ug/L	ND(10)	ND(470)	ND(240)	ND(5.3)	ND(10)	ND(100)	ND(4.7)	ND(5.2)
120-12-7	Anthracene	50 (G)	ug/L	ND(10)	ND(470)	ND(240)	ND(5.3)	ND(10)	ND(100)	ND(4.7)	ND(5.2)
56-55-3	Benzo(a)anthracene	0.002 (G)	ug/L	ND(5)	ND(470)	ND(240)	0.38 J	ND(5)	ND(100)	ND(4.7)	ND(5.2)
205-99-2	Benzo(b)fluoranthene	0.002 (G)	ug/L	ND(10)	ND(470)	ND(240)	ND(5.3)	ND(10)	ND(100)	ND(4.7)	ND(5.2)
191-24-2	Benzo(g,h,i)perylene	--	ug/L	ND(10)	ND(470)	ND(240)	ND(5.3)	ND(10)	ND(100)	ND(4.7)	ND(5.2)
206-44-0	Fluoranthene	50 (G)	ug/L	ND(10)	ND(470)	ND(240)	0.92 J	ND(10)	ND(100)	ND(4.7)	ND(5.2)
86-73-7	Fluorene	50 (G)	ug/L	3J	ND(470)	ND(240)	9.5	ND(10)	ND(100)	ND(4.7)	ND(5.2)
91-20-3	Naphthalene	10 (G)	ug/L	220E	2000	1800	1700	ND(10)	ND(100)	ND(4.7)	ND(5.2)
85-01-8	Phenanthrene	50 (G)	ug/L	2J	ND(470)	ND(240)	4.9 J	ND(10)	ND(100)	ND(4.7)	ND(5.2)
129-00-0	Pyrene	50 (G)	ug/L	ND(10)	ND(470)	ND(240)	0.82 J	ND(10)	ND(100)	ND(4.7)	ND(5.2)

TABLE 2
TONAWANDA PLASTICS
GROUNDWATER ANALYTICAL RESULTS
JUNE 2001, OCTOBER 2014, APRIL 2015, OCTOBER 2016
Semivolatile Organic Compounds

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	MW-9 6/6/2001	MW-9 MW-9_2014_10_06 480-68673-2 TAL-BUFF 480-68673 WATER 10/6/2014	MW-9 MW-9_2015-04-22 480-78955-7 TAL-BUFF 480-78955-1 WATER 4/22/2015	MW-9 TP-0001-05 TAL-BUFF 480-108321-1 WATER 10/24/2016	MW-10 6/5/2001	MW-10 MW-10_2014-10-07 480-68758-1 TAL-BUFF 480-68758 WATER 10/7/2014	MW-10 MW-10_2015-04-22 480-78955-6 TAL-BUFF 480-78955-1 WATER 4/22/2015	MW-10 TP-0002-02 TAL-BUFF 480-108378-1 WATER 10/25/2016
CAS NO.	COMPOUND		UNITS:								
	SEMIVOLATILES										
95-48-7	2-Methylphenol	1	ug/L	ND(10)	0.37 J	ND(240)	ND(50)	ND(10)	ND(4.9)	ND(4.8)	ND(5.4)
98-86-2	Acetophenone	--	ug/L	NA	0.56 J	ND(240)	ND(50)	NA	ND(4.9)	0.56 J	ND(5.4)
100-52-7	Benzaldehyde	--	ug/L	NA	0.52 J	ND(240)	ND(50)	NA	ND(4.9)	ND(4.8)	ND(5.4)
92-52-4	Biphenyl	5	ug/L	NA	0.86 J	ND(240)	ND(50)	NA	ND(4.9)	ND(4.8)	ND(5.4)
117-81-7	Bis(2-ethylhexyl) phthalate	5	ug/L	ND(5)	ND(4.6)	ND(240)	ND(50)	1J	ND(4.9)	ND(4.8)	ND(5.4)
86-74-8	Carbazole	--	ug/L	1J	17	ND(240)	5 J	ND(5)	18	2.8 J	10
132-64-9	Dibenzofuran	--	ug/L	ND(5)	2.8 J	ND(480)	ND(100)	1J	7.7 J	1.8 J	3.4 J
84-74-2	Di-n-butyl phthalate	50	ug/L	-	ND(4.6)	ND(240)	ND(50)	ND(5)	ND(4.9)	0.32 J	ND(5.4)
	PAHs										
91-57-6	2-Methylnaphthalene	--	ug/L	ND(10)	1 J	ND(240)	ND(50)	15	ND(4.9)	ND(4.8)	ND(5.4)
83-32-9	Acenaphthene	20 (G)	ug/L	ND(10)	8.5	ND(240)	6.7 J	19	20	6.2	19
208-96-8	Acenaphthylene	--	ug/L	ND(10)	0.38 J	ND(240)	ND(50)	5J	0.97 J	0.55 J	0.46 J
120-12-7	Anthracene	50 (G)	ug/L	ND(10)	0.88 J	ND(240)	ND(50)	3J	1.5 J	ND(4.8)	0.79 J
56-55-3	Benzo(a)anthracene	0.002 (G)	ug/L	ND(5)	ND(4.6)	ND(240)	ND(50)	ND(5)	ND(4.9)	ND(4.8)	ND(5.4)
205-99-2	Benzo(b)fluoranthene	0.002 (G)	ug/L	ND(10)	ND(4.6)	ND(240)	ND(50)	ND(10)	ND(4.9)	ND(4.8)	ND(5.4)
191-24-2	Benzo(g,h,i)perylene	--	ug/L	ND(10)	ND(4.6)	ND(240)	ND(50)	ND(10)	ND(4.9)	0.76 J	ND(5.4)
206-44-0	Fluoranthene	50 (G)	ug/L	ND(10)	1 J	ND(240)	ND(50)	3J	1.8 J	3 J	1.9 J
86-73-7	Fluorene	50 (G)	ug/L	ND(10)	4.3 J	ND(240)	ND(50)	19	8.9	6.4	4.8 J
91-20-3	Naphthalene	10 (G)	ug/L	ND(10)	420	470	98	100	1.8 J	1.2 J	1.1 J
85-01-8	Phenanthrene	50 (G)	ug/L	ND(10)	5	ND(240)	ND(50)	17	3.4 J	ND(4.8)	0.82 J
129-00-0	Pyrene	50 (G)	ug/L	ND(10)	0.61 J	ND(240)	ND(50)	2J	1.3 J	0.47 J	1.2 J

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	MW-11 6/7/2001	MW-11R TP-0003-02 TAL-BUFF 480-108455-1 WATER 10/26/2016	MW-12R TP-0002-05 TAL-BUFF 480-108378-1 WATER 10/25/2016
CAS NO.	COMPOUND		UNITS:			
	SEMIVOLATILES					
95-48-7	2-Methylphenol	1	ug/L	ND(10)	ND(4.8)	ND(4.7)
98-86-2	Acetophenone	--	ug/L	NA	ND(4.8)	ND(4.7)
100-52-7	Benzaldehyde	--	ug/L	NA	ND(4.8)	ND(4.7)
92-52-4	Biphenyl	5	ug/L	NA	ND(4.8)	ND(4.7)
117-81-7	Bis(2-ethylhexyl) phthalate	5	ug/L	12	ND(4.8)	ND(4.7)
86-74-8	Carbazole	--	ug/L	ND(5)	ND(4.8)	ND(4.7)
132-64-9	Dibenzofuran	--	ug/L	ND(5)	ND(9.7)	ND(9.4)
84-74-2	Di-n-butyl phthalate	50	ug/L	ND(5)	ND(4.8)	ND(4.7)
	PAHs					
91-57-6	2-Methylnaphthalene	--	ug/L	ND(11)	ND(4.8)	ND(4.7)
83-32-9	Acenaphthene	20 (G)	ug/L	ND(11)	ND(4.8)	ND(4.7)
208-96-8	Acenaphthylene	--	ug/L	ND(11)	ND(4.8)	ND(4.7)
120-12-7	Anthracene	50 (G)	ug/L	ND(11)	ND(4.8)	ND(4.7)
56-55-3	Benzo(a)anthracene	0.002 (G)	ug/L	ND(5)	ND(4.8)	ND(4.7)
205-99-2	Benzo(b)fluoranthene	0.002 (G)	ug/L	ND(11)	ND(4.8)	ND(4.7)
191-24-2	Benzo(g,h,i)perylene	--	ug/L	ND(11)	ND(4.8)	ND(4.7)
206-44-0	Fluoranthene	50 (G)	ug/L	ND(11)	ND(4.8)	ND(4.7)
86-73-7	Fluorene	50 (G)	ug/L	ND(11)	ND(4.8)	ND(4.7)
91-20-3	Naphthalene	10 (G)	ug/L	ND(11)	ND(4.8)	ND(4.7)
85-01-8	Phenanthrene	50 (G)	ug/L	ND(11)	ND(4.8)	ND(4.7)
129-00-0	Pyrene	50 (G)	ug/L	ND(11)	ND(4.8)	ND(4.7)

Notes:

	Indicates concentration exceeds standard or guidance value.
(G)	Indicates guidance value.
NS	No standard or guidance value available.
ND(4.8)	Indicates compound was not detected (detection limit)
J	Indicates an estimated concentration.
ug/L	micrograms per liter
(1)	taken from NYSDEC TOGs 1.1.1

TABLE 3
TONAWANDA PLASTICS
GROUNDWATER ANALYTICAL RESULTS
JUNE 2001, OCTOBER 2014, APRIL 2015, OCTOBER 2016
Inorganics

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	MW-1 6/5/2001	MW-1 MW-1_2014-10-07 480-68758-2 TAL-BUFF 480-68758 WATER 10/7/2014	MW-1 MW-1_2015-04-22 480-78955-4 TAL-BUFF 480-78955-1 WATER 4/22/2015	MW-1 TP-0001-02 TAL-BUFF 480-108321-1 WATER 10/24/2016	MW-2 MW-2-2015-04-23 480-79068-4 TAL-BUFF 480-79068-1 WATER 4/23/2015	MW-2 TP-0002-07 TAL-BUFF 480-108378-1 WATER 10/25/2016
CAS NO.	COMPOUND		UNITS:						
	VOLATILES								
	INORGANICS								
7429-90-5	Aluminum	--	mg/L	22.6	13.4	40.2	117	ND	0.2
7440-38-2	Arsenic	0.025	mg/L	ND(0.0016)	0.02	0.13	0.084	ND	0.01 J
7440-39-3	Barium	1	mg/L	0.0122 J	0.012	0.0085	0.016	0.025	0.068
7440-41-7	Beryllium	0.003 (G)	mg/L	0.0029 J	0.001 J	0.0031	0.011	ND	ND
7440-43-9	Cadmium	0.005	mg/L	0.00095 J	0.0015 J	0.0045	0.016	ND	0.0007 J
7440-70-2	Calcium	--	mg/L	294	385	182	394	387	453
7440-47-3	Chromium	0.05	mg/L	0.131	0.12	0.23	0.58	0.0013 J	0.0037 J
7440-48-4	Cobalt	--	mg/L	ND(0.00093)	0.015	0.051	0.18	0.0016 J	0.0059
7440-50-8	Copper	0.2	mg/L	0.0012 J	0.019	0.017	0.25	0.002 J	0.012
7439-89-6	Iron	0.3	mg/L	307	272	220	491	1.1	10
7439-92-1	Lead	0.025	mg/L	ND(0.00066)	0.016	0.094	0.35	ND	0.0061 J
7439-95-4	Magnesium	35 (G)	mg/L	100	269	44.1 J	231	73.3	156
7439-96-5	Manganese	0.3	mg/L	4.52	12.4	2.2	12.3	1.2	4.7
7440-02-0	Nickel	0.1	mg/L	0.04 J	0.1	0.57 J	1.7	0.0028 J	0.02
7440-09-7	Potassium	--	mg/L	4.37 J	4.5	3.5	6.8	3.1	10.2
7440-23-5	Sodium	20	mg/L	37.4	94.2	12.6	75.4	54.4	125
7440-62-2	Vanadium	--	mg/L	0.0075 J	0.0046 J	0.04	0.066	ND	ND
7440-66-6	Zinc	2 (G)	mg/L	0.277	0.55	1.2 J	4.1	0.0034 J	0.015
57-12-5	Cyanide, Total	0.2	mg/L	0.5	0.6	0.13	0.23	1.9	2.2

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	MW-3 6/9/2001	MW-3 MW-3_2014-10-07 480-68758-4 TAL-BUFF 480-68758 WATER 10/7/2014	MW-3 MW-3_2015-04-22 480-78955-3 TAL-BUFF 480-78955-1 WATER 4/22/2015	MW-3 TP-0002-04 TAL-BUFF 480-108378-1 WATER 10/25/2016	MW-4 6/9/2001	MW-4 MW-4_2014-10-07 480-68758-9 TAL-BUFF 480-68758 WATER 10/7/2014	MW-4 MW-4-2015-04-23 480-79068-3 TAL-BUFF 480-79068-1 WATER 4/23/2015	MW-4 TP-0001-04 TAL-BUFF 480-108321-1 WATER 10/24/2016
CAS NO.	COMPOUND		UNITS:								
	VOLATILES										
	INORGANICS										
7429-90-5	Aluminum	--	mg/L	ND (0.0118)	ND	0.076 J	0.27	ND (0.0118)	ND	ND	ND(0.06)
7440-38-2	Arsenic	0.025	mg/L	ND (0.0016)	ND	ND	0.012 J	0.0078	ND	ND	ND(0.0056)
7440-39-3	Barium	1	mg/L	0.03 J	0.073	0.077	0.078	0.0572 J	0.04	0.07	0.054
7440-41-7	Beryllium	0.003 (G)	mg/L	0.00097 J	ND	ND	ND	ND (0.000076)	ND	ND	ND(0.0003)
7440-43-9	Cadmium	0.005	mg/L	ND (0.000076)	ND	ND	ND	ND (0.00024)	ND	ND	ND(0.0005)
7440-70-2	Calcium	--	mg/L	115	198	206	236	290	121	289	153
7440-47-3	Chromium	0.05	mg/L	0.0015 J	0.001 J	0.0015 J	0.0013 J	0.0036 J	ND	ND	ND(0.001)
7440-48-4	Cobalt	--	mg/L	ND(0.00093)	ND	0.00099 J	ND	ND (0.00093)	ND	0.0016 J	ND(0.00063)
7440-50-8	Copper	0.2	mg/L	0.00089 J	ND	0.0056 J	0.0057 J	ND (0.00049)	ND	ND	0.002 J
7439-89-6	Iron	0.3	mg/L	0.228	3.6	1.4	15.1	8	3.3	3.8	0.96
7439-92-1	Lead	0.025	mg/L	0.00087 J	0.0032 J	ND	0.0031 J	ND (0.00066)	0.0034 J	ND	ND(0.003)
7439-95-4	Magnesium	35 (G)	mg/L	14.8	35.5	30.7	55.8	43.8	23.8	51.9	18.7
7439-96-5	Manganese	0.3	mg/L	0.363	1.2	0.21	2.3	1.7	0.52	1.3	0.21
7440-02-0	Nickel	0.1	mg/L	0.00097 J	0.0013 J	0.0025 J	0.0034 J	0.0021 J	ND	0.0019 J	0.0017 J
7440-09-7	Potassium	--	mg/L	5.69	6.8	14.2	3.3	3.25 J	7.5	4.7	5.6
7440-23-5	Sodium	20	mg/L	9.77	98.7	90.1	108	56	17.2	32.3	10.8
7440-62-2	Vanadium	--	mg/L	0.00071 J	ND	0.0024 J	ND	0.0011 J	ND	ND	0.0018 J
7440-66-6	Zinc	2 (G)	mg/L	0.0032 J	ND(0.01)	0.0074 J	0.0091 J	ND (0.00097)	ND(0.01)	0.0099 J	0.0036 J
57-12-5	Cyanide, Total	0.2	mg/L	0.36	0.18	0.54	0.38	0.63	0.33	0.63	0.32

TABLE 3
TONAWANDA PLASTICS
GROUNDWATER ANALYTICAL RESULTS
JUNE 2001, OCTOBER 2014, APRIL 2015, OCTOBER 2016
Inorganics

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	MW-5 6/7/2001	MW-5 MW-5_2014-10-07 480-68883-1 TAL-BUFF 480-68883 WATER 10/7/2014	MW-5 MW-5_2014-10-07 480-68883-1 TAL-BUFF 480-68883 WATER 10/7/2014	MW-5 TP-0002-03 TAL-BUFF 480-108378-1 WATER 10/25/2016	MW-6 6/6/2001	MW-6 MW-6_2014-10-07 480-68758-5 TAL-BUFF 480-68758 WATER 10/7/2014	MW-6 MW-6_2015-04-22 480-78955-5 TAL-BUFF 480-78955-1 WATER 4/22/2015	MW-6 TP-0002-08 TAL-BUFF 480-108378-1 WATER 10/25/2016
CAS NO.	COMPOUND		UNITS:								
	VOLATILES										
	INORGANICS										
7429-90-5	Aluminum	--	mg/L	ND (0.0118)	0.42	0.29	7	13.2	3.2	23.9	37.5
7440-38-2	Arsenic	0.025	mg/L	0.002 J	ND	0.011 J	0.043	ND (0.0016)	ND	ND	ND(0.0056)
7440-39-3	Barium	1	mg/L	0.0626 J	0.037	0.041	0.1	0.0112 J	0.019	0.019	0.022
7440-41-7	Beryllium	0.003 (G)	mg/L	ND (0.000076)	ND	ND	0.00035 J	0.0017 J	0.00063 J	0.0024	0.0052
7440-43-9	Cadmium	0.005	mg/L	ND (0.00024)	ND	0.00091 J	0.0037	ND (0.0024)	ND	ND	0.00064 J
7440-70-2	Calcium	--	mg/L	170	116	150	124	490	220	329	278
7440-47-3	Chromium	0.05	mg/L	0.0057 J	0.0038 J	0.0061	0.077	0.0661	0.035	0.069	0.16
7440-48-4	Cobalt	--	mg/L	0.0026 J	0.004	0.0091	0.022	ND (0.00093)	0.0037 J	0.00079 J	ND
7440-50-8	Copper	0.2	mg/L	0.0056 J	ND	0.0078 J	0.076	ND (0.00049)	ND	ND	ND
7439-89-6	Iron	0.3	mg/L	0.549	5.7	10.4	108	77.6	10.4	53.9	97
7439-92-1	Lead	0.025	mg/L	0.0024 J	0.013	0.011	0.18	0.0013 J	0.0073 J	ND	0.0062 J
7439-95-4	Magnesium	35 (G)	mg/L	182	209	107	218	5.1	28.7	41.6	40.1
7439-96-5	Manganese	0.3	mg/L	3.57	1	2.4	2.5	0.961	0.46	2.6	4.6
7440-02-0	Nickel	0.1	mg/L	0.0447 J	0.022	0.037	0.18	0.0029 J	0.0018 J	0.011	0.027
7440-09-7	Potassium	--	mg/L	2.66 J	1.5	3	2.8	9.36	5.2	10.3	19.5
7440-23-5	Sodium	20	mg/L	66.5	74.2	18.3	80.1	30	18.8	16.6	17.9
7440-62-2	Vanadium	--	mg/L	0.0029 J	ND	0.0029 J	0.02	0.0141 J	0.0055	0.011	0.033
7440-66-6	Zinc	2 (G)	mg/L	ND (0.00097)	0.019	0.012	0.15	0.0326	0.026	0.1	0.19
57-12-5	Cyanide, Total	0.2	mg/L	0.53	0.57	0.27	0.75 J+	1.8	2.1	0.21	0.4

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	MW-7 6/6/2001	MW-7 MW-7_2014_10_06 480-68673-1 TAL-BUFF 480-68673 WATER 10/6/2014	MW-7 MW-7-2015-04-23 480-79068-2 TAL-BUFF 480-79068-1 WATER 4/23/2015	MW-7 TP-0001-03 TAL-BUFF 480-108321-1 WATER 10/24/2016	MW-8 6/5/2001	MW-8 MW-8_2014-10-07 480-68758-3 TAL-BUFF 480-68758 WATER 10/7/2014	MW-8 MW-8-2015-04-23 480-79068-6 TAL-BUFF 480-79068-1 WATER 4/23/2015	MW-8 TP-0001-01 TAL-BUFF 480-108321-1 WATER 10/24/2016
CAS NO.	COMPOUND		UNITS:								
	INORGANICS										
7429-90-5	Aluminum	--	mg/L	18.6	1.4	30	65.6	0.734	ND	ND	0.087 J
7440-38-2	Arsenic	0.025	mg/L	0.044	0.096	0.019	0.92	0.0021 J	ND	ND	ND(0.0056)
7440-39-3	Barium	1	mg/L	0.0081 J	0.017	0.0084	0.0075	0.0317 J	0.067	0.043	0.04
7440-41-7	Beryllium	0.003 (G)	mg/L	0.0027 J	0.00032 J	0.0026	0.0058	ND 0.000076)	ND	ND	ND(0.0003)
7440-43-9	Cadmium	0.005	mg/L	0.0024 J	ND	0.00097 J	0.02	ND (0.00024)	0.00051 J	ND	ND(0.0005)
7440-70-2	Calcium	--	mg/L	309	233	252	275	91.2	97.5	123	118
7440-47-3	Chromium	0.05	mg/L	0.22	0.022	0.18	0.65	0.0068 J	ND	ND	0.0012 J
7440-48-4	Cobalt	--	mg/L	0.0297 J	0.023	0.0091	0.082	ND (0.00093)	0.0024 J	0.0011 J	0.0013 J
7440-50-8	Copper	0.2	mg/L	0.0096 J	0.0038 J	0.0066 J	0.054	0.0017 J	ND	ND	0.0022 J
7439-89-6	Iron	0.3	mg/L	272	9.4	133	438	2.04	1.7	1.9	4.8
7439-92-1	Lead	0.025	mg/L	0.143	0.01	0.1	1.2	ND (0.00066)	ND	ND	0.004 J
7439-95-4	Magnesium	35 (G)	mg/L	34.1	53.1	49.5	58.9	198	230	238	258
7439-96-5	Manganese	0.3	mg/L	2.15	0.25	2.1	3.8	0.105	0.33	0.56	0.69
7440-02-0	Nickel	0.1	mg/L	0.259	0.0045 J	0.1	0.57	0.003 J	0.0051 J	0.0031 J	0.0029 J
7440-09-7	Potassium	--	mg/L	7.1	4.7	5.9	16.4	3.92 J	3.8	2.4	3.1
7440-23-5	Sodium	20	mg/L	12.8	66.2	40.9	25.1	131	142	142	154
7440-62-2	Vanadium	--	mg/L	0.0154	ND	0.0095	0.056	0.0021 J	ND	ND	ND(0.0015)
7440-66-6	Zinc	2 (G)	mg/L	0.597	0.014	0.53	2.2	ND (0.00097)	ND	0.009 J	0.011
57-12-5	Cyanide, Total	0.2	mg/L	0.75	4.1	0.45	0.91	0.4	0.56	0.63	0.7

TABLE 3
TONAWANDA PLASTICS
GROUNDWATER ANALYTICAL RESULTS
JUNE 2001, OCTOBER 2014, APRIL 2015, OCTOBER 2016
Inorganics

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	MW-9 6/6/2001	MW-9 MW-9_2014_10_06 480-68673-2 TAL-BUFF 480-68673 WATER 10/6/2014	MW-9 MW-9_2015-04-22 480-78955-7 TAL-BUFF 480-78955-1 WATER 4/22/2015	MW-9 TP-0001-05 TAL-BUFF 480-108321-1 WATER 10/24/2016	MW-10 6/5/2001	MW-10 MW-10_2014-10-07 480-68758-1 TAL-BUFF 480-68758 WATER 10/7/2014	MW-10 MW-10_2015-04-22 480-78955-6 TAL-BUFF 480-78955-1 WATER 4/22/2015	MW-10 TP-0002-02 TAL-BUFF 480-108378-1 WATER 10/25/2016
CAS NO.	COMPOUND		UNITS:								
	INORGANICS										
7429-90-5	Aluminum	--	mg/L	0.0162 J	0.16 J	0.099 J	193	5.9	1.3	82.2	43.6
7440-38-2	Arsenic	0.025	mg/L	0.0021 J	0.01 J	ND	0.15	ND (0.0016)	0.0096 J	ND	0.031
7440-39-3	Barium	1	mg/L	0.0648 J	0.62	0.48	4.9	0.0288 J	0.019	0.0053	0.033
7440-41-7	Beryllium	0.003 (G)	mg/L	ND (0.000076)	ND	ND	0.011	0.0023 J	ND	0.0086	0.0047
7440-43-9	Cadmium	0.005	mg/L	ND (0.00024)	ND	ND	0.015	0.0030 J	ND	0.002	0.0017 J
7440-70-2	Calcium	--	mg/L	246	110	49.8	272	491	177	249	271
7440-47-3	Chromium	0.05	mg/L	0.0031 J	0.0017 J	0.0014 J	0.65	0.00285	0.012	0.19	0.2
7440-48-4	Cobalt	--	mg/L	ND (0.00093)	0.00078 J	0.00076 J	0.099	ND (0.00093)	0.0024 J	0.053	0.012
7440-50-8	Copper	0.2	mg/L	0.00091 J	0.003 J	0.0018 J	0.51	0.0056 J	0.011	0.11	0.069
7439-89-6	Iron	0.3	mg/L	2.96	1.2	1	322	885 E	22.8	357	251
7439-92-1	Lead	0.025	mg/L	0.00084 J	ND	ND	0.89	ND (0.00066)	0.0031 J	ND	0.012
7439-95-4	Magnesium	35 (G)	mg/L	40.9	18.2	15.7	99.3	204	61.5	84.8	80.1
7439-96-5	Manganese	0.3	mg/L	2.72	0.5	0.18	6.9	36.6 E	3	9.3	7.8
7440-02-0	Nickel	0.1	mg/L	0.0046 J	0.0029 J	0.004 J	0.58	ND (0.00071)	0.0086 J	0.43	0.14
7440-09-7	Potassium	--	mg/L	18.9	21	15.4	59.1	16	12.2	7.5	15.6
7440-23-5	Sodium	20	mg/L	36	104	112	90.9	23.1	166	114	127
7440-62-2	Vanadium	--	mg/L	0.00072 J	0.0017 J	0.0021 J	0.33	0.0049 J	0.0038 J	0.029	0.081
7440-66-6	Zinc	2 (G)	mg/L	ND (0.00097)	ND	0.0044 J	1.8	0.358	0.041	1.3	0.65
57-12-5	Cyanide, Total	0.2	mg/L	1.1	0.56	0.3	0.54	0.1	0.38	0.084	1.1

Honeywell - Tonawanda Plastics Groundwater Analytical Data Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	MW-11 6/7/2001	MW-11R TP-0003-02 TAL-BUFF 480-108455-1 WATER 10/26/2016	MW-12R TP-0002-05 TAL-BUFF 480-108378-1 WATER 10/25/2016
CAS NO.	COMPOUND		UNITS:			
	INORGANICS					
7429-90-5	Aluminum	--	mg/L	0.0128 J	10.2	0.19 J
7440-38-2	Arsenic	0.025	mg/L	0.0016 J	0.011 J	0.006 J
7440-39-3	Barium	1	mg/L	0.332	0.088	0.018
7440-41-7	Beryllium	0.003 (G)	mg/L	ND (0.000076)	0.00033 J	ND(0.0003)
7440-43-9	Cadmium	0.005	mg/L	ND (0.00024)	ND(0.0005)	ND(0.0005)
7440-70-2	Calcium	--	mg/L	85.8	594	424
7440-47-3	Chromium	0.05	mg/L	0.062 J	0.015	0.0011 J
7440-48-4	Cobalt	--	mg/L	ND (0.00093)	0.0093	0.0084
7440-50-8	Copper	0.2	mg/L	0.0043 J	0.015	ND(0.0016)
7439-89-6	Iron	0.3	mg/L	0.0312 J	12.9 J	1.8 J
7439-92-1	Lead	0.025	mg/L	ND (0.00066)	0.014	0.003 J
7439-95-4	Magnesium	35 (G)	mg/L	177	501	1180
7439-96-5	Manganese	0.3	mg/L	0.914	0.66	0.31
7440-02-0	Nickel	0.1	mg/L	0.1142 J	0.023	0.015
7440-09-7	Potassium	--	mg/L	12.5	18.6	13.9
7440-23-5	Sodium	20	mg/L	34.4	491	465
7440-62-2	Vanadium	--	mg/L	0.0024 J	0.019	ND(0.0015)
7440-66-6	Zinc	2 (G)	mg/L	ND (0.0097)	0.048	0.0053 J
57-12-5	Cyanide, Total	0.2	mg/L	0.022	ND(0.005)	0.029 J

Notes:

	Indicates concentration exceeds standard or guidance value.
(G)	Indicates guidance value.
NS	No standard or guidance value available.
ND(0.005)	Indicates compound was not detected (detection limit)
J	Indicates an estimated concentration.
mg/L	milligrams per liter
(1)	taken from NYSDEC TOGs 1.1.1

TABLE 4
TONAWANDA PLASTICS
SURFACE WATER ANALYTICAL RESULTS
OCTOBER 2014 & OCTOBER 2016

Honeywell - Tonawanda Plastics Surface Water Analytical Data Detected Compound Summary		NYSDEC Class A Surface Water Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	INLET A SW-36 INF100714 480-68758-7 TAL-BUFF 480-68758 WATER 10/7/2014	INLET A duplicate SW-200 INF100714 480-68758-11 TAL-BUFF 480-68758 WATER 10/7/2014	INLET A TP-0003-04 TAL-BUFF 480-108455-1 WATER 10/26/2016	OUTLET A SW-36 EFF100714 480-68758-6 TAL-BUFF 480-68758 WATER 10/7/2014	OUTLET A TP-0003-03 TAL-BUFF 480-108455-1 WATER 10/26/2016	OUTLET A duplicate TP-0003-05 TAL-BUFF 480-108455-1 WATER 10/26/2016	INLET B SW-48 INF100714 480-68758-8 TAL-BUFF 480-68758 WATER 10/7/2014	INLET B TP-0003-06 TAL-BUFF 480-108455-1 WATER 10/26/2016
CAS NO.	COMPOUND		UNITS:								
	VOLATILES										
	BTEX										
71-43-2	Benzene	1	ug/L	ND(4)	ND(4)	ND(1)	ND(4)	1.5	1.6	ND(1)	ND(1)
100-41-4	Ethylbenzene	5	ug/L	ND(4)	ND(4)	ND(1)	ND(4)	ND(1) U	ND(1) U	ND(1)	ND(1)
108-88-3	Toluene	5	ug/L	ND(4)	ND(4)	ND(1)	ND(4)	ND(1) U	ND(1) U	ND(1)	ND(1)
1330-20-7	Xylenes, Total	5	ug/L	ND(8)	ND(8)	ND(2)	ND(8)	ND(2) U	ND(2) U	ND(2)	ND(2)
	OTHER VOLATILES										
67-64-1	Acetone	50 (G)	ug/L	ND(40)	ND(40)	3.6 J	ND(40)	3.9 J	3.4 J	ND(10)	ND(10) J
75-15-0	Carbon disulfide	--	ug/L	ND(4)	ND(4)	ND(1)	1.1 J	3.3	3	ND(1)	ND(1)
75-34-3	1,1-Dichloroethane	5	ug/L	ND(4)	ND(4)	ND(1)	ND(4)	ND(1)	ND(1)	ND(1)	ND(1)
107-06-2	1,2-Dichloroethane	0.6	ug/L	ND(4)	ND(4)	ND(1)	ND(4)	ND(1)	ND(1)	ND(1)	ND(1)
156-59-2	cis-1,2-Dichloroethene	5	ug/L	ND(4)	ND(4)	ND(1)	4	1.1	1.1	ND(1)	ND(1)
98-82-8	Isopropylbenzene	5	ug/L	ND(4)	ND(4)	ND(1)	ND(4)	ND(1)	ND(1)	ND(1)	ND(1)
110-82-7	Cyclohexane	--	ug/L	ND(4)	ND(4)	ND(1)	ND(4)	ND(1)	ND(1)	ND(1)	ND(1)
75-09-2	Methylene Chloride	5	ug/L	ND(4)	ND(4)	ND(1)	ND(4)	ND(1)	ND(1)	ND(1)	ND(1)
79-01-6	Trichloroethene	5	ug/L	ND(4)	ND(4)	ND(1)	ND(4)	ND(1)	ND(1)	ND(1)	ND(1)
75-01-4	Vinyl chloride	2	ug/L	ND(4)	ND(4)	ND(1)	ND(4)	ND(1)	ND(1)	ND(1)	ND(1)
	SEMIVOLATILES										
95-48-7	2-Methylphenol	1	ug/L		ND(5.1)	ND(24)	ND(4.9)	ND(4.9)	ND(24)	ND(4.7)	ND(4.7)
98-86-2	Acetophenone	--	ug/L		ND(5.1)	ND(24)	ND(4.9)	ND(4.9)	ND(24)	ND(4.7)	ND(4.7)
100-52-7	Benzaldehyde	--	ug/L		ND(5.1)	ND(24)	ND(4.9)	ND(4.9)	ND(24)	ND(4.7)	ND(4.7)
92-52-4	Biphenyl	5	ug/L		ND(5.1)	ND(24)	ND(4.9)	ND(4.9)	ND(24)	ND(4.7)	ND(4.7)
117-81-7	Bis(2-ethylhexyl) phthalate	5	ug/L		ND(4.9)	ND(24)	ND(4.9)	ND(4.9)	ND(24)	ND(4.7)	ND(4.7)
86-74-8	Carbazole	--	ug/L		ND(5.1)	ND(24)	ND(4.9)	0.48 J	ND(24)	ND(4.7)	ND(4.7)
132-64-9	Dibenzofuran	--	ug/L		ND(10)	ND(47)	ND(9.8)	9.7	48	ND(9.3)	ND(9.4)
84-74-2	Di-n-butyl phthalate	50	ug/L		ND(5.1)	ND(24)	ND(4.9)	ND(4.9)	ND(24)	ND(4.7)	ND(4.7)
	PAHs										
91-57-6	2-Methylnaphthalene	--	ug/L		ND(5.1)	ND(24)	ND(4.9)	0.61 J	ND(24)	ND(4.7)	ND(4.7)
83-32-9	Acenaphthene	20 (G)	ug/L		ND(5.1)	ND(24)	ND(4.9)	ND(4.9)	ND(24)	ND(4.7)	ND(4.7)
208-96-8	Acenaphthylene	--	ug/L		ND(5.1)	ND(24)	ND(4.9)	ND(4.9)	ND(24)	ND(4.7)	ND(4.7)
120-12-7	Anthracene	50 (G)	ug/L		ND(5.1)	ND(24)	ND(4.9)	ND(4.9)	ND(24)	ND(4.7)	ND(4.7)
56-55-3	Benzo(a)anthracene	0.002 (G)	ug/L		ND(5.1)	ND(24)	ND(4.9)	ND(4.9)	ND(24)	ND(4.7)	ND(4.7)
205-99-2	Benzo(b)fluoranthene	0.002 (G)	ug/L		ND(5.1)	ND(24)	ND(4.9)	ND(4.9)	ND(24)	ND(4.7)	ND(4.7)
191-24-2	Benzo(g,h,i)perylene	--	ug/L		ND(5.1)	ND(24)	ND(4.9)	ND(4.9)	ND(24)	ND(4.7)	ND(4.7)
206-44-0	Fluoranthene	50 (G)	ug/L		ND(5.1)	ND(24)	ND(4.9)	ND(4.9)	ND(24)	ND(4.7)	ND(4.7)
86-73-7	Fluorene	50 (G)	ug/L		ND(5.1)	ND(24)	ND(4.9)	ND(4.9)	ND(24)	ND(4.7)	ND(4.7)
91-20-3	Naphthalene	10	ug/L	ND(5.1)	ND(5.1)	ND(24)	5	3.3 J	5.1 J	ND(4.7)	ND(2.7) J
85-01-8	Phenanthrene	50 (G)	ug/L		ND(5.1)	ND(24)	ND(4.9)	ND(4.9)	ND(24)	ND(4.7)	ND(4.7)
129-00-0	Pyrene	50 (G)	ug/L		ND(5.1)	ND(24)	ND(4.9)	ND(4.9)	ND(24)	ND(4.7)	ND(4.7)
	INORGANICS										
7429-90-5	Aluminum	0.1	mg/L	0.27	0.18 J	0.32	ND	ND	0.064 J	5.9	ND
7440-38-2	Arsenic	0.025	mg/L	ND	ND	0.01 J	ND	ND	ND	ND	ND
7440-39-3	Barium	1	mg/L	0.083	0.08	0.066	0.061	0.044	0.043	0.049	0.029
7440-41-7	Beryllium	0.003 (G)	mg/L	0.00077 J	ND	ND	ND	ND	ND	ND	ND
7440-43-9	Cadmium	0.005	mg/L	0.0011 J	ND	ND	ND	ND	ND	ND	ND
7440-70-2	Calcium	--	mg/L	115	111	168	102	173	164	27.5	57.9
7440-47-3	Chromium	0.05	mg/L	0.0026 J	0.0015 J	0.0018 J	0.0019 J	0.0016 J	0.0011 J	0.0062	ND
7440-48-4	Cobalt	0.005	mg/L	0.0015 J	ND	0.0012 J	ND	0.00099 J	0.00087 J	0.0013 J	0.0013 J
7440-50-8	Copper	0.2	mg/L	ND	ND	0.0028 J	ND	ND	ND	ND	ND
7439-89-6	Iron	0.3	mg/L	2.3	2.1	14.6 J+	1.2	3.8 J	3.8 J	4.5	1
7439-92-1	Lead	0.050	mg/L	0.005 J	0.0032 J	0.0036 J	0.0031 J	ND	ND	0.008 J	0.015
7439-95-4	Magnesium	35	mg/L	26	25.4	38.1	22.5	38.7	37.2	6.4	11.5
7439-96-5	Manganese	0.3	mg/L	0.55	0.52	3.5	0.38	2.6	2.5	0.097	0.98
7440-02-0	Nickel	0.1	mg/L	0.0028 J	0.0017 J	0.0041 J	0.0018 J	0.0082 J	0.0071 J	0.0045 J	0.0044 J
7440-09-7	Potassium	--	mg/L	8.7	8.6	5.6	8.1	6.5	6.1	3.6	1.6
7440-23-5	Sodium	20	mg/L	43.5	42.1	58.9	36.8	59.2	57	7.2	27.3
7440-62-2	Vanadium	0.014	mg/L	ND	ND	ND	ND	ND	ND	0.0097	ND
7440-66-6	Zinc	2 (G)	mg/L	ND	ND	0.0097 J	ND	0.016	0.016	0.036	0.0045 J
57-12-5	Cyanide, Total	0.2	mg/L	0.0057 J	ND	ND	0.037	0.038	0.032	ND	ND

Notes:

	Indicates concentration exceeds standard or guidance value.
(G)	Indicates guidance value.
NS	No standard or guidance value available.
ND(5.1)	Indicates compound was not detected (detection limit)
J	Indicates an estimated concentration.
mg/L	milligrams per liter
(1)	taken from NYSDEC TOGs 1.1.1

TABLE 5
TONAWANDA PLASTICS
SEDIMENT ANALYTICAL RESULTS
OCTOBER 2014, OCTOBER 2016

Honeywell - Tonawanda Plastics Sediment Analytical Data 2014 & 2016 Sampling Event		Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	INLET A SS-36 INF100714 480-68758-12 TAL-BUFF 480-68758 SOIL 10/07/2014	INLET A TP-0004-01 TAL-BUFF 480-108456-1 SOIL 10/26/2016	INLET B TP-0004-02 TAL-BUFF 480-108456-1 SOIL 10/26/2016
CAS NO.	COMPOUND	UNITS:			
	VOLATILES				
67-64-1	Acetone	ug/Kg	18 J	ND(16)	ND(37)
	SEMIVOLATILES				
56-55-3	Benzo(a)anthracene	ug/Kg	1800 J	2000 J	1800
205-99-2	Benzo(b)fluoranthene	ug/Kg	1700 J	2200 J	1900
206-44-0	Fluoranthene	ug/Kg	3400 J	5300	3400
85-01-8	Phenanthrene	ug/Kg	1600 J	3800 J	1100 J
	INORGANICS				
7429-90-5	Aluminum	mg/Kg	4480	20100 J	9580
7440-38-2	Arsenic	mg/Kg	7	3.1	17.3
7440-39-3	Barium	mg/Kg	90.5	223 J	146
7440-41-7	Beryllium	mg/Kg	0.4	3.1 J	0.59 J
7440-43-9	Cadmium	mg/Kg	0.37	0.37	0.72
7440-70-2	Calcium	mg/Kg	33800 B	89300 J	5400
7440-47-3	Chromium	mg/Kg	55.9	47.9 J	28.8 J
7440-48-4	Cobalt	mg/Kg	4.4	2.6 J	16.7
7440-50-8	Copper	mg/Kg	19.6	17 J	24.6 J
7439-89-6	Iron	mg/Kg	18100 B	11500 J	27600
7439-92-1	Lead	mg/Kg	24	24.9	19.1
7439-95-4	Magnesium	mg/Kg	8740 B	13000 J	3980
7439-96-5	Manganese	mg/Kg	1690 B	2450 J	4270
7439-97-6	Mercury	mg/Kg	0.012 J	0.04	0.037
7440-02-0	Nickel	mg/Kg	21.1	13.8 J	23.1 J
7440-09-7	Potassium	mg/Kg	795	2560 J	2000 J
7782-49-2	Selenium	mg/Kg	1 J	2.4 J	1.9 J
7440-23-5	Sodium	mg/Kg	147 J	570 J	109 J
7440-28-0	Thallium	mg/Kg	1.1 J	ND(0.38)	ND(0.4)
7440-62-2	Vanadium	mg/Kg	9.5	10.5 J	21.2
7440-66-6	Zinc	mg/Kg	81.4 B	41.8 J	191 J

Notes:

mg/Kg	milligrams per kilogram
J	Indicates an estimated concentration
B	Compound was found in the clank and sample
ND(0.4)	Indicates compound was not detected (detection limit)

APPENDIX A
MONITORING WELL CONSTRUCTION AND BORING LOGS

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING MW-9
Client: Honeywell	Sampler: 2-inch Split Spoon	Page 1 of
Proj. Loc: Tonawanda, NY	Hammer: 140-lb	Location:
File No.: 1163/26080	Fall: 30-inch	Start Date: 5/24/01 End Date: 5/24/01
Boring Company: SJB Services Foreman: Matt Mattehis OBG Geologist: DJ Carnevale		Screen / Riser; Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blows /6"	Penetr/ Recovery	"N" Value	Sample Description	Stratum Change General Descript	Equip. Installed	Field Testing PID (ppm)	Field Testing UV
0		2	5-17	2/1.5	22	Olive black (5Y 4/1), damp, slaggy FILL to ~1 ft, to dark reddish brown (10R 3/4) damp, SILT, little clay to 2 ft	FILL		2.5	
			5-4							
2		4	6-5	2/1	12	Dark reddish brown (10R 3/4), damp, SILT, little clay, some black sand and slaggy fill, trace brick fragments to 4 ft			2	
			7-4							
4		6	4-4	2/2	7	Black (N1), saturated, silty SLAG, little clay			1.6	
			3-3							
6		8	5-3	2/1	13	As above with some pale yellow tile-like fragments			3	
			10-9							
8		10	2-2	2/2	5	Medium dark gray (N4), with black mottles, moist, silty CLAY, some heavy slag fragments to ~9.5 ft, to medium bluish gray (5B 5/1), silty CLAY to 10 ft			6.5	
			3-4							
10		12	5-4	2/2	9	Medium bluish gray as above to ~11 ft, to dusky yellowish brown (10YR 2/2), with olive black mottles, damp, silty CLAY, some root matter			3.7	
			5-5							

Well construction: 2-in PVC 0.010-in slot screen from 5 ft to 10 ft; sandpack from 4 ft to 10 ft; bentonite seal from 1 ft to 4 ft
Cement well pad around protective casing from grade to 1 ft

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING MW-10
Client: Honeywell	Sampler: 2-inch Split Spoon	Page 1 of
Proj. Loc: Tonawanda, NY	Hammer: 140-lb	Location:
File No.: 1163/26080	Fall: 30-inch	Start Date: 5/24/01 End Date: 5/24/01
Boring Company: SJB Services Foreman: Matt Mattehis OBG Geologist: DJ Carnevale		Screen / Riser; Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blows /6"	Penetr/ Recovery	"N" Value	Sample Description	Stratum Change General Descript	Equip. Installed	Field Testing PID (ppm)	UV
0		2	7-7	2/2	12	Olive black (5Y 4/1), damp, slaggy FILL to ~0.5 ft, to dark reddish brown (10R 3/4), damp, SILT, little clay to 1.5 ft, to black slaggy Silt	FILL		11.2	
			5-4							
2		4	6-3	2/2	9	Black (N1), moist, slaggy SILT, little gravel, chemical odor			41.7	
			6-7							
4		6	1-1	2/2	2	Black (N1), saturated, slaggy SILT, little gravel, chemical odor			25.4	
			1-1							
6		8	2-3	2/0	5	No recovery			---	
			2-2							
8		10	woh-1	2/2	2	Black (N1), saturated, slaggy SILT, little gravel to ~9.5 ft, to dark yellowish brown (10YR 4/2), moist, SILT, trace clay, root material to 10 ft			6.9	
			1-1							
10		12	2-1	2/2	4	Brownish gray (5YR 4/1), moist, silty CLAY to 12 ft			3.0	
			3-3							

Well construction: 2-in PVC 0.010-in slot screen from 5 ft to 10 ft; sandpack from 4 ft to 10 ft; bentonite seal from 1 ft to 4 ft
Cement well pad around protective casing from grade to 1 ft

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING MW-11
Client: Honeywell	Sampler: 2-inch Split Spoon	Page 1 of
Proj. Loc: Tonawanda, NY	Hammer: 140-lb	Location:
File No.: 1163/26080	Fall: 30-inch	Start Date: 5/24/01 End Date: 5/24/01
Boring Company: SJB Services Foreman: Matt Mattehis OBG Geologist: DJ Carnevale		Screen / Riser Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blows /6"	Penetr/ Recovery	"N" Value	Sample Description	Stratum Change General Descript	Equip. Installed	Field Testing PID (ppm)	Field Testing UV
0		2	4-8	2/2	18	Topsoil to 0.5 ft, to black fine sandy SILT			2.6	
			10-4			fill to ~1.5 ft, to moderate reddish brown				
						(10R 4/6), damp SILT, trace clay to 2 ft				
2		4	6-6	2/2	13	Moderate reddish brown (10R 4/6), damp			3.4	
			7-5			SILT to 4 ft				
4		6	1-2	2/2	5	Brownish black (5YR 2/1), moist, SILT,			3.8	
			3-2			little clay to 6 ft				
6		8	5-5	2/2	15	Moderate reddish brown (10R 4/6), damp			3.6	
			10-12			SILT, little clay to 8 ft				
8		10	6-11	2/2	28	Moderate reddish brown (10R 4/6), damp			1.4	
			17-19			SILT, little clay to 10 ft				

Well construction: 2-in PVC 0.010-in slot screen from 3 ft to 8 ft; sandpack from 2.5 ft to 8 ft; bentonite seal from 1.5 ft to 2.5 ft
Cement well pad around protective casing from grade to 1.5 ft

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING MW-12
Client: Honeywell	Sampler: 2-inch Split Spoon	Page 1 of
Proj. Loc: Tonawanda, NY	Hammer: 140-lb	Location:
File No.: 1163/26080	Fall: 30-inch	Start Date: 5/24/01 End Date: 5/24/01
Boring Company: SJB Services Foreman: Matt Mattehis OBG Geologist: DJ Carnevale		Screen / Riser; Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blows /6"	Penetr/ Recovery	"N" Value	Sample Description	Stratum Change General Descript	Equip. Installed	Field Testing PID (ppm)	Field Testing UV
0		2	2-3	2/2	5	Brownish Gray (5YR 4/1), damp, SILT, some gravel fill			14.4	
			2-2							
2		4	4-6	2/2	10	Moderate reddish brown (10R 4/6), damp SILT, some gravel fill			8.3	
			4-4							
4		6	2-1	2/2	4	Black (N1), moist, gravelly FILL to ~5 ft, to moist, medium gray (N5), clayey SILT to 6 ft			11.4	
			3-3							
6		8	2-3	2/2	8	Medium gray (N5), moist, clayey SILT to ~7.5 ft, moderate reddish brown (10R 4/6), damp SILT, little clay to 8 ft			5.4	
			5-5							
8		10	2-5	2/2	14	Moderate reddish brown (10R 4/6), moist SILT, little clay to 10 ft			8.2	
			9-12							

Well construction: 2-in PVC 0.010-in slot screen from 4.5 ft to 9.5 ft; sandpack from 2.5 ft to 9.5 ft; bentonite seal from 1.5 ft to 2.5 ft
Cement well pad around protective casing from grade to 1.5 ft

APPENDIX A

PARSONS

Honeywell-Tonawanda Plastics
Tonawanda, New York

NYSDEC
October 2016

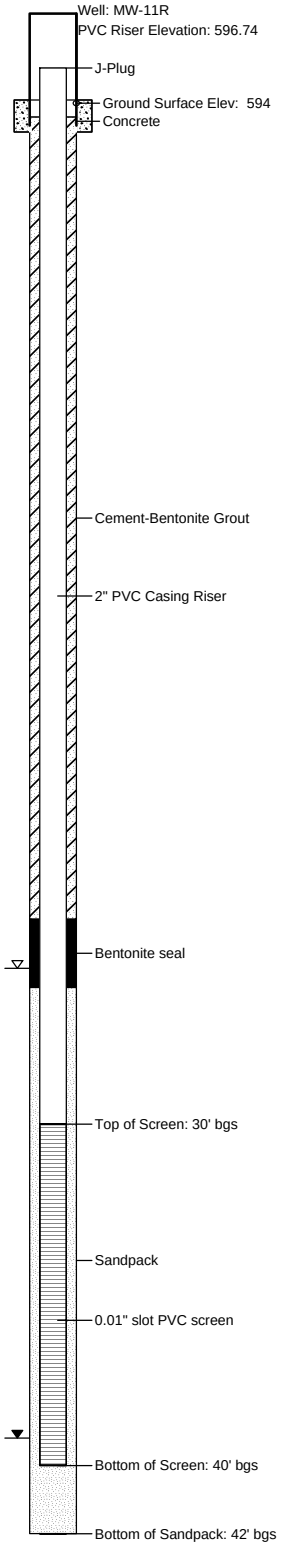
Date Started	: 10/5/2016
Date Completed	: 10/5/2016
Drilling Method	: IRA-300 with 4.25" HSA
Sampling Method	: Split-spoon
Drilling Firm	: Parrat-Wolff
Lead Driller	: Wayne Nielson
Geologist	: Rob Piurek
Project Manager	: Jeff Poulsen
Reviewed By	: Jeff Poulsen
Regulatory Agency	: NYSDEC

BORING/WELL MW-11R
(Page 1 of 1)

PID Model	: MiniRae 3000: 11.7 lamp
PID Calibration	: 100 ppm Isobutylene

Water Levels
▼ During Drilling: ~39.2' bgs
▽ Static: 27.97' BTOR (10/24/2016)

Depth in feet	Surf. Elev.	DESCRIPTION	USCS	GRAPHIC	PID-ppm	Recovery %	Blow Count
0		0.25' Topsoil					
1		Hand Cleared to 5' bgs. Light brown fine-coarse sand and gravel FILL. Dry.	FILL		0.0	100%	Hand Clear to 5.0
2							
3							
4							
5		FILL. Light brown silt, sand, and fine-coarse gravel. Dry.			0.0	40%	N/A
6			FILL				
7					0.0	50%	
8							
9					0.0	45%	
10		No recovery. Likely that a large gravel piece prevented soils from entering the shoe.					
11					N/A	0%	
12		TILL. Brown fine silty sand, some medium-fine gravel. Dry-moist.	TILL		0.0	20%	
13							
14		TILL. Brown clayey silt, trace coarse sand and fine gravel, trace plant material. Dry-moist.			0.0	45%	
15			TILL				
16							
17					0.0	100%	
18		Black lens of silt, fine sand, and plant material from 18'-18.2' with slight to moderate odor. 6.2 ppm on PID, 9.1 ppm PID with zero headspace.					
19					9.1	100%	
20		TILL. Light brown silty clay. No-trace fine gravel. Dry.					
21			CL		0.0	100%	
22							
23					1.2	100%	
24		Light brown silty clay with black fibrous wood pieces. 5.9 ppm PID-zero headspace.					
25		TILL. Light brown-red silty clay, trace plant material. Hard. Slightly moist.			5.4	100%	
26							
27					9.6	100%	
28		-trace wood fibers with slight odor from 28'-28.2' (0.8 ppm PID-zero headspace).	CL				
29					0.8	100%	
30							
31					1.2	100%	
32		Light brown CLAY. Soft. Slightly moist.					
33					0.0	100%	
34							
35					0.0	100%	
36			CL				
37					0.0	100%	
38							
39		Wet at 39.2'.			0.0	85%	
40		LIght brown SILTY CLAY, trace fine gravel and sand. Wet.					
41					0.0	75%	
42			CL				
43					0.0	100%	
44		Refusal at 44' bgs.					
45							



Monitoring Well
Construction Information

CONSTRUCTION
Boring Diameter : ~9" O.D.
WELL RISER
Material : Sch. 40 PVC
Diameter : 2"
WELL SCREEN :
Material : PVC screen
Diameter : 2"
Placement : 30' - 40'
Slot size : 0.010"
SAND PACK
Type : #00 Sand
Placement : 26' - 42'
BENTONITE SEAL
Placement : 24' - 26'
GROUT
Material : Cement-Bentonite
Placement : 0' - 24'
WELL HEAD
Protection : SS stick-up pro-casing
Well Cap : J-Plug
Well Pad : ~20" round concrete pad

Notes:

Drilling Method
0.0'-5.0': Hand dig
5.0'-44': Drill rig w/ 4.25" HSA's

APPENDIX A

PARSONS

Honeywell-Tonawanda Plastics
Tonawanda, New York

NYSDEC
October 2016

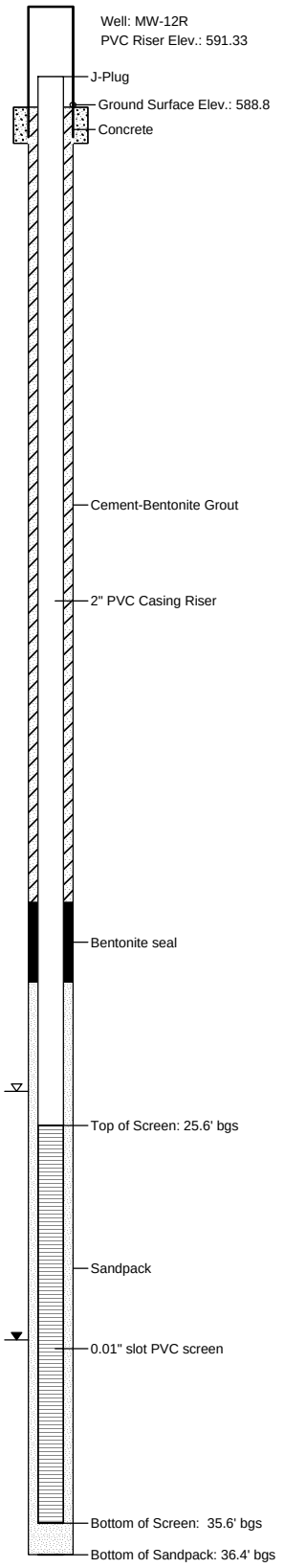
Date Started	: 10/3/2016
Date Completed	: 10/4/2016
Drilling Method	: IRA-300 with 4.25" HSA
Sampling Method	: Split-spoon
Drilling Firm	: Parrat-Wolff
Lead Driller	: Wayne Nielson
Geologist	: Rob Piurek
Project Manager	: Jeff Poulsen
Reviewed By	: Jeff Poulsen
Regulatory Agency	: NYSDEC

BORING/WELL MW-12R
(Page 1 of 1)

PID Model	: MiniRae 3000: 11.7 lamp
PID Calibration	: 100 ppm Isobutylene

Water Levels
▼ During Drilling: ~31.0' bgs
▽ Static: 24.75 BTOR (10/24/2016)

Depth in feet	Surf. Elev.	DESCRIPTION	USCS	GRAPHIC	PID-ppm	Recovery %	Blow Count
0		0.25' Topsoil					
1		Hand Cleared to 5' bgs. Light brown fine-coarse sand and gravel FILL. Dry.	FILL		0.0	100%	Hand Clear to 5.0
2							
3							
4							
5		FILL. Light brown silt, sand, and fine-coarse gravel. Some metal wire debris. Dry.	FILL		0.0	30%	N/A
6							
7					0.0	30%	
8		-trace brick and ballast material from 8'-10'.					
9					0.0	35%	
10		TILL. Light brown silt, trace clay and coarse sand and gravel.	TILL				
11					0.0	70%	
12							
13					0.0	100%	
14		Dark gray SILT and some plant material. Dry-moist. Very slight odor.	ML				
15					0.0	100%	
16		Light gray SILTY CLAY, trace plant material. Dry-moist.	CL				
17					0.0	100%	
18		TILL. Light brown-tan silty clay, trace fine gravel. Dry.					
19					0.0	100%	
20							
21					0.0	100%	
22							
23					0.0	90%	
24							
25					0.0	100%	
26							
27					0.1	100%	
28		Light gray-brown CLAY. Dry.					
29					0.0	100%	
30							
31			CL		0.0	100%	
32							
33					0.0	100%	
34		Light gray-brown SILTY CLAY, trace fine subangular gravel. Very soft. Moist.					
35			CL		0.0	100%	
36							
37		Refusal at 36.4' bgs.					



Monitoring Well
Construction Information

CONSTRUCTION
Boring Diameter : ~9" O.D.
WELL RISER
Material : Sch. 40 PVC
Diameter : 2"
WELL SCREEN :
Material : PVC screen
Diameter : 2"
Placement : 25.6' - 35.6'
Slot size : 0.010"
SAND PACK
Type : #00 Sand
BENTONITE SEAL
Placement : 20' - 22'
GROUT
Material : Cement-Bentonite
Placement : 0' - 20'
WELL HEAD
Protection : SS stick-up pro-casing
Well Cap : J-Plug
Well Pad : ~20" round concrete pad

Notes:

Drilling Method
0.0'-5.0': Hand dig
5.0'-31': Drill rig w/ 4.25" HSA's

APPENDIX B
WELL DEVELOPMENT FORMS

WELL DEVELOPMENT RECORD

Project Name:	Honeywell- Tonawanda Plastics
Job Number:	
Personnel:	R. Piurek
Date:	10/13/2016
Development type:	
Pump type:	Weighted Poly-bailer
Start Date and Time:	10/13/16 10:53
End Date and Time:	10/13/16 11:28
Flow Rate:	--

Well ID:	MW-11R
Static water Level	27.92
Total Depth	42.7 below top of riser
Casing Diameter	2"

WATER VOLUME CALCULATION

= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Casing Volumes (gal/ft.):			
1-inch = 0.041	1.5-inch = 0.092	2-inch = 0.16	3-inch = 0.36
4-inch = 0.64	6-inch = 1.4	8-inch = 2.5	10 inch = 4

Well Volume: 2.42 gal

Time	DTW	Pump Rate	Vol.	pH	DO	Spec. Cond.	Temp.	Turb.	Comments
24 hr.	ft.	GPM	gal.		mg/L	mS/cm	°C	NTU	
1053	27.92	--	0.00	7.59	4.48	5.26	12.06	56.40	Initial reading- cloudy
1103	34.90	--	2.50	7.46	4.84	5.74	11.39	>1000	1 well volume- Turbid brown
1112	37.80	--	5.00	7.43	4.09	6.34	11.17	>1000	2 well volumes- Turbid brown
1119	40.40	--	7.50	7.50	5.18	5.81	11.12	>1000	3 well volumes- Turbid brown
1128	--	--	9.50	--	--	--	--	--	Purged dry

Comments: Bailer initially surged the entire length of the screen prior to purging any groundwater.

PARSONS

WELL DEVELOPMENT RECORD

Project Name:	Honeywell- Tonawanda Plastics
Job Number:	
Personnel:	R. Piurek
Date:	10/13/2016
Development type:	
Pump type:	Weighted Poly-bailer
Start Date and Time:	10/13/16 9:55
End Date and Time:	10/13/16 10:28
Flow Rate:	

Well ID:	MW-12R
Static water Level	24.31
Total Depth	38.1 below top of riser
Casing Diameter	2"

WATER VOLUME CALCULATION

= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Casing Volumes (gal/ft.):				
1-inch = 0.041	1.5-inch = 0.092	2-inch = 0.16	3-inch = 0.36	
4-inch = 0.64	6-inch = 1.4	8-inch = 2.5	10 inch = 4	

Well Volume: 2.20 gallons

Time	DTW	Pump Rate	Vol.	pH	DO	Spec. Cond.	Temp.	Turb.	Comments
24 hr.	ft.	GPM	gal.		mg/L	mS/cm	^{o}C	NTU	
955	24.31	--	0.00	6.98	5.55	6.52	14.08	71.40	Initial reading- cloudy
1002	30.70	--	2.25	7.26	5.36	7.12	12.41	642.00	1 well volume- Cloudy
1009	33.35	--	4.50	7.27	5.36	7.26	11.88	619.00	2 well volumes- Gray
1022	36.50	--	6.75	7.39	6.23	7.65	11.37	>1000	3 well volumes- Turbid brown
1028	--	--	7.25	--	--	--	--	--	Dry

Comments: Bailer initially surged the entire length of the screen prior to purging any groundwater.

PARSONS

APPENDIX C
WELL SURVEY, WELL DEPTH AND DEPTH TO WATER MEASUREMENTS

APPENDIX C
TONAWANDA PLASTICS SITE
WELL SURVEY, WELL ELEVATION AND WATER LEVEL DEPTH MEASUREMENTS

Monitoring Well	Top of Riser Elevation (ft AMSL)	Ground Surface Elevation (ft AMSL)	NORTH COORDINATES	EAST COORDINATES	Measured Well Depth (feet BTOC) 10/24/2016	Depth to Water (feet BTOC) 10/24/2016	Groundwater Elevation (ft AMSL) 10/24/2016	Depth to Water (feet BTOC) 1/23/2017	Groundwater Elevation (ft AMSL) 1/23/2017
MW-1	585.35	583.00	1085637.70	1054763.10	11.58	8.90	576.45	7.88	577.47
MW-2	583.56	581.80	1085688.53	1054664.83	11.76	11.31	572.25	5.50	578.06
MW-3	582.31	581.30	1085727.38	1054643.48	11.40	9.65	572.66	4.88	577.43
MW-4	583.76	581.40	1085737.83	1054677.95	11.75	5.71	578.05	5.63	578.13
MW-5	586.46	584.60	1085573.26	1054850.05	10.90	9.26	577.20	6.31	580.15
MW-6	584.77	582.40	1085645.34	1054709.37	11.25	8.89	575.88	8.50	576.27
MW-7	585.90	582.10	1085610.85	1054724.96	11.60	10.24	575.66	9.62	576.28
MW-8	585.87	583.90	1085648.47	1054803.55	15.20	8.83	577.04	4.14	581.73
MW-9	585.10	582.30	1085615.55	1054691.81	12.65	9.37	575.73	7.26	577.84
MW-10	586.57	584.00	1085524.96	1054750.83	12.35	10.75	575.82	8.50	578.07
MW-11R	596.74	594.00	1085588.29	1054639.78	42.80	27.97	568.77	27.73	569.01
MW-12R	591.18	588.80	1085773.59	1054562.66	37.82	24.75	566.43	24.95	566.23

Notes:

MW-11R and MW-12R were installed on 10/5/2016 to replace decommissioned wells MW-11 and MW-12, respectively.

Well locations, top of riser, and ground surface elevations were surveyed on October 28, 2016.

Horizontal Datum- NAD83

Vertical Datum- Site Referenced from 1991

NM = Not Measured

BTOC = Below Top of Casing

AMSL = Above Mean Sea Level

APPENDIX D
SUMMARIES OF FIELD SAMPLING DATA

APPENDIX D
SUMMARY OF FIELD SAMPLING DATA
OCTOBER 2016

Well	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Oxidation Reduction Potential (mV)	Total Dissolved Solids (g/L)	Date	Time Sampled
MW-1	3.18	5.28	9	0.0	14.81	362	3.30	10/24/2016	14:30
MW-2	*Well ran dry. No final readings collected.*							10/25/2016 10/26/2016	13:45 13:20
MW-3	6.83	1.65	12.95	4.92	12.21	-99	1.06	10/25/2016	11:15
MW-4	7.28	0.707	2.05	0.10	15.10	-146	0.453	10/24/2016	16:15
MW-5	*Well ran dry. No final readings collected.*							10/25/2016 10/26/2016	10:25 13:10
MW-6	4.01	2.03	1.60	0.0	14.28	137	1.30	10/25/2016	16:50
MW-7	2.25	4.84	3.90	0.0	15.12	333	3.09	10/24/2016	15:40
MW-8	7.85	2.41	14.20	0.0	13.41	-85	1.40	10/24/2016	11:55
MW-9	8.37	0.769	77.8	5.88	13.07	-168	0.492	10/24/2016	17:20
MW-10	*Well ran dry. No final readings collected.*							10/25/2016	9:10
MW-11R	6.70	6.10	> 709	6.85	9.51	50	3.83	10/26/2016	9:35
MW-12R	7.13	6.96	11.9	6.96	10.28	46	4.39	10/25/2016	12:50

Notes:

Wells MW-2 and MW-5 were sampled and purged dry prior to collecting all bottle sets. Sampling continued a second day and again purged dry. Groundwater did not recover sufficiently to provide final readings.

Well MW-10 ran dry during purging and sampling. Groundwater did not sufficiently recover to provide final readings.

APPENDIX E
SOIL VAPOR INTRUSION STUDY

Appendix E
Soil Vapor Intrusion Sampling Report
Tonawanda Plastics Site
July 13, 2017

EXECUTIVE SUMMARY

Indoor air and sub-slab soil vapor samples were collected as part of a soil vapor intrusion (SVI) investigation at the Tonawanda Plastics Site located at 3821 River Road in Tonawanda, New York (the Site). The investigation was performed at the request of the New York State Department of Environmental Conservation (NYSDEC) following its review of the Investigation Summary Report submitted in December 2015 (Parsons). All work was performed in accordance with the Proposed Investigation Work Plan (Parsons 2016).

This report includes sections describing the methods used during sample collection as well as a summary of the results. Analytical results were reviewed against New York State Department of Health (NYSDOH) screening criteria and decision matrices as well as the United Stated Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs) and Vapor Intrusion Screening Levels (VISLs). The RSLs are risk-based concentrations that are used to evaluate the risks from the inhalation of indoor air, whereas the VISLs are risk-based concentrations that are used to evaluate the risk from soil gas that may migrate from below the building (i.e., sub-slab), to indoor air.

A summary of the investigation findings are as follows:

- Trichloroethene was detected in the indoor air sample and the sub-slab sample from the southeast laboratory location; based on the concentration, the NYSDOH Guidance recommends additional monitoring to determine if mitigation measures are necessary. Based on sampling events completed in 2015 and 2016, TCE was detected in groundwater at concentrations below the NYS Class GA groundwater standards. Because of the use and storage of mixed solvents and/or use of TCE in the laboratory, it is recommended that no further action be taken at this time.
- Carbon tetrachloride was detected in office or laboratory indoor air samples at a level where action is recommended by the NYSDOH Guidance. Decision Matrix 1 suggests that the vapors are likely from a source other than sub-slab intrusion. Carbon tetrachloride has not been detected in groundwater samples. Because of the possible storage and/or use of carbon tetrachloride in the laboratory, it is recommended that no further action be taken at this time.
- No compounds were identified in the office indoor air samples with concentrations exceeding the RSLs. Benzene, 1,2-dichloroethane, chloroform and ethylbenzene were found in the laboratory indoor air samples with concentrations exceeding the RSLs. Chloroform was the only compound detected in the sub-slab samples with a concentration above the VISL.
- Chloroform was detected at concentrations that exceed USEPA VISLs in one sub-slab sample (southeast laboratory sub-slab sample). Chloroform was detected with a concentration of 0.6 µg/m^3 in the office building indoor air and 80 µg/m^3 in the laboratory building indoor air. The USEPA RSL for chloroform in 0.53 µg/m^3. Workers in the laboratory are potentially exposed to chloroform as part of their work-place environment and, limits on chemical exposure are regulated by the Occupational Safety and Health Administration (OSHA) Chloroform was not detected in any of the groundwater samples.

- There were multiple chemicals identified in the sub-slab and indoor air samples that have not been detected in the existing groundwater monitoring wells.
- Both the laboratory and office building are hydraulically up-gradient of the area of the site that includes existing groundwater monitoring wells.
- During visual inspection and inventorying of chemicals noted in the laboratory, many bottles of volatile organic chemicals were noted in the building. Because of the possible cross-contamination from stored chemicals, it is recommended that no further action be taken at this time.

INVESTIGATION METHODS

Sub-slab and indoor air samples were collected from locations agreed to during a July 6, 2016 on-site meeting attended by Mr. Alex Czuhanich (NYSDEC) and Mr. Mathew Forcucci (NYSDOH) as well as representatives from Honeywell, Tonawanda Coke, and Parsons.

Both the Office Building and the Laboratory Building are two-story masonry structures with no known basements. The buildings have cinder-block walls, central heating (but not cooling) using natural gas, and floors covered with tile or carpet. The laboratory building is used for offices as well as the testing of raw materials, finished coke, and other coking and production related parameters. During the building inventory, several chemicals were identified in the laboratory area including lab grade containers of benzene, xylene, chloroform and mixed solvents. A detailed listing is included in Attachment 1.

General building conditions were recorded on the Indoor Air Quality Questionnaire, included as Attachment 1. As a generalization, the laboratory is housed in an older building and it does not appear that lab benches, sinks, and chemical storage cabinets have been updated in decades. As the lab focuses on analysis of samples associated with the coking process, samples of coke were noted at various locations in the lab.

Parsons mobilized to the Site on November 30, 2016, and began the SVI investigation with a building walk-through. Potential sources of volatile organic compounds (VOCs) were identified and recorded on the Indoor Air Quality Questionnaire and Building Inventory.

Four indoor air samples were collected: two (TP-0005-05 and TP-0005-07) from the office building and two (TP-0005-01 and TP-0005-03) from the laboratory building. The inlets to the Summa canisters were positioned in the breathing zone at a height approximately four-feet above the floor. Indoor air sample locations are shown on Figure 1. Photographs of the sampling locations are included in Attachment 2.

Four sub-slab samples were also collected: two (TP-0005-06 and TP-0005-08) from the office building and two (TP-0005-02 and TP-0005-04) from the laboratory building. A hammer drill was used at each sub-slab sample location to drill a 5/8-inch-diameter hole through the approximately 6- to 8-inch-thick concrete slab. Upon completion of each drill hole, an FLX-VP Vapor Pin™ was installed. Following the Vapor Pin Standard Operating Procedure provided in the work plan, a water dam leak test was performed on the sub-slab probes prior to sampling. All sub-slab probes were properly sealed and passed the test. Prior to sampling, a photoionization detector (PID) equipped with an 11.7eV bulb was used to test the air in each sub-slab probe for the presence of VOCs. Five locations had PID readings of 0.0 parts per million (ppm). The south-east laboratory sub-slab location had a PID reading of 3.9 ppm.

Nylaflow type LM (¼-inch outer diameter [OD]) tubing was used to transport the sub-slab soil gas from the probe to Summa canister. The Nylaflow tubing was secured to the Summa canister and sub-slab probe using a slightly larger piece of Tygon tubing as a bridge.

Both indoor air and sub-slab samples were collected using six-liter Summa canisters equipped with a flow controller set at a collection rate of approximately 4 mL/minute over a 24-hour intake period. All samples were collected from approximately noon on November 30 to noon on December 1. Sample locations were selected to be away from cracks or openings in the floor and away from sub-slab utilities. All sample canisters had a vacuum of at least 2 millimeters of mercury (mm-Hg) upon completion and were supplied by and analyzed at TestAmerica Laboratory in Amherst, New York, using USEPA Method TO-15.

INVESTIGATION RESULTS

During sampling, office and/or laboratory personnel were present and working in both buildings. Many potential VOC sources were identified during the walk-thorough and recorded as part of the building inventory (Attachment 1). Potential VOC sources identified and the volatiles that they may contain are summarized in Table 1a and 1b. Bottles of acids, bases, and non-volatile chemicals were also observed; however, these are not VOC sources and are not listed in Table 1. One of the chemicals observed was bleach and it was reported that both buildings are cleaned by a janitorial service that may use bleach. While none of the VOCs in the TO-15 analyte list are ingredients in bleach, bleach can generate VOCs when encountering organic carbon compounds. Potential VOCs that could be generated include carbon tetrachloride, chloroform, 1,1-dichloroethene, 1,1-dichloroethane, 1,2-dichloroethane, bromodichloromethane, 1,2-dichlorobenzene, 1,3-dichlorobenzene, trichloroethene, tetrachloroethene, chlorobenzene, and 1,4-dichlorobenzene (Odabasi 2008, Odabasi et al. 2014).

Twenty-six VOCs were detected in the indoor air samples and 30 VOCs were detected in sub-slab soil vapor samples. Three of the VOCs (1,2-dichloroethane, 1,4-dioxane, and 1,4-dichlorobenzene) were detected only in indoor air. Seven VOCs (1,3-dichlorobenzene, benzyl chloride, chlorobenzene, cyclohexane, hexachlorobutadiene, isopropylbenzene, and vinyl chloride) were only detected in sub-slab soil vapor samples. A summary of the air sampling analytical data results is included in Table 2.

The following VOCs were detected at concentrations at least one order of magnitude greater in the sub-slab than in indoor samples:

- 1,2,4-trimethylbenzene
- 1,3,5-trimethylbenzene
- 2-butanone
- Benzene
- Chloroform
- Cyclohexane
- N-hexane
- Tetrachloroethene
- Toluene
- Trichloroethene
- Vinyl chloride

In contrast, the concentrations of 1,2-dichloroethane were at least one order of magnitude greater in indoor than in sub-slab samples.

The following VOCs were detected in both sub-slab soil gas and groundwater at the Site:

- Acetone
- Benzene
- Carbon disulfide
- Cyclohexane
- Ethylbenzene
- Isopropylbenzene
- Toluene
- Trichloroethene
- Vinyl chloride
- Xylenes

A copy of the analytical data validation report is included in the March Site Investigation Report.

COMPARISON TO SCREENING LEVELS

The goal of collecting sub-slab and indoor air samples is to identify the potential or current exposures to VOCs in indoor air that originates from soil vapor intrusion. The NYSDOH considers the following variables when considering actions to take based air data:

- sampling results
- background concentrations of volatile chemicals in indoor air
- NYSDOH guidelines for volatile chemicals in air (NYSDOH 2006 amended, Table 3.1, August 2015 updates https://www.health.ny.gov/environmental/indoors/vapor_intrusion/update.htm)
- NYSDOH decision matrices (NYSDOH 2006 amended, August 2015 updates)
- human health risks
- additional factors such as past, current and future land use, sources of volatile chemicals, migration attenuation factors and completed and proposed remedial actions.

NYSDOH Guidelines Volatile Chemicals in Air

The NYSDOH has published guidelines for certain volatile chemicals in indoor air. This guidance provides screening values for methylene chloride (60 µg/m^3), trichloroethene (TCE) (2 µg/m^3) and tetrachloroethene PCE) (30 µg/m^3). All three chemicals were detected in at least one building, but at concentrations below the NYSDOH (2006 amended 2013, 2015) guideline values (see Table 3).

Background Concentrations

NYSDOH (2006) recommends that the concentrations of VOCs in indoor air from office and commercial buildings should be compared to the 90th percentile concentrations for VOCs in indoor air from the USEPA Building Assessment and Survey Evaluation (BASE) study. Concentrations below the 90th percentile are assumed to be from other indoor sources and not from soil vapor intrusion. Of the VOCs detected in the indoor air samples, only chloroform in the laboratory building exceeded the 90th percentile indoor air concentration from the BASE study (Table 3).

NYSDOH Decision Matrices

Decision matrices are risk management tools developed by the NYSDOH (2006) to provide guidance about actions that should be taken to address current and potential exposures related to soil vapor intrusion.

Soil Vapor/Indoor Air Matrix 1 is used to evaluate the need for additional actions based on the concentrations of TCE, carbon tetrachloride, and vinyl chloride. The concentrations of TCE and vinyl

chloride detected in the air samples indicate that no further action is needed for the southwest laboratory, southeast office and southwest office sampling locations.

The concentrations of TCE in the southeast laboratory indoor air and sub-slab samples (i.e., 0.79 and 26 µg/m^3, respectively) place that space into the "monitor" category. The type and frequency of monitoring is determined on a building specific basis and is required to evaluate ongoing sources and exposures.

For carbon tetrachloride, all indoor air results were estimated values between 0.45 and 0.48 µg/m^3. This range fells into the category suggesting that reasonable and practical actions be taken to identify sources and reduce exposure.

Soil Vapor/Indoor Air Matrix 2 is used to evaluate the need for action based on the concentration of PCE, 1,1,1-Trichloroethane (TCA), 1,1-dichlorethene (1,1-DCE) and cis-1,2-dichloroethene (cis-1,2-DCE). Analytical results showed that no further action is required relative to the Matrix 2 chemicals.

USEPA Regional Screening Levels

Human health risks were evaluated using the industrial worker regional screening levels (RSLs). The RSLs were developed using risk assessment guidance from the EPA Superfund program and are considered by the USEPA to be protective for humans over a lifetime. Note, however, that they are not regulatory standards and that for workplace exposures to chemicals that are being used on site, the OSHA PELs are the applicable regulatory standards.

No VOCs were detected in the office indoor air samples that exceeded the industrial worker RSLs (Table 3). Of the VOCs that were detected in indoor air in the laboratory building, four exceeded the industrial worker RSLs: 1,2-dichloroethane, benzene, chloroform, and ethylbenzene (Table 3).

- 1,2-Dichloroethane: Concentration in the southeast laboratory sample was higher in indoor air but non-detect in the sub-slab soil gas samples. This compound was not detected in any other indoor air or sub-slab samples. It is presumed that 1,2-dichloroethane in indoor air is not attributable to vapor intrusion. A container labeled as 1,2-dichloroethane was identified in the laboratory chemical inventory.

- Chloroform: Sub-slab chloroform concentrations beneath the laboratory building were higher than indoor air concentrations. Therefore, chloroform may be migrating from the sub-slab to the indoor air through the concrete slab. A container labeled as containing chloroform was also identified in the laboratory chemical inventory.

- Benzene: Detected at concentrations exceeding the industrial RSL in both laboratory building samples. Concentrations were also higher in sub-slab soil gas than indoor air. Benzene in the indoor air may be attributable to sub-slab vapor migration; however, it was also found to be present in multiple materials identified in the building chemical inventory.

- Ethylbenzene: Concentrations were higher in indoor air in the laboratory building than in sub-slab soil gas. Ethylbenzene was identified as a component of several of the products identified in the building chemical inventory. It can be presumed that ethylbenzene in indoor air is not attributable to vapor intrusion.

USEPA Vapor Intrusion Screening Levels

Results from the sub-slab samples were compared to the USEPA Vapor Intrusion Screening Levels (VISLs) (USEPA 2016a,2016b) to determine if there is a risk posed through the vapor intrusion pathway. Generally, at locations where subsurface concentrations fall below screening levels, no further action is warranted. No VOCs were detected in the sub-slab air samples from under the

office building with concentrations that exceeded the VISLs (Table 4). The only VOC in laboratory sub-slab samples which exceeded the VISLs was chloroform in the southeast laboratory sample.

OSHA PELs

The concentrations of four VOCs in indoor air exceeded the industrial worker RSLs, indicating potential risk. However, the survey to identify existing chemicals within the building noted containers that included all four of these VOCs (Table 1a). As workers at this facility have the potential to contact and/or utilize regulated chemicals as part of their job responsibilities, it is presumed that exposures to these VOCs is regulated by OSHA. For the evaluation of VOCs in the workplace where regulated chemicals are utilized, OSHA has promulgated PELs. The PELs are supplemented by the National Institute for Occupational Safety and Health's (NIOSH) recommended exposure limits (RELs). As shown below (Table 5), although chloroform exceeded the NIOSH REL, none of the VOCs were detected at concentrations exceeding the OSHA PELs.

Table 5. Comparison of Indoor Air to Industrial Criteria.

Chemical	Maximum Detected in Indoor Air (µg/m³)	Industrial worker RSL (µg/m³)	OSHA PEL (µg/m³)	NIOSH REL (µg/m³)
Benzene	2.2	1.6	31,946	319
Chloroform	80	0.53	240	9.78
1,2-Dichloroethane	0.83	0.47	202,372	4,000
Ethylbenzene	5.3	4.9	435	435

µg/m³ – microgram(s) per cubic meter

CONCLUSIONS

Indoor air and sub-slab soil gas were sampled in the office and laboratory buildings at the Tonawanda Plastics Site. Based on comparisons to the USEPA industrial RSLs, USEPA VISLs, background concentrations, NYSDOH guidelines values, and the NYSDOH (2006) decision matrices, the following conclusions have been made:

- Samples collected from the Administration Building did not suggest indoor air or sub-slab vapor intrusion issues. The near-by Laboratory Building, where multiple volatile organic chemicals are either stored or used, was determined to have concentrations of chemicals of concern in both sub-slab and indoor air. It is likely that most, if not all of the VOCs detected during testing in the lab building are related to laboratory testing, chemicals usage or storage by TCC. Additionally, the age and condition of chemical containers noted in the lab, as well as age of the lab building and equipment, suggest that detected COCs originate from activities conducted in this building.
- Trichloroethene was detected in the indoor air sample and the sub-slab sample from the southeast laboratory location with a concentration which the NYSDOH Guidance recommends additional monitoring to determine if mitigation measures are necessary. TCE has been detected in groundwater, but at concentrations below the NYS Class GA groundwater standards.
- Carbon tetrachloride was detected in office or laboratory indoor air samples with a concentration which action is recommended by the NYSDOH Guidance. Decision Matrix 1

suggests that the source is likely unrelated to vapor intrusion. Carbon tetrachloride has not been detected in groundwater samples.

- No compounds were identified in the office indoor air samples with concentrations exceeding the RSLs. However, benzene, 1,2-dichloroethane, chloroform and ethylbenzene were found in the laboratory indoor air samples at concentrations exceeding the RSLs. These compounds were all identified in products listed on the building chemical inventory.

- The only compound identified in the sub-slab samples which exceeded the USEPA VISLs was chloroform in the southeast laboratory sub-slab sample. Chloroform was not detected in any of the groundwater samples.

- There were several chemical compounds identified in the sub-slab and indoor air samples that are not known to be present in the groundwater from the area currently being investigated in the southwest corner of the Site; however, concentrations were below applicable standards.

RECOMMENDATIONS

It is suggested that implementation measures to reduce the potential of exposure be investigated with the owner/tenant. Reasonable and practical actions should be taken to identify and mitigate indoor sources of contaminants which were detected in the air samples.

REFERENCES

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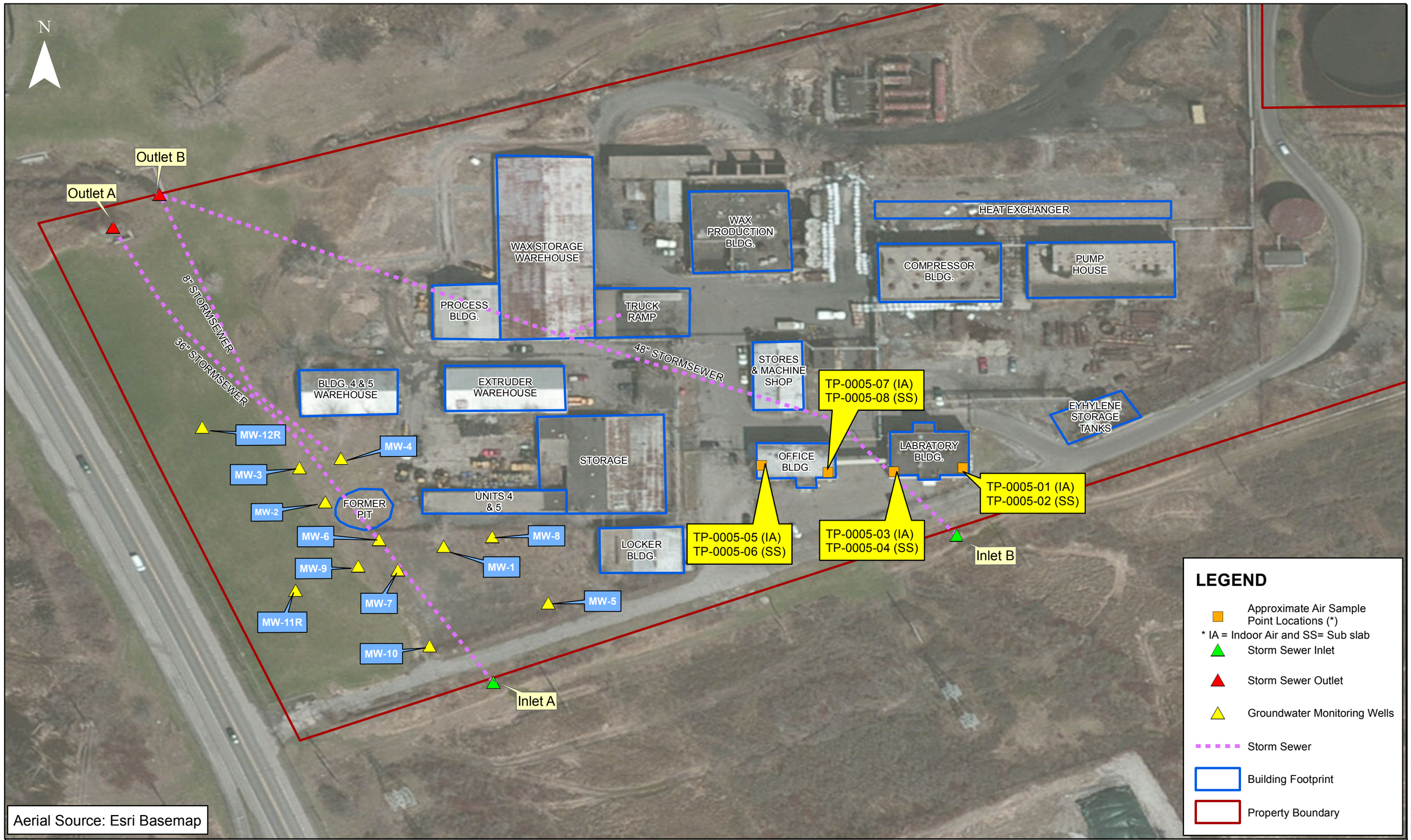
USEPA (US Environmental Protection Agency). 2016b. Vapor Intrusion Screening Level (VISL) Calculator Version 3.5.1 (May 2016 RSLs).

ATTACHMENTS

FIGURE



PARSONS

FIGURE 1: SITE PLAN
Tonawanda Plastics Site
Tonawanda, NY

0 50 100 200 Feet

1 inch equals 100 feet

Y, Rappaport	3/7/2017	
Revision: 3/7/2017	Figure No.: 1	Parsons Project No. 450115.02400
File Name: Site_location_Air_YR_20170203.mxd		

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TABLES

Table 1a
Tonawanda Plastics
Potential VOC Sources in the Laboratory Building
December 2016

Label	VOCs on label/MSDS/SDS	Likely VOCs on analyte list
Acetone	Acetone	Acetone
Benzene	Benzene	Benzene
Chloroform	Choloroform, ethanol	Chloroform
Coal tar sludge	None	Benzene, ethylbenzene, naphthalene, styrene, toluene, xylenes (Environment Canada, 2015)
Coal tar	None	Benzene, ethylbenzene, naphthalene, styrene, toluene, xylenes (Environment Canada, 2015)
1,2-Dichloroethane	1,2-Dichloroethane	1,2-Dichloroethane
Dimethylformamide	Dimethylformamide	None
Drierite	None	None
Ethly alcohol	Ethanol, ethyl acetate, methanol	None
Ethylene glycol	None	None
Glycerol, anhydrous	Glycerin	None
Hexanes	Hexane, 3-methylpentane, 2,4-dimethylpentane	n-Hexane
Hexadecane	Hexadecane	None
Kano Kroil	Hydrotreated petroleum distillates, light petroleum distillates, diisobutyl ketone	Benzene, ethylbenzene, styrene, toluene, xylenes, isopropylbenzene
Light oil	None	Benzene, ethylbenzene, naphthalene, styrene, toluene, trimethylbenzenes, xylenes, isopropylbenzene
Magic lens cleaning fluid	Isopropyl alcohol	Isopropanol (i.e., isopropyl alcohol)
Methyl alcohol/methanol	Methanol	None
Oatey purple primer	Acetone, cylohexanone, methyl ethyl ketone, tetrahydrofuran	Acetone, 2-butanone (i.e., methyl ethyl ketone), tetrahydrofuran
Oatey regular clear PVC cement	Acetone, cylohexanone, methyl ethyl ketone, tetrahydrofuran	Acetone, 2-butanone (i.e., methyl ethyl ketone), tetrahydrofuran
Pratt and Lambert Withstand alkyd floor enamel	Ethylbenzene, medium aliphatic hydrocarbon solvent	Ethylbenzene, the CAS number used in the SDS for aliphatic hydrocarbon solvent is for C9-C12 aliphatic hydrocarbons
1-Propanol	Propyl alcohol	None
Propriety solvent, anhydrous	Ethanol, methanol, ethyl acetate, gasoline, methyl isobutyl ketone	4-Methyl-2pentanone (i.e., methyl isobutyl ketone), gasoline contains benzene, ethylbenzene, toluene, xylenes, naphthalene, n-hexane, trimethylbenzenes
Pyridine	Pyridine	None
Quinoline	Quinoline	None
Raid ant and roach killer	Petroleum distillates, isopropanol	Isopropanol, the CAS number used in the SDS for petroleum distillates is for C9-C16 hydrocarbons, which includes trimethylbenzene and isopropylbenzene
1,2,3,4-Tetrahydronaphthalene	1,2,3,4-Tetrahydronaphthalene	None
Toluene	Toluene	Toluene
2,2,4-Trimethylpentane	2,2,4-Trimethylpentane	None
Xylenes	m-Xylene, o-xylene, p-xylene, ethylbenzene	Meta and para xylenes, o-xylene, ethylbenzene

Definitions:

MSDS - Material safety data sheet

SDS - Safety data sheet

VOC - Volatile organic compound

Table 1b
Tonawanda Plastics
Potential VOC Sources in the Office Building
December 2016

Label	VOCs on label/MSDS/SDS	Likely VOCs on analyte list
3-in1 Household oil	Hydrotreated heavy naphthenic oil, petroleum naphtha	Benzene, n-hexane, cyclohexane, ethylbenzene, toluene, xylenes, 1,2,4-trimethylbenzene (see MSDS for naphtha)
Betco top flite all purpose clean	Ethoxylated alcohols C9-C11	None
Bleach	None	The use of bleach can generate multiple VOCs (see text)
Boraxo	None	None
COMET® deodorizing cleanser with chlorinol	None	None
Falcon dust off	1,1-Difluoroethane	None
Home Store glass cleaner	Ammonia, 2-butoxyethanol, isopropyl alcohol	Isopropanol (i.e., isopropyl alcohol)
Lysol	Ethoxylated propoxylated alcohols C6-C10	None
Mr. Clean	Ethoxylated alcohols C9-C11	None
Resolve carpet cleaner	None	None
Suave hair spray	Dimethyl ether, SD alcohol 40-B (i.e., ethanol, t-butyl alcohol, denatonium benzoate), aminomethyl propanol	None

Definitions:

MSDS - Material safety data sheet

SDS - Safety data sheet

VOC - Volatile organic compound

Table 2
Tonawanda Plastics

Indoor and Sub-slab Air Sampling Results
Detected Compounds Summary
December 2016

Chemical	Units	Location ID / Sample Type	SE Laboratory Indoor Air	SE Laboratory Sub-Slab	SE Office Indoor Air	SE Office Sub-Slab	SW Laboratory Indoor Air	SW Laboratory Sub-Slab	SW Office Indoor Air	SW Office Sub-Slab
		Field Sample ID	TP-0005-01	TP-0005-02	TP-0005-07	TP-0005-08	TP-0005-03	TP-0005-04	TP-0005-05	TP-0005-06
		Sampled	11/30/2016	11/30/2016	11/30/2016	11/30/2016	11/30/2016	11/30/2016	11/30/2016	11/30/2016
		SDG	200-36498-1	200-36498-1	200-36498-1	200-36498-1	200-36498-1	200-36498-1	200-36498-1	200-36498-1
1,1,2-TRICHLOROTRIFLUOROETHANE	ug/m3		0.57 J	11 U	0.57 J	0.57 J	3.1 U	0.58 J	0.92 J	0.48 J
1,2,4-TRIMETHYLBENZENE	ug/m3		0.37 J	8.3	0.39 J	3.8	0.33 J	5.1	0.28 J	0.98 U
1,2-DICHLOROETHANE	ug/m3		0.83	5.6 U	0.81 U	0.81 U	1.6 U	0.81 U	0.81 U	0.81 U
1,3-DICHLOROBENZENE	ug/m3		1.2 U	8.3 U	1.2 U	0.14 J	2.4 U	0.16 J	1.2 U	1.2 U
1,4-DICHLOROBENZENE	ug/m3		1.2 U	8.3 U	0.11 J	1.2 U	2.4 U	1.2 U	1.2 U	1.2 U
2-BUTANONE (MEK)	ug/m3		2.3 J	2.6 J	1.2 J	15	2.4 J	7.7	1.9 J	2.2 J
ACETONE	ug/m3		60	37 J	14	68	95	72	18	16
BENZENE	ug/m3		2.1	7.9	0.54 J	10	2.2	6.8	0.53 J	5.8
CARBON DISULFIDE	ug/m3		0.65 J	2.5 J	0.66 J	2.8	0.35 J	0.77 J	1.9	0.76 J
CARBON TETRACHLORIDE	ug/m3		0.49 J	8.7 U	0.47 J	0.66 J	0.45 J	1.6	0.48 J	0.83 J
CHLOROBENZENE	ug/m3		0.92 U	0.63 J	0.92 U	0.63 J	1.8 U	0.32 J	0.92 U	0.92 U
CHLOROFORM	ug/m3		57	350	0.6 J	0.72 J	80	11	0.6 J	0.25 J
CHLOROMETHANE	ug/m3		1.6	1.1 J	1.4	0.66 J	1.4 J	0.21 J	1.4	0.18 J
CYCLOHEXANE	ug/m3		1.7 U	9.2 J	1.7 U	15	3.4 U	6.1	1.7 U	15
DICHLOROFLUOROMETHANE	ug/m3		2.5	2.8 J	2.5	2.3 J	2.7 J	2.2 J	2.5	2 J
ETHYL BENZENE	ug/m3		4	2 J	0.3 J	2.3	5.3	3.1	0.18 J	0.3 J
HEXACHLOROBUTADIENE	ug/m3		21 U	150 U	21 U	0.88 J	43 U	21 U	21 U	21 U
ISOPROPANOL	ug/m3		2.1 J	8.9 J	61	13	2.5 J	6.6 J	58	4.9 J
ISOPROPYLBENZENE	ug/m3		3.9 U	27 U	3.9 U	0.47 J	7.9 U	0.9 J	3.9 U	3.9 U
META & PARA XYLENES	ug/m3		16	8.9 J	1 J	11	22	21	0.55 J	0.64 J
METHYLENE CHLORIDE	ug/m3		4.7	6.2 J	1.4 J	0.72 J	3.5 U	1.7 U	0.49 J	0.46 J
N-HEXANE	ug/m3		5.5	25	1.1 J	29	8.4	15	0.5 J	40
O-XYLENE	ug/m3		3.2	2.7 J	0.36 J	3.6	4.3	5.3	0.2 J	0.18 J
STYRENE	ug/m3		0.12 J	5.9 U	0.2 J	0.32 J	1.7 U	0.29 J	0.082 J	0.85 U
TETRACHLOROETHENE	ug/m3		1.4 U	9.4 U	0.41 J	7.5	2.7 U	1.4	0.39 J	0.47 J
TETRAHYDROFURAN	ug/m3		1 J	100 U	15 U	0.8 J	29 U	0.83 J	15 U	0.64 J
TOLUENE	ug/m3		2.9	24	2	29	3.1	25	1.3	9.5
TRICHLOROETHENE	ug/m3		0.79 J	26	1.1 U	1.1 U	2.1 U	0.17 J	1.1 U	1.1 U
TRICHLOROFLUOROMETHANE	ug/m3		1.4	7.8 U	1.5	1.4	1.4 J	1.3	1.5	1.1
VINYL CHLORIDE	ug/m3		0.51 U	3.5 U	0.51 U	0.27 J	1 U	0.32 J	0.51 U	0.21 J

ug/m3: micrograms per cubic meter
U: not detected above analytical reporting limit (limit shown)
J: estimated value

Table 3
Tonawanda Plastics
Comparison of VOCs Detected in Indoor Air to Indoor Background, and Screening Levels
December 2016

Chemical	CAS	Indoor air 90th Pecentile[1] (µg/m³)	USEPA (2016a) RSL (µg/m³)	NYSDOH Guideline (µg/m³)	Maximum Detected Indoor Air Concentration			
					Laboratory Building		Office Building	
					(µg/m³)	In products?[3]	(µg/m³)	In products?[3]
1,1,2-Trichlorotrifluoroethane	76-13-1	3.5	130,000	-	0.57 J	-	0.92 J	-
1,2,4-Trimethylbenzene	95-63-6	9.5	31	-	0.37 J	Y	0.39 J	Y
1,2-Dichloroethane	107-06-2	<0.9	0.47	-	0.83	Y	-	-
1,3,5-Trimethylbenzene	108-67-8	3.7	-	-	-	Y	0.13 J	-
1,4-Dichlorobenzene	106-46-7	5.5	1.1	-	-	Y	0.11 J	Y
1,4-Dioxane	123-91-1	-	2.5	-	0.75 J	-	-	-
2-Butanone (MEK)	78-93-3	12	22,000	-	2.4 J	Y	1.9 J	-
Acetone	67-64-1	98.9	140,000	-	95	Y	18	-
Benzene	71-43-2	9.4	1.6	-	2.2	Y	0.54 J	Y
Carbon disulfide	75-15-0	4.2	3,100	-	0.65 J	-	1.9	-
Carbon tetrachloride	56-23-5	<1.3	2	-	0.49 J	Y	0.48 J	-
Chloroform	67-66-3	1.1	0.53	-	80	Y	0.6 J	-
Chloromethane	74-87-3	3.7	390	-	1.6	-	1.4	-
Dichlorofluoromethane	75-71-8	-	440	-	2.5	-	2.5	-
Ethylbenzene	100-41-4	5.7	4.9	-	5.3	Y	0.3 J	Y
Isopropanol	67-63-0	-	880	-	2.5 J	Y	61	Y
meta & para Xylenes	108-38-3	22.2	440	-	22	Y	1 J	Y
Methylene chloride	75-09-2	10	1,200	60	4.7	-	1.4 J	-
n-Hexane	110-54-3	10.2	3,100	-	8.4	Y	1.1 J	Y
o-Xylene	95-47-6	7.9	440	-	4.3	Y	0.36 J	Y
Styrene	100-42-5	1.9	4,400	-	0.12 J	Y	0.2 J	-
Tetrachloroethene	127-18-4	15.9	47	30	-	Y	0.41 J	Y
Tetrahydrofuran	109-99-9	-	8,800	-	1 J	Y	-	-
Toluene	108-88-3	43	22,000	-	3.1	Y	2	Y
Trichloroethene	79-01-6	4.2	3.0	2.0	0.79 J	Y	-	-
Trichlorofluoromethane	75-69-4	18.1	-	-	1.4	-	1.5	-

Notes:

1 - 90th percentile indoor air concentrations from the USEPA building assessment and survey evaluation (BASE) database, provided in NYSDOH (2006)

3 - Chemicals that were found in products within the buildings are indicated with an "Y". See Table 1.

Shading indicates concnetrations exceeding the USEPA RSL.

Definitions:

- = Not detected or not applicable.

J = estimated value

NYSDOH - New York State Department of Health

RSL - USEPA (2016a) industrial Regional Screening Level for air, based on a target risk of 1E-6 and a non-cancer hazard of 1.

USEPA - US Environmental Protection Agency

Table 4
Tonawanda Plastics
Comparison of VOCs Detected in Sub-Slab Soil Gas Samples to Screening Levels
December 2016

Chemical	CAS	USEPA (2016b) VISL ($\mu g/m^3$)	Maximum Detected Sub-Slab Concentration in			
			Laboratory Building		Office Building	
			($\mu g/m^3$)	In GW?[1]	($\mu g/m^3$)	In GW?[1]
1,1,2-Trichlorotrifluoroethane	76-13-1	4,380,000	0.58 J	-	0.57 J	-
1,2,4-Trimethylbenzene	95-63-6	1,022	8.3	NA	3.8	NA
1,3,5-Trimethylbenzene	108-67-8	-	4.1 J	NA	1.9	NA
1,3-Dichlorobenzene	541-73-1	-	0.16 J	-	0.14 J	-
2-Butanone (MEK)	78-93-3	730,000	7.7	-	15	-
Acetone	67-64-1	4,526,000	72	Y	68	Y
Benzene	71-43-2	52	7.9	Y	10	Y
Benzyl chloride	100-44-7	8.3	-	NA	0.13 J	NA
Carbon disulfide	75-15-0	102,200	2.5 J	Y	2.8	Y
Carbon tetrachloride	56-23-5	68	1.6	-	0.83 J	-
Chlorobenzene	108-90-7	7,300	0.63 J	-	0.63 J	-
Chloroform	67-66-3	18	350	-	0.72 J	-
Chloromethane	74-87-3	13,140	1.1 J	-	0.66 J	-
Cyclohexane	110-82-7	876,000	9.2 J	Y	15	Y
Dichlorofluoromethane	75-71-8	14,600	2.8 J	NA	2.3 J	NA
Ethylbenzene	100-41-4	164	3.1	Y	2.3	Y
Hexachlorobutadiene	87-68-3	19	-	-	0.88 J	-
Isopropanol	67-63-0	29,200	8.9 J	NA	13	NA
Isopropylbenzene	98-82-8	58,400	0.9 J	Y	0.47 J	Y
meta & para Xylenes	108-38-3	14,600	21	Y	11	Y
Methylene chloride	75-09-2	40,880	6.2 J	-	0.72 J	-
n-Hexane	110-54-3	102,200	25	NA	40	NA
o-Xylene	95-47-6	14,600	5.3	Y	3.6	Y
Styrene	100-42-5	146,000	0.29 J	-	0.32 J	-
Tetrachloroethene	127-18-4	1,572	1.4	-	7.5	-
Tetrahydrofuran	109-99-9	292,000	0.83 J	NA	0.8 J	NA
Toluene	108-88-3	730,000	25	Y	29	Y
Trichloroethene	79-01-6	100	26	Y	-	Y
Trichlorofluoromethane	75-69-4	-	1.3	-	1.4	-
Vinyl chloride	75-01-4	93	0.32 J	X	0.27 J	X

Notes:

1 - Chemicals that were detected in groundwater samples collected at the site are indicated with a "Y".

Shading indictes an exceednace of the USEPA VISL

Definitions:

- = Not detected or not applicable.

GW = Groundwater

NA - not analyzed

VISL - USEPA (2016b) industrial Vapor Intrusion Screening Level based on a target risk of 1E-6 and a non-cancer hazard of 1.

USEPA - US Environmental Protection Agency

ATTACHMENT 1

Indoor Air Quality Questionnaire and Building Inventory

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name ROBERT PLUNCH Date/Time Prepared 15:30

Preparer's Affiliation PARSONS Phone No. 716-983-9223

Purpose of Investigation SUB-SLAB / INDOOR AIR SAMPLING

1. OCCUPANT:

Interviewed: Y / N

Last Name: EBLING First Name: CAROL

Address: TONAWANDA CODE

County: ERIE

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location 12 Age of Occupants —

FULL TIME BUSINESS

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

(Residential)	School	Commercial/Multi-use
Industrial	Church	Other: _____

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many? _____

If the property is commercial, type?

Business Type(s) _____

Does it include residences (i.e., multi-use)? Y / N If yes, how many? _____

Other characteristics:

Number of floors 2 Building age 1950's

Is the building insulated? (Y) / N How air tight? Tight / Average / Not Tight

DRAFTY

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

Airflow near source

Outdoor air infiltration

Infiltration into air ducts

5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick
b. Basement type:	full	crawlspace	slab	other _____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with _____	
e. Concrete floor:	unsealed	sealed	sealed with _____	
f. Foundation walls:	poured	block	stone	other _____
g. Foundation walls:	unsealed	sealed	sealed with _____	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	Y / N			
k. Water in sump?	Y / N / not applicable			

Basement/Lowest level depth below grade: -2 (feet) SC 13

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

_____

_____

6. HEATING, VENTING and AIR CONDITIONING (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: ~~NAT. GAS~~ ELECTRIC

Boiler/furnace located in:	Basement	Outdoors	Main Floor	Other _____
Air conditioning:	Central Air	Window units	Open Windows	None

Are there air distribution ducts present? (Y) / N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

NOT VISIBLE

7. OCCUPANCY

Is basement/lowest level occupied? Full-time (Occasionally) Seldom Almost Never

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	—
1st Floor	OFFICE / STORAGE
2nd Floor	OFFICE / STORAGE
3rd Floor	—
4th Floor	—

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y (N)

b. Does the garage have a separate heating unit? Y / (N) / NA

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) Y / (N) / NA
Please specify_____

d. Has the building ever had a fire? Y / (N) When?_____

e. Is a kerosene or unvented gas space heater present? Y / (N) Where?_____

f. Is there a workshop or hobby/craft area? Y / (N) Where & Type? _____

g. Is there smoking in the building? Y / (N) How frequently? _____

h. Have cleaning products been used recently? (Y) / N When & Type? JANITORIAL SERVICE

i. Have cosmetic products been used recently? (Y) / N When & Type? LOTION

j. Has painting/staining been done in the last 6 months? Y / N Where & When? _____

k. Is there new carpet, drapes or other textiles? Y / N Where & When? _____

l. Have air fresheners been used recently? Y / N When & Type? BATHROOM, CANDLES

m. Is there a kitchen exhaust fan? Y / N If yes, where vented? _____

n. Is there a bathroom exhaust fan? Y / N If yes, where vented? _____

o. Is there a clothes dryer? Y / N If yes, is it vented outside? Y / N

p. Has there been a pesticide application? Y / N When & Type? _____

Are there odors in the building? Y / N
If yes, please describe: _____

Do any of the building occupants use solvents at work? Y / N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) No
Yes, use dry-cleaning infrequently (monthly or less) Unknown
Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply: Public Water Drilled Well Driven Well Dug Well Other: _____

Sewage Disposal: Public Sewer Septic Tank Leach Field Dry Well Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: _____

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

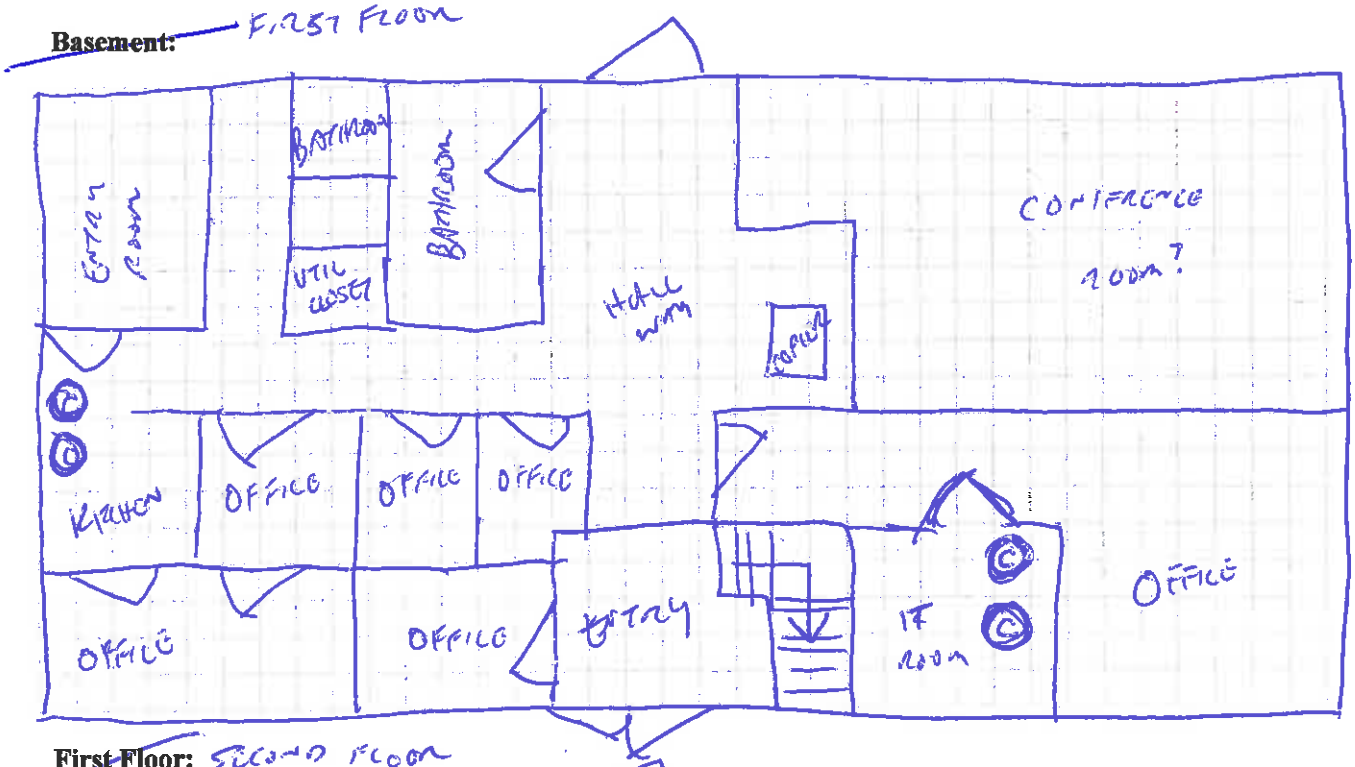
c. Responsibility for costs associated with reimbursement explained? Y / N

d. Relocation package provided and explained to residents? Y / N

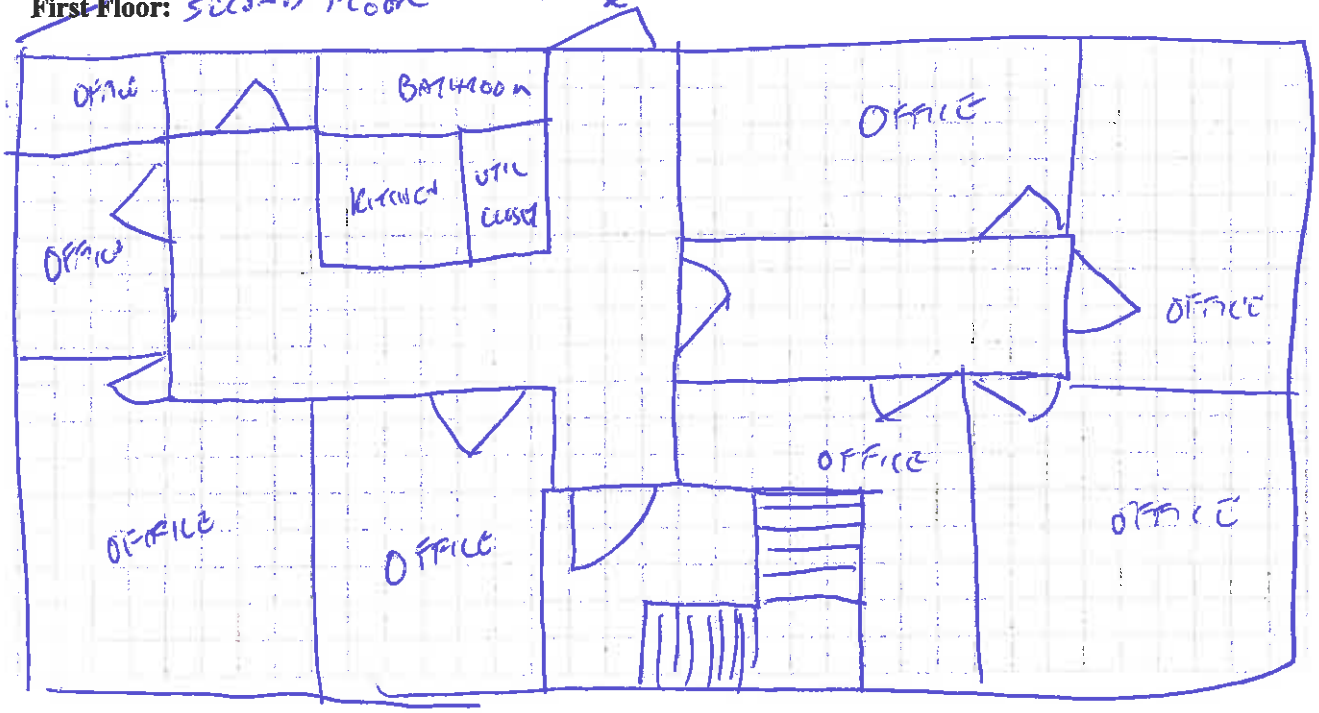
11. FLOOR PLANS OFFICE BUILDING

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement: ~~FIRST FLOOR~~



First Floor: ~~SECOND FLOOR~~



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: Rae minirae 3000 PID

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** Y/N
Janitors Closet	Bleach 2 Gal Plastic	1 Gal	Good U	PHOTO	0.0	Y
	Lysol	24oz	Good, U	PHOTO	0.0	Y
	Borax	5LB (2)	Good, U	PHOTO	0.0	Y
	Clorox Cleaner	32oz	Good, U	photo	0.0	Y
	Comet Cleanser	20oz	Good U	PHOTO	0.0	Y
	Betco detergent	1Gal	Good UD	PHOTO	0.0	Y
Office	Resolve Carpet Cleaner	64oz	Good, U	PHOTO	0.0	Y
	Mr Clean	64oz	Good, U	PHOTO	0.0	Y
	Household oil	10oz	Good, U	PHOTO	0.0	Y
upstairs South closet	Comet/Clorox cleaner	[illegible]	[illegible]	PHOTO	[illegible]	Y
	Fabreze	16oz	Good, U	PHOTO	0.0	Y
upstairs Bathroom	Hairspray	11oz	Good, U	PHOTO	0.0	Y

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

OSR – 3

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name ROBERT PLUECH Date/Time Prepared 13:00

Preparer's Affiliation PARSONS Phone No. 716-983-9223

Purpose of Investigation SUB/SCAB / INDOOR AIR SAMPLING

1. OCCUPANT:

Interviewed: (Y) / N

Last Name: KUBERA First Name: ROB AND SCHLAGER, BRUCE

Address: TONAWANDA COAST

County: ERIE

Home Phone: _____ Office Phone: 716-876-6222 x 233

Number of Occupants/persons at this location 8 Age of Occupants ——
FULL-TIME WORKERS DURING NORMAL HOURS

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential	School	Commercial/Multi-use
(Industrial)	Church	Other: _____

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many? _____

If the property is commercial, type?

Business Type(s) _____

Does it include residences (i.e., multi-use)? Y / N If yes, how many? _____

Other characteristics:

Number of floors 2 Building age 1950's

Is the building insulated? (Y) / N How air tight? Tight / (Average) / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

_____

_____

_____

Airflow near source

_____

_____

_____

Outdoor air infiltration

_____

_____

_____

Infiltration into air ducts

_____

_____

_____

5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick
b. Basement type:	full	crawlspace	slab	other _____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with _____	
e. Concrete floor:	unsealed	sealed	sealed with _____	
f. Foundation walls:	poured	block	stone	other _____
g. Foundation walls:	unsealed	sealed	sealed with _____	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	Y / N			
k. Water in sump?	Y / N / not applicable			

Basement/Lowest level depth below grade: -2 (feet) -SLAB

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

_____

_____

6. HEATING, VENTING and AIR CONDITIONING (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: NATURAL GAS

Boiler/furnace located in: Basement Outdoors Main Floor Other AND UPSTAIRS

Air conditioning: Central Air Window units Open Windows None

Are there air distribution ducts present? (Y) / N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

NOT VISIBLE.

7. OCCUPANCY

Is basement/lowest level occupied? Full-time (Occasionally) Seldom Almost Never

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	—
1st Floor	LABORATORY / OFFICE
2nd Floor	OFFICE / STORAGE
3rd Floor	—
4th Floor	—

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y (N)

b. Does the garage have a separate heating unit? Y / N (NA)

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) Y (N) / NA Please specify_____

d. Has the building ever had a fire? Y (N) When?_____

e. Is a kerosene or unvented gas space heater present? (Y) / N Where? BUNSEN BURNERS IN LAB

f. Is there a workshop or hobby/craft area? Y (N) Where & Type? _____

g. Is there smoking in the building? Y (N) How frequently? _____

h. Have cleaning products been used recently? (Y) / N When & Type? EVERY DAY JANITORIAL SERVICE

i. Have cosmetic products been used recently? Y (N) When & Type? _____

j. Has painting/staining been done in the last 6 months? Y / N Where & When? _____

k. Is there new carpet, drapes or other textiles? Y / N Where & When? _____

l. Have air fresheners been used recently? Y / N When & Type? CLEANING SUPPLIES

m. Is there a kitchen exhaust fan? Y / N If yes, where vented? CAB + HOODS

n. Is there a bathroom exhaust fan? Y / N If yes, where vented? _____

o. Is there a clothes dryer? Y / N If yes, is it vented outside? Y / N

p. Has there been a pesticide application? Y / N When & Type? ROACH CONTROL

Are there odors in the building? Y / N
If yes, please describe: _____

Do any of the building occupants use solvents at work? Y / N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? SEE INVENTORY LIST

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) No
Yes, use dry-cleaning infrequently (monthly or less) Unknown
Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply: Public Water Drilled Well Driven Well Dug Well Other: _____

Sewage Disposal: Public Sewer Septic Tank Leach Field Dry Well Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: _____

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

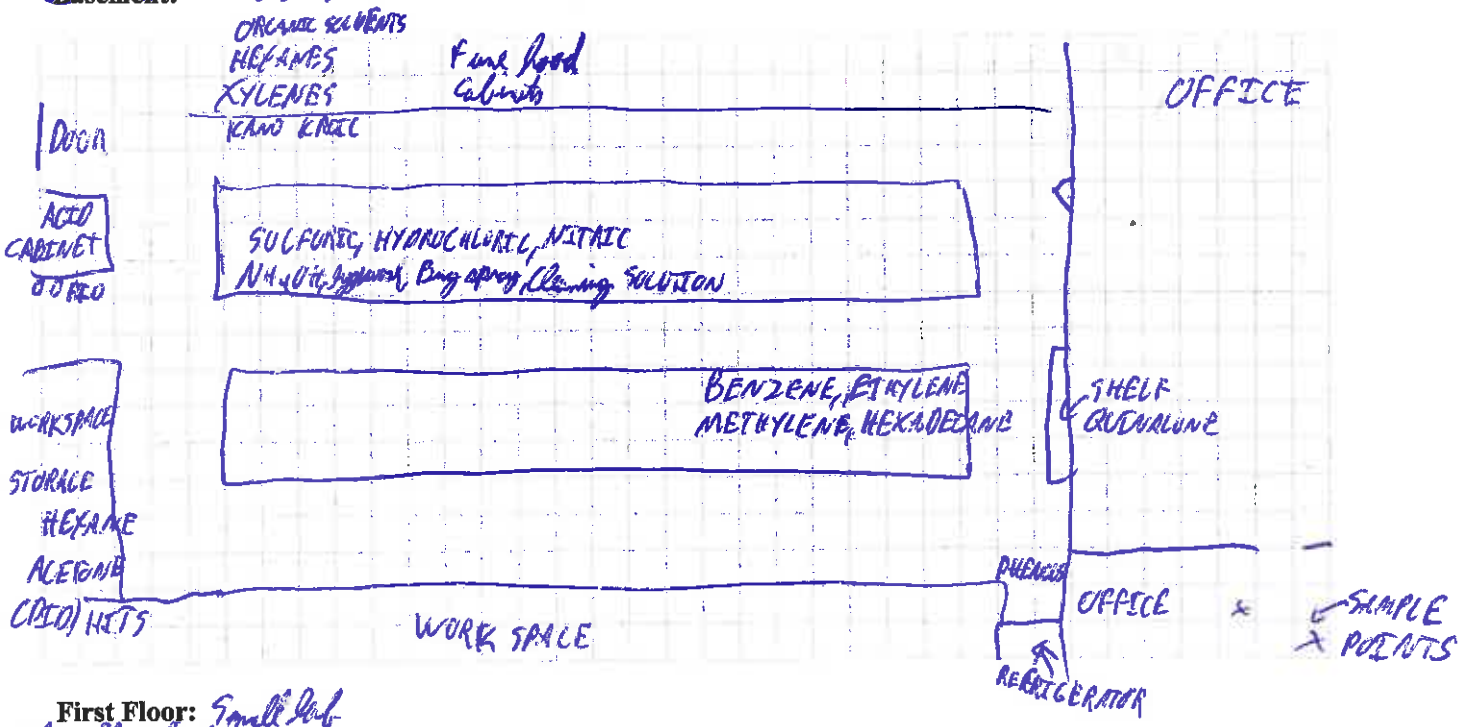
c. Responsibility for costs associated with reimbursement explained? Y / N

d. Relocation package provided and explained to residents? Y / N

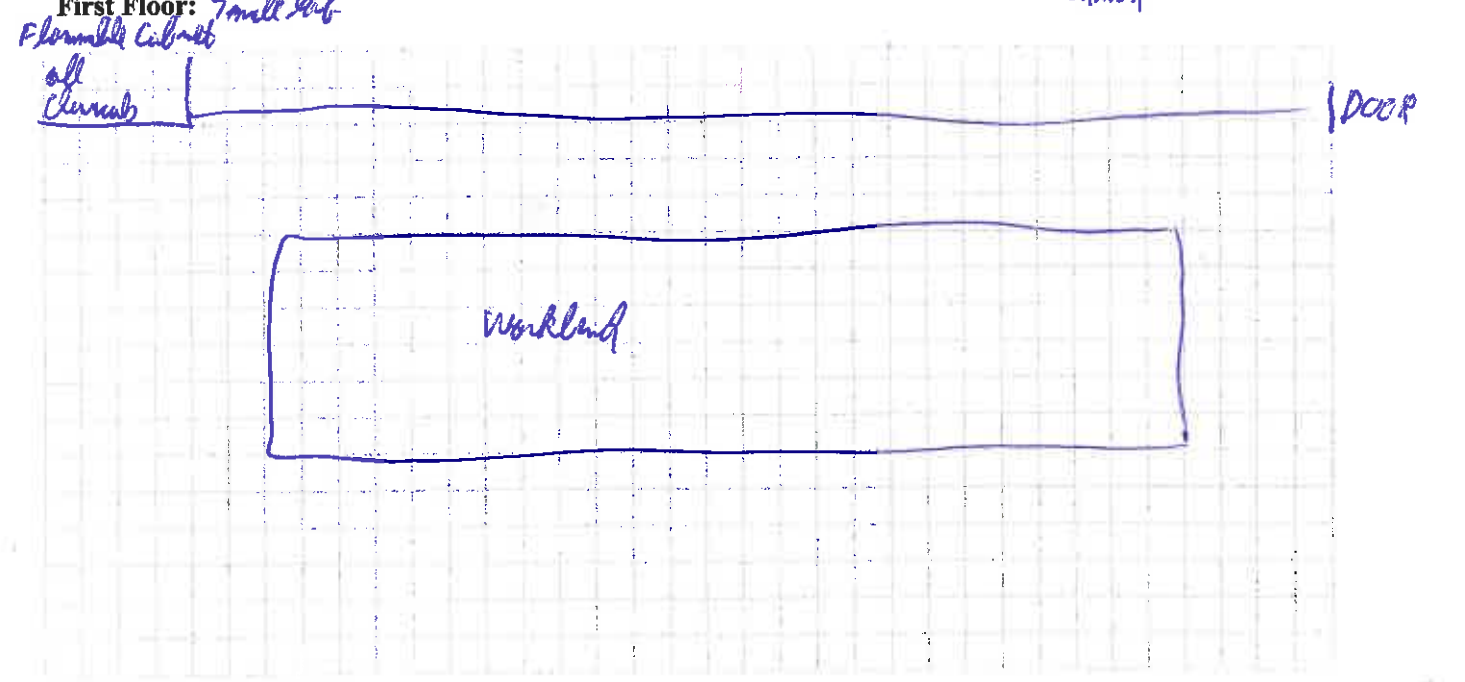
11. FLOOR PLANS LAB

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

~~Basement~~: Lab 1



First Floor: Small Lab

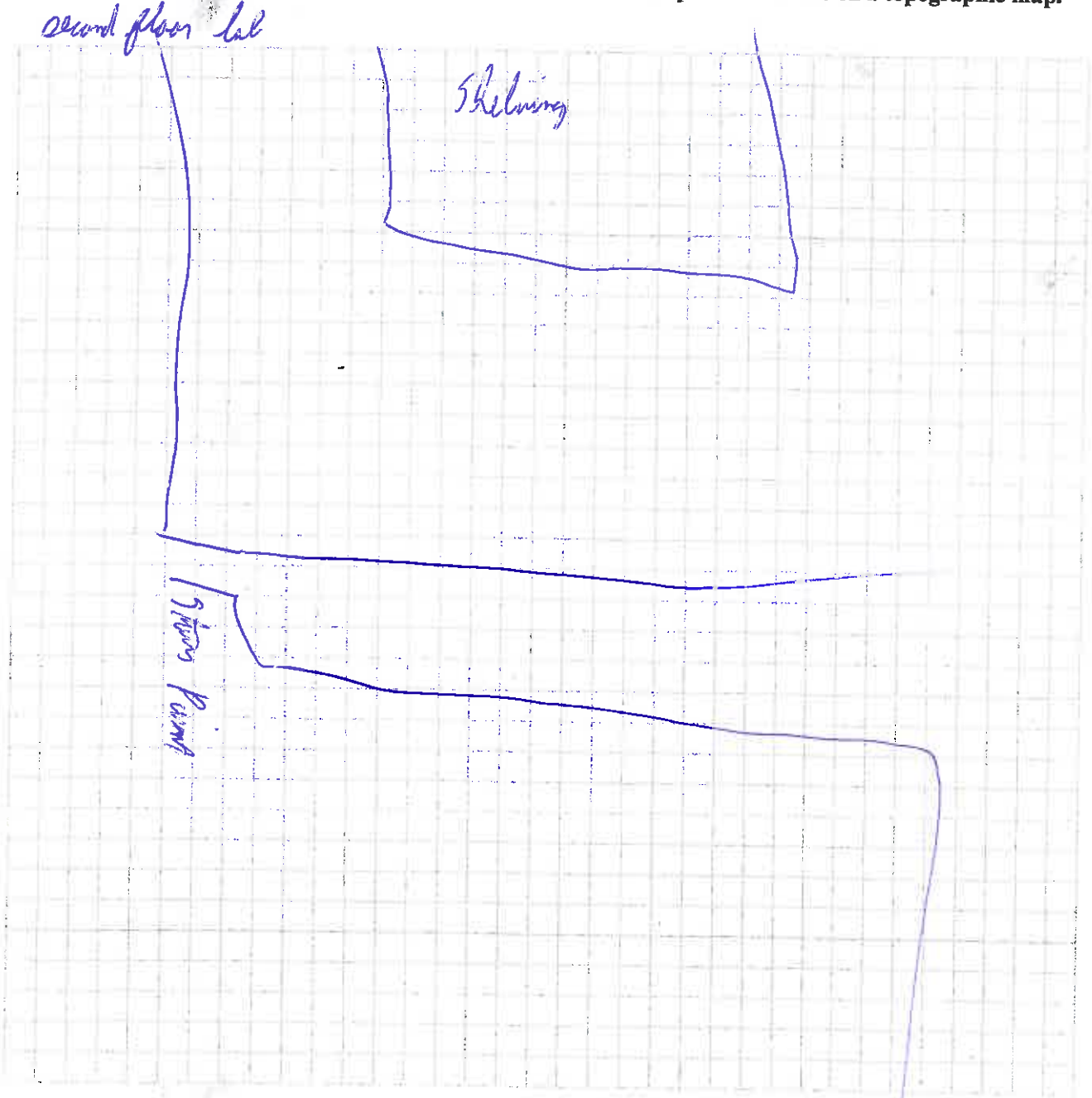


LAP

12. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: _____

List specific products found in the residence that have the potential to affect indoor air quality.

LAB

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo ** Y / N
NORTH LAB STORAGE CELL	ACETONE	20L	U	ACETONE	0.0	N
LAB STORAGE	XYLENES (EMPTY)	20L	U		0.0	N
~~EAST END~~						

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: _____

List specific products found in the residence that have the potential to affect indoor air quality.

WEST LAB / OFFICE

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** Y/N
WEST LAB	HEXANES 95%	4L	UO NEW	X2	0.0	Y
"	METHYL ALCOHOL	4L	UO		0.0	Y
"	SODIUM HYDROXIDE	20L	UO	X2	0.0	Y
"	CHLOROFORM	4L	U/UO		0.0	Y
"	AMMONIUM HYDROXIDE	4L	U/UO		0.0	Y
"	BENZENE	4L	U		0.0	Y
"	LIGHT OIL	1L	U		0.0	Y
"	COAL TAR SLUDGE	1L	U		0.0	Y
"	COAL TAR	1L	U		0.0	Y
"	SODIUM THIOSULFATE	500g	U		0.0	Y
"	DRIERITE (DESICCANT)	10 lb	U		0.0	Y
"	SODIUM HYDROXIDE	12kg	U		0.0	Y
"	ACETONE	20L	U		2.6	Y
"	ACETONE	20L	U		26.2	Y
"	XYLENE	20L	U		75.7	Y
"	XYLENE	20L	U		56.2	Y
LAB WEST	ACETONE	1L	U	X2 (46.2/10)	79.0	Y
LAB OFFICE	MAGIC LENS CLEANING FLUID	16 oz	U	WATER, ISOPROPYL ALCOHOL, COMMON SURFACTANTS	0.0	N

* Describe the condition of the product containers as **Unopened (UO), Used (U), or Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: Rae instruments minirae 3000 PID

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo ** Y / N
Lab	Sulfuric acid	2.5LGL	Good, U	PHOTO	0.0	Y
	Hydrochloric acid	2.5LGL	GOOD, U	PHOTO	0.0	Y
	NITRIC ACID	2.5LGL	GOOD, U	PHOTO	0.0	Y
	AMMONIUM HYDROXIDE	2.5LGL	GOOD, U	PHOTO	0.0	Y
	EYEWASH	1LPL	GOOD, UO	Saline water solution	0.0	N
	Micro 90 Cleaning Solution	4LPL	GOOD, U	?	0.0	N
	Raid ant and roach Killer	11oz can	Good, U	PHOTO	0.0	Y
	Hexanes	2.5LGL	empty, U	PHOTO	0.0	Y
	Xylenes	2.5LGL	Nearly empty, U	?	0.0	N
	Kwik Kroil	1Gal	Half full, U	?	0.0	Y
	Organic used solvent	2.5LGL	wrong container, U	?	0.0	Y
	Benzene	2 2.5LGL	Good, U	PHOTO	0.0	Y
	ETHYL alcohol	2.5L GLASS	GOOD, U	PHOTO	0.0	Y
	Acetone	2.5L GLASS	GOOD, U	PHOTO	0.0	Y
	METHYL ALCOHOL	2.5L GLASS	GOOD, U	PHOTO	0.0	Y
	Hexadecane	TRACE GLASS	GOOD, U	PHOTO	0.0	Y
	QUINOLINE	2 SMALL GLASS	GOOD, U	PHOTO	0.0	Y
	ACETIC ACID	2.5L GLASS	GOOD UO	PHOTO	0.0	Y
	PHOSPHORIC ACID	2.5L GLASS	GOOD U	PHOTO	0.0	Y

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: Rae Minirae 3000 PID

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo ** Y / N
LRD	ACETIC acid	2.5L Glass	Good, U	PHOTO	0.0	Y
|	LACTIC acid	2.5LGL	Good U	PHOTO	0.0	Y
|	Ferric Sulfate	2.5LGL	Good, U	PHOTO	0.0	Y
|	Hydrofluoric acid	2.5LPL	Good, U	PHOTO	0.0	Y
2ND						
FLOOR	XYLENE	20L METAL	Good U	PHOTO	0.0	Y
	SODIUM Pentachlorophenate	5-5GL Buckets	Good U	PHOTO	0.0	Y
	HEXANES	4LG	Good U	PHOTO	0.0	Y
	Benzene	4LG	Good U	PHOTO	0.0	Y
	Potassium permanganate	4LPL	Good U	PHOTO	0.0	Y
	Paint & Primer	Gal CAT	Good U	PHOTO	0.0	Y
Small Lab	ETHYLENE GLYCOL	1-16gal Glass	Good U	PHOTO	1.7	Y
	TOLUENE many containers	16gal Glass	Good, U	PHOTO	3.4	Y
	PROPRIETARY SOLVENTS		Good U	?	11.1	Y
	anhydrous Glycerol		Good, U	PHOTO	0.0	Y
	Dimethyl Formaldehyde		Good, U	PHOTO		Y
	2,2,4-Trimethyl pentane		Good, U	PHOTO	10.8	Y
	1,2,3,4, Tetrahydro-naphthalene		Good, U	PHOTO	0.0	Y
	methanol	50mL	Good, U	PHOTO	0.1	Y

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

LAB

13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: _____

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** Y/N
Small Kit	Quinaline	500 ML	UO	PHOTO	0.0	Y
	Tungsten, anionic	25 cal	Good, U	PHOTO	0.0	Y
	Methanol Propanol	4 L	GOOD U	PHOTO	0.3	Y
	1/2 Dichloroethane	1 L (2)	GOOD, U	PHOTO	0.0	Y
	acetone	4L	GOOD, U	PHOTO	99.8	Y
	Pyradine	500 ml Chrom (3)	GOOD, U	PHOTO	0.6	Y
Office entry	PVC Cement	250 ml	GOOD, U	PHOTO	7.9	Y
2nd floor	6 gallons Paint	1 GAL			0.0	

* Describe the condition of the product containers as **Unopened (UO), Used (U), or Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

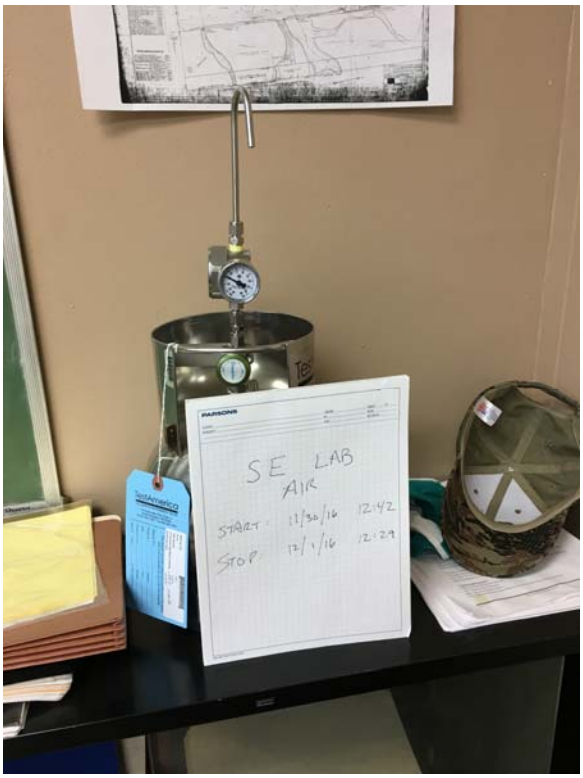
ATTACHMENT 2

Photographic Log – Sampling Locations

Tonawanda Plastics
Air Sampling Photographic Log

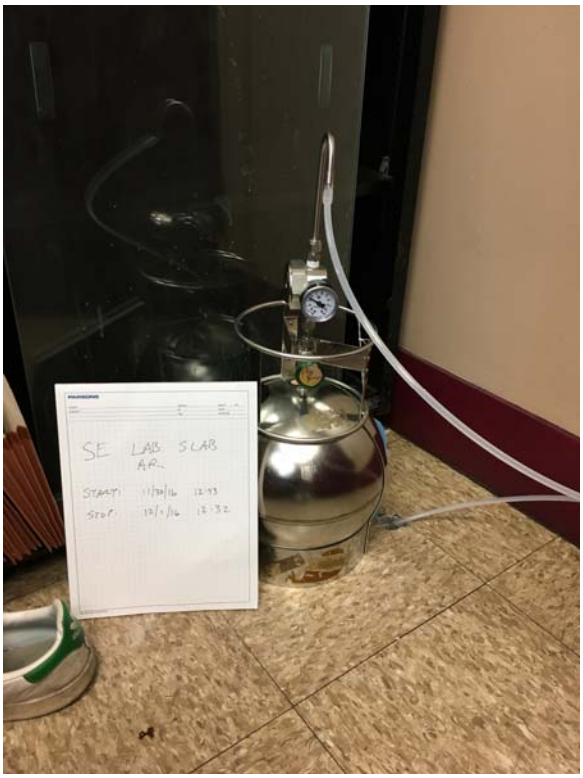
Location ID: Southeast Lab Indoor Air
Field Sample ID: TP-0005-01

Sample Start Time: 11/30/2016 12:42
Sample End Time: 12/1/2016 12:29



Location ID: Southeast Lab Subslab Air
Field Sample ID: TP-0005-02

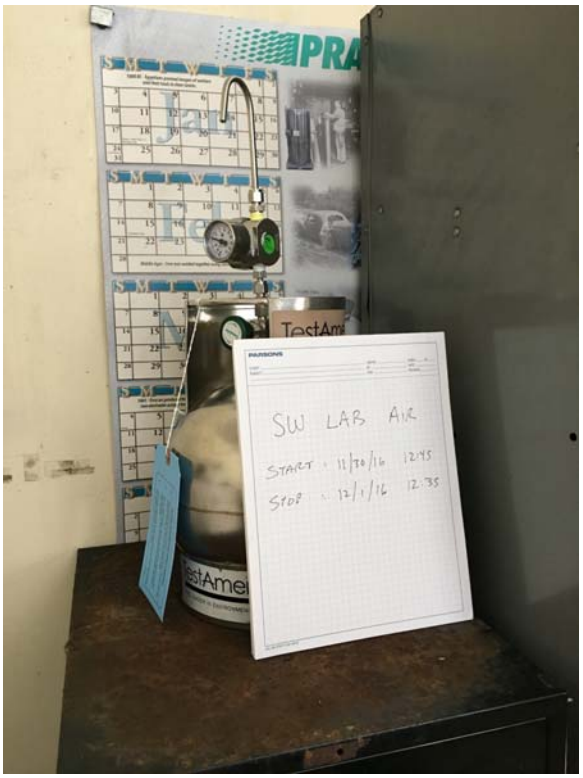
Sample Start Time: 11/30/2016 12:43
Sample End Time: 12/1/2016 12:32



Tonawanda Plastics
Air Sampling Photographic Log

Location ID: Southwest Lab Indoor Air
Field Sample ID: TP-0005-03

Sample Start Time: 11/30/2016 12:45
Sample End Time: 12/1/2016 12:35



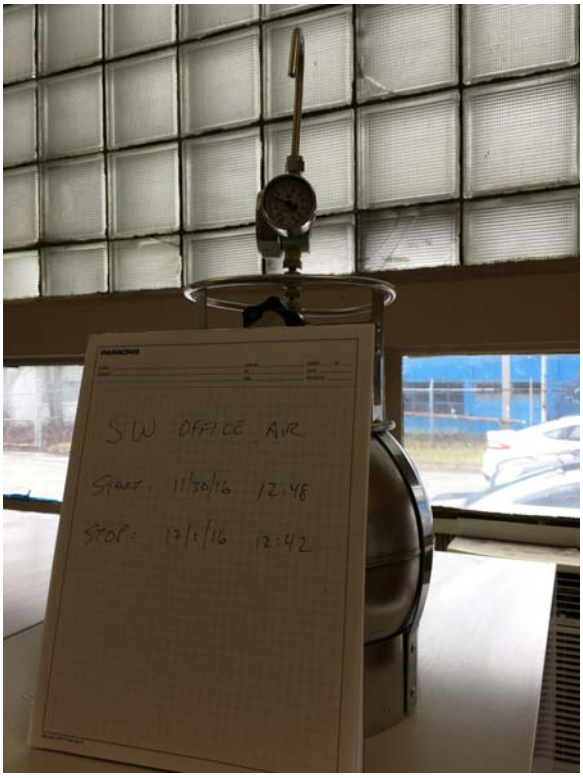
Location ID: Southwest Lab Subslab Air
Field Sample ID: TP-0005-04

Sample Start Time: 11/30/2016 12:45
Sample End Time: 12/1/2016 12:36

Tonawanda Plastics
Air Sampling Photographic Log

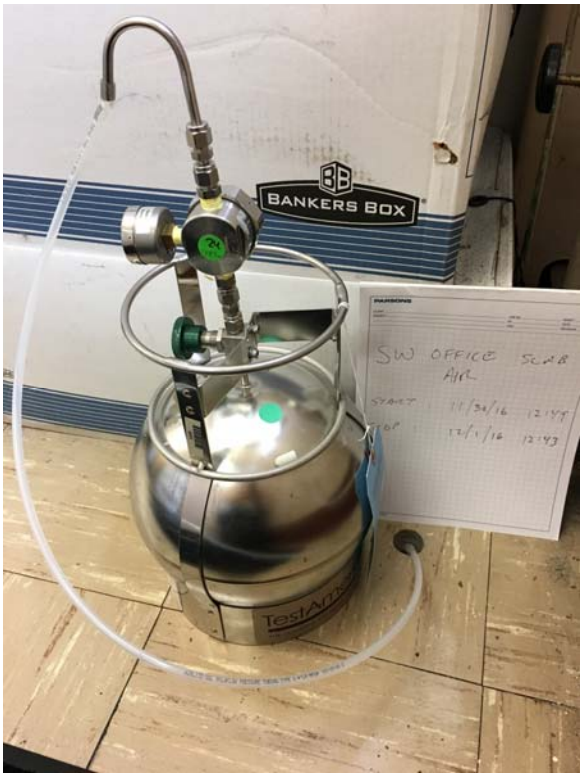
Location ID: Southwest Office Indoor Air
Field Sample ID: TP-0005-05

Sample Start Time: 11/30/2016 12:48
Sample End Time: 12/1/2016 12:42



Location ID: Southwest Office Subslab Air
Field Sample ID: TP-0005-06

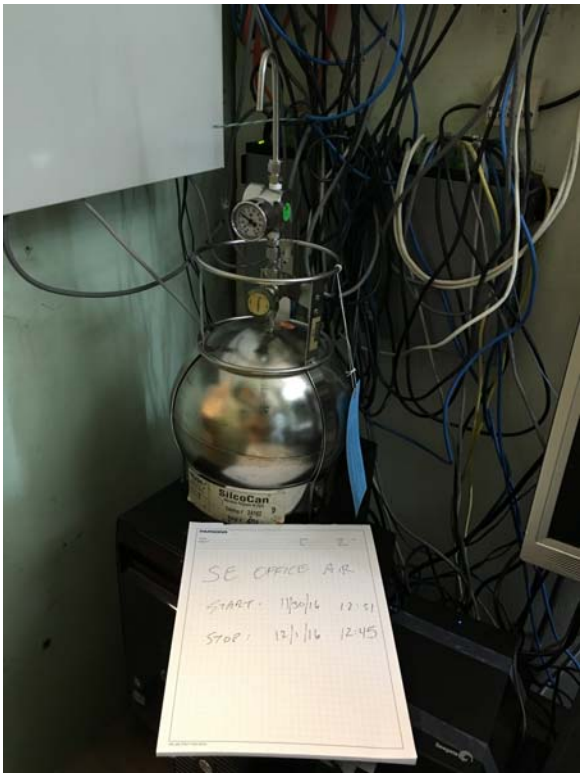
Sample Start Time: 11/30/2016 12:49
Sample End Time: 12/1/2016 12:43



Tonawanda Plastics
Air Sampling Photographic Log

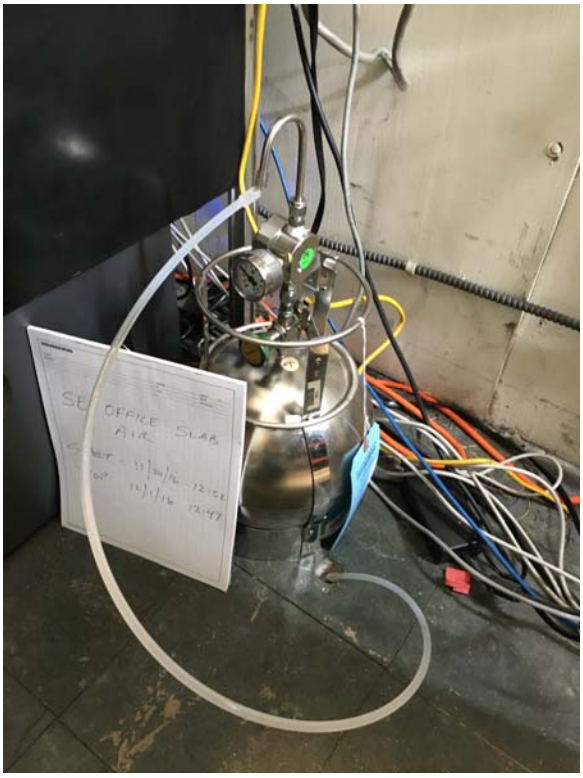
Location ID: Southeast Office Indoor Air
Field Sample ID: TP-0005-07

Sample Start Time: 11/30/2016 12:51
Sample End Time: 12/1/2016 12:45



Location ID: Southeast Office Subslab Air
Field Sample ID: TP-0005-08

Sample Start Time: 11/30/2016 12:52
Sample End Time: 12/1/2016 12:47



APPENDIX F
DATA USABILITY SUMMARY REPORT

DATA USABILITY SUMMARY REPORT

TONAWANDA PLASTICS

Prepared For:

Honeywell

115 Tabor Road
Morris Plains, New Jersey 07950

Prepared By:

PARSONS

301 Plainfield Road, Suite 350
Syracuse, New York 13212
Phone: (315) 451-9560
Fax: (315) 451-9570

JANUARY 2017

TABLE OF CONTENTS

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LIST OF ATTACHMENTS

SECTION 1

DATA USABILITY SUMMARY

Groundwater, surface water, sediment, and soil vapor samples were collected from the Tonawanda Plastics site from October 24, 2016 through December 1, 2016. Analytical results from these samples were validated and reviewed by Parsons for usability with respect to the following requirements:

- Work Plan;
- July 2005 NYSDEC Analytical Services Protocol (ASP); and
- USEPA Region II Standard Operating Procedures (SOPs) for organic and inorganic data review.

The analytical laboratories for this project were Test America Laboratories (TAL) in Buffalo, New York and Burlington, Vermont. These laboratories are certified to conduct project analyses through the New York State Department of Health (NYSDOH) and the National Environmental Laboratory Accreditation Program (NELAP).

1.1 LABORATORY DATA PACKAGES

The laboratory data packages received from TAL were paginated, complete, and overall were of good quality. Comments on specific quality control (QC) and other requirements are discussed in detail in the attached data validation report which is summarized in Section 2.

1.2 SAMPLING AND CHAIN-OF-CUSTODY

The samples were collected, properly preserved, shipped under a chain-of-custody (COC) record, and received at TAL within one to five days of sampling. All samples were received intact and in good condition at TAL.

1.3 LABORATORY ANALYTICAL METHODS

The groundwater, surface water, and sediment samples were collected from the site and analyzed for target compound list (TCL) volatile organic compounds (VOCs), TCL semivolatile organic compounds (SVOCs), target analyte list (TAL) metals, and cyanide. The soil vapor samples were collected from the site and analyzed for VOCs. Summaries of issues concerning these laboratory analyses are presented in Subsections 1.3.1 through 1.3.3. The data qualifications resulting from the data validation review and statements on the laboratory analytical precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) are discussed for each analytical method in Section 2 of this Data Usability Summary Report (DUSR). A USEPA Level IV data validation (i.e., full data validation) was conducted by Parsons on 10% of the project samples with the remaining 90% of the project samples undergoing a USEPA Level III data validation which provides data defensibility. The laboratory data were reviewed and may be qualified with the following validation flags:

"U" - not detected at the value given,

"UJ" - estimated and not detected at the value given,

"J" - estimated at the value given,

"J+" - estimated biased high at the value given,

"J-" - estimated biased low at the value given,

"N" - presumptive evidence at the value given, and

"R" - unusable value.

The validated laboratory data were tabulated and are presented in Attachment A.

1.3.1 Volatile Organic Analysis

The project samples collected from the site were analyzed for VOCs using the USEPA SW-846 8260C or TO-15 analytical methods. Certain reported results for these samples were qualified as estimated based upon matrix spike/matrix spike duplicate (MS/MSD) recoveries and instrument calibrations. The reported VOC analytical results were 100% complete (i.e., usable) for the data presented by TAL. PARCCS requirements were met.

1.3.2 Semivolatile Organic Analysis

The groundwater, surface water, and sediment samples collected from the site were analyzed for SVOCs using the USEPA SW-846 8270D analytical method. Certain reported results for these samples were qualified as estimated based upon laboratory control sample (LCS) recoveries and instrument calibrations. The reported SVOC analytical results were 100% complete (i.e., usable) for the data presented by TAL. PARCCS requirements were met.

1.3.3 Metals and Cyanide Analysis

The groundwater, surface water, and sediment samples collected from the site were analyzed for TAL metals and cyanide using the USEPA SW-846 6010C/7470A/7471B and 9012B analytical methods, respectively. Certain reported results for these samples were qualified as estimated based upon MS/MSD recoveries, LCS recoveries, serial dilutions, and field duplicate precision. The TAL metals and cyanide results were considered 100% complete (i.e., usable) for the data presented by TAL. PARCCS requirements were met.

SECTION 2

DATA VALIDATION REPORT

2.1 GROUNDWATER, SURFACE WATER, SEDIMENT, AND AIR SAMPLES

Data review has been completed for data packages generated by TAL containing groundwater, surface water, and sediment samples collected from the site. These samples were contained within sample delivery groups (SDGs) 480-108321-1, 480-108378-1, 480-108455-1, 480-108456-1, and 200-36498-1. All of these samples were properly preserved, shipped under a COC record, and received intact by the analytical laboratory. The validated laboratory data were tabulated and are presented in Attachment A.

Data validation was performed for all samples in accordance with the project work plan, NYSDEC ASP, and the USEPA Region II SOPs for organic and inorganic data review. This data validation and usability report is presented by analysis type.

2.1.1 Volatiles

The following items were reviewed for compliancy in the volatile analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) precision and accuracy
- Laboratory control sample (LCS) recoveries
- Laboratory method blank and trip blank contamination
- GC/MS instrument performance
- Sample result verification and identification
- Initial and continuing calibrations
- Internal standard area counts and retention times
- Field duplicate precision
- Summa canister cleaning
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of MS/MSD precision and accuracy, blank contamination, and continuing calibrations as discussed below.

MS/MSD Precision and Accuracy

All MS/MSD precision (relative percent difference; RPD) and accuracy (percent recovery; %R) measurements were considered acceptable and within QC limits for designated spiked project samples with the exception of the MS/MSD precision for 1,2-dibromo-3-chloropropane during the spiked analyses of sample TP-0001-04; the high MSD accuracy result for 1,1,1-trichloroethane during the spiked analyses of sample TP-0003-04; and the low MS/MSD accuracy results for 1,2,4-trichlorobenzene, 1,2-dibromo-3-chloropropane, 2-butanone, and acetone and the MS/MSD precision results for many compounds during the spiked analyses of sample TP-0004-01. The results for 1,2,4-trichlorobenzene, 1,2-dibromo-3-chloropropane, 2-butanone, and acetone for parent sample TP-0004-01 were considered estimated with positive results qualified "J" and nondetected results qualified "UJ". Validation qualification for the remaining parent samples was not required.

Blank Contamination

The laboratory method blank associated with samples in SDG 480-108456-1 contained acetone below the reporting limit at a concentration of 8.29 µg/kg; the laboratory method blank associated with samples TP-0005-01, -05, and -07 contained 1,2,4-trichlorobenzene, benzyl chloride, and naphthalene below the reporting limits at concentrations of 0.0556, 0.0209, and 0.0372 ppbv, respectively; the laboratory method blank associated with sample TP-0005-03 contained 1,2,4-trichlorobenzene and naphthalene below the reporting limits at concentrations of 0.0641 and 0.0427 ppbv, respectively; and the laboratory method blank associated with samples TP-0005-02, -04, -06, and -08 contained 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, and naphthalene below the reporting limits at concentrations of 0.0671, 0.0206, 0.0235, and 0.0514 ppbv, respectively. Therefore, results for these compounds that were less than the validation action concentrations were considered not detected and qualified "U" for the affected samples.

Continuing Calibrations

All continuing calibration compounds were compliant with a minimum RRF of 0.05 and a maximum %D within ±20% with the exception of bromoform (-23.8%D) in the continuing calibration associated with samples TP-0001-01 and -04; bromoform (-21.5%D) and acetone (52.6%D) in the continuing calibration associated with samples TP-0001-02, -03, and -05; and acetone (46.9%D) in the continuing calibration associated with samples in SDGs 480-108378-1 and 480-108455-1. The sample results for these compounds were considered estimated with positive results qualified "J" and nondetected results qualified "UJ" for the affected samples.

Usability

All volatile results for the project samples were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, comparability, and sensitivity. The

volatile data presented by TAL were 100% complete (i.e., usable). The validated laboratory data are tabulated and presented in Attachment A.

2.1.2 Semivolatiles

The following items were reviewed for compliancy in the semivolatile analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) precision and accuracy
- Laboratory control sample (LCS) recoveries
- Laboratory method blank contamination
- GC/MS instrument performance
- Sample result verification and identification
- Initial and continuing calibrations
- Internal standard area counts and retention times
- Field duplicate precision
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of surrogate recoveries, MS/MSD precision and accuracy, LCS recoveries, blank contamination, and continuing calibrations as discussed below.

Surrogate Recoveries

All sample surrogate recoveries were considered acceptable and within QC limits with the exception of the low p-terphenyl-d14 surrogate recovery (QC limit 67-150%R) in samples TP-0001-02 (59%R), -03 (60%R), and TP-0004-02 (41%R); and the high 2,4,6-tribromophenol surrogate recovery (QC limit 39-146%R) in sample TP-0004-01 (151%R). Validation qualification of these samples was not required.

MS/MSD Precision and Accuracy

All MS/MSD precision (relative percent difference; RPD) and accuracy (percent recovery; %R) measurements were considered acceptable and within QC limits for all compounds of designated spiked project samples with the exception of the low MS/MSD accuracy results for 3-nitroaniline, 4-chloroaniline, benzo(a)pyrene, benzo(g,h,i)perylene, bis(2-ethylhexyl)phthalate, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene during the spiked analyses of sample TP-0001-04. Validation qualification was not required for the parent sample.

LCS Recoveries

All LCS recoveries were considered acceptable and within QC limits with the exception of the low LCS recovery for hexachlorocyclopentadiene (25%R; QC limit 31-120%R) associated with samples in SDG 480-108455-1. Therefore, results for this compound which were nondetects were considered estimated and qualified "UJ" for the affected samples.

Blank Contamination

The laboratory method blanks associated with samples in SDG 480-108378-1 contained bis(2-ethylhexyl)phthalate at concentrations of 2.26 and 9.5 µg/L. Therefore, results for this compound less than validation action concentrations were considered not detected and qualified "U" for the affected samples.

Continuing Calibrations

All continuing calibration compounds were compliant with a minimum RRF of 0.05 and a percent difference (%D) within ±20% with the exception of hexachlorocyclopentadiene (-36.1%D) and pentachlorophenol (-30%D) in the continuing calibration associated with samples in SDG 480-108321-1; hexachlorocyclopentadiene (-65.4%D) and pentachlorophenol (-30.3%D) in the continuing calibration associated with sample TP-0002-05; pentachlorophenol (-28.9%D) in the continuing calibration associated with samples TP-0002-02, -04, -06, -07, and -08; hexachlorocyclopentadiene (-61.3%D) and pentachlorophenol (-24.1%D) in the continuing calibration associated with sample TP-0003-04; caprolactam (-34.2%D) in the continuing calibration associated with sample TP-0003-06; hexachlorocyclopentadiene (-64.8%D) and pentachlorophenol (-26.5%D) in the continuing calibration associated with samples TP-0003-02, -03, -05, and -08; and bis(2-chloroethyl)ether (-23.3%D) and hexachlorobutadiene (34.4%D) in the continuing calibration associated with samples in SDG 480-108456-1. Therefore, results for these compounds were considered estimated with positive results qualified "J" and nondetected results qualified "UJ" for the affected samples.

Usability

All semivolatile results for the project samples were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, comparability, and sensitivity. The semivolatile data presented by TAL were 100% complete (i.e., usable). The validated semivolatile laboratory data are tabulated and presented in Attachment A.

2.1.3 Inorganics

The following items were reviewed for compliancy in the inorganics analysis:

- Custody documentation

- Holding times
- Initial and continuing calibration verifications
- Initial and continuing calibration blank, and laboratory preparation blank contamination
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries
- Laboratory duplicate precision
- Laboratory control sample (LCS) recoveries
- Serial dilutions
- Interference check sample (ICS) recoveries
- Sample result verification and identification
- Field duplicate precision
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of MS/MSD recoveries, LCS recoveries, blank contamination, serial dilutions, and field duplicate precision as discussed below.

MS/MSD Recoveries

All MS/MSD recoveries were considered acceptable and within the 75-125%R QC limit with the exception of the high recovery for iron (213%R) associated with sample TP-0003-04; and the MS/MSD recoveries for antimony (72%R, 50%R), chromium (882%R, 71%R), copper (290%R), nickel (986%R), zinc (161%R), beryllium (69%R), potassium (57%R), selenium (68%R), and silver (71%R) associated with sample TP-004-01. Therefore, positive results for those analytes where MS/MSD recoveries exceeded the QC limit were considered estimated, possibly biased high, and qualified "J+" for the affected samples. Results for those analytes where MS/MSD recoveries fell below the QC limit were considered estimated, possibly biased low, with positive results qualified "J-" and nondetected results qualified "UJ" for the affected samples.

LCS Recoveries

All LCS recoveries were considered acceptable and within QC limits with the exception of the high LCS recovery for cyanide (114%R; QC limit 90-110%R) associated with sample TP-0003-08. Therefore, the positive cyanide result for this sample was considered estimated, possibly biased high, and qualified "J+".

Blank Contamination

The laboratory preparation blank associated with samples in SDG 480-108321-1 contained manganese at a concentration of 0.00115 mg/L; the laboratory preparation blank associated with samples in SDG 480-108378-1 contained manganese below the reporting limit at a concentration of 0.00053 mg/L; the laboratory preparation blank associated with samples in SDG 480-108455-

1 contained manganese and zinc below the reporting limits at concentrations of 0.000610 and 0.00187 mg/L, respectively; and the laboratory preparation blank associated with samples in SDG 480-108456-1 contained calcium, chromium, and manganese below the reporting limits at concentrations of 5.31, 0.363, and 0.117 mg/L, respectively. Validation qualification of the affected samples was not required.

Serial Dilutions

All serial dilution results were considered acceptable and less than 10%D with the exception of the serial dilution results for aluminum (18%D), barium (24%D), beryllium (22%D), calcium (28%D), chromium (26%D), cobalt (15%D), copper (16%D), iron (21%D), magnesium (22%D), manganese (28%D), potassium (18%D), sodium (17%D), vanadium (24%D), and zinc (30%D) associated with sample TP-0004-01. Therefore, the positive results for these analytes were considered estimated and qualified "J" for the affected sample.

Field Duplicate Precision

All field duplicate precision results were considered acceptable with the exception of the precision for iron (133%RPD) and cyanide (86%RPD) associated with sample TP-0002-05 and its field duplicate TP-0002-06. Therefore, results for these analytes were considered estimated and qualified "J" for these samples.

Usability

All inorganic results for the project samples were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, comparability, and sensitivity. The inorganic data for the project samples presented by TAL were 100% complete (i.e., usable). The validated laboratory data are tabulated and presented in Attachment A.

ATTACHMENT A

VALIDATED LABORATORY DATA

			Location ID	SE Lab Air	SE Lab Slab Air	SE Office Air	SE Office Slab Air
			Field Sample ID	TP-0005-01	TP-0005-02	TP-0005-07	TP-0005-08
			Sampled	11/30/2016	11/30/2016	11/30/2016	11/30/2016
			SDG	200-36498-1	200-36498-1	200-36498-1	200-36498-1
			Matrix	AIR	AIR	AIR	AIR
			Purpose	REG	REG	REG	REG
			Type	Air	Air	Air	Air
Method	Parameter Code	Parameter Name	Units	Leached			
TO-15	71-55-6V	1,1,1-TRICHLOROETHANE BY VOLUME	ug/m3	N	1.1 U	7.5 U	1.1 U	1.1 U
TO-15	79-34-5V	1,1,2,2-TETRACHLOROETHANE BY VOLUME	ug/m3	N	1.4 U	9.5 U	1.4 U	1.4 U
TO-15	79-00-5V	1,1,2-TRICHLOROETHANE BY VOLUME	ug/m3	N	1.1 U	7.5 U	1.1 U	1.1 U
TO-15	76-13-1V	1,1,2-TRICHLOROTRIFLUOROETHANE BY VOLUME	ug/m3	N	0.57 J	11 U	0.57 J	0.57 J
TO-15	75-34-3V	1,1-DICHLOROETHANE BY VOLUME	ug/m3	N	0.81 U	5.6 U	0.81 U	0.81 U
TO-15	75-35-4V	1,1-DICHLOROETHENE BY VOLUME	ug/m3	N	0.79 U	5.5 U	0.79 U	0.79 U
TO-15	120-82-1V	1,2,4-TRICHLOROBENZENE BY VOLUME	ug/m3	N	15 U	100 U	15 U	15 U
TO-15	95-63-6V	1,2,4-TRIMETHYLBENZENE BY VOLUME	ug/m3	N	0.37 J	8.3	0.39 J	3.8
TO-15	106-93-4V	1,2-DIBROMOETHANE BY VOLUME	ug/m3	N	1.5 U	11 U	1.5 U	1.5 U
TO-15	76-14-2V	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE BY VOLUME	ug/m3	N	1.4 U	9.6 U	1.4 U	1.4 U
TO-15	95-50-1V	1,2-DICHLOROBENZENE BY VOLUME	ug/m3	N	1.2 U	8.3 U	1.2 U	1.2 U
TO-15	107-06-2V	1,2-DICHLOROETHANE BY VOLUME	ug/m3	N	0.83	5.6 U	0.81 U	0.81 U
TO-15	78-87-5V	1,2-DICHLOROPROPANE BY VOLUME	ug/m3	N	0.92 U	6.4 U	0.92 U	0.92 U
TO-15	108-67-8V	1,3,5-TRIMETHYLBENZENE BY VOLUME	ug/m3	N	0.98 U	4.1 J	0.13 J	1.9
TO-15	541-73-1V	1,3-DICHLOROBENZENE BY VOLUME	ug/m3	N	1.2 U	8.3 U	1.2 U	0.14 J
TO-15	106-46-7V	1,4-DICHLOROBENZENE BY VOLUME	ug/m3	N	1.2 U	8.3 U	0.11 J	1.2 U
TO-15	123-91-1V	1,4-DIOXANE BY VOLUME	ug/m3	N	0.75 J	120 U	18 U	18 U
TO-15	78-93-3V	2-BUTANONE (MEK) BY VOLUME	ug/m3	N	2.3 J	2.6 J	1.2 J	15
TO-15	108-10-1V	4-METHYL-2-PENTANONE BY VOLUME	ug/m3	N	2 U	14 U	2 U	2 U
TO-15	67-64-1V	ACETONE BY VOLUME	ug/m3	N	60	37 J	14	68
TO-15	71-43-2V	BENZENE BY VOLUME	ug/m3	N	2.1	7.9	0.54 J	10
TO-15	100-44-7V	BENZYL CHLORIDE BY VOLUME	ug/m3	N	4.1 U	29 U	4.1 U	0.13 J
TO-15	75-27-4V	BROMODICHLOROMETHANE BY VOLUME	ug/m3	N	1.3 U	9.2 U	1.3 U	1.3 U
TO-15	593-60-2V	Bromoethene (BY VOLUME)	ug/m3	N	0.87 U	6 U	0.87 U	0.87 U
TO-15	75-25-2V	BROMOFORM BY VOLUME	ug/m3	N	2.1 U	14 U	2.1 U	2.1 U
TO-15	74-83-9V	BROMOMETHANE BY VOLUME	ug/m3	N	0.78 U	5.4 U	0.78 U	0.78 U
TO-15	75-15-0V	CARBON DISULFIDE BY VOLUME	ug/m3	N	0.65 J	2.5 J	0.66 J	2.8
TO-15	56-23-5V	CARBON TETRACHLORIDE BY VOLUME	ug/m3	N	0.49 J	8.7 U	0.47 J	0.66 J
TO-15	108-90-7V	CHLOROBENZENE BY VOLUME	ug/m3	N	0.92 U	0.63 J	0.92 U	0.63 J
TO-15	75-00-3V	CHLOROETHANE BY VOLUME	ug/m3	N	2.1 U	15 U	2.1 U	2.1 U
TO-15	67-66-3V	CHLOROFORM BY VOLUME	ug/m3	N	57	350	0.6 J	0.72 J
TO-15	74-87-3V	CHLOROMETHANE BY VOLUME	ug/m3	N	1.6	1.1 J	1.4	0.66 J
TO-15	156-59-2V	CIS-1,2-DICHLOROETHENE BY VOLUME	ug/m3	N	0.79 U	5.5 U	0.79 U	0.79 U
TO-15	10061-01-5V	CIS-1,3-DICHLOROPROPENE BY VOLUME	ug/m3	N	0.91 U	6.3 U	0.91 U	0.91 U
TO-15	110-82-7V	CYCLOHEXANE BY VOLUME	ug/m3	N	1.7 U	9.2 J	1.7 U	15
TO-15	124-48-1V	DIBROMOCHLOROMETHANE BY VOLUME	ug/m3	N	1.7 U	12 U	1.7 U	1.7 U
TO-15	75-71-8V	DICHLOROFLUOROMETHANE BY VOLUME	ug/m3	N	2.5	2.8 J	2.5	2.3 J
TO-15	100-41-4V	ETHYL BENZENE BY VOLUME	ug/m3	N	4	2 J	0.3 J	2.3
TO-15	87-68-3V	HEXACHLOROBUTADIENE BY VOLUME	ug/m3	N	21 U	150 U	21 U	0.88 J
TO-15	67-63-0V	ISOPROPANOL BY VOLUME	ug/m3	N	2.1 J	8.9 J	61	13

		Location ID		SE Lab Air	SE Lab Slab Air	SE Office Air	SE Office Slab Air
		Field Sample ID		TP-0005-01	TP-0005-02	TP-0005-07	TP-0005-08
		Sampled		11/30/2016	11/30/2016	11/30/2016	11/30/2016
		SDG		200-36498-1	200-36498-1	200-36498-1	200-36498-1
		Matrix		AIR	AIR	AIR	AIR
		Purpose		REG	REG	REG	REG
		Type		Air	Air	Air	Air
Method	Parameter Code	Parameter Name	Units	Leached			
TO-15	98-82-8V	ISOPROPYLBENZENE BY VOLUME	ug/m3	N	3.9 U	27 U	3.9 U	0.47 J
TO-15	XYLENES1314V	META & PARA XYLENES BY VOLUME	ug/m3	N	16	8.9 J	1 J	11
TO-15	1634-04-4V	METHYL TERT-BUTYL ETHER BY VOLUME	ug/m3	N	3.6 U	25 U	3.6 U	3.6 U
TO-15	75-09-2V	METHYLENE CHLORIDE BY VOLUME	ug/m3	N	4.7	6.2 J	1.4 J	0.72 J
TO-15	110-54-3V	N-HEXANE BY VOLUME	ug/m3	N	5.5	25	1.1 J	29
TO-15	91-20-3V	NAPHTHALENE by volume	ug/m3	N	2.6 U	18 U	2.6 U	2.6 U
TO-15	95-47-6V	O-XYLENE BY VOLUME	ug/m3	N	3.2	2.7 J	0.36 J	3.6
TO-15	100-42-5V	STYRENE BY VOLUME	ug/m3	N	0.12 J	5.9 U	0.2 J	0.32 J
TO-15	127-18-4V	TETRACHLOROETHENE BY VOLUME	ug/m3	N	1.4 U	9.4 U	0.41 J	7.5
TO-15	109-99-9V	TETRAHYDROFURAN BY VOLUME	ug/m3	N	1 J	100 U	15 U	0.8 J
TO-15	108-88-3V	TOLUENE BY VOLUME	ug/m3	N	2.9	24	2	29
TO-15	156-60-5V	TRANS-1,2-DICHLOROETHENE BY VOLUME	ug/m3	N	0.79 U	5.5 U	0.79 U	0.79 U
TO-15	10061-02-6V	TRANS-1,3-DICHLOROPROPENE BY VOLUME	ug/m3	N	0.91 U	6.3 U	0.91 U	0.91 U
TO-15	79-01-6V	TRICHLOROETHENE BY VOLUME	ug/m3	N	0.79 J	26	1.1 U	1.1 U
TO-15	75-69-4V	TRICHLOROFLUOROMETHANE BY VOLUME	ug/m3	N	1.4	7.8 U	1.5	1.4
TO-15	108-05-4V	VINYL ACETATE BY VOLUME	ug/m3	N	18 U	120 U	18 U	18 U
TO-15	75-01-4V	VINYL CHLORIDE BY VOLUME	ug/m3	N	0.51 U	3.5 U	0.51 U	0.27 J

					Location ID	SW Lab Air	SW Lab Slab Air	SW Office Air	SW Office Slab Air
					Field Sample ID	TP-0005-03	TP-0005-04	TP-0005-05	TP-0005-06
					Sampled	11/30/2016	11/30/2016	11/30/2016	11/30/2016
					SDG	200-36498-1	200-36498-1	200-36498-1	200-36498-1
					Matrix	AIR	AIR	AIR	AIR
					Purpose	REG	REG	REG	REG
					Type	Air	Air	Air	Air
Method	Parameter Code	Parameter Name	Units	Leached					
TO-15	71-55-6V	1,1,1-TRICHLOROETHANE BY VOLUME	ug/m3	N		2.2 U	1.1 U	1.1 U	1.1 U
TO-15	79-34-5V	1,1,2,2-TETRACHLOROETHANE BY VOLUME	ug/m3	N		2.7 U	1.4 U	1.4 U	1.4 U
TO-15	79-00-5V	1,1,2-TRICHLOROETHANE BY VOLUME	ug/m3	N		2.2 U	1.1 U	1.1 U	1.1 U
TO-15	76-13-1V	1,1,2-TRICHLOROTRIFLUOROETHANE BY VOLUME	ug/m3	N		3.1 U	0.58 J	0.92 J	0.48 J
TO-15	75-34-3V	1,1-DICHLOROETHANE BY VOLUME	ug/m3	N		1.6 U	0.81 U	0.81 U	0.81 U
TO-15	75-35-4V	1,1-DICHLOROETHENE BY VOLUME	ug/m3	N		1.6 U	0.79 U	0.79 U	0.79 U
TO-15	120-82-1V	1,2,4-TRICHLOROBENZENE BY VOLUME	ug/m3	N		30 U	15 U	15 U	15 U
TO-15	95-63-6V	1,2,4-TRIMETHYLBENZENE BY VOLUME	ug/m3	N		0.33 J	5.1	0.28 J	0.98 U
TO-15	106-93-4V	1,2-DIBROMOETHANE BY VOLUME	ug/m3	N		3.1 U	1.5 U	1.5 U	1.5 U
TO-15	76-14-2V	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE BY VOLUME	ug/m3	N		2.8 U	1.4 U	1.4 U	1.4 U
TO-15	95-50-1V	1,2-DICHLOROBENZENE BY VOLUME	ug/m3	N		2.4 U	1.2 U	1.2 U	1.2 U
TO-15	107-06-2V	1,2-DICHLOROETHANE BY VOLUME	ug/m3	N		1.6 U	0.81 U	0.81 U	0.81 U
TO-15	78-87-5V	1,2-DICHLOROPROPANE BY VOLUME	ug/m3	N		1.8 U	0.92 U	0.92 U	0.92 U
TO-15	108-67-8V	1,3,5-TRIMETHYLBENZENE BY VOLUME	ug/m3	N		2 U	2.2	0.98 U	0.98 U
TO-15	541-73-1V	1,3-DICHLOROBENZENE BY VOLUME	ug/m3	N		2.4 U	0.16 J	1.2 U	1.2 U
TO-15	106-46-7V	1,4-DICHLOROBENZENE BY VOLUME	ug/m3	N		2.4 U	1.2 U	1.2 U	1.2 U
TO-15	123-91-1V	1,4-DIOXANE BY VOLUME	ug/m3	N		36 U	18 U	18 U	18 U
TO-15	78-93-3V	2-BUTANONE (MEK) BY VOLUME	ug/m3	N		2.4 J	7.7	1.9 J	2.2 J
TO-15	108-10-1V	4-METHYL-2-PENTANONE BY VOLUME	ug/m3	N		4.1 U	2 U	2 U	2 U
TO-15	67-64-1V	ACETONE BY VOLUME	ug/m3	N		95	72	18	16
TO-15	71-43-2V	BENZENE BY VOLUME	ug/m3	N		2.2	6.8	0.53 J	5.8
TO-15	100-44-7V	BENZYL CHLORIDE BY VOLUME	ug/m3	N		8.3 U	4.1 U	4.1 U	4.1 U
TO-15	75-27-4V	BROMODICHLOROMETHANE BY VOLUME	ug/m3	N		2.7 U	1.3 U	1.3 U	1.3 U
TO-15	593-60-2V	Bromoethene (BY VOLUME)	ug/m3	N		1.7 U	0.87 U	0.87 U	0.87 U
TO-15	75-25-2V	BROMOFORM BY VOLUME	ug/m3	N		4.1 U	2.1 U	2.1 U	2.1 U
TO-15	74-83-9V	BROMOMETHANE BY VOLUME	ug/m3	N		1.6 U	0.78 U	0.78 U	0.78 U
TO-15	75-15-0V	CARBON DISULFIDE BY VOLUME	ug/m3	N		0.35 J	0.77 J	1.9	0.76 J
TO-15	56-23-5V	CARBON TETRACHLORIDE BY VOLUME	ug/m3	N		0.45 J	1.6	0.48 J	0.83 J
TO-15	108-90-7V	CHLOROBENZENE BY VOLUME	ug/m3	N		1.8 U	0.32 J	0.92 U	0.92 U
TO-15	75-00-3V	CHLOROETHANE BY VOLUME	ug/m3	N		4.2 U	2.1 U	2.1 U	2.1 U
TO-15	67-66-3V	CHLOROFORM BY VOLUME	ug/m3	N		80	11	0.6 J	0.25 J
TO-15	74-87-3V	CHLOROMETHANE BY VOLUME	ug/m3	N		1.4 J	0.21 J	1.4	0.18 J
TO-15	156-59-2V	CIS-1,2-DICHLOROETHENE BY VOLUME	ug/m3	N		1.6 U	0.79 U	0.79 U	0.79 U
TO-15	10061-01-5V	CIS-1,3-DICHLOROPROPENE BY VOLUME	ug/m3	N		1.8 U	0.91 U	0.91 U	0.91 U
TO-15	110-82-7V	CYCLOHEXANE BY VOLUME	ug/m3	N		3.4 U	6.1	1.7 U	15
TO-15	124-48-1V	DIBROMOCHLOROMETHANE BY VOLUME	ug/m3	N		3.4 U	1.7 U	1.7 U	1.7 U
TO-15	75-71-8V	DICHLOROFLUOROMETHANE BY VOLUME	ug/m3	N		2.7 J	2.2 J	2.5	2 J
TO-15	100-41-4V	ETHYL BENZENE BY VOLUME	ug/m3	N		5.3	3.1	0.18 J	0.3 J
TO-15	87-68-3V	HEXACHLOROBUTADIENE BY VOLUME	ug/m3	N		43 U	21 U	21 U	21 U
TO-15	67-63-0V	ISOPROPANOL BY VOLUME	ug/m3	N		2.5 J	6.6 J	58	4.9 J

		Location ID	SW Lab Air	SW Lab Slab Air	SW Office Air	SW Office Slab Air
		Field Sample ID	TP-0005-03	TP-0005-04	TP-0005-05	TP-0005-06
		Sampled	11/30/2016	11/30/2016	11/30/2016	11/30/2016
		SDG	200-36498-1	200-36498-1	200-36498-1	200-36498-1
		Matrix	AIR	AIR	AIR	AIR
		Purpose	REG	REG	REG	REG
		Type	Air	Air	Air	Air
Method	Parameter Code	Parameter Name	Units	Leached				
TO-15	98-82-8V	ISOPROPYLBENZENE BY VOLUME	ug/m3	N	7.9 U	0.9 J	3.9 U	3.9 U
TO-15	XYLENES1314V	META & PARA XYLENES BY VOLUME	ug/m3	N	22	21	0.55 J	0.64 J
TO-15	1634-04-4V	METHYL TERT-BUTYL ETHER BY VOLUME	ug/m3	N	7.2 U	3.6 U	3.6 U	3.6 U
TO-15	75-09-2V	METHYLENE CHLORIDE BY VOLUME	ug/m3	N	3.5 U	1.7 U	0.49 J	0.46 J
TO-15	110-54-3V	N-HEXANE BY VOLUME	ug/m3	N	8.4	15	0.5 J	40
TO-15	91-20-3V	NAPHTHALENE by volume	ug/m3	N	5.2 U	2.6 U	2.6 U	2.6 U
TO-15	95-47-6V	O-XYLENE BY VOLUME	ug/m3	N	4.3	5.3	0.2 J	0.18 J
TO-15	100-42-5V	STYRENE BY VOLUME	ug/m3	N	1.7 U	0.29 J	0.082 J	0.85 U
TO-15	127-18-4V	TETRACHLOROETHENE BY VOLUME	ug/m3	N	2.7 U	1.4	0.39 J	0.47 J
TO-15	109-99-9V	TETRAHYDROFURAN BY VOLUME	ug/m3	N	29 U	0.83 J	15 U	0.64 J
TO-15	108-88-3V	TOLUENE BY VOLUME	ug/m3	N	3.1	25	1.3	9.5
TO-15	156-60-5V	TRANS-1,2-DICHLOROETHENE BY VOLUME	ug/m3	N	1.6 U	0.79 U	0.79 U	0.79 U
TO-15	10061-02-6V	TRANS-1,3-DICHLOROPROPENE BY VOLUME	ug/m3	N	1.8 U	0.91 U	0.91 U	0.91 U
TO-15	79-01-6V	TRICHLOROETHENE BY VOLUME	ug/m3	N	2.1 U	0.17 J	1.1 U	1.1 U
TO-15	75-69-4V	TRICHLOROFLUOROMETHANE BY VOLUME	ug/m3	N	1.4 J	1.3	1.5	1.1
TO-15	108-05-4V	VINYL ACETATE BY VOLUME	ug/m3	N	35 U	18 U	18 U	18 U
TO-15	75-01-4V	VINYL CHLORIDE BY VOLUME	ug/m3	N	1 U	0.32 J	0.51 U	0.21 J

2016 VALIDATED GROUNDWATER SAMPLES
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				Location ID	MW-1	MW-2	MW-2	MW-3	MW-4
				Field Sample ID	TP-0001-02	TP-0002-07	TP-0003-07	TP-0002-04	TP-0001-04
				Date Sampled	10/24/2016	10/25/2016	10/26/2016	10/25/2016	10/24/2016
				SDG	480-108321-1	480-108378-1	480-108455-1	480-108378-1	480-108321-1
				Matrix	WATER	WATER	WATER	WATER	WATER
				Purpose	REG	REG	REG	REG	REG
				Type	GW-GWS	GW-GWS	GW-GWS	GW-GWS	GW-GWS
Method	Parameter Code	Parameter Name	Units	Filtered					
SW6010	7429-90-5	ALUMINUM	mg/L	N	117	0.2		0.27	0.06 U
SW6010	7440-36-0	ANTIMONY	mg/L	N	0.0068 U	0.0068 U		0.0068 U	0.0068 U
SW6010	7440-38-2	ARSENIC	mg/L	N	0.084	0.01 J		0.012 J	0.0056 U
SW6010	7440-39-3	BARIUM	mg/L	N	0.016	0.068		0.078	0.054
SW6010	7440-41-7	BERYLLIUM	mg/L	N	0.011	0.0003 U		0.0003 U	0.0003 U
SW6010	7440-43-9	CADMIUM	mg/L	N	0.016	0.0007 J		0.0005 U	0.0005 U
SW6010	7440-70-2	CALCIUM	mg/L	N	394	453		236	153
SW6010	7440-47-3	CHROMIUM	mg/L	N	0.58	0.0037 J		0.0013 J	0.001 U
SW6010	7440-48-4	COBALT	mg/L	N	0.18	0.0059		0.00063 U	0.00063 U
SW6010	7440-50-8	COPPER	mg/L	N	0.25	0.012		0.0057 J	0.002 J
SW6010	7439-89-6	IRON	mg/L	N	491	10		15.1	0.96
SW6010	7439-92-1	LEAD	mg/L	N	0.35	0.0061 J		0.0031 J	0.003 U
SW6010	7439-95-4	MAGNESIUM	mg/L	N	231	156		55.8	18.7
SW6010	7439-96-5	MANGANESE	mg/L	N	12.3	4.7		2.3	0.21
SW6010	7440-02-0	NICKEL	mg/L	N	1.7	0.02		0.0034 J	0.0017 J
SW6010	7440-09-7	POTASSIUM	mg/L	N	6.8	10.2		3.3	5.6
SW6010	7782-49-2	SELENIUM	mg/L	N	0.0087 U	0.0087 U		0.0087 U	0.0087 U
SW6010	7440-22-4	SILVER	mg/L	N	0.0017 U	0.0017 U		0.0017 U	0.0017 U
SW6010	7440-23-5	SODIUM	mg/L	N	75.4	125		108	10.8
SW6010	7440-28-0	THALLIUM	mg/L	N	0.01 U	0.01 U		0.01 U	0.01 U
SW6010	7440-62-2	VANADIUM	mg/L	N	0.066	0.0015 U		0.0015 U	0.0018 J
SW6010	7440-66-6	ZINC	mg/L	N	4.1	0.015		0.0091 J	0.0036 J
SW7470	7439-97-6	MERCURY	mg/L	N	0.00012 U	0.00012 U		0.00012 U	0.00012 U

2016 VALIDATED GROUNDWATER SAMPLES
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				Location ID	MW-1	MW-2	MW-2	MW-3	MW-4
				Field Sample ID	TP-0001-02	TP-0002-07	TP-0003-07	TP-0002-04	TP-0001-04
				Date Sampled	10/24/2016	10/25/2016	10/26/2016	10/25/2016	10/24/2016
				SDG	480-108321-1	480-108378-1	480-108455-1	480-108378-1	480-108321-1
				Matrix	WATER	WATER	WATER	WATER	WATER
				Purpose	REG	REG	REG	REG	REG
				Type	GW-GWS	GW-GWS	GW-GWS	GW-GWS	GW-GWS
Method	Parameter Code	Parameter Name	Units	Filtered					
SW8260	71-55-6	1,1,1-TRICHLOROETHANE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	79-34-5	1,1,2,2-TETRACHLOROETHANE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	N	1 U	1 U		1 U	1 U
SW8260	79-00-5	1,1,2-TRICHLOROETHANE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	75-34-3	1,1-DICHLOROETHANE	ug/l	N	0.47 J	1 U		1 U	1 U
SW8260	75-35-4	1,1-DICHLOROETHENE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	120-82-1	1,2,4-TRICHLOROBENZENE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	106-93-4	1,2-DIBROMOETHANE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	95-50-1	1,2-DICHLOROBENZENE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	107-06-2	1,2-DICHLOROETHANE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	78-87-5	1,2-DICHLOROPROPANE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	541-73-1	1,3-DICHLOROBENZENE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	106-46-7	1,4-DICHLOROBENZENE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	78-93-3	2-BUTANONE	ug/l	N	10 U	10 U		10 U	10 U
SW8260	591-78-6	2-HEXANONE	ug/l	N	5 U	5 U		5 U	5 U
SW8260	108-10-1	4-METHYL-2-PENTANONE	ug/l	N	5 U	5 U		5 U	5 U
SW8260	67-64-1	ACETONE	ug/l	N	18	10 UJ		4.5 J	10 UJ
SW8260	71-43-2	BENZENE	ug/l	N	7.8	1 U		1 U	1 U
SW8260	75-27-4	BROMODICHLOROMETHANE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	75-25-2	BROMOFORM	ug/l	N	1 UJ	1 U		1 U	1 UJ
SW8260	74-83-9	BROMOMETHANE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	75-15-0	CARBON DISULFIDE	ug/l	N	0.7 J	0.2 J		1 U	1 U
SW8260	56-23-5	CARBON TETRACHLORIDE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	108-90-7	CHLOROBENZENE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	75-00-3	CHLOROETHANE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	67-66-3	CHLOROFORM	ug/l	N	1 U	1 U		1 U	1 U
SW8260	74-87-3	CHLOROMETHANE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	156-59-2	CIS-1,2-DICHLOROETHENE	ug/l	N	1 U	1 U		1 U	50
SW8260	10061-01-5	CIS-1,3-DICHLOROPROPENE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	110-82-7	CYCLOHEXANE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	124-48-1	Dibromochloromethane	ug/l	N	1 U	1 U		1 U	1 U
SW8260	75-71-8	DICHLORODIFLUOROMETHANE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	100-41-4	ETHYLBENZENE	ug/l	N	2.8	1 U		1 U	1 U
SW8260	98-82-8	ISOPROPYLBENZENE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	79-20-9	METHYL ACETATE	ug/l	N	2.5 U	2.5 U		2.5 U	2.5 U
SW8260	1634-04-4	METHYL TERT-BUTYL ETHER	ug/l	N	1 U	1 U		1 U	1 U
SW8260	108-87-2	METHYLCYCLOHEXANE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	75-09-2	METHYLENE CHLORIDE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	100-42-5	STYRENE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	127-18-4	TETRACHLOROETHENE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	108-88-3	TOLUENE	ug/l	N	2.5	1 U		1 U	1 U
SW8260	156-60-5	TRANS-1,2-DICHLOROETHENE	ug/l	N	1 U	1 U		1 U	1.8
SW8260	10061-02-6	TRANS-1,3-DICHLOROPROPENE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	79-01-6	TRICHLOROETHENE	ug/l	N	1 U	1 U		1 U	5.9
SW8260	75-69-4	TRICHLOROFLUOROMETHANE	ug/l	N	1 U	1 U		1 U	1 U
SW8260	75-01-4	VINYL CHLORIDE	ug/l	N	1 U	1 U		1 U	1.6
SW8260	1330-20-7	XYLENES, TOTAL	ug/l	N	12	2 U		2 U	2 U

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				Location ID	MW-1	MW-2	MW-2	MW-3	MW-4
				Field Sample ID	TP-0001-02	TP-0002-07	TP-0003-07	TP-0002-04	TP-0001-04
				Date Sampled	10/24/2016	10/25/2016	10/26/2016	10/25/2016	10/24/2016
				SDG	480-108321-1	480-108378-1	480-108455-1	480-108378-1	480-108321-1
				Matrix	WATER	WATER	WATER	WATER	WATER
				Purpose	REG	REG	REG	REG	REG
				Type	GW-GWS	GW-GWS	GW-GWS	GW-GWS	GW-GWS
Method	Parameter Code	Parameter Name	Units	Filtered					
SW8270	92-52-4	1,1'-BIPHENYL	ug/l	N	7.4	6.2 U		5 U	4.7 U
SW8270	108-60-1	2,2'-OXYBIS(1-CHLOROPROPANE)	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	95-95-4	2,4,5-TRICHLOROPHENOL	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	88-06-2	2,4,6-TRICHLOROPHENOL	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	120-83-2	2,4-DICHLOROPHENOL	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	105-67-9	2,4-DIMETHYLPHENOL	ug/l	N	1.6 J	6.2 U		5 U	4.7 U
SW8270	51-28-5	2,4-DINITROPHENOL	ug/l	N	10 U	12 U		10 U	9.5 U
SW8270	121-14-2	2,4-DINITROTOLUENE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	606-20-2	2,6-DINITROTOLUENE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	91-58-7	2-CHLORONAPHTHALENE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	95-57-8	2-CHLOROPHENOL	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	91-57-6	2-METHYLNAPHTHALENE	ug/l	N	19	6.2 U		5 U	4.7 U
SW8270	95-48-7	2-METHYLPHENOL	ug/l	N	0.83 J	6.2 U		5 U	4.7 U
SW8270	88-74-4	2-NITROANILINE	ug/l	N	10 U	12 U		10 U	9.5 U
SW8270	88-75-5	2-NITROPHENOL	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	91-94-1	3,3'-DICHLOROBENZIDINE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	99-09-2	3-NITROANILINE	ug/l	N	10 U	12 U		10 U	9.5 U
SW8270	534-52-1	4,6-DINITRO-2-METHYLPHENOL	ug/l	N	10 U	12 U		10 U	9.5 U
SW8270	101-55-3	4-BROMOPHENYL PHENYL ETHER	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	59-50-7	4-CHLORO-3-METHYLPHENOL	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	106-47-8	4-CHLOROANILINE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	106-44-5	4-METHYLPHENOL	ug/l	N	10 U	0.68 J		10 U	9.5 U
SW8270	100-01-6	4-NITROANILINE	ug/l	N	10 U	12 U		10 U	9.5 U
SW8270	100-02-7	4-NITROPHENOL	ug/l	N	10 U	12 U		10 U	9.5 U
SW8270	83-32-9	ACENAPHTHENE	ug/l	N	5 J	6.2 U		5 U	4.7 U
SW8270	208-96-8	ACENAPHTHYLENE	ug/l	N	5.7	6.2 U		5 U	4.7 U
SW8270	98-86-2	ACETOPHENONE	ug/l	N	4.5 J	6.2 U		5 U	4.7 U
SW8270	120-12-7	ANTHRACENE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	1912-24-9	ATRAZINE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	100-52-7	BENZALDEHYDE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	56-55-3	BENZO(A)ANTHRACENE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	50-32-8	BENZO(A)PYRENE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	205-99-2	BENZO(B)FLUORANTHENE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	191-24-2	BENZO(G,H,I)PERYLENE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	207-08-9	BENZO(K)FLUORANTHENE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	111-91-1	BIS(2-CHLOROETHOXY)METHANE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	111-44-4	BIS(2-CHLOROETHYL)ETHER	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	ug/l	N	5.2 U	6.2 U		5 U	2.8 J
SW8270	85-68-7	BUTYLBENZYL PHTHALATE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	105-60-2	CAPROLACTAM	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	86-74-8	CARBAZOLE	ug/l	N	18	6.2 U		5 U	4.7 U
SW8270	218-01-9	CHRYSENE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	84-74-2	DI-N-BUTYL PHTHALATE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	117-84-0	DI-N-OCTYL PHTHALATE	ug/l	N	0.55 J	6.2 U		5 U	4.7 U
SW8270	53-70-3	DIBENZO(A,H)ANTHRACENE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	132-64-9	DIBENZOFURAN	ug/l	N	5.8 J	12 U		10 U	9.5 U
SW8270	84-66-2	DIETHYL PHTHALATE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	131-11-3	DIMETHYL PHTHALATE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U

2016 VALIDATED GROUNDWATER SAMPLES
TONAWANDA PLASTICS PLANT

				Location ID	MW-1	MW-2	MW-2	MW-3	MW-4
				Field Sample ID	TP-0001-02	TP-0002-07	TP-0003-07	TP-0002-04	TP-0001-04
				Date Sampled	10/24/2016	10/25/2016	10/26/2016	10/25/2016	10/24/2016
				SDG	480-108321-1	480-108378-1	480-108455-1	480-108378-1	480-108321-1
				Matrix	WATER	WATER	WATER	WATER	WATER
				Purpose	REG	REG	REG	REG	REG
				Type	GW-GWS	GW-GWS	GW-GWS	GW-GWS	GW-GWS
Method	Parameter Code	Parameter Name	Units	Filtered					
SW8270	206-44-0	FLUORANTHENE	ug/l	N	1.2 J	6.2 U		5 U	4.7 U
SW8270	86-73-7	FLUORENE	ug/l	N	17	6.2 U		5 U	4.7 U
SW8270	118-74-1	HEXACHLOROBENZENE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	87-68-3	HEXACHLOROBUTADIENE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	77-47-4	HEXACHLOROCYCLOPENTADIENE	ug/l	N	5.2 UJ	6.2 U		5 U	4.7 UJ
SW8270	67-72-1	HEXACHLOROETHANE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	193-39-5	INDENO(1,2,3-CD)PYRENE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	78-59-1	ISOPHORONE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	621-64-7	N-NITROSO-DI-N-PROPYLAMINE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	86-30-6	N-NITROSODIPHENYLAMINE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	91-20-3	NAPHTHALENE	ug/l	N	250	6.2 U		5 U	4.7 U
SW8270	98-95-3	NITROBENZENE	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	87-86-5	PENTACHLOROPHENOL	ug/l	N	10 UJ	12 UJ		10 UJ	9.5 UJ
SW8270	85-01-8	PHENANTHRENE	ug/l	N	11	6.2 U		5 U	4.7 U
SW8270	108-95-2	PHENOL	ug/l	N	5.2 U	6.2 U		5 U	4.7 U
SW8270	129-00-0	PYRENE	ug/l	N	1.4 J	6.2 U		5 U	4.7 U
SW9012	57-12-5	CYANIDE	mg/L	N	0.23		2.2	0.38	0.32

2016 VALIDATED GROUNDWATER SAMPLES
TONAWANDA PLASTICS PLANT

			Location ID	MW-5	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
			Field Sample ID	TP-0002-03	TP-0003-08	TP-0002-08	TP-0001-03	TP-0001-01	TP-0001-05	TP-0002-02
			Date Sampled	10/25/2016	10/26/2016	10/25/2016	10/24/2016	10/24/2016	10/24/2016	10/25/2016
			SDG	480-108378-1	480-108455-1	480-108378-1	480-108321-1	480-108321-1	480-108321-1	480-108378-1
			Matrix	WATER	WATER	WATER	WATER	WATER	WATER	WATER
			Purpose	REG	REG	REG	REG	REG	REG	REG
			Type	GW-GWS	GW-GWS	GW-GWS	GW-GWS	GW-GWS	GW-GWS	GW-GWS
Parameter Code	Parameter Name	Units	Filtered							
7429-90-5	ALUMINUM	mg/L	N	7		37.5	65.6	0.087 J	193	43.6
7440-36-0	ANTIMONY	mg/L	N	0.0068 U		0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U
7440-38-2	ARSENIC	mg/L	N	0.043		0.0056 U	0.92	0.0056 U	0.15	0.031
7440-39-3	BARIUM	mg/L	N	0.1		0.022	0.0075	0.04	4.9	0.033
7440-41-7	BERYLLIUM	mg/L	N	0.00035 J		0.0052	0.0058	0.0003 U	0.011	0.0047
7440-43-9	CADMIUM	mg/L	N	0.0037		0.00064 J	0.02	0.0005 U	0.015	0.0017 J
7440-70-2	CALCIUM	mg/L	N	124		278	275	118	272	271
7440-47-3	CHROMIUM	mg/L	N	0.077		0.16	0.65	0.0012 J	0.65	0.2
7440-48-4	COBALT	mg/L	N	0.022		0.00063 U	0.082	0.0013 J	0.099	0.012
7440-50-8	COPPER	mg/L	N	0.076		0.0016 U	0.054	0.0022 J	0.51	0.069
7439-89-6	IRON	mg/L	N	108		97	438	4.8	322	251
7439-92-1	LEAD	mg/L	N	0.18		0.0062 J	1.2	0.004 J	0.89	0.012
7439-95-4	MAGNESIUM	mg/L	N	218		40.1	58.9	258	99.3	80.1
7439-96-5	MANGANESE	mg/L	N	2.5		4.6	3.8	0.69	6.9	7.8
7440-02-0	NICKEL	mg/L	N	0.18		0.027	0.57	0.0029 J	0.58	0.14
7440-09-7	POTASSIUM	mg/L	N	2.8		19.5	16.4	3.1	59.1	15.6
7782-49-2	SELENIUM	mg/L	N	0.0087 U		0.0087 U	0.0087 U	0.0087 U	0.013 J	0.0087 U
7440-22-4	SILVER	mg/L	N	0.0017 U		0.0017 U	0.0017 U	0.0017 U	0.016	0.0017 U
7440-23-5	SODIUM	mg/L	N	80.1		17.9	25.1	154	90.9	127
7440-28-0	THALLIUM	mg/L	N	0.01 U		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
7440-62-2	VANADIUM	mg/L	N	0.02		0.033	0.056	0.0015 U	0.33	0.081
7440-66-6	ZINC	mg/L	N	0.15		0.19	2.2	0.011	1.8	0.65
7439-97-6	MERCURY	mg/L	N	0.00016 J		0.00012 U	0.00012 U	0.00012 U	0.0017	0.00012 J

2016 VALIDATED GROUNDWATER SAMPLES
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			Location ID	MW-5	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
			Field Sample ID	TP-0002-03	TP-0003-08	TP-0002-08	TP-0001-03	TP-0001-01	TP-0001-05	TP-0002-02
			Date Sampled	10/25/2016	10/26/2016	10/25/2016	10/24/2016	10/24/2016	10/24/2016	10/25/2016
			SDG	480-108378-1	480-108455-1	480-108378-1	480-108321-1	480-108321-1	480-108321-1	480-108378-1
			Matrix	WATER	WATER	WATER	WATER	WATER	WATER	WATER
			Purpose	REG	REG	REG	REG	REG	REG	REG
			Type	GW-GWS	GW-GWS	GW-GWS	GW-GWS	GW-GWS	GW-GWS	GW-GWS
Parameter Code	Parameter Name	Units	Filtered							
71-55-6	1,1,1-TRICHLOROETHANE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
79-34-5	1,1,2,2-TETRACHLOROETHANE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
79-00-5	1,1,2-TRICHLOROETHANE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
75-34-3	1,1-DICHLOROETHANE	ug/l	N	1 U		10 U	10 U	1.6	1 U	1 U
75-35-4	1,1-DICHLOROETHENE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
120-82-1	1,2,4-TRICHLOROBENZENE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
106-93-4	1,2-DIBROMOETHANE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
95-50-1	1,2-DICHLOROBENZENE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
107-06-2	1,2-DICHLOROETHANE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
78-87-5	1,2-DICHLOROPROPANE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
541-73-1	1,3-DICHLOROBENZENE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
106-46-7	1,4-DICHLOROBENZENE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
78-93-3	2-BUTANONE	ug/l	N	10 U		100 U	100 U	10 U	10 U	10 U
591-78-6	2-HEXANONE	ug/l	N	5 U		50 U	50 U	5 U	5 U	5 U
108-10-1	4-METHYL-2-PENTANONE	ug/l	N	5 U		50 U	50 U	5 U	5 U	5 U
67-64-1	ACETONE	ug/l	N	3.9 J		100 UJ	82 J	10 UJ	10 U	10 UJ
71-43-2	BENZENE	ug/l	N	1 U		84	36	1 U	12	4.8
75-27-4	BROMODICHLOROMETHANE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
75-25-2	BROMOFORM	ug/l	N	1 U		10 U	10 UJ	1 UJ	1 UJ	1 U
74-83-9	BROMOMETHANE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
75-15-0	CARBON DISULFIDE	ug/l	N	0.22 J		28	110	1 U	1 U	1 U
56-23-5	CARBON TETRACHLORIDE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
108-90-7	CHLOROBENZENE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
75-00-3	CHLOROETHANE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
67-66-3	CHLOROFORM	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
74-87-3	CHLOROMETHANE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
156-59-2	CIS-1,2-DICHLOROETHENE	ug/l	N	1		10 U	10 U	2	8.5	2.5
10061-01-5	CIS-1,3-DICHLOROPROPENE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
110-82-7	CYCLOHEXANE	ug/l	N	1 U		10 U	10 U	1 U	6	1 U
124-48-1	Dibromochloromethane	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
75-71-8	DICHLORODIFLUOROMETHANE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
100-41-4	ETHYLBENZENE	ug/l	N	1 U		20	10 U	1 U	5.3	1 U
98-82-8	ISOPROPYLBENZENE	ug/l	N	1 U		10 U	10 U	1 U	0.84 J	1 U
79-20-9	METHYL ACETATE	ug/l	N	2.5 U		25 U	25 U	2.5 U	2.5 U	2.5 U
1634-04-4	METHYL TERT-BUTYL ETHER	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
108-87-2	METHYLCYCLOHEXANE	ug/l	N	1 U		10 U	10 U	1 U	0.61 J	1 U
75-09-2	METHYLENE CHLORIDE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
100-42-5	STYRENE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
127-18-4	TETRACHLOROETHENE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
108-88-3	TOLUENE	ug/l	N	1 U		7.8 J	12	1 U	0.51 J	1 U
156-60-5	TRANS-1,2-DICHLOROETHENE	ug/l	N	1 U		10 U	10 U	1 U	1.8	1 U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
79-01-6	TRICHLOROETHENE	ug/l	N	2.6		10 U	10 U	1 U	0.52 J	1 U
75-69-4	TRICHLOROFLUOROMETHANE	ug/l	N	1 U		10 U	10 U	1 U	1 U	1 U
75-01-4	VINYL CHLORIDE	ug/l	N	4.3		10 U	10 U	1 U	5.4	1 U
1330-20-7	XYLENES, TOTAL	ug/l	N	2 U		24	34	2 U	2	2 U

2016 VALIDATED GROUNDWATER SAMPLES
TONAWANDA PLASTICS PLANT

			Location ID	MW-5	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
			Field Sample ID	TP-0002-03	TP-0003-08	TP-0002-08	TP-0001-03	TP-0001-01	TP-0001-05	TP-0002-02
			Date Sampled	10/25/2016	10/26/2016	10/25/2016	10/24/2016	10/24/2016	10/24/2016	10/25/2016
			SDG	480-108378-1	480-108455-1	480-108378-1	480-108321-1	480-108321-1	480-108321-1	480-108378-1
			Matrix	WATER	WATER	WATER	WATER	WATER	WATER	WATER
			Purpose	REG	REG	REG	REG	REG	REG	REG
			Type	GW-GWS	GW-GWS	GW-GWS	GW-GWS	GW-GWS	GW-GWS	GW-GWS
Parameter Code	Parameter Name	Units	Filtered							
92-52-4	1,1'-BIPHENYL	ug/l	N		29 U	31	6	5.2 U	50 U	5.4 U
108-60-1	2,2'-OXYBIS(1-CHLOROPROPANE)	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
95-95-4	2,4,5-TRICHLOROPHENOL	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
88-06-2	2,4,6-TRICHLOROPHENOL	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
120-83-2	2,4-DICHLOROPHENOL	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
105-67-9	2,4-DIMETHYLPHENOL	ug/l	N		29 U	0.72 J	4.6 J	5.2 U	50 U	5.4 U
51-28-5	2,4-DINITROPHENOL	ug/l	N		57 U	9.7 U	11 U	10 U	100 U	11 U
121-14-2	2,4-DINITROTOLUENE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
606-20-2	2,6-DINITROTOLUENE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
91-58-7	2-CHLORONAPHTHALENE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
95-57-8	2-CHLOROPHENOL	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
91-57-6	2-METHYLNAPHTHALENE	ug/l	N		29 U	110	90 J	5.2 U	50 U	5.4 U
95-48-7	2-METHYLPHENOL	ug/l	N		29 U	4.9 U	4.9 J	5.2 U	50 U	5.4 U
88-74-4	2-NITROANILINE	ug/l	N		57 U	9.7 U	11 U	10 U	100 U	11 U
88-75-5	2-NITROPHENOL	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
91-94-1	3,3'-DICHLOROBENZIDINE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
99-09-2	3-NITROANILINE	ug/l	N		57 U	9.7 U	11 U	10 U	100 U	11 U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ug/l	N		57 U	9.7 U	11 U	10 U	100 U	11 U
101-55-3	4-BROMOPHENYL PHENYL ETHER	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
59-50-7	4-CHLORO-3-METHYLPHENOL	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
106-47-8	4-CHLOROANILINE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
106-44-5	4-METHYLPHENOL	ug/l	N		57 U	0.67 J	9.9 J	10 U	100 U	11 U
100-01-6	4-NITROANILINE	ug/l	N		57 U	9.7 U	11 U	10 U	100 U	11 U
100-02-7	4-NITROPHENOL	ug/l	N		57 U	9.7 U	11 U	10 U	100 U	11 U
83-32-9	ACENAPHTHENE	ug/l	N		29 U	11	6.9	5.2 U	6.7 J	19
208-96-8	ACENAPHTHYLENE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	0.46 J
98-86-2	ACETOPHENONE	ug/l	N		29 U	4.9 U	6.1	5.2 U	50 U	5.4 U
120-12-7	ANTHRACENE	ug/l	N		29 U	4.8 J	5.3 U	5.2 U	50 U	0.79 J
1912-24-9	ATRAZINE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
100-52-7	BENZALDEHYDE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
56-55-3	BENZO(A)ANTHRACENE	ug/l	N		29 U	4.9 U	0.38 J	5.2 U	50 U	5.4 U
50-32-8	BENZO(A)PYRENE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
205-99-2	BENZO(B)FLUORANTHENE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
191-24-2	BENZO(G,H,I)PERYLENE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
207-08-9	BENZO(K)FLUORANTHENE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
111-91-1	BIS(2-CHLOROETHOXY)METHANE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
111-44-4	BIS(2-CHLOROETHYL)ETHER	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	ug/l	N		29 U	4.9 U	5.3 U	34	50 U	5.4 U
85-68-7	BUTYLBENZYL PHTHALATE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
105-60-2	CAPROLACTAM	ug/l	N		29 U	4.9 U	5.3 U	6.1	50 U	5.4 U
86-74-8	CARBAZOLE	ug/l	N		29 U	18	25	5.2 U	5 J	10
218-01-9	CHRYSENE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
84-74-2	DI-N-BUTYL PHTHALATE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
117-84-0	DI-N-OCTYL PHTHALATE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
53-70-3	DIBENZO(A,H)ANTHRACENE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
132-64-9	DIBENZOFURAN	ug/l	N		57 U	4.3 J	3.4 J	10 U	100 U	3.4 J
84-66-2	DIETHYL PHTHALATE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
131-11-3	DIMETHYL PHTHALATE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U

2016 VALIDATED GROUNDWATER SAMPLES
TONAWANDA PLASTICS PLANT

			Location ID	MW-5	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
			Field Sample ID	TP-0002-03	TP-0003-08	TP-0002-08	TP-0001-03	TP-0001-01	TP-0001-05	TP-0002-02
			Date Sampled	10/25/2016	10/26/2016	10/25/2016	10/24/2016	10/24/2016	10/24/2016	10/25/2016
			SDG	480-108378-1	480-108455-1	480-108378-1	480-108321-1	480-108321-1	480-108321-1	480-108378-1
			Matrix	WATER	WATER	WATER	WATER	WATER	WATER	WATER
			Purpose	REG	REG	REG	REG	REG	REG	REG
			Type	GW-GWS	GW-GWS	GW-GWS	GW-GWS	GW-GWS	GW-GWS	GW-GWS
Parameter Code	Parameter Name	Units	Filtered							
206-44-0	FLUORANTHENE	ug/l	N		29 U	2.7 J	0.92 J	5.2 U	50 U	1.9 J
86-73-7	FLUORENE	ug/l	N		29 U	32	9.5	5.2 U	50 U	4.8 J
118-74-1	HEXACHLOROBENZENE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
87-68-3	HEXACHLOROBUTADIENE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
77-47-4	HEXACHLOROCYCLOPENTADIENE	ug/l	N		29 UJ	4.9 U	5.3 UJ	5.2 UJ	50 UJ	5.4 U
67-72-1	HEXACHLOROETHANE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
193-39-5	INDENO(1,2,3-CD)PYRENE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
78-59-1	ISOPHORONE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
621-64-7	N-NITROSO-DI-N-PROPYLAMINE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
86-30-6	N-NITROSODIPHENYLAMINE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
91-20-3	NAPHTHALENE	ug/l	N		29 U	630	1700	5.2 U	98	1.1 J
98-95-3	NITROBENZENE	ug/l	N		29 U	4.9 U	5.3 U	5.2 U	50 U	5.4 U
87-86-5	PENTACHLOROPHENOL	ug/l	N		57 UJ	9.7 UJ	6.9 J	10 UJ	100 UJ	11 UJ
85-01-8	PHENANTHRENE	ug/l	N		29 U	32	4.9 J	5.2 U	50 U	0.82 J
108-95-2	PHENOL	ug/l	N		29 U	4.9 U	3.5 J	5.2 U	50 U	5.4 U
129-00-0	PYRENE	ug/l	N		29 U	3.3 J	0.82 J	5.2 U	50 U	1.2 J
57-12-5	CYANIDE	mg/L	N		0.75 J+	0.4	0.91	0.7	0.54	1.1

2016 VALIDATED GROUNDWATER SAMPLES
TONAWANDA PLASTICS PLANT

			Location ID	MW-11R	MW-12R	MW-12R	FIELD QC
			Field Sample ID	TP-0003-02	TP-0002-05	TP-0002-06	TP-0002-01
			Date Sampled	10/26/2016	10/25/2016	10/25/2016	10/25/2016
			SDG	480-108455-1	480-108378-1	480-108378-1	480-108378-1
			Matrix	WATER	WATER	WATER	WATER
			Purpose	REG	REG	FD	TB
			Type	GW-GWS	GW-GWS	GW-GWS	BLKWATER
Parameter Code	Parameter Name	Units	Filtered				
7429-90-5	ALUMINUM	mg/L	N	10.2	0.19 J	0.2	
7440-36-0	ANTIMONY	mg/L	N	0.0068 U	0.0068 U	0.0068 U	
7440-38-2	ARSENIC	mg/L	N	0.011 J	0.006 J	0.0056 U	
7440-39-3	BARIUM	mg/L	N	0.088	0.018	0.02	
7440-41-7	BERYLLIUM	mg/L	N	0.00033 J	0.0003 U	0.0003 U	
7440-43-9	CADMIUM	mg/L	N	0.0005 U	0.0005 U	0.0005 U	
7440-70-2	CALCIUM	mg/L	N	594	424	433	
7440-47-3	CHROMIUM	mg/L	N	0.015	0.0011 J	0.0014 J	
7440-48-4	COBALT	mg/L	N	0.0093	0.0084	0.01	
7440-50-8	COPPER	mg/L	N	0.015	0.0016 U	0.0016 U	
7439-89-6	IRON	mg/L	N	12.9 J	1.8 J	0.36 J	
7439-92-1	LEAD	mg/L	N	0.014	0.003 J	0.0052 J	
7439-95-4	MAGNESIUM	mg/L	N	501	1180	1030	
7439-96-5	MANGANESE	mg/L	N	0.66	0.31	0.51	
7440-02-0	NICKEL	mg/L	N	0.023	0.015	0.018	
7440-09-7	POTASSIUM	mg/L	N	18.6	13.9	15.7	
7782-49-2	SELENIUM	mg/L	N	0.0087 U	0.0087 U	0.0087 U	
7440-22-4	SILVER	mg/L	N	0.0017 U	0.0017 U	0.0017 U	
7440-23-5	SODIUM	mg/L	N	491	465	464	
7440-28-0	THALLIUM	mg/L	N	0.01 U	0.01 U	0.01 U	
7440-62-2	VANADIUM	mg/L	N	0.019	0.0015 U	0.0015 U	
7440-66-6	ZINC	mg/L	N	0.048	0.0053 J	0.0059 J	
7439-97-6	MERCURY	mg/L	N	0.00012 U	0.00012 U	0.00012 U	

2016 VALIDATED GROUNDWATER SAMPLES
TONAWANDA PLASTICS PLANT

			Location ID	MW-11R	MW-12R	MW-12R	FIELD QC
			Field Sample ID	TP-0003-02	TP-0002-05	TP-0002-06	TP-0002-01
			Date Sampled	10/26/2016	10/25/2016	10/25/2016	10/25/2016
			SDG	480-108455-1	480-108378-1	480-108378-1	480-108378-1
			Matrix	WATER	WATER	WATER	WATER
			Purpose	REG	REG	FD	TB
			Type	GW-GWS	GW-GWS	GW-GWS	BLKWATER
Parameter Code	Parameter Name	Units	Filtered				
71-55-6	1,1,1-TRICHLOROETHANE	ug/l	N	1 U	1 U	1 U	1 U
79-34-5	1,1,2,2-TETRACHLOROETHANE	ug/l	N	1 U	1 U	1 U	1 U
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	N	1 U	1 U	1 U	1 U
79-00-5	1,1,2-TRICHLOROETHANE	ug/l	N	1 U	1 U	1 U	1 U
75-34-3	1,1-DICHLOROETHANE	ug/l	N	1 U	1 U	1 U	1 U
75-35-4	1,1-DICHLOROETHENE	ug/l	N	1 U	1 U	1 U	1 U
120-82-1	1,2,4-TRICHLOROBENZENE	ug/l	N	1 U	1 U	1 U	1 U
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	ug/l	N	1 U	1 U	1 U	1 U
106-93-4	1,2-DIBROMOETHANE	ug/l	N	1 U	1 U	1 U	1 U
95-50-1	1,2-DICHLOROBENZENE	ug/l	N	1 U	1 U	1 U	1 U
107-06-2	1,2-DICHLOROETHANE	ug/l	N	1 U	1 U	1 U	1 U
78-87-5	1,2-DICHLOROPROPANE	ug/l	N	1 U	1 U	1 U	1 U
541-73-1	1,3-DICHLOROBENZENE	ug/l	N	1 U	1 U	1 U	1 U
106-46-7	1,4-DICHLOROBENZENE	ug/l	N	1 U	1 U	1 U	1 U
78-93-3	2-BUTANONE	ug/l	N	10 U	4.7 J	10 U	10 U
591-78-6	2-HEXANONE	ug/l	N	5 U	5 U	5 U	5 U
108-10-1	4-METHYL-2-PENTANONE	ug/l	N	5 U	5 U	5 U	5 U
67-64-1	ACETONE	ug/l	N	10 UJ	10 UJ	10 UJ	10 UJ
71-43-2	BENZENE	ug/l	N	1 U	1 U	1 U	1 U
75-27-4	BROMODICHLOROMETHANE	ug/l	N	1 U	1 U	1 U	1 U
75-25-2	BROMOFORM	ug/l	N	1 U	1 U	1 U	1 U
74-83-9	BROMOMETHANE	ug/l	N	1 U	1 U	1 U	1 U
75-15-0	CARBON DISULFIDE	ug/l	N	1 U	1 U	1 U	1 U
56-23-5	CARBON TETRACHLORIDE	ug/l	N	1 U	1 U	1 U	1 U
108-90-7	CHLOROBENZENE	ug/l	N	1 U	1 U	1 U	1 U
75-00-3	CHLOROETHANE	ug/l	N	1 U	1 U	1 U	1 U
67-66-3	CHLOROFORM	ug/l	N	1 U	1 U	1 U	1 U
74-87-3	CHLOROMETHANE	ug/l	N	1 U	1 U	1 U	1 U
156-59-2	CIS-1,2-DICHLOROETHENE	ug/l	N	1 U	1 U	1 U	1 U
10061-01-5	CIS-1,3-DICHLOROPROPENE	ug/l	N	1 U	1 U	1 U	1 U
110-82-7	CYCLOHEXANE	ug/l	N	1 U	1 U	1 U	1 U
124-48-1	Dibromochloromethane	ug/l	N	1 U	1 U	1 U	1 U
75-71-8	DICHLORODIFLUOROMETHANE	ug/l	N	1 U	1 U	1 U	1 U
100-41-4	ETHYLBENZENE	ug/l	N	1 U	1 U	1 U	1 U
98-82-8	ISOPROPYLBENZENE	ug/l	N	1 U	1 U	1 U	1 U
79-20-9	METHYL ACETATE	ug/l	N	2.5 U	2.5 U	2.5 U	2.5 U
1634-04-4	METHYL TERT-BUTYL ETHER	ug/l	N	1 U	1 U	1 U	1 U
108-87-2	METHYLCYCLOHEXANE	ug/l	N	0.22 J	1 U	1 U	1 U
75-09-2	METHYLENE CHLORIDE	ug/l	N	1 U	1 U	1 U	1 U
100-42-5	STYRENE	ug/l	N	1 U	1 U	1 U	1 U
127-18-4	TETRACHLOROETHENE	ug/l	N	1 U	1 U	1 U	1 U
108-88-3	TOLUENE	ug/l	N	1 U	1 U	1 U	1 U
156-60-5	TRANS-1,2-DICHLOROETHENE	ug/l	N	1 U	1 U	1 U	1 U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	ug/l	N	1 U	1 U	1 U	1 U
79-01-6	TRICHLOROETHENE	ug/l	N	1 U	1 U	1 U	1 U
75-69-4	TRICHLOROFLUOROMETHANE	ug/l	N	1 U	1 U	1 U	1 U
75-01-4	VINYL CHLORIDE	ug/l	N	1 U	1 U	1 U	1 U
1330-20-7	XYLENES, TOTAL	ug/l	N	2 U	2 U	2 U	2 U

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			Location ID	MW-11R	MW-12R	MW-12R	FIELD QC
			Field Sample ID	TP-0003-02	TP-0002-05	TP-0002-06	TP-0002-01
			Date Sampled	10/26/2016	10/25/2016	10/25/2016	10/25/2016
			SDG	480-108455-1	480-108378-1	480-108378-1	480-108378-1
			Matrix	WATER	WATER	WATER	WATER
			Purpose	REG	REG	FD	TB
			Type	GW-GWS	GW-GWS	GW-GWS	BLKWATER
Parameter Code	Parameter Name	Units	Filtered				
92-52-4	1,1'-BIPHENYL	ug/l	N	4.8 U	4.7 U	5.1 U	
108-60-1	2,2'-OXYBIS(1-CHLOROPROPANE)	ug/l	N	4.8 U	4.7 U	5.1 U	
95-95-4	2,4,5-TRICHLOROPHENOL	ug/l	N	4.8 U	4.7 U	5.1 U	
88-06-2	2,4,6-TRICHLOROPHENOL	ug/l	N	4.8 U	4.7 U	5.1 U	
120-83-2	2,4-DICHLOROPHENOL	ug/l	N	4.8 U	4.7 U	5.1 U	
105-67-9	2,4-DIMETHYLPHENOL	ug/l	N	4.8 U	4.7 U	5.1 U	
51-28-5	2,4-DINITROPHENOL	ug/l	N	9.7 U	9.4 U	10 U	
121-14-2	2,4-DINITROTOLUENE	ug/l	N	4.8 U	4.7 U	5.1 U	
606-20-2	2,6-DINITROTOLUENE	ug/l	N	4.8 U	4.7 U	5.1 U	
91-58-7	2-CHLORONAPHTHALENE	ug/l	N	4.8 U	4.7 U	5.1 U	
95-57-8	2-CHLOROPHENOL	ug/l	N	4.8 U	4.7 U	5.1 U	
91-57-6	2-METHYLNAPHTHALENE	ug/l	N	4.8 U	4.7 U	5.1 U	
95-48-7	2-METHYLPHENOL	ug/l	N	4.8 U	4.7 U	5.1 U	
88-74-4	2-NITROANILINE	ug/l	N	9.7 U	9.4 U	10 U	
88-75-5	2-NITROPHENOL	ug/l	N	4.8 U	4.7 U	5.1 U	
91-94-1	3,3'-DICHLOROBENZIDINE	ug/l	N	4.8 U	4.7 U	5.1 U	
99-09-2	3-NITROANILINE	ug/l	N	9.7 U	9.4 U	10 U	
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ug/l	N	9.7 U	9.4 U	10 U	
101-55-3	4-BROMOPHENYL PHENYL ETHER	ug/l	N	4.8 U	4.7 U	5.1 U	
59-50-7	4-CHLORO-3-METHYLPHENOL	ug/l	N	4.8 U	4.7 U	5.1 U	
106-47-8	4-CHLOROANILINE	ug/l	N	4.8 U	4.7 U	5.1 U	
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ug/l	N	4.8 U	4.7 U	5.1 U	
106-44-5	4-METHYLPHENOL	ug/l	N	9.7 U	9.4 U	10 U	
100-01-6	4-NITROANILINE	ug/l	N	9.7 U	9.4 U	10 U	
100-02-7	4-NITROPHENOL	ug/l	N	9.7 U	9.4 U	10 U	
83-32-9	ACENAPHTHENE	ug/l	N	4.8 U	4.7 U	5.1 U	
208-96-8	ACENAPHTHYLENE	ug/l	N	4.8 U	4.7 U	5.1 U	
98-86-2	ACETOPHENONE	ug/l	N	4.8 U	4.7 U	5.1 U	
120-12-7	ANTHRACENE	ug/l	N	4.8 U	4.7 U	5.1 U	
1912-24-9	ATRAZINE	ug/l	N	4.8 U	4.7 U	5.1 U	
100-52-7	BENZALDEHYDE	ug/l	N	4.8 U	4.7 U	5.1 U	
56-55-3	BENZO(A)ANTHRACENE	ug/l	N	4.8 U	4.7 U	5.1 U	
50-32-8	BENZO(A)PYRENE	ug/l	N	4.8 U	4.7 U	5.1 U	
205-99-2	BENZO(B)FLUORANTHENE	ug/l	N	4.8 U	4.7 U	5.1 U	
191-24-2	BENZO(G,H,I)PERYLENE	ug/l	N	4.8 U	4.7 U	5.1 U	
207-08-9	BENZO(K)FLUORANTHENE	ug/l	N	4.8 U	4.7 U	5.1 U	
111-91-1	BIS(2-CHLOROETHOXY)METHANE	ug/l	N	4.8 U	4.7 U	5.1 U	
111-44-4	BIS(2-CHLOROETHYL)ETHER	ug/l	N	4.8 U	4.7 U	5.1 U	
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	ug/l	N	4.8 U	4.7 U	5.1 U	
85-68-7	BUTYLBENZYL PHTHALATE	ug/l	N	4.8 U	4.7 U	5.1 U	
105-60-2	CAPROLACTAM	ug/l	N	4.8 U	4.7 U	5.1 U	
86-74-8	CARBAZOLE	ug/l	N	4.8 U	4.7 U	5.1 U	
218-01-9	CHRYSENE	ug/l	N	4.8 U	4.7 U	5.1 U	
84-74-2	DI-N-BUTYL PHTHALATE	ug/l	N	4.8 U	4.7 U	5.1 U	
117-84-0	DI-N-OCTYL PHTHALATE	ug/l	N	4.8 U	4.7 U	5.1 U	
53-70-3	DIBENZO(A,H)ANTHRACENE	ug/l	N	4.8 U	4.7 U	5.1 U	
132-64-9	DIBENZOFURAN	ug/l	N	9.7 U	9.4 U	10 U	
84-66-2	DIETHYL PHTHALATE	ug/l	N	4.8 U	4.7 U	0.23 J	
131-11-3	DIMETHYL PHTHALATE	ug/l	N	4.8 U	4.7 U	5.1 U	

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			Location ID	MW-11R	MW-12R	MW-12R	FIELD QC
			Field Sample ID	TP-0003-02	TP-0002-05	TP-0002-06	TP-0002-01
			Date Sampled	10/26/2016	10/25/2016	10/25/2016	10/25/2016
			SDG	480-108455-1	480-108378-1	480-108378-1	480-108378-1
			Matrix	WATER	WATER	WATER	WATER
			Purpose	REG	REG	FD	TB
			Type	GW-GWS	GW-GWS	GW-GWS	BLKWATER
Parameter Code	Parameter Name	Units	Filtered				
206-44-0	FLUORANTHENE	ug/l	N	4.8 U	4.7 U	5.1 U	
86-73-7	FLUORENE	ug/l	N	4.8 U	4.7 U	5.1 U	
118-74-1	HEXACHLOROBENZENE	ug/l	N	4.8 U	4.7 U	5.1 U	
87-68-3	HEXACHLOROBUTADIENE	ug/l	N	4.8 U	4.7 U	5.1 U	
77-47-4	HEXACHLOROCYCLOPENTADIENE	ug/l	N	4.8 UJ	4.7 UJ	5.1 U	
67-72-1	HEXACHLOROETHANE	ug/l	N	4.8 U	4.7 U	5.1 U	
193-39-5	INDENO(1,2,3-CD)PYRENE	ug/l	N	4.8 U	4.7 U	5.1 U	
78-59-1	ISOPHORONE	ug/l	N	4.8 U	4.7 U	5.1 U	
621-64-7	N-NITROSO-DI-N-PROPYLAMINE	ug/l	N	4.8 U	4.7 U	5.1 U	
86-30-6	N-NITROSODIPHENYLAMINE	ug/l	N	4.8 U	4.7 U	5.1 U	
91-20-3	NAPHTHALENE	ug/l	N	4.8 U	4.7 U	5.1 U	
98-95-3	NITROBENZENE	ug/l	N	4.8 U	4.7 U	5.1 U	
87-86-5	PENTACHLOROPHENOL	ug/l	N	9.7 UJ	9.4 UJ	10 UJ	
85-01-8	PHENANTHRENE	ug/l	N	4.8 U	4.7 U	5.1 U	
108-95-2	PHENOL	ug/l	N	4.8 U	4.7 U	5.1 U	
129-00-0	PYRENE	ug/l	N	4.8 U	4.7 U	5.1 U	
57-12-5	CYANIDE	mg/L	N	0.005 U	0.029 J	0.073 J	

			Location ID	SW-36INF	SW-48INF
			Field Sample ID	TP-0004-01	TP-0004-02
			Sampled	10/26/2016	10/26/2016
			SDG	480-108456-1	480-108456-1
			Matrix	SOIL	SOIL
			Purpose	REG	REG
			Type	SED	SED
Method	Parameter Code	Parameter Name	Units		
ASTM D2216	MOISTURE	Moisture - percent at 105 deg. C	%	16.2	30.5
ASTM D2216	SOLID	SOLIDS, PERCENT	%	83.8	69.5
SW6010	7429-90-5	ALUMINUM	mg/kg	20100 J	9580
SW6010	7440-36-0	ANTIMONY	mg/kg	0.51 UJ	0.54 UJ
SW6010	7440-38-2	ARSENIC	mg/kg	3.1	17.3
SW6010	7440-39-3	BARIUM	mg/kg	223 J	146
SW6010	7440-41-7	BERYLLIUM	mg/kg	3.1 J	0.59 J
SW6010	7440-43-9	CADMIUM	mg/kg	0.37	0.72
SW6010	7440-70-2	CALCIUM	mg/kg	89300 J	5400
SW6010	7440-47-3	CHROMIUM	mg/kg	47.9 J	28.8 J
SW6010	7440-48-4	COBALT	mg/kg	2.6 J	16.7
SW6010	7440-50-8	COPPER	mg/kg	17 J	24.6 J
SW6010	7439-89-6	IRON	mg/kg	11500 J	27600
SW6010	7439-92-1	LEAD	mg/kg	24.9	19.1
SW6010	7439-95-4	MAGNESIUM	mg/kg	13000 J	3980
SW6010	7439-96-5	MANGANESE	mg/kg	2450 J	4270
SW6010	7440-02-0	NICKEL	mg/kg	13.8 J+	23.1 J
SW6010	7440-09-7	POTASSIUM	mg/kg	2560 J	2000 J
SW6010	7782-49-2	SELENIUM	mg/kg	2.4 J	1.9 J
SW6010	7440-22-4	SILVER	mg/kg	0.26 UJ	0.27 UJ
SW6010	7440-23-5	SODIUM	mg/kg	570 J	109 J
SW6010	7440-28-0	THALLIUM	mg/kg	0.38 U	0.4 U
SW6010	7440-62-2	VANADIUM	mg/kg	10.5 J	21.2
SW6010	7440-66-6	ZINC	mg/kg	41.8 J	191 J
SW7471	7439-97-6	MERCURY	mg/kg	0.04	0.037

			Location ID	SW-36INF	SW-48INF
			Field Sample ID	TP-0004-01	TP-0004-02
			Sampled	10/26/2016	10/26/2016
			SDG	480-108456-1	480-108456-1
			Matrix	SOIL	SOIL
			Purpose	REG	REG
			Type	SED	SED
Method	Parameter Code	Parameter Name	Units		
SW8260	71-55-6	1,1,1-TRICHLOROETHANE	ug/kg	3.9 U	7.4 U
SW8260	79-34-5	1,1,2,2-TETRACHLOROETHANE	ug/kg	3.9 U	7.4 U
SW8260	76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/kg	3.9 U	7.4 U
SW8260	79-00-5	1,1,2-TRICHLOROETHANE	ug/kg	3.9 U	7.4 U
SW8260	75-34-3	1,1-DICHLOROETHANE	ug/kg	3.9 U	7.4 U
SW8260	75-35-4	1,1-DICHLOROETHENE	ug/kg	3.9 U	7.4 U
SW8260	120-82-1	1,2,4-TRICHLOROBENZENE	ug/kg	3.9 UJ	7.4 U
SW8260	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	ug/kg	3.9 UJ	7.4 U
SW8260	106-93-4	1,2-DIBROMOETHANE	ug/kg	3.9 U	7.4 U
SW8260	95-50-1	1,2-DICHLOROBENZENE	ug/kg	3.9 U	7.4 U
SW8260	107-06-2	1,2-DICHLOROETHANE	ug/kg	3.9 U	7.4 U
SW8260	78-87-5	1,2-DICHLOROPROPANE	ug/kg	3.9 U	7.4 U
SW8260	541-73-1	1,3-DICHLOROBENZENE	ug/kg	3.9 U	7.4 U
SW8260	106-46-7	1,4-DICHLOROBENZENE	ug/kg	3.9 U	7.4 U
SW8260	78-93-3	2-BUTANONE	ug/kg	15 J	37 U
SW8260	591-78-6	2-HEXANONE	ug/kg	19 U	37 U
SW8260	108-10-1	4-METHYL-2-PENTANONE	ug/kg	19 U	37 U
SW8260	67-64-1	ACETONE	ug/kg	16 UJ	37 U
SW8260	71-43-2	BENZENE	ug/kg	3.9 U	7.4 U
SW8260	75-27-4	BROMODICHLOROMETHANE	ug/kg	3.9 U	7.4 U
SW8260	75-25-2	BROMOFORM	ug/kg	3.9 U	7.4 U
SW8260	74-83-9	BROMOMETHANE	ug/kg	3.9 U	7.4 U
SW8260	75-15-0	CARBON DISULFIDE	ug/kg	3.9 U	7.4 U
SW8260	56-23-5	CARBON TETRACHLORIDE	ug/kg	3.9 U	7.4 U
SW8260	108-90-7	CHLOROBENZENE	ug/kg	3.9 U	7.4 U
SW8260	75-00-3	CHLOROETHANE	ug/kg	3.9 U	7.4 U
SW8260	67-66-3	CHLOROFORM	ug/kg	3.9 U	7.4 U
SW8260	74-87-3	CHLOROMETHANE	ug/kg	3.9 U	7.4 U
SW8260	156-59-2	CIS-1,2-DICHLOROETHENE	ug/kg	3.9 U	7.4 U
SW8260	10061-01-5	CIS-1,3-DICHLOROPROPENE	ug/kg	3.9 U	7.4 U
SW8260	110-82-7	CYCLOHEXANE	ug/kg	3.9 U	7.4 U
SW8260	124-48-1	Dibromochloromethane	ug/kg	3.9 U	7.4 U
SW8260	75-71-8	DICHLORODIFLUOROMETHANE	ug/kg	3.9 U	7.4 U
SW8260	100-41-4	ETHYLBENZENE	ug/kg	3.9 U	7.4 U
SW8260	98-82-8	ISOPROPYLBENZENE	ug/kg	3.9 U	7.4 U
SW8260	79-20-9	METHYL ACETATE	ug/kg	19 U	37 U
SW8260	1634-04-4	METHYL TERT-BUTYL ETHER	ug/kg	3.9 U	7.4 U
SW8260	108-87-2	METHYLCYCLOHEXANE	ug/kg	3.9 U	7.4 U
SW8260	75-09-2	METHYLENE CHLORIDE	ug/kg	3.9 U	7.4 U
SW8260	100-42-5	STYRENE	ug/kg	3.9 U	7.4 U
SW8260	127-18-4	TETRACHLOROETHENE	ug/kg	3.9 U	7.4 U
SW8260	108-88-3	TOLUENE	ug/kg	3.9 U	7.4 U
SW8260	156-60-5	TRANS-1,2-DICHLOROETHENE	ug/kg	3.9 U	7.4 U
SW8260	10061-02-6	TRANS-1,3-DICHLOROPROPENE	ug/kg	3.9 U	7.4 U
SW8260	79-01-6	TRICHLOROETHENE	ug/kg	3.9 U	7.4 U
SW8260	75-69-4	TRICHLOROFLUOROMETHANE	ug/kg	3.9 U	7.4 U
SW8260	75-01-4	VINYL CHLORIDE	ug/kg	3.9 U	7.4 U
SW8260	1330-20-7	XYLENES, TOTAL	ug/kg	7.7 U	15 U

			Location ID	SW-36INF	SW-48INF
			Field Sample ID	TP-0004-01	TP-0004-02
			Sampled	10/26/2016	10/26/2016
			SDG	480-108456-1	480-108456-1
			Matrix	SOIL	SOIL
			Purpose	REG	REG
			Type	SED	SED
Method	Parameter Code	Parameter Name	Units		
SW8270	92-52-4	1,1'-BIPHENYL	ug/kg	4000 U	1200 U
SW8270	108-60-1	2,2'-OXYBIS(1-CHLOROPROPANE)	ug/kg	4000 U	1200 U
SW8270	95-95-4	2,4,5-TRICHLOROPHENOL	ug/kg	4000 U	1200 U
SW8270	88-06-2	2,4,6-TRICHLOROPHENOL	ug/kg	4000 U	1200 U
SW8270	120-83-2	2,4-DICHLOROPHENOL	ug/kg	4000 U	1200 U
SW8270	105-67-9	2,4-DIMETHYLPHENOL	ug/kg	4000 U	1200 U
SW8270	51-28-5	2,4-DINITROPHENOL	ug/kg	39000 UJ	12000 U
SW8270	121-14-2	2,4-DINITROTOLUENE	ug/kg	4000 U	1200 U
SW8270	606-20-2	2,6-DINITROTOLUENE	ug/kg	4000 U	1200 U
SW8270	91-58-7	2-CHLORONAPHTHALENE	ug/kg	4000 U	1200 U
SW8270	95-57-8	2-CHLOROPHENOL	ug/kg	4000 U	1200 U
SW8270	91-57-6	2-METHYLNAPHTHALENE	ug/kg	4000 U	1200 U
SW8270	95-48-7	2-METHYLPHENOL	ug/kg	4000 U	1200 U
SW8270	88-74-4	2-NITROANILINE	ug/kg	7800 U	2300 U
SW8270	88-75-5	2-NITROPHENOL	ug/kg	4000 U	1200 U
SW8270	91-94-1	3,3'-DICHLOROBENZIDINE	ug/kg	7800 UJ	2300 U
SW8270	99-09-2	3-NITROANILINE	ug/kg	7800 U	2300 U
SW8270	534-52-1	4,6-DINITRO-2-METHYLPHENOL	ug/kg	7800 U	2300 U
SW8270	101-55-3	4-BROMOPHENYL PHENYL ETHER	ug/kg	4000 U	1200 U
SW8270	59-50-7	4-CHLORO-3-METHYLPHENOL	ug/kg	4000 U	1200 U
SW8270	106-47-8	4-CHLOROANILINE	ug/kg	4000 U	1200 U
SW8270	7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ug/kg	4000 U	1200 U
SW8270	106-44-5	4-METHYLPHENOL	ug/kg	7800 U	2300 U
SW8270	100-01-6	4-NITROANILINE	ug/kg	7800 UJ	2300 U
SW8270	100-02-7	4-NITROPHENOL	ug/kg	7800 U	2300 U
SW8270	83-32-9	ACENAPHTHENE	ug/kg	4000 U	1200 U
SW8270	208-96-8	ACENAPHTHYLENE	ug/kg	4000 U	520 J
SW8270	98-86-2	ACETOPHENONE	ug/kg	4000 U	1200 U
SW8270	120-12-7	ANTHRACENE	ug/kg	4000 U	450 J
SW8270	1912-24-9	ATRAZINE	ug/kg	4000 U	1200 U
SW8270	100-52-7	BENZALDEHYDE	ug/kg	4000 U	1200 U
SW8270	56-55-3	BENZO(A)ANTHRACENE	ug/kg	2000 J	1800
SW8270	50-32-8	BENZO(A)PYRENE	ug/kg	1600 J	1500
SW8270	205-99-2	BENZO(B)FLUORANTHENE	ug/kg	2200 J	1900
SW8270	191-24-2	BENZO(G,H,I)PERYLENE	ug/kg	980 J	1100 J
SW8270	207-08-9	BENZO(K)FLUORANTHENE	ug/kg	1100 J	1000 J
SW8270	111-91-1	BIS(2-CHLOROETHOXY)METHANE	ug/kg	4000 U	1200 U
SW8270	111-44-4	BIS(2-CHLOROETHYL)ETHER	ug/kg	4000 UJ	1200 UJ
SW8270	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	ug/kg	4000 U	1200 U
SW8270	85-68-7	BUTYLBENZYL PHTHALATE	ug/kg	4000 U	1200 U
SW8270	105-60-2	CAPROLACTAM	ug/kg	4000 U	1200 U
SW8270	86-74-8	CARBAZOLE	ug/kg	4000 U	1200 U
SW8270	218-01-9	CHRYSENE	ug/kg	2000 J	1700
SW8270	84-74-2	DI-N-BUTYL PHTHALATE	ug/kg	4000 U	1200 U
SW8270	117-84-0	DI-N-OCTYL PHTHALATE	ug/kg	4000 U	1200 U
SW8270	53-70-3	DIBENZO(A,H)ANTHRACENE	ug/kg	4000 U	1200 U
SW8270	132-64-9	DIBENZOFURAN	ug/kg	4000 U	1200 U
SW8270	84-66-2	DIETHYL PHTHALATE	ug/kg	4000 U	1200 U

			Location ID	SW-36INF	SW-48INF
			Field Sample ID	TP-0004-01	TP-0004-02
			Sampled	10/26/2016	10/26/2016
			SDG	480-108456-1	480-108456-1
			Matrix	SOIL	SOIL
			Purpose	REG	REG
			Type	SED	SED
Method	Parameter Code	Parameter Name	Units		
SW8270	131-11-3	DIMETHYL PHTHALATE	ug/kg	4000 U	1200 U
SW8270	206-44-0	FLUORANTHENE	ug/kg	5300	3400
SW8270	86-73-7	FLUORENE	ug/kg	4000 U	1200 U
SW8270	118-74-1	HEXACHLOROBENZENE	ug/kg	4000 U	1200 U
SW8270	87-68-3	HEXACHLOROBUTADIENE	ug/kg	4000 UJ	1200 UJ
SW8270	77-47-4	HEXACHLOROCYCLOPENTADIENE	ug/kg	4000 U	1200 U
SW8270	67-72-1	HEXACHLOROETHANE	ug/kg	4000 U	1200 U
SW8270	193-39-5	INDENO(1,2,3-CD)PYRENE	ug/kg	1100 J	990 J
SW8270	78-59-1	ISOPHORONE	ug/kg	4000 U	1200 U
SW8270	621-64-7	N-NITROSO-DI-N-PROPYLAMINE	ug/kg	4000 U	1200 U
SW8270	86-30-6	N-NITROSODIPHENYLAMINE	ug/kg	4000 U	1200 U
SW8270	91-20-3	NAPHTHALENE	ug/kg	4000 U	1200 U
SW8270	98-95-3	NITROBENZENE	ug/kg	4000 U	1200 U
SW8270	87-86-5	PENTACHLOROPHENOL	ug/kg	7800 U	2300 U
SW8270	85-01-8	PHENANTHRENE	ug/kg	3800 J	1100 J
SW8270	108-95-2	PHENOL	ug/kg	4000 U	1200 U
SW8270	129-00-0	PYRENE	ug/kg	4000	2800
SW9012	57-12-5	CYANIDE	mg/kg	0.57 U	1.1 J

2016 VALIDATED SURFACE WATER SAMPLES
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				Location ID	SW-36EFF	SW-36EFF	SW-36INF	SW-48INF	FIELD QC
				Field Sample ID	TP-0003-03	TP-0003-05	TP-0003-04	TP-0003-06	TP-0003-01
				Date Sampled	10/26/2016	10/26/2016	10/26/2016	10/26/2016	10/26/2016
				SDG	480-108455-1	480-108455-1	480-108455-1	480-108455-1	480-108455-1
				Matrix	WATER	WATER	WATER	WATER	WATER
				Purpose	REG	FD	REG	REG	TB
				Type	GW-GWS	GW-GWS	GW-GWS	GW-GWS	BLKWATER
Method	Parameter Code	Parameter Name	Units	Filtered					
SW6010	7429-90-5	ALUMINUM	mg/L	N	0.06 U	0.064 J	0.32	0.06 U	
SW6010	7440-36-0	ANTIMONY	mg/L	N	0.0068 U	0.0068 U	0.0068 U	0.0068 U	
SW6010	7440-38-2	ARSENIC	mg/L	N	0.0056 U	0.0056 U	0.01 J	0.0056 U	
SW6010	7440-39-3	BARIUM	mg/L	N	0.044	0.043	0.066	0.029	
SW6010	7440-41-7	BERYLLIUM	mg/L	N	0.0003 U	0.0003 U	0.0003 U	0.0003 U	
SW6010	7440-43-9	CADMIUM	mg/L	N	0.0005 U	0.0005 U	0.0005 U	0.0005 U	
SW6010	7440-70-2	CALCIUM	mg/L	N	173	164	168	57.9	
SW6010	7440-47-3	CHROMIUM	mg/L	N	0.0016 J	0.0011 J	0.0018 J	0.001 U	
SW6010	7440-48-4	COBALT	mg/L	N	0.00099 J	0.00087 J	0.0012 J	0.0013 J	
SW6010	7440-50-8	COPPER	mg/L	N	0.0016 U	0.0016 U	0.0028 J	0.0016 U	
SW6010	7439-89-6	IRON	mg/L	N	3.8 J	3.8 J	14.6 J+	1	
SW6010	7439-92-1	LEAD	mg/L	N	0.003 U	0.003 U	0.0036 J	0.015	
SW6010	7439-95-4	MAGNESIUM	mg/L	N	38.7	37.2	38.1	11.5	
SW6010	7439-96-5	MANGANESE	mg/L	N	2.6	2.5	3.5	0.98	
SW6010	7440-02-0	NICKEL	mg/L	N	0.0082 J	0.0071 J	0.0041 J	0.0044 J	
SW6010	7440-09-7	POTASSIUM	mg/L	N	6.5	6.1	5.6	1.6	
SW6010	7782-49-2	SELENIUM	mg/L	N	0.0087 U	0.0087 U	0.0087 U	0.0087 U	
SW6010	7440-22-4	SILVER	mg/L	N	0.0017 U	0.0017 U	0.0017 U	0.0017 U	
SW6010	7440-23-5	SODIUM	mg/L	N	59.2	57	58.9	27.3	
SW6010	7440-28-0	THALLIUM	mg/L	N	0.01 U	0.01 U	0.01 U	0.01 U	
SW6010	7440-62-2	VANADIUM	mg/L	N	0.0015 U	0.0015 U	0.0015 U	0.0015 U	
SW6010	7440-66-6	ZINC	mg/L	N	0.016	0.016	0.0097 J	0.0045 J	
SW7470	7439-97-6	MERCURY	mg/L	N	0.00012 U	0.00012 U	0.00012 U	0.00012 U	

2016 VALIDATED SURFACE WATER SAMPLES
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				Location ID	SW-36EFF	SW-36EFF	SW-36INF	SW-48INF	FIELD QC
				Field Sample ID	TP-0003-03	TP-0003-05	TP-0003-04	TP-0003-06	TP-0003-01
				Date Sampled	10/26/2016	10/26/2016	10/26/2016	10/26/2016	10/26/2016
				SDG	480-108455-1	480-108455-1	480-108455-1	480-108455-1	480-108455-1
				Matrix	WATER	WATER	WATER	WATER	WATER
				Purpose	REG	FD	REG	REG	TB
				Type	GW-GWS	GW-GWS	GW-GWS	GW-GWS	BLKWATER
Method	Parameter Code	Parameter Name	Units	Filtered					
SW8260	71-55-6	1,1,1-TRICHLOROETHANE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	79-34-5	1,1,2,2-TETRACHLOROETHANE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	79-00-5	1,1,2-TRICHLOROETHANE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	75-34-3	1,1-DICHLOROETHANE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	75-35-4	1,1-DICHLOROETHENE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	120-82-1	1,2,4-TRICHLOROBENZENE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	106-93-4	1,2-DIBROMOETHANE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	95-50-1	1,2-DICHLOROBENZENE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	107-06-2	1,2-DICHLOROETHANE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	78-87-5	1,2-DICHLOROPROPANE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	541-73-1	1,3-DICHLOROBENZENE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	106-46-7	1,4-DICHLOROBENZENE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	78-93-3	2-BUTANONE	ug/l	N	10 U	10 U	10 U	10 U	10 U
SW8260	591-78-6	2-HEXANONE	ug/l	N	5 U	5 U	5 U	5 U	5 U
SW8260	108-10-1	4-METHYL-2-PENTANONE	ug/l	N	5 U	5 U	5 U	5 U	5 U
SW8260	67-64-1	ACETONE	ug/l	N	3.9 J	3.4 J	3.6 J	10 UJ	10 UJ
SW8260	71-43-2	BENZENE	ug/l	N	1.5	1.6	1 U	1 U	1 U
SW8260	75-27-4	BROMODICHLOROMETHANE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	75-25-2	BROMOFORM	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	74-83-9	BROMOMETHANE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	75-15-0	CARBON DISULFIDE	ug/l	N	3.3	3	1 U	1 U	1 U
SW8260	56-23-5	CARBON TETRACHLORIDE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	108-90-7	CHLOROBENZENE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	75-00-3	CHLOROETHANE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	67-66-3	CHLOROFORM	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	74-87-3	CHLOROMETHANE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	156-59-2	CIS-1,2-DICHLOROETHENE	ug/l	N	1.1	1.1	1 U	1 U	1 U
SW8260	10061-01-5	CIS-1,3-DICHLOROPROPENE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	110-82-7	CYCLOHEXANE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	124-48-1	Dibromochloromethane	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	75-71-8	DICHLORODIFLUOROMETHANE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	100-41-4	ETHYLBENZENE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	98-82-8	ISOPROPYLBENZENE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	79-20-9	METHYL ACETATE	ug/l	N	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
SW8260	1634-04-4	METHYL TERT-BUTYL ETHER	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	108-87-2	METHYLCYCLOHEXANE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	75-09-2	METHYLENE CHLORIDE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	100-42-5	STYRENE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	127-18-4	TETRACHLOROETHENE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	108-88-3	TOLUENE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	156-60-5	TRANS-1,2-DICHLOROETHENE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	10061-02-6	TRANS-1,3-DICHLOROPROPENE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	79-01-6	TRICHLOROETHENE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	75-69-4	TRICHLOROFLUOROMETHANE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	75-01-4	VINYL CHLORIDE	ug/l	N	1 U	1 U	1 U	1 U	1 U
SW8260	1330-20-7	XYLENES, TOTAL	ug/l	N	2 U	2 U	2 U	2 U	2 U

2016 VALIDATED SURFACE WATER SAMPLES
TONAWANDA PLASTICS PLANT

				Location ID	SW-36EFF	SW-36EFF	SW-36INF	SW-48INF	FIELD QC
				Field Sample ID	TP-0003-03	TP-0003-05	TP-0003-04	TP-0003-06	TP-0003-01
				Date Sampled	10/26/2016	10/26/2016	10/26/2016	10/26/2016	10/26/2016
				SDG	480-108455-1	480-108455-1	480-108455-1	480-108455-1	480-108455-1
				Matrix	WATER	WATER	WATER	WATER	WATER
				Purpose	REG	FD	REG	REG	TB
				Type	GW-GWS	GW-GWS	GW-GWS	GW-GWS	BLKWATER
Method	Parameter Code	Parameter Name	Units	Filtered					
SW8270	92-52-4	1,1'-BIPHENYL	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	108-60-1	2,2'-OXYBIS(1-CHLOROPROPANE)	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	95-95-4	2,4,5-TRICHLOROPHENOL	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	88-06-2	2,4,6-TRICHLOROPHENOL	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	120-83-2	2,4-DICHLOROPHENOL	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	105-67-9	2,4-DIMETHYLPHENOL	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	51-28-5	2,4-DINITROPHENOL	ug/l	N	9.7 U	48 U	47 U	9.4 U	
SW8270	121-14-2	2,4-DINITROTOLUENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	606-20-2	2,6-DINITROTOLUENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	91-58-7	2-CHLORONAPHTHALENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	95-57-8	2-CHLOROPHENOL	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	91-57-6	2-METHYLNAPHTHALENE	ug/l	N	0.61 J	24 U	24 U	4.7 U	
SW8270	95-48-7	2-METHYLPHENOL	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	88-74-4	2-NITROANILINE	ug/l	N	9.7 U	48 U	47 U	9.4 U	
SW8270	88-75-5	2-NITROPHENOL	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	91-94-1	3,3'-DICHLOROBENZIDINE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	99-09-2	3-NITROANILINE	ug/l	N	9.7 U	48 U	47 U	9.4 U	
SW8270	534-52-1	4,6-DINITRO-2-METHYLPHENOL	ug/l	N	9.7 U	48 U	47 U	9.4 U	
SW8270	101-55-3	4-BROMOPHENYL PHENYL ETHER	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	59-50-7	4-CHLORO-3-METHYLPHENOL	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	106-47-8	4-CHLOROANILINE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	106-44-5	4-METHYLPHENOL	ug/l	N	9.7 U	48 U	47 U	9.4 U	
SW8270	100-01-6	4-NITROANILINE	ug/l	N	9.7 U	48 U	47 U	9.4 U	
SW8270	100-02-7	4-NITROPHENOL	ug/l	N	9.7 U	48 U	47 U	9.4 U	
SW8270	83-32-9	ACENAPHTHENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	208-96-8	ACENAPHTHYLENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	98-86-2	ACETOPHENONE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	120-12-7	ANTHRACENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	1912-24-9	ATRAZINE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	100-52-7	BENZALDEHYDE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	56-55-3	BENZO(A)ANTHRACENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	50-32-8	BENZO(A)PYRENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	205-99-2	BENZO(B)FLUORANTHENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	191-24-2	BENZO(G,H,I)PERYLENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	207-08-9	BENZO(K)FLUORANTHENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	111-91-1	BIS(2-CHLOROETHOXY)METHANE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	111-44-4	BIS(2-CHLOROETHYL)ETHER	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	85-68-7	BUTYLBENZYL PHTHALATE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	105-60-2	CAPROLACTAM	ug/l	N	4.9 U	24 U	24 U	4.7 UJ	
SW8270	86-74-8	CARBAZOLE	ug/l	N	0.48 J	24 U	24 U	4.7 U	
SW8270	218-01-9	CHRYSENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	84-74-2	DI-N-BUTYL PHTHALATE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	117-84-0	DI-N-OCTYL PHTHALATE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	53-70-3	DIBENZO(A,H)ANTHRACENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	132-64-9	DIBENZOFURAN	ug/l	N	9.7 U	48 U	47 U	9.4 U	
SW8270	84-66-2	DIETHYL PHTHALATE	ug/l	N	4.9 U	24 U	24 U	4.7 U	

2016 VALIDATED SURFACE WATER SAMPLES
TONAWANDA PLASTICS PLANT

				Location ID	SW-36EFF	SW-36EFF	SW-36INF	SW-48INF	FIELD QC
				Field Sample ID	TP-0003-03	TP-0003-05	TP-0003-04	TP-0003-06	TP-0003-01
				Date Sampled	10/26/2016	10/26/2016	10/26/2016	10/26/2016	10/26/2016
				SDG	480-108455-1	480-108455-1	480-108455-1	480-108455-1	480-108455-1
				Matrix	WATER	WATER	WATER	WATER	WATER
				Purpose	REG	FD	REG	REG	TB
				Type	GW-GWS	GW-GWS	GW-GWS	GW-GWS	BLKWATER
Method	Parameter Code	Parameter Name	Units	Filtered					
SW8270	131-11-3	DIMETHYL PHTHALATE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	206-44-0	FLUORANTHENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	86-73-7	FLUORENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	118-74-1	HEXACHLOROBENZENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	87-68-3	HEXACHLOROBUTADIENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	77-47-4	HEXACHLOROCYCLOPENTADIENE	ug/l	N	4.9 UJ	24 UJ	24 UJ	4.7 U	
SW8270	67-72-1	HEXACHLOROETHANE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	193-39-5	INDENO(1,2,3-CD)PYRENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	78-59-1	ISOPHORONE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	621-64-7	N-NITROSO-DI-N-PROPYLAMINE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	86-30-6	N-NITROSODIPHENYLAMINE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	91-20-3	NAPHTHALENE	ug/l	N	3.3 J	5.1 J	24 U	2.7 J	
SW8270	98-95-3	NITROBENZENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	87-86-5	PENTACHLOROPHENOL	ug/l	N	9.7 UJ	48 UJ	47 UJ	9.4 U	
SW8270	85-01-8	PHENANTHRENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	108-95-2	PHENOL	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW8270	129-00-0	PYRENE	ug/l	N	4.9 U	24 U	24 U	4.7 U	
SW9012	57-12-5	CYANIDE	mg/L	N	0.038	0.032	0.005 U	0.005 U	

APPENDIX G
WASTE MANIFESTS

VEOLIA
ENVIRONMENTAL SERVICES

SHIPPING DOCUMENT

1. Generator ID Number: NYD051816263
2. Page 1 of: 1
3. Emergency Response Phone: (877) 818-0087
4. Shipping Document Tracking Number: ZZ 00441098

GENERATOR

5. Generator's Name and Mailing Address:
HONEYWELL
3831 RIVER ROAD
TONAWANDA, NY 14150
Generator's Phone: 315 807-8453

Generator's Site Address (if different than mailing address): SAME

6. Transporter 1 Company Name: ELDREDGE, INC
U.S. EPA ID Number: PAD041146179

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address:
VEOLIA ES TECHNICAL SOLUTIONS
4301 INFIRMARY ROAD
WEST CARROLLTON, OH 45449
Facility's Phone: 877 850-4101
U.S. EPA ID Number: OHD093945293

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Codes
	1 NON-REGULATED MATERIAL PER 40 & 49 CFR, (GROUNDWATER)	002	DM	00800	P	NONE / L
	2 NON-REGULATED MATERIAL PER 40 & 49 CFR (SOIL)	007	DM	03500	P	NONE / L
	3 NON HAZARDOUS, NON DOT REGULATED MATERIAL, (SOIL)	X		X	P	NONE / L
	4 NON HAZARDOUS, NON DOT REGULATED MATERIAL	001	DM	00100	P	NONE / L

14. Special Handling Instructions and Additional Information: ER Service Contracted by VESTS + 1) W-62274 A-SRRLFLIQ-NH 2) W-63499 A-SRRLFLIQ-NH 3) W-63497 A-SRRLFSOLID-NH 4) W-63502 A-SRRLFSOLID-NH

15. **GENERATOR S/OFFEROR S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Robert Powell, Remedial Project Manager for Honeywell
Signature:
Month: 11 Day: 30 Year: 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Shipment

Transporter 1 Printed/Typed Name: Sean Hennis
Signature:
Month: 11 Day: 30 Year: 16

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Shipping Document Tracking Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Report Management Method Codes (i.e., codes for treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of shipment except as noted in Item 18a

Printed/Typed Name:
Signature:
Month: Day: Year:

GENERATOR / SHIPPER'S INITIAL COPY