Clarington Transformer Station 2018 Annual Groundwater and Surface Water Monitoring Report

FINAL REPORT



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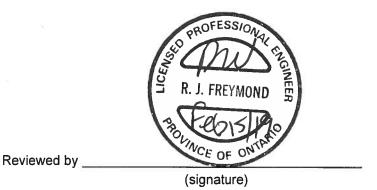
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Executive Summary

This 2018 Annual Monitoring Report presents data collected during the Spring and Fall semi-annual sampling events completed in April and October 2018. This report includes a summary of Project Area groundwater monitoring well and private well monitoring data collected during these semi-annual monitoring events, discusses adaptive changes made to the Groundwater and Surface Water Monitoring Program (Monitoring Program), and presents analyses, conclusions, and recommendations based on these data.

Introduction

Construction of the Clarington Transformer Station was completed in 2018 on a Hydro One owned property located within the Regional Municipality of Durham, in the Municipality of Clarington, bordering the east side of the City of Oshawa, northeast of Concession Road 7 and Townline Road North.

The 11 ha Station Site includes a shallow stormwater management (SWM) system to collect precipitation that falls within the Station Site in order to maintain dry ground and safe operating conditions. The shallow SWM system was constructed within the graded area within the Station Site limits.

The Ministry of the Environment, Conservation and Parks (MECP) approved Monitoring Program for the Clarington TS included installation of groundwater monitoring wells, implementation of groundwater, surface water, and private well monitoring programs, and annual reporting. The Monitoring Program objectives include defining the hydraulic conductivity of geologic units, documenting pre-station construction hydrogeologic conditions within the Project Area, and continued monitoring of the hydrogeologic conditions within the Project Area and for private wells within 1,200 m of the Station Site during and following station construction.

As of December 2017, the Clarington TS facility was successfully constructed. In fall 2017, the first 500 kV and 230 kV connections were completed, bringing the station into partial operation. The remaining 230 kV connections and other commissioning work was completed in the first few months in 2018 and the station was fully operational by May 2018. Removal of temporary access roads and laydown areas was initiated in summer 2018, as well as the continuation of habitat creation and visual screening work throughout the Project Area.

Local Hydrogeology

Since issuing the Baseline Conditions Report in November 2014, additional on-site monitoring wells were installed in 2014, which included MW5-14S(2), and MW5-14D as a condition of the municipal resolution to provide a permanent easement for the Clarington TS access road. Monitoring well MW4-13D was replaced by MW4-15D in 2015; however, no new monitoring wells have since been installed. The drilling, monitoring well installation, and hydraulic testing associated with the borehole and monitoring well installations completed since November 2014 have been provided in the Clarington Transformer Station Baseline Conditions - Addendum 2 Report (Stantec, 2015b), which was submitted to the MECP and is publicly



available on Hydro One's project website along with the 2015 through 2017 Clarington Transformer Station Annual Monitoring Reports (Stantec, 2015c, 2017, 2018).

Within the Project Area, shallow groundwater flows to the west and southwest towards the Harmony Creek tributaries and their associated branches. East of the Station Site, a shallow groundwater divide extends from north to south, dividing shallow groundwater lateral flow between the Harmony Creek and the Farewell Creek sub-watersheds. At the eastern extent of the Project Area, groundwater flow within the Farewell Creek Sub-watershed is to the southeast toward Farewell Creek and is consistent with the overall ground surface topography.

The recorded water level elevation fluctuations indicate the monitoring wells have responded to seasonal changes, consistent with the findings presented in the Baseline Conditions Report (Stantec, 2014) and the previous Clarington Transformer Station Annual Monitoring Reports (Stantec, 2015c, 2017, 2018). Environment Canada climate data indicate seasonal climate changes were characterized by precipitation totals consistent with normal annual precipitation but lower than in 2017, with elevated temperatures, resulting in a slight decline in groundwater levels.

Site observations and recorded water level elevations at drivepoint piezometers within nearby surface water features and adjacent monitoring wells indicated that the Harmony Creek tributaries flowed intermittently and were supported by a combination of discontinuous surface water runoff and groundwater discharge.

No shallow private wells are located directly downgradient of the Station Site. All shallow private wells in the vicinity of the Clarington TS participating in the Private Well Monitoring Program are located in the Oshawa Creek Watershed and Farewell Creek sub-watershed, with the exception of two (2) private wells located north and upgradient of the Station Site and one (1) private well more recently added to the monitoring program located beyond the Harmony Creek tributary. Monitoring wells at MW2-13, MW3-13, MW4-13, and MW5-14 are well positioned to serve as downgradient shallow groundwater monitoring wells for the Station Site.

Recorded October 2018 groundwater elevations from pairs of shallow and intermediate depth wells were used to calculate vertical hydraulic gradients at monitoring well locations MW1, MW2, and MW5. The vertical hydraulic gradient within the shallow overburden across the Project Area in 2018 ranged from neutral at MW1 and MW2 to 0.28 m/m at MW5 (downward). Vertical hydraulic gradients at MW3 and MW4 could not be determined due to very slow deep well recovery between sampling events.

A downward vertical hydraulic gradient is interpreted between the surficial sand and weathered till units within the proposed Project Area. The large difference in recorded water levels in both deeper wells MW5-14I and MW5-14D, of approximately 25 m, in conjunction with the stratigraphic model understanding for the Site, indicates these wells have little to no direct hydraulic connection to each other or the shallow groundwater system. This data strongly suggests that the surficial sand and upper weathered Newmarket Till are not hydraulically connected to the lower parts of the Newmarket Till or the underlying Thorncliffe Aquifer.



Thorncliffe Aquifer monitoring wells indicate deeper groundwater levels decreased slightly in 2018, ranging from 208.1 m above mean sea level (AMSL) to 214.8 m AMSL in October, with an overall southerly groundwater flow direction consistent with historical monitoring results, and consistent with regional mapping Central Lake Ontario Conservation Authority (CLOCA) (2012) that indicates deep groundwater flow to the southeast across the Project Area.

Surface Water Quality

As part of the Monitoring Program, water quality monitoring was completed semi-annually in April/May and October 2018. Surface water level elevations and water quality was monitored at three (3) locations on the Site (SW2, SW3 and SW4) in 2018. Hydro One technicians, in conjunction with Stantec staff, completed surface water quality sampling within the nearby surface water features including the South Branch of the Tributary of Harmony Creek at SW2, the Tributary of Harmony Creek at SW3 (adjacent to DP3-14), and at a drainage swale located south of the Station Site at SW4.

The surface water quality monitoring data in 2018 indicates that water quality is generally characterized by low concentrations of sodium, chloride, and nitrate, with all parameters generally within the Provincial Water Quality Objectives (PWQO), with the following exceptions: elevated concentrations of phosphorus (total) (SW3 and SW4) and boron (SW2 and SW3) was detected in at least one (1) sample in 2018.

Shallow Groundwater Quality

Since December 2013, a total of sixteen (16) Project Area groundwater monitoring wells (MW1-13S/D, MW2-13S/D, MW3-13S/D, MW4-13D, MW5-14S(2)/S/I/D, MW6-14, MW7-14, and temporary well MW8-15 (now decommissioned) were installed at seven (7) locations throughout the Project Area in order improve the understanding of the local geology and hydrogeology prior to construction, and to monitor groundwater and surface water during and following construction of the Clarington TS.

During Spring and Fall 2018 monitoring events, all monitoring wells were sampled as part of the semi-annual Monitoring Program, with the exception of MW4-13D, as it was replaced by MW4-15D; and MW8-15, as this well was decommissioned in May 2015.

Groundwater quality samples from the Project Area monitoring wells were analyzed for general inorganic chemistry, total metals, petroleum hydrocarbons (PHCs) (F1 to F4) and benzene, toluene, ethylbenzene and xylene (BTEX) compounds, polychlorinated biphenyls (PCBs), semi-volatile organic compounds (SVOC) and volatile organic compounds (VOC) parameters. Groundwater quality met the Ontario Drinking Water Standards (ODWS) for all health-related parameters with the exception of nitrate in one (1) monitoring well, which is attributed to agricultural fertilizer.

Historically, benzo(a)pyrene has been detected within some monitoring wells above the ODWS. As presented in the Baseline Conditions Addendum Report (Stantec, 2015a), this compound adsorbs to soil particles and it was concluded that these detections are associated with the sediment collected within the sample. Stantec (2015a) recommended that water quality sampling protocols be amended to include low-flow sampling. This sampling protocol was adopted in 2015 and continued through the 2018 sampling events.



Limited phthalate, PAH, and VOC compounds were detected at low concentrations that remained below the ODWS and Ontario Regulation 153/04 (O. Reg.153/04) Table 6 and/or Table 8 Site Condition Standards. The number of detections and the concentration of detections of PAH and VOC compounds remained very low in 2018, as compared to 2014, as a result of further well development and continued implementation of low-flow sampling methods. These results are consistent with the understanding that historic PAHs detections were associated with the sediment and not representative of dissolved groundwater concentrations.

Private Well Water Quality

Stantec completed semi-annual groundwater quality sampling at private wells that participated in the program in April and October 2018 for general inorganic chemistry, total metals, PHCs (F1 to F4) and BTEX compounds, PCBs, SVOC and VOC, and bacteriological water quality. Well owner consent was obtained from the owners of 25 private wells (24 well owners).

Bacteriological water quality was generally poor within the raw water samples collected from shallow private wells with 14 of the 15 wells (93%) having total coliforms present and 6 of 15 samples (40%) having *E.Coli* present on at least one occasion. Water quality for wells completed deeper than 40 m had only 1 (10%) detection of total coliform and no detections for *E.Coli*. The total coliform and *E.Coli* detections within the shallow dug wells are interpreted to be related to local sources associated agricultural activities (fertilizer, manure storage, and animal feedlots), septic systems, or potential surface influences. Shallow private well inorganic water quality monitoring detected the following parameters above the ODWS-AO or ODWS-MOH on at least one occasion: sodium in 12 wells (4 well samples following a water softener), chloride in two (2) wells, and total dissolved solids in six (6) wells. Deep private well inorganic water quality monitoring detected the following parameters above the ODWS-AO or ODWS-MOH on at least one occasion: iron in eight (8) wells, turbidity in five (5) wells, and sodium in three (3) wells (including 2 following treatment), and magnesium in one (1) well.

Low level detection of THMs (trihalomethane) were detected within at least one (1) sample from eight (8) shallow private wells. All of these detections are interpreted to be related to disinfection of wells to address bacteriological detections.

Conclusions and Recommendations

Based on the results presented in this Groundwater and Surface Water Baseline Conditions Report, the following conclusions are provided:

- The Groundwater and Surface Water Monitoring Program, initiated in December 2013, and completed through October 2018, allowed for annual characterization and monitoring of groundwater and surface water conditions within the Project Area.
- The Monitoring Program continues to monitor water levels continuously and water quality data semiannually for participating private wells within 1,200 m of the Station Site.
- Groundwater levels within the shallow overburden mimic topography, with the shallow groundwater flow direction within the Station Site to the west and southwest towards the tributary of Harmony Creek



and its associated branches. Monitoring wells at MW2-13, MW3-13, MW4-13, and MW5-14 are well positioned to serve as downgradient shallow groundwater monitoring wells for the Station Site. No shallow private wells are located immediately downgradient of the Station Site.

- Precipitation totals in the Oshawa area in 2018 were lower than in 2017, but consistent with climate normals.
- Groundwater and surface water level elevation and water quality monitoring through to October 2018
 indicates no adverse effects on the shallow groundwater system or in shallow or deep private wells as
 a result of Station Site grading and construction of the Clarington TS.

The following recommendations are provided:

- Continuous water level and semi-annual water quality monitoring should continue in 2019. Given that
 Station construction was completed in mid-2017, 2019 will represent the second full year of postconstruction monitoring and data collection. The on-site monitoring is scheduled to be concluded
 following the Fall 2019 sampling event.
- Sampling procedures for Project Area wells should continue with low-flow sampling protocols, as recommended in the Baseline Conditions Report Addendum.
- The need for removing or adding monitoring wells to the Monitoring Program should be reviewed annually. Based on a review of 2018 results, no changes are currently recommended to the Monitoring Program.
- The WIRP should continue to be reviewed annually. Based on 2018 results, no changes are currently recommended.
- The condition of all monitoring wells and drive-point piezometers should be inspected as part of the regular Monitoring Program with upgrades/replacement completed, as necessary.



Abbreviations

AMSL above mean sea level

BGS below ground surface

BTEX benzene, toluene, ethylbenzene and xylene

BTOC below top of casing

Class EA Class Environmental Assessment

CLOCA Central Lake Ontario Conservation Authority

DEHP Bis(2-Ethylhexyl) phthalate

EA Environmental Assessment

ECA Environmental Compliance Approval

GTA Greater Toronto Area

Ha hectares

Hydro One Hydro One Networks Inc.

ID inner diameter

LDPE low density polyethylene

Lotowater Technical Services Inc.

Maxxam Analytics Inc.

MAC Maximum Acceptable Concentration

MECP Ontario Ministry of Environment, Conservation and Parks

Monitoring Program Groundwater and Surface Water Monitoring Program

MNRF Ministry of Natural Resources and Forestry

OD outer diameter

ODWS Ontario Drinking Water Standards

OGS Ontario Geological Survey



O. Reg. 153/04 Ontario Regulation 153/04

O. Reg. 903 Ontario Regulation 903

OWRA Ontario Water Resources Act

PAH polycyclic aromatic hydrocarbons

PCBs polychlorinated biphenyls

PHCs petroleum hydrocarbons

Project Area lands owned by Hydro One in the vicinity of the Clarington TS

PWQO Provincial Water Quality Objectives

SCS site condition standard

Stantec Stantec Consulting Ltd.

Station Site land area of the Clarington Transformer Station

SVOCs semi-volatile organic compounds

THM trihalomethane

TS Transformer Station

VOCs volatile organic compounds

WIRP Well Interference Response Plan



Introduction February 15, 2019

1.0 INTRODUCTION

In 2014, Hydro One Networks Inc. (Hydro One, 2014) completed a Class Environmental Assessment for Minor Transmission Facilities (Class EA) for the construction of the Clarington Transformer Station (TS). The Clarington TS is required to ensure an adequate and reliable supply of power to the eastern portion of the Greater Toronto Area (GTA) as a result of the shutdown of the Pickering Nuclear Generating Station and to reinforce the regional reliability of power supply. The Clarington TS has been constructed on Hydro One owned property located in the Regional Municipality of Durham, in the Municipality of Clarington, bordering the east side of the City of Oshawa, northeast of Concession Road 7 and Townline Road North (Figure 1; Appendix A).

1.1 BACKGROUND

In a letter dated January 2, 2014, the MECP informed Hydro One that an Individual Environmental Assessment (EA) was not required and provided six (6) conditions to be undertaken during the detailed design and construction of the Clarington TS.

A condition of the MECP letter required the submission of a Groundwater Monitoring Plan to the MECP Central Region Director for review and approval. The Groundwater Monitoring Plan was to include water level and water quality monitoring from wells located within the Project Area and adjacent private wells to document pre- and post-station construction conditions and to confirm no adverse effects are associated with the Clarington TS. To satisfy this condition, Stantec Consulting Ltd. (Stantec) was retained by Hydro One to prepare the monitoring plan. The Groundwater and Surface Water Monitoring Program (Monitoring Program) was submitted to the MECP on June 13, 2014 (Appendix C).

Approval of the Monitoring Program was received from the MECP Central Region Director on June 24, 2014 (Appendix C).

The first monitoring report to be prepared under the Monitoring Program was the Pre-Station Construction Groundwater and Surface Water Baseline Conditions Report (Baseline Conditions Report, Stantec, 2014). As per one of the recommendations of the Baseline Conditions Report, additional assessment of sampling methodology and the role of sediment in water quality results was completed, with the findings presented in an Addendum Report (Stantec, 2015a). Subsequent to the Baseline Conditions Report, additional drilling and installation of monitoring wells, hydraulic testing, and soil sampling were completed; with the findings of these investigations presented in an Addendum 2 Report (Stantec, 2015b).

The 2015 Annual Groundwater and Surface Water Monitoring Report (Stantec, 2015c) was completed and issued in November 2015. Following completion of Station Site grading and associated temporary water taking, a Clarington Transformer Station Permit to Take Water Monitoring Report (Stantec, 2016) was submitted to the MECP in April 2016. Subsequent Annual Monitoring Reports (Stantec, 2017, 2018) presented data collected during the subsequent Spring and Fall semi-annual sampling events. All of the above reports are available on Hydro One's Clarington TS Project Website.



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This 2018 Annual Monitoring Report presents water quality data collected during the Spring and Fall semiannual sampling events completed in April and October 2018. This report also includes a summary of groundwater levels collected to date from Project Area groundwater monitoring wells and private wells. Given that Station construction was completed in mid-2017, the post-construction monitoring phase of the program began with the Spring 2018 monitoring event and is scheduled to be concluded following the Fall 2019 monitoring event.

1.2 REPORT OUTLINE

The following 2018 Annual Groundwater and Surface Water Monitoring Report presents the results of the Monitoring Program for the Clarington TS. This report is arranged into seven (7) sections, including this introduction. Section 2 presents an overview and schedule of the infrastructure and construction tasks for the Project Area. Section 3 presents a summary of the Groundwater and Surface Water Monitoring Program. Section 4 presents the study methods, and Section 5 presents the results of the baseline monitoring. Section 6 presents conclusions and recommendations, and Section 7 presents report references.

Figures and Tables referenced throughout the report are presented in Appendices A and B, respectively. Appendix C contains a copy of the approved Groundwater and Surface Water Monitoring Program, associated correspondence from the MECP, and well owner notification letters. Appendices D and E include Private Well Hydrographs and a CD of Laboratory Certificate of Analyses, respectively. Appendix F includes a CD with historic monitoring data for the Site from 2013 through to 2018.



Clarington Transformer Station February 15, 2019

2.0 CLARINGTON TRANSFORMER STATION

The following Clarington TS overview and summary of construction staging is provided by Hydro One.

2.1 OVERVIEW

The Clarington TS has been constructed on a Hydro One owned property located at 2745 Townline Road North, Oshawa within the Regional Municipality of Durham, in the Municipality of Clarington, bordering the east side of the City of Oshawa, northeast of Concession Road 7 and Townline Road North (Figure 1). For the purposes of this report, the lands owned by Hydro One in the vicinity of the Clarington TS are referred to as the Project Area, within which the area that will be occupied by the transformer station itself is referred to as the Station Site. The Station Site represents approximately 11 ha of the total 63 ha Project Area (Figure 2), and lies within the Harmony Creek sub-watershed (Figure 3).

The Clarington TS transforms electricity voltages from 500 kV to 230 kV by connecting to two (2) of four (4) existing 500 kV circuits and to all five (5) of the existing 230 kV circuits located on or adjacent to the proposed Station Site. The Clarington TS consists of two (2) 500/230 kV transformers, a 500 kV switchyard, a 230 kV switchyard, two (2) relay buildings, one (1) electrical panel building, and associated buswork and equipment.

The 230 kV wood pole and steel lattice structures originally located on the property have been relocated and replaced with new 230 kV steel lattice structures. An access road off Townline Road North has been constructed on the western edge of the Project Area. The access road is located at the municipal boundary between the Municipality of Clarington and the City of Oshawa. The Station Site includes a shallow stormwater management (SWM) system to collect precipitation that falls within the Station Site in order to maintain dry ground and safe operating conditions. In the unlikely event of a release of mineral insulating oil from a transformer, a spill containment system and oil-water separator have been included in the transformer station design to prevent the loss of transformer mineral insulating oil from entering the surrounding natural environment. The shallow SWM system and spill containment system have received *Environmental Compliance Approval* (ECA) for Industrial Sewage Works, as per the *Ontario Water Resources Act* (OWRA).

2.2 CURRENT STATION SITE CONSTRUCTION STAGING

Prior to construction of the Clarington TS, site preparation and 230 kV tower construction activities were required to relocate the existing 230 kV lines to the north and west of the proposed Clarington TS.



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The following provides a summary of the construction staging schedule for the Clarington TS:

Complete Relocation of 230 kV transmission lines and construction of the access

road.

Complete Construct 500 kV Tower Foundations

Complete Relocation of 500 kV lines

June 2015 Construction on the Clarington TS initiated

Complete Grading (cut/fill) of the Station Site (completed December 2015)

Complete Delivery and Assembly of Two (2) 500/230 kV Transformers

Complete Installation of Two (2) Relay Buildings

Complete Installation of 500 and 230 kV Switchyards and Equipment

Complete Installation of Shallow Stormwater Management (SWM) System

Complete 230 kV & 500 kV Connections and Commissioning

May 2017 Station Construction Completed

November 2017 First 230 kV connections made and commencement of operation

May 2018 Final 230 kV connections; station fully operational

2017 – 2019 Habitat Creation and Visual Screening

Construction of the Clarington TS was completed in May 2017. Work completed in 2018 included the final 230 kV connections and commissioning work, making the station fully operational as of May 2018. Also, removal of temporary access roads and laydown areas was initiated in 2018, as well as the continuation of habitat creation and visual screening work throughout the Project Area.

Construction of the adjacent Enfield TS will continue within the Project Area throughout 2019 and is expected to conclude in early 2019.



Groundwater and Surface Water Monitoring Program February 15, 2019

3.0 GROUNDWATER AND SURFACE WATER MONITORING PROGRAM

The approved Groundwater and Surface Water Monitoring Program (Monitoring Program) is included in Appendix C along with the approval letter for the program from the MECP Central Region Director. The Monitoring Program consists of the following main components:

- Installation, development, and hydraulic testing of new groundwater monitoring wells
- Implementation of a private well monitoring program
- Surface water and groundwater monitoring
- Annual reporting

Groundwater and surface water data collected prior to Station construction have been used to define the relationship between the shallow and intermediate groundwater systems within the Project Area. The data also provide a baseline to which monitoring data collected during and post construction will be compared in order to evaluate potential effects of station construction on the natural environment and surrounding private wells. Specifically, the objectives of the Monitoring Program are to:

- Define our understanding of the geology within the Station Site prior to construction of the Clarington TS.
- Define shallow and intermediate depth hydraulic conductivity of geologic units.
- Document seasonal shallow and intermediate groundwater levels within monitoring wells and private
 wells, including vertical hydraulic gradients between shallow and intermediate groundwater systems
 and surface water features within the Project Area.
- Document seasonal groundwater quality of the shallow and intermediate groundwater system within the Project Area.
- Document the shallow groundwater conditions during planned Station Site grading and shallow SWM system installation activities, including the potential radius of influence and potential for impact to adjacent private wells.

The following sections provide a summary of the specific monitoring requirements, including any changes to the Monitoring Program that have been implemented since the program was approved in June 2014.

3.1 MONITORING WELLS

Monitoring well installations MW1-13 to MW4-13 were completed in the late fall of 2013 (Figure 4). Based on the results of the borehole and monitoring well drilling, four (4) additional monitoring wells were installed in 2014 and were added to the monitoring program. These wells include MW5-14S/I, located just beyond the southwest corner of the Station Site; and MW6-14 and MW7-14, located along the northeastern



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boundary of the Project Area (Figure 4). Details of the drilling, monitoring well installation, and hydraulic testing associated with these twelve (12) wells were provided in the Baseline Conditions Report (Stantec, 2014).

Since issuing the Baseline Conditions Report in November 2014, two additional Project Area monitoring wells were added to the Monitoring Program: MW5-14S(2) was installed in December 2014 as part of the adaptive nature of the Monitoring Program, and MW5-14D was installed as part of an agreement between Hydro One and the Municipality of Clarington. A deep bedrock depth well at MW5-14D(2) was installed as part of a separate agreement between Hydro One and the Municipality of Clarington, and is not part of the Monitoring Program for the Clarington TS. CLOCA assumed ownership of this bedrock depth monitoring well in 2017.

In 2015, monitoring well MW4-15D was installed to verify the low groundwater level and slow recovery recorded in MW4-13D. Temporary monitoring well MW8-15 was installed to confirm the borehole log results of the geotechnical borehole BH7D, and borehole BH9-15 was drilled in the presence of staff from CLOCA, MECP Central Region and SLR Consulting to confirm geologic conditions at the location of the Clarington TS planned oil/water separator location.

The drilling, monitoring well installation, and hydraulic testing associated with the borehole and monitoring well installations completed since November 2014 have been provided in the Clarington Transformer Station - Addendum 2 Report (Stantec, 2015b), which was submitted to the MECP and is publicly available on Hydro One's project website. Monitoring well details related to all Project Area monitoring installations, are provided in Table 1 of this report.

There were no changes to the Monitoring Program in 2018. Project Area groundwater and surface water monitoring has now been completed for the pre-station construction (2013-2014) phase, the station construction (2015-2017) phase, and will continue through the planned post-construction phase (2018-2019).

3.2 PRIVATE WELL MONITORING

The Private Well Monitoring Program included the completion of door to door visits to property (well) owners within 1,200 m of the Station Site (Figure 3). Details of the initial notification were presented by Stantec in the Baseline Conditions Report (Stantec, 2014). By October 2014, well owner consent was obtained from the owners of 23 private wells (22 well owners). Details of the process to commence the residential monitoring program are as follows:

- An introductory letter was hand-delivered to each residence within 1,200 m of Clarington TS on June 13, 2014.
- Hydro One and Stantec completed door to door visits to all residents within 1,200 m of the station on June 18, 19, and 24, 2014 to follow-up and provide a copy of the letter and consent form. For residents that were not home at the time of these visits, copies of the introductory letter and consent form were left at the residence (typically in a mailbox, if available).



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• If well owners did not return a signed Consent Form for the Private Well Monitoring Program by September 9, 2014, the Private Well Monitoring Program Letter and Consent Form were sent to them via Canada Post Registered Mail. A copy of Canada Post's Registered Mail record of delivery receipt indicates 22 of 23 registered letters were delivered to residents between September 11-12, 2014, as one letter was unable to be delivered. This particular resident later authorized their participation in the Monitoring Program. The registered letters were only sent to residents that had not already returned a signed Consent Form by September 9, 2014.

Two (2) additional private well owners provided their consent to be added to the Monitoring Program in 2015. One well owner elected to no longer participate in the Monitoring Program in 2016; and one (1) additional private well owner provided their consent to be added to the Monitoring Program in 2017; making 25 participating private wells.

For private well owners that agreed to participate in the Monitoring Program, the following was completed in 2018:

- Automatic pressure transducers were accessed in Spring and Fall 2018 by a licensed water well
 contractor to retrieve recorded continuous (hourly) water level measurements.
- Water quality samples were collected semi-annually in 2018 (Spring and Fall).
- Following each Spring and Fall monitoring event, a letter was sent to each of the well owners presenting
 their individual well monitoring results. To maintain confidentiality, the results of the private well
 monitoring in this report do not include the well identifications.

Private well monitoring has now been completed for the pre-station construction (2013-2014) and station construction (2015-2017) phases of the project and will continue through the planned post-construction period (2018-2019).

3.3 REPORTING

As noted above, the first monitoring report to be prepared under the Monitoring Program was the Pre-Station Construction Groundwater and Surface Water Baseline Conditions Report (Stantec, 2014). The findings of a subsequent assessment of sampling methodology and the role of sediment in water quality results were presented in an Addendum Report (Stantec, 2015a). An Addendum 2 Report (Stantec, 2015b) presents a summary of additional drilling and installation of groundwater monitoring wells, hydraulic testing, and soil sampling complete since issuing the Baseline Conditions Report. The 2015, 2016, and 2017 Annual Monitoring Reports presented data collected during the Spring and Fall semi-annual sampling events completed in April and October-November of the respective years.



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This 2018 Annual Monitoring Report presents data collected during the Spring and Fall semi-annual sampling events completed in April and October 2018. This report includes a summary of Project Area groundwater monitoring well and private well monitoring data collected during these semi-annual monitoring events.

Subsequent annual monitoring reports will continue to be prepared following the annual fall monitoring event. The 2018 annual report is the first monitoring report to include a full year of post-construction monitoring data.



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4.0 METHODS

The Monitoring Program included the following components in 2018:

- Groundwater and Surface Water Level Monitoring
- Groundwater and Surface Water Quality Monitoring
- Private Well Monitoring
- Climate Monitoring

Methodologies employed during borehole drilling, well installations, and hydraulic testing completed following the Baseline Conditions Report (Stantec, 2014) are presented in the Addendum 2 Report (Stantec, 2015b). The following sections present a summary of the study methodology for water level and water quality monitoring.

4.1 MONITORING WELL INSTALLATION

Since December 2013, a total of sixteen (16) monitoring wells (MW1-13S/D, MW2-13S/D, MW3-13S/D, MW4-13S/D, MW4-13S/D, MW5-14S(2)/S/I/D, MW6-14, MW7-14, and temporary well MW8-15 (decommissioned in 2015) were installed at eight (8) locations throughout the Project Area in order refine the understanding of the local geology and hydrogeology prior to construction and to monitor groundwater and surface water during and following construction of the Clarington TS.

Monitoring wells MW1-13S/D, MW2-13S/D, MW3-13S/D, and MW4-13S/D were installed in December 2013. Monitoring wells MW5-14 S/I, MW6-14, and MW7-14 were installed in October 2014, MW5-14S(2)/D in December 2014, and MW4-15D and MW8-15 (temporary) were installed and added to the Monitoring Program in 2015 as part of the adaptive nature of the Monitoring Program. MW8-15 was drilled to provide geological information beneath the footprint of the station and was decommissioned in April 2015 in order to construct the station.

During the Fall 2018 monitoring event, MW3-13D was found to have been hit by equipment and the casing was bent over. This was repaired on October 11, 2018. No other changes to the on-Site groundwater monitoring locations occurred in 2018. The monitoring well locations are presented on Figure 4. Well completion details are presented in Table 1.

4.2 DRIVE-POINT PIEZOMETER INSTALLATION

Three (3) drive-point piezometers (DP2-14, DP3-14 and DP4-13) were installed within surface water features / drainage swales within the Project Area to provide an indication of groundwater levels and vertical hydraulic gradients beneath the surface water features. These were named after the monitoring wells beside which they were installed. A drive-point piezometer was not installed adjacent to MW1-13 as there



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is no directly adjacent surface water feature. The drive-point piezometer locations are presented on Figure 4.

In April 2015, Stantec replaced the drive-point at SW2 (DP2-14 replaced by DP2-15), as the initial drive-point was installed at an angle due to difficult ground conditions and it was difficult to obtain accurate water level readings. In April 2015, Stantec also replaced the drive point piezometer at SW3 (DP3-14 replaced by DP3-15), as this monitor was found to be within a dry creek bed in 2014. No changes to the on-Site surface water monitoring locations occurred in 2016. In 2017, two (2) new drive-point piezometers were installed (DP5-17, DP6-17) within the Harmony Creek tributary. DP5-17 was installed upgradient of the Site and DP6-17 downgradient of the Site. The surface water monitoring locations are shown on Figure 4. Installation details are summarized in Table 1.

4.3 GROUNDWATER AND SURFACE WATER LEVEL MONITORING

Groundwater level monitoring was completed using a combination of manual and automated techniques, while surface water level monitoring was completed using manual techniques alone. Monitoring wells and drive-point piezometers were instrumented by Stantec with Solinst® LT Leveloggers® and were set to record at 1-hour intervals. The Leveloggers® are not vented to the atmosphere and therefore, record total pressure. As a result, data obtained from the Leveloggers® were corrected for atmospheric pressure to obtain the actual height of water above the sensor. The atmospheric corrections were made using data collected from a Solinst Barologger®, which was located at MW1-13D. Between December 2013 and May 2014, the Barologger malfunctioned, and atmospheric corrections were completed using data from Environment Canada's Oshawa Climate Station located at the Oshawa Airport.

Manual water level measurements were collected at all wells using a battery-operated probe and calibrated tape. Water depths were recorded in metres below the top of the well casing (BTOC) and later corrected for well stick-up. Water level hydrographs for the monitoring wells and surface water drive-point piezometers within the Project Area are presented in Figures 5 through Figure 8.

4.4 GROUNDWATER AND SURFACE WATER QUALITY MONITORING

4.4.1 Surface Water

Surface water quality monitoring was attempted at three (3) locations on Site (SW2, SW3 and SW4) in 2018. Stantec staff, or Hydro One technicians under the direction of Stantec staff, completed surface water quality sampling in April and October 2018 within the nearby surface water features; including, the South Branch of the Tributary of Harmony Creek at SW2 (adjacent to DP2-14), the Tributary of Harmony Creek at SW3 (adjacent to DP3-14). The drainage swale located south of the Station Site (SW4) was dry during the October sampling event. An additional sampling event in May was conducted which confirmed that a few total metal exceedances from the April sampling event were related to turbidity.



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Surface water samples were collected directly from the creek into laboratory-provided sample containers. Sample containers for mercury were field-filtered. All other samples collected were not field-filtered. Field measurements of specific conductivity, temperature and pH were recorded using a YSI 556 multi-parameter meter. The meters were calibrated prior to use according to the manufacturers' specifications with the appropriate calibration standards. Following sampling, a bottle was filled for field analysis of dissolved oxygen.

All samples collected were packed into sample coolers, which were refrigerated using ice, and delivered to Maxxam Analytics Inc. (Maxxam) for laboratory analyses. All surface water samples were analyzed for general inorganic chemistry, total metals, PHCs (F1 to F4) and BTEX compounds. The lab also analyzed for dissolved calcium, magnesium, potassium and sodium as part of ion balance calculations. Chain of custody forms were completed and included with the sample submissions. The results of the surface water quality testing are presented in Table 3 with copies of the Laboratory Certificates of Analysis provided in Appendix E.

4.4.2 Groundwater Monitoring Wells

Stantec staff, or Hydro One technicians under the direction of Stantec staff, completed groundwater quality sampling within the shallow and deep monitoring wells within the Project Area. Results of previous water level and water quality monitoring were detailed by Stantec (2014, 2015a, 2015b, 2017, 2018).

Water quality samples were collected at all Project Area monitoring wells as part of the Monitoring Program during semi-annual monitoring events, with three exceptions. First, in Spring 2018, MW4-13D was not sampled because it had insufficient water volume from which to collect a full suite of samples and MW4-15D had a larger groundwater volume from which to collect the laboratory required sample volumes. Second, in Fall 2018, MW4-15D was not sampled because it had insufficient water volume and MW4-13D had a larger water volume from which to collect laboratory samples. Both MW4-13D and MW4-15D have had extremely slow groundwater recovery since installation. Screened at a greater depth, MW4-15D only recovers slightly faster than MW4-13D, but both have demonstrated similar water quality. Lastly, in April 2018, no sample was collected from MW4-13S due to the water column being frozen.

For the Spring and Fall 2018 monitoring events, and prior to sampling Project Area monitoring wells MW1-13S/D, MW2-13S, MW4-13S, MW5-14S MW5-14S(2), MW5-14S, MW5-14D, MW6-14 and MW7-14, pre-purging occurred where between one (1) and three (3) volumes of water were removed using the Waterra™ inertial lift system, depending on rate of well recovery. Well sampling was completed after pre-purging using a peristaltic pump or a GeoTech Bladder Pump for low flow sampling with Teflon-lined, bonded low-density polyethylene (LDPE) tubing. Where well water level recovery was extremely slow, sampling was completed immediately with no prior purging (MW2-13D, MW3-13S/D, MW4-14S, and MW4-15D (Spring 2018 only), MW4-13D (Fall 2018 only), and MW5-14I). A bailer was used to sample low yield wells MW4-13D and MW4-15D.

Field measurements of specific conductivity, temperature, pH, and DO were recorded using a YSI 556 multi-parameter meter. Meters were calibrated prior to use according to the manufacturers' specifications



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with the appropriate calibration standards. Field parameters were monitored during purging and following sampling.

Following purging, groundwater samples were collected directly from the Teflon-lined LDPE tubing, or bailers into the sample containers. Groundwater samples for metals were field filtered and preserved.

All collected groundwater samples were packed into sample coolers, which were refrigerated using ice, and delivered to Maxxam for laboratory analyses. Groundwater samples were analyzed for general inorganic chemistry, dissolved metals, PHCs (F1 to F4), BTEX compounds, PCBs, VOCs and SVOCs. Chain of custody forms were completed and included with the sample submissions. The results of the groundwater quality testing at the monitoring wells are presented in Table 4 with a copy of the Laboratory Certificates of Analysis being provided in Appendix E.

4.4.3 Quality Control Protocol

During the 2018 semi-annual groundwater sampling events, QA/QC sampling was completed and included one or more field duplicates, field blanks, and/or trip blanks to evaluate potential sources of error during sample collection. The following QA/QC samples were completed:

- Field blank for VOCs, SVOCs, BTEX and PHCs parameters for Spring and Fall 2018; and
- Trip blank for VOCs, SVOCs, BTEX and F1 parameters for Spring and Fall 2018.

Field duplicate samples for groundwater were also collected at a frequency of one (1) field duplicate per ten (10) samples during each sampling event. For surface water samples, field duplicates were collected during the Spring and Fall 2018 sampling events. The analytical results for the field and trip blanks are included in Table 4.

Maxxam followed internal QA/QC protocols, which included internal replicates, process blanks, process recovery, and matrix spike analyses. A surrogate spike was added for the SVOC analysis to document recovery within lab filtered samples. Maxxam reported that the results for their internal QA/QC were within acceptable limits, and these results were considered acceptable for use in the report. The results of the lab replicates are not presented in Table 1; however, they are included in the detailed laboratory certificates of analyses in Appendix E.

4.5 PRIVATE WELL MONITORING

The following sections present the details of the 2018 Private Well Monitoring Program completed semiannually in Spring (April) and Fall (October) 2018.

4.5.1 Water Level Monitoring

Lotowater Technical Services Inc. (Lotowater), a licensed well contractor, completed water level monitoring, data logger (Solinst Levelogger®) installation and downloading within the private wells. All equipment was disinfected prior to use within each of the private wells.



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All data loggers were downloaded during the Spring and Fall monitoring events in 2018. Static groundwater levels remained above the level of data loggers in all wells in 2018.

Construction details for the private wells are presented in Table 2, with private well hydrographs included in Appendix D.

4.5.2 Water Quality Monitoring

The Private Well Monitoring Program was initiated in 2014, with sampling completed to document conditions prior to, and during Station Site construction. In 2018, Stantec completed semi-annual groundwater quality sampling in the spring (April) and fall (October) from the private wells participating in the Monitoring Program.

All private wells were sampled during the Spring and Fall 2018 sampling events, with the following exceptions:

- PW-01 wasn't sampled in Spring due to a frozen sample tap
- PW-13 wasn't sampled in Spring due to burst water lines
- PW-09 was sampled in a follow up visit in May instead of April due to resident's schedule
- PW-22 wasn't sampled in October due to resident's scheduling.

Stantec attempted to collect water quality samples from a raw water tap; however, this was not always feasible. Based on water quality results, it is concluded that water samples from some locations were collected following treatment (sediment filter, water softener, and / or ultra-violet).

The sample location was typically an outdoor tap or a kitchen faucet, depending on accessibility. Prior to sample collection, the tap was disinfected with a dilute solution of chlorine and allowed to run for approximately 10 minutes or until water quality stabilized. Water samples were collected directly into laboratory supplied containers. The samples were not filtered, and results represent total concentrations.

All private well water samples collected were packed into sample coolers, which were refrigerated using ice packs, and delivered to Maxxam for laboratory analyses. Groundwater samples from private wells were analyzed for bacteriological analyses, general inorganic chemistry, total metals, petroleum hydrocarbons and BTEX compounds, PCBs, VOCs and SVOCs. Chain of custody forms were completed and included with the samples. The results of the groundwater quality testing at the private wells are presented in Table 5 with a copy of the Laboratory Certificates of Analysis being provided in Appendix E.



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Maxxam followed internal QA/QC protocols, which included internal replicates, process blanks, process recovery, and matrix spike analyses. Maxxam reported that the results for their internal QA/QC were within acceptable limits, and these results were considered acceptable for use in the report. The results of the lab replicates are not presented in Table 5, but included in the detailed laboratory certificates of analyses in Appendix E.

4.5.3 Well Interference Response Plan

Initiated in 2014, the Clarington TS Well Interference Response Plan (WIRP) continued to be implemented in 2018 (see 5.2.4). The WIRP fulfills Hydro One's commitment to private well owners within 1,200 metres of the Clarington Transformer Station to respond to and assess the nature of well-related complaints. The WIRP was reviewed at the end of 2018, with no recommended changes to the process or implementation.

4.6 CLIMATE MONITORING

Seasonal fluctuations in groundwater elevations are expected; typically, with water levels rising during the spring freshet due to increased precipitation and warmer temperatures resulting in snow melt, followed by lowering of water levels during drier and warmer summer months. Water levels then generally increase again in the cooler and wetter fall months, and then lower again during the winter due to freezing ground conditions.

Environment Canada's Oshawa Climate Station data were used to represent precipitation and temperature at the Clarington TS. Occasionally, the Oshawa climate station is missing daily precipitation totals on specific days. Where daily precipitation totals were not available, the Oshawa climate station data were supplemented on those days with data from the next closest Environment Canada stations at Blackstock, Oshawa WPCP station, and Oshawa Airport data from the Weather Network website, respectively.



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5.0 RESULTS

The following sections present the results of the Monitoring Program based on data collected from 2017 monitoring activities as part of the approved program.

5.1 LOCAL HYDROGEOLOGY

Groundwater and surface water level monitoring continued in 2018, with the following presenting results of groundwater and surface water monitoring completed within the Project Area from Fall 2015 to Fall 2018 as part of the Monitoring Program. The groundwater elevation data consist of water level measurements from five (5) drive-point piezometers, fifteen monitoring wells, and twenty-three available private wells (2 private wells were inaccessible) as presented on Figure 4.

The following sections present the groundwater and surface water level data. Hydrographs of the data are shown on Figure 5 through Figure 8. Shallow groundwater contours and an interpretation of shallow groundwater flow are provided on Figure 9, with Thorncliffe depth well water level elevations shown on Figure 10.

5.1.1 Shallow Groundwater Level Monitoring

5.1.1.1 Shallow Monitoring Wells

Shallow groundwater level elevations within the Project Area were obtained from the date of well completion through to Fall 2018 from eight (8) groundwater monitoring wells installed within the Upper Aquifer/Aquitard (MW1-13S, MW2-13S, MW3-13S, MW4-13S, MW5-14S/S(2), MW6-14, and MW7-14).

Water level elevations in 2018 fluctuated within historical levels, following the normal trend of peak levels in spring followed by declining levels through fall. In all shallow monitoring wells, groundwater elevations generally fluctuated in response to precipitation events.

Shallow Well Hydrographs

Shallow monitoring wells MW1-13S, MW6-14, and MW7-14 are located approximately 20 m upgradient of the graded slope on the east side of the Station Site and showed similar groundwater level trends in response to seasonal changes and precipitation as historically monitored levels, aside from the low precipitation period during 2016. Water level elevations spiked upward in July following a larger precipitation event.

MW2-13S is located on the north side of the Station Site, within Wetland Area 1 and beside the South Branch of the Tributary of Harmony Creek. Shallow water level elevations recorded within this monitoring well fell slightly over the year, with levels remaining near ground surface throughout 2018. Water level elevations fluctuated up to 0.6 m over the course of the year (Figure 6).



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MW3-13S is located west of the Station Site and on the top of the eastern bank of the Tributary of Harmony Creek. MW4-13S is located south of the Station Site in a drainage swale that has intermittent flow during spring snow melt and during periods of significant precipitation but is otherwise dry for most of the year. Groundwater elevations at MW3-13S and MW4-13S in 2018 fluctuated with precipitation, which is consistent with historical data, and generally remained just below ground surface (Figure 6).

Shallow monitoring wells MW5-14S and MW5-14S(2) are installed immediately adjacent to the southwest corner of the Station Site. Shallow water level elevations in these two wells responded similarly to other shallow wells installed across the Project Area since their installation in late 2014 and early 2015, respectively. Similarly, to other shallow monitoring wells across the site, these wells responded to seasonal changes, with water levels dropping into the fall (Figure 7). MW5-14S(2) and MW5-14S responded to precipitation events slightly more slowly than some of the other shallow wells, but each fluctuated up to 1.1 m during 2018.

Shallow Well Hydraulic Gradients

Recorded water level elevations from pairs of shallow and intermediate or deep wells were used to calculate vertical hydraulic gradients at monitoring well nest locations MW1, MW2, MW3, MW4, and MW5.

Predominantly neutral to weak downward vertical hydraulic gradients were calculated for 2018 at monitoring well pairs MW1-13S/D and MW2-13S/D, ranging from 0.0 m/m (MW1-13 and MW2-13) to 0.12 m/m (MW1-13), averaging 0.01 m/m (MW2-13) to 0.06 m/m (MW1-13). A downward vertical hydraulic gradient ranging from 0.15 to 0.28 m/m, averaging 0.2 m/m was noted at shallow monitoring wells MW5-14S(2)/S. Vertical gradients could not be calculated at MW3-13S/D and MW4-13S/D, because the deeper wells at MW3 and MW4 are installed within a dense till, slowing the well's recovery following installation and subsequent sampling events. At the time of Fall 2018 monitoring, the deep wells were still recovering from previous sampling events.

A difference in recorded water levels of about 25 m between the deeper wells, MW5-14I and MW5-14D, in conjunction with the stratigraphic model understanding for the Site, indicates these wells have no direct hydraulic connection with each other. This data strongly suggests that the surficial sand and upper weathered Newmarket Till are not hydraulically connected to the lower parts of the Newmarket Till or the underlying Thorncliffe Aguifer.

The overall downward vertical hydraulic gradients observed within shallow wells across the Project Area in 2018 are consistent with past annual reports and those presented in the Baseline Conditions Report (Stantec, 2014).

The horizontal hydraulic gradients across the Station Site calculated from average groundwater elevations in 2018 are consistent with historical gradients. Using water level elevations recorded during the October 2018 sampling events, horizontal gradients are 0.028 m/m (MW6 to MW2-13S), 0.029 m/m (MW1-13S to MW3-13S), and 0.049 m/m (MW7-14 to MW4S-13), and remain consistent with horizontal hydraulic gradients measured in 2014 to 2017, which ranged from 0.03 m/m to 0.05 m/m.



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5.1.2 Groundwater / Surface Water Interaction

Drive-point piezometers were installed at five (5) locations throughout the Project Area to evaluate groundwater / surface water interaction in the immediate vicinity of the surface water features associated with the Tributary of Harmony Creek. Observations at each of these locations are discussed below with respect to the groundwater contours.

5.1.2.1 Tributary of Harmony Creek

Drive-point piezometers were installed at surface water monitoring locations within the South Branch of the Tributary to Harmony Creek at SW2, and within the Tributary to Harmony Creek at SW3 (Figure 4). Hydrographs for DP2 and DP3 are presented on Figure 8.

There are two (2) drive-point piezometers installed within Wetland Area 1 at SW2, DP2-14 and DP2-15. DP2-15 is a replacement to DP2-14 due to a partially plugged screen which affected its response to seasonal changes. Since the installation of DP2-15, groundwater levels were consistently higher at DP2-15 compared to DP2-14. DP2-14 was destroyed sometime between Fall monitoring in 2016 and Spring monitoring in 2017, and the logger was not recovered. Groundwater levels within DP2-15 were higher than ground surface elevation throughout the year. DP2-15 does not respond quickly to seasonal or individual precipitation events, indicating it is installed within fine-grained soil within the wetland. Water levels in DP2-15 in 2018 increased in spring then fell slowly through summer and fall (Figure 8).

There are two (2) drive-point piezometers installed within the Tributary of Harmony Creek at SW3, DP3-14 and DP3-15. DP3-15 is a replacement to DP3-14 due to a partially plugged screen which affected its response to seasonal changes. During the monitoring period of 2018, slight minor responses to seasonal and climatic variations were captured by DP3-15 however groundwater elevations were fairly consistent between DP3-14 and DP3-15.

Manual surface water elevations at both DP2-15 and DP3-15 in 2018 were slightly lower than groundwater elevations, indicating slight upward vertical gradients and weak groundwater discharge conditions at these times.

In Fall 2017, two (2) new drivepoints (DP5-17 and DP6-17) were installed in the Tributary to Harmony Creek. DP5-17 and DP6-17 were installed near the upgradient and downgradient boundaries of the Site, respectively, to improve monitoring in this area (Figure 2). Figure 8 show the water level elevations at these drivepoints, both of which show April and October 2018 downward gradients indicating groundwater recharge conditions during the monitored period.

5.1.2.2 Drainage Swale

A drive-point piezometer was installed within a mapped drainage swale to the south of the Project Area at SW4. At the time of installation in December 2013, there was some surface water drainage noted due to recent snow melt; however, surface water was not present at this location during further field visits in 2014 or 2017. In 2015, 2016, and 2018, surface water was only present in the Spring, but not in the Fall. In



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2018, the groundwater elevation at DP4-14 reacted as it has historically and remained predominantly below ground surface. It responds quickly to precipitation events, indicating the drainage swale receives surface water runoff during spring snow melt and precipitation events (Figure 8) and is an area of groundwater recharge.

Historical site observations and recorded water level elevations at nearby drive-points and monitoring wells indicated that Harmony Creek tributaries were supported primarily by surface water runoff, with the potential for seasonal groundwater discharge in the wetland near SW2. In 2018, monitoring data from drive points DP2 and DP3 suggest that Harmony Creek tributaries in these areas received some input from groundwater discharge. Within the low-lying valley associated with the tributary of Harmony Creek on the north side of the Project Area, shallow water levels recorded within the surficial silty sand and the upper portion of the weathered till indicated predominantly downward vertical hydraulic gradient with the potential for short term seasonal upward vertical hydraulic gradients occurring. Due to the limited thickness and discontinuous nature of the surficial silty sand and low permeability of the underlying weathered till, limited groundwater discharge occurs in surface water features within the Project Area sufficient to sustain consistent baseflow conditions. This is consistent with the findings presented in the Baseline Conditions Report (Stantec, 2014).

5.1.3 Shallow Private Wells

Shallow groundwater level data were also available from nearby private wells installed at depths of less than 16 m below ground surface (BGS). These wells are interpreted to be screened within thin sand layers within the surficial sand or the underlying weathered to compact Newmarket Till. Water level data from the shallow private wells show effects due to regular daily well use, which was characterized by rapid, regular drawdown and recovery (Figures 1 to 17; Appendix D). Similar to onsite monitoring wells, private well water levels generally showed an increase early in the year, followed by a steady decline in groundwater elevations into October. Groundwater level changes observed in shallow private wells are interpreted to be a result of seasonal temperature and precipitation fluctuations, and not due to station construction activities.

5.1.4 Shallow Groundwater Flow

Shallow groundwater level elevations within the Project Area are presented on Figure 9. Water level data presented were collected during the October 2018 monitoring event.

Within the Station Site, shallow groundwater flows to the west and southwest towards the tributary of Harmony Creek and its associated branches. East of the Station Site, a shallow groundwater divide shown as a dashed line on Figure 9 extends from north to south, dividing shallow groundwater lateral flow between the Harmony Creek and the Farewell Creek sub-watersheds. The shallow groundwater flow direction observed in 2018 remained consistent with historical observations, including both pre- and during Station Construction.



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Water levels recorded in shallow private wells closest to the Project Area are located within the Farewell Creek watershed (Figure 9) and generally indicate groundwater levels typically up to 0.6 m lower than the previous year.

Similarly, groundwater levels typically up to 0.7 m lower were observed in shallow private wells within the Harmony Creek watershed (Figure 9) situated east of the Project Area recorded in October 2018 as compared to October 2017. These wells are also located further upgradient of the Project Area, with a smaller catchment available to provide water to the wells. Overall, there was a general decline in water level elevations within shallow wells in the area due to seasonal and climate effects that were slightly drier and warmer than in 2017 (discussed further in Section 5.3).

Based on the shallow groundwater contours and surface water features, the area downgradient of the Station Site is shaded in light blue (Figure 9). Monitoring wells at MW2-13, MW3-13, MW4-13, and MW5-14 are well positioned to serve as downgradient shallow groundwater monitoring wells for the Station Site.

5.1.5 Thorncliffe Aquifer

In December 2014, monitoring well MW5-14I and MW5-14 D were added to the Monitoring Program, allowing for water levels within the Newmarket Till (MW5-14I) and a deeper sandy aquifer unit within a transition between the Newmarket Till and the Thorncliffe Aquifer (MW5-14D) to be monitored. In addition, several nearby private wells are interpreted to be installed within the Thorncliffe Aquifer (Figure 10). Continuous water level data were obtained at eight (8) nearby private wells completed at a depth greater than 50 m.

Water level elevation data from the deep private wells typically indicated well use effects due to operation of the private well pump, which was characterized by rapid, regular drawdown and recovery (Figures 16 to 23; Appendix D). Effects due to water use were more clearly visible in these drilled wells due to the smaller well diameter as compared to shallow dug wells. Fluctuations due to deep private well use ranged from approximately 0.5 m up to 20 m (Appendix D). The extent of water level fluctuation due to well use was generally consistent within each deeper private well over the monitoring period, and available data did not suggest any change in well performance since monitoring began. Water level trends in the deep private wells are characterized by muted responses to individual precipitation events, and steady changes in water level in response to seasonal changes.

Interpreted static groundwater levels within the Thorncliffe Aquifer through the Project Area are presented on Figure 10. Water level data presented were collected during the October 2018 monitoring event. Groundwater levels range from 208.1 m AMSL to 214.8 m AMSL, with an overall south to southeasterly groundwater flow direction that is consistent with historical monitoring results and with regional mapping, which indicates groundwater flow to the southeast across the Project Area (CLOCA, 2012).

A downward vertical hydraulic gradient is interpreted from water level elevations recorded in the surficial sand and weathered till units within the Project Area to the underlying Thorncliffe Aquifer. Assuming a shallow groundwater level of 250.0 m AMSL within the Station Site in the vicinity of MW5-14S (Figure 9) and a groundwater level of 212.2 m AMSL from MW5-14D (Figure 10); the difference in recorded water



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levels in these monitoring wells, in conjunction with the stratigraphic model understanding for the Site, indicates these wells have little to no direct hydraulic connection.

5.2 GROUNDWATER AND SURFACE WATER QUALITY

As part of the Monitoring Program, water quality monitoring has been completed within surface water and groundwater monitoring wells from the Project Area since December 2013. In 2018, water quality was monitored semi-annually in the Spring and Fall both onsite and in private water wells. Surface water quality data are presented in Table 3, with groundwater quality data from Project Area monitoring wells presented in Table 4, and water quality data from the private wells in Table 5. To maintain confidentiality for the private well results, the well identification has been removed from Table 5. Laboratory certificates of analysis for all water quality sampling are included in Appendix E. The following section presents a review of the available water quality data.

5.2.1 Surface Water Quality

Surface water quality data are discussed below and are presented in Table 3 with results compared to PWQO, which are the applicable regulatory criteria for surface water within the Project Area.

Due to the limited amount of water present, it is challenging to collect samples without allowing some sediment to enter the bottles. The surface water samples in April and October were not field filtered, with the exception of mercury. However, the April sampling results showed a few metals in surface water samples had higher than expected metals results, so a follow up sampling event in May collected both filtered and unfiltered samples which confirmed the elevated total concentrations were related to sediment. As a result, the water quality results in April and October for metals, except mercury, are considered representative of total metals water quality and not the dissolved phase. The field filtered samples for metals in May 2018 are representative of the dissolved phase. Results discussed below disregard the April surface water metals concentrations because the results were interpreted to be biased high due to sediment.

The South Branch of the Tributary of Harmony Creek flows through Wetland Area 1, and is approximately 0.2 to 0.3 m wide at SW2. During the field visits, surface water at SW2 (adjacent to DP2-14/DP2-15), was at 0.55 m deep in the Spring. In the Fall of 2018 the drivepoint was found to be damaged.

Surface water quality in April/May and October at SW2 in 2018 was characterized by:

- Elevated boron above the PWQO in October 2018.
- All other parameters were found to be below the PWQO criteria in 2018.

The surface water sample at SW3 was collected from the tributary of Harmony Creek along the western Project Area boundary. At this location, the creek ranged from 0.5 to 1.0 m in width, with the actual channel being approximately 1.5 m wide. Surface water was flowing at SW3 during the two (2) sampling rounds in 2018, with a creek depth ranging from 0.34 m in Spring to 0.05 m in Fall.



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Surface water quality at SW3 in April/May and October 2018 was characterized by:

- Elevated phosphorus (total) in Spring, 2018 and boron in Fall, 2018 both exceeding their respective PWQO criterion
- All other parameters were found to be below the PWQO criteria in 2018

Surface water was present at SW4 (within surficial drainage swale adjacent to DP4-13) at the time of drive-point installation in 2013; however, it was noted as being dry during several historical sampling events, including in October 2018.

Surface water quality at SW4 in April/May 2018 was characterized by:

- Elevated phosphorus (total) in Spring, 2018 exceeded the PWQO
- All other parameters were found to be below the PWQO criteria in 2018

5.2.2 Monitoring Well Water Quality

Semi-annual groundwater quality sampling of the on-Site groundwater monitoring wells was completed in Spring and Fall 2018 sampling events. The following presents the results from semi-annual monitoring completed in April and October 2018.

Groundwater quality results from 2018 are presented in Table 4 and are compared to the ODWS. Historical data from 2013 through to and including 2018 are provided in the accompanying CD-ROM of the report in Appendix F. For a number of SVOC and VOC, there are no criteria in the ODWS; and as a result, the results were also compared to applicable criteria under O. Reg. 153/04. Tables 6 and 8 of the Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, dated April 15, 2011 (henceforth the site condition standard (SCS)) were selected as the applicable criteria for the Project Area as the Station Site is located within 30 m of tributaries of Harmony Creek, has a shallow groundwater table, and is situated in an area in which groundwater is used as a potable source. Criteria for coarse grained material were used, as more than 33% of material is sand or coarser, even though the matrix is till.

5.2.2.1 Inorganic Water Quality

Groundwater quality from the Project Area monitoring wells in 2018 met the ODWS maximum acceptable concentration (MAC) for all health-related inorganic parameters with the exception of nitrate which was detected at MW1-13S (up to 16.5 mg/L in Spring 2018). The elevated nitrate concentration at this location is attributed to agricultural fertilizer and consistent with previous results.

Nitrate in groundwater is common in agricultural communities, with potential sources including nitrate from fertilizers, septic system leaching, and the natural decaying process of vegetation and animal matter. As reported in the 2015 Annual Monitoring Report, nitrate concentrations in the shallow groundwater system decreased from east to west and southwest across the Project Area. The same trend was observed in the 2018 shallow groundwater quality data. Though shallow groundwater upgradient of the Station Site was



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found to have nitrate concentrations above the ODWS of 10 mg/L in Spring 2018 monitoring (MW1-13S), shallow groundwater leaving the Project Area remained well below 10 mg/L. In each of the shallow monitoring wells, nitrate concentrations have been trending lower each year.

The following inorganic parameters were detected above the ODWS aesthetic objective (AO), ODWS operational guideline (OG) or ODWS Medical Officer of Health (MOH) guidelines on at least one (1) occasion in 2018:

- Hardness (80 to 100 mg/L OG) within all monitoring wells
- Sodium (20 mg/L MOH) within MW2-13D, MW3-13S/D, MW4-13S/D, MW4-15D, MW5-14S(2), MW5-14S, MW5-14I, and MW5-14D
- Total Dissolved Solids (TDS) (500 mg/L AO) within MW3-13D, MW4-13S and MW5-14S
- Turbidity (5 NTU AO) within MW2-13D, MW2-13S, MW3-13D, MW4-13D, MW4-15D, MW5-14D, MW5-14S, MW5-14S(2), and MW6-14
- Manganese (0.05 mg/L) within MW2-13S

These 2018 detections are generally consistent with previous 2013 to 2017 results, and do not indicate any significant change in groundwater quality in 2018 during the first full year of operation of the Clarington TS.

To visually compare 2018 water quality results, inorganic water quality data from the monitoring wells are presented as a piper plot on Figure 11 and include results from Fall 2018 sampling. The water quality distribution within the piper plot is consistent with historical results (Stantec, 2014, 2015c, 2017, 2018). Results indicated that water quality at MW6-14 and MW7-14 was similar to other shallow monitoring wells, with the water characterized as calcium and magnesium bicarbonate water. The deep monitoring wells indicate greater variation in water quality, primarily due to differences in sulphate and sodium concentrations. Results indicated similar groundwater chemistry at deeper monitoring wells MW5-14D, and MW5-14I.

5.2.2.2 Organic Water Quality

Groundwater samples from the monitoring wells were also analyzed for petroleum hydrocarbons, BTEX compounds, PBCs, VOCs and SVOCs and compared to ODWS (Table 4). Historically in 2014, benzo(a)pyrene has been detected above the ODWS in some monitoring wells. As presented in the Addendum Report (Stantec, 2015a), this compound adsorbs to soil particles and it was concluded that these detections are associated with the sediment collected within the sample. The Addendum Report recommended that water quality sampling protocols be amended to include low-flow sampling. This sampling protocol has been adopted since the 2015 Spring sampling round. In 2015, no detections of benzo(a)pyrene were noted in any of the Project Area monitoring wells. However, since 2016, benzo(a)pyrene was detected sporadically at MW4-15D and MW3-13D. For each of these samples, suspended sediments were noted during sampling. The elevated benzo(a)pyrene is likely due to the effect of sediment entrained within the samples from MW3-13D and MW4-15D, as the lab-filtered samples for the same monitoring locations during the same monitoring events did not detect benzo(a)pyrene.



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Certain other VOC and SVOC compounds were detected within the monitoring wells in Spring and/or Fall 2018 sampling in low concentrations either below the ODWS criteria, or there were no applicable ODWS criteria. The following provides a summary of these organic parameters and a comparison with respect to the SCS criteria.

Water Quality - Upgradient of Station Site

Monitoring Wells MW1-13S/D, MW6-14 and MW7-14 are located upgradient (East) of the Station Site and indicated the following groundwater quality results in 2018:

- No PCBs were detected within any of the samples.
- No PHCs were detected within any of the samples.
- No phthalate compounds were detected within any of the samples.
- No PAH compounds were detected within any of the samples.
- No VOC compounds were detected within any of the samples.

Water Quality - North of Station Site

Monitoring Wells MW2-13S/D are located at the northern extent of the Station Site and indicated the following groundwater quality results in 2018:

- No PCBs were detected within any of the samples.
- No PHCs were detected within any of the samples; however, toluene was detected at low levels within MW2-13D in Fall, with concentrations below the SCS criteria. Overall, the concentration of BTEX compounds show a decrease from those observed historically.
- No detection of phthalate compounds.
- No PAH compounds were detected within either well.
- No VOC compounds were detected within any of the samples.

Water Quality - Southwest of Station Site

Monitoring Wells MW3-13S/D, MW4-13S, MW4-13D, and MW4-15D (replacing MW4-14D) are located downgradient of the Station Site and indicated the following water quality results in 2018:

- No PCBs were detected within any of the samples.
- No PHCs or BTEX compounds were detected within any of the samples.
- Low level detection of a phthalate compound (DEHP) within MW3-13D, with concentrations remaining below the ODWS and SCS criteria.



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- Benzo(a)pyrene exceeded the ODWS and SCS MAC criteria (0.01 μg/L) within the Fall sample at MW3-13D (0.02 μg/L) and a Spring lab filtered sample at MW4-13S (0.03 μg/L), but not within the unfiltered sample.
- Low level detection of a PAH (Benzo(b/j)fluoranthene) within MW4-13S (0.07 μg/L) within the lab filtered but not the unfiltered sample.
- No VOC compounds were detected within any of the samples except a low-level concentration of methyl ethyl ketone (0.0042 mg/L) in the Fall sample at MW3-13D.

Water Quality - Adjacent to Station Site

The four monitoring wells at MW5 (MW5-14S(2)/S/I/D are located immediately on the southwest side of the Station Site and generally central to the Project Area. Water quality results indicated the following water quality results:

- No PCBs were detected within any of the samples.
- No PHCs or BTEX compounds were detected within any of the samples.
- No detection of phthalate compounds.
- No PAH compounds were detected.
- No VOC compounds were detected within any of the samples.

Summary

The organic water quality results for on-site monitoring wells continued to show a general decrease in detections and concentrations. The 2018 results did not indicate any exceedances of the ODWS or SCS criteria, with the exception of benzo(a)pyrene in MW3-13D which is considered to be the result of sediments captured within the samples, as lab-filtered samples did not detect the compound.

5.2.3 Private Well Water Quality

Water quality monitoring was completed at private wells participating in the Monitoring Program in the Spring and Fall of 2018. During sample collection, Stantec attempted to collect a raw water quality (untreated) sample at each residence; however, based on discussions with well owners and water quality results, it is evident that treated samples were collected at select locations. Water quality results are presented in Table 5 and compared to the ODWS, which are the applicable criterion for drinking water in Ontario. For privacy reasons, sample identifications are not given, and the samples are labeled based on aquifer unit and either raw or treated, as appropriate.

Within 24 hours of receipt of the water quality results, Stantec notified individual well owners of any health-related exceedances within their water sample. A follow-up letter was provided to each well owner following each monitoring event detailing the full water quality results. The sections below summarize key raw water quality characteristics only.



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5.2.3.1 Bacteriological Water Quality

Water quality trends for shallow private wells that were installed to a maximum depth of 16 m BGS indicated that 14 of the 15 wells (93%) sampled during the Spring and Fall 2018 rounds had total coliforms present on at least one occasion. This is consistent with historical sampling results. *E.Coli* was detected in six (6) of 15 wells (40%) on at least one occasion in 2018, which is significantly less than the 86% in 2017.

Of the ten (10) drilled wells completed at depths below 40 m BGS, including one drilled well completed at intermediate depth over 16 m BGS, only one (1) well (10%) had detections of total coliform in 2018. One of the samples collected from these wells in 2018 had a result of overgrowth, which is considered a positive detection of *EColi*. These results are consistent with historical sampling results.

A greater number of total coliform detections were noted within shallow dug wells when compared to drilled wells completed at depths greater than 40 m. The total coliform and *EColi* detections within the shallows dug wells are interpreted to be related to local sources associated agricultural activities (fertilizer, manure storage, and animal feedlots), septic systems, or potential surface influences. All residents were notified immediately by Stantec of positive detection of bacteriological results and directed to follow any recommendations from the Durham Region Health Unit regarding water and well treatment, follow-up sampling, and well maintenance.

Of note, some laboratory bacteriological results were identified as *no data due to bacterial overgrowth*. This result indicates the target bacterial growth (total coliform and *E. Coli*) on the laboratory petri plate could not be counted due to excessive growth of either non-target bacteria (NDOGN), or excessive growth of the target bacteria, *E. Coli*. or total coliforms (NDOGT), thereby preventing the target bacteria cultures to be counted. Results of NDOGT are considered a positive detection, and NDOGN are considered as a potential positive result. Well owners were notified of these results and directed to follow recommendations from the Durham Region Health Unit.

5.2.3.2 Inorganic Water Quality

Water quality from the 15 shallow private wells participating in the Monitoring Program did not exceed the ODWS-MAC for any tested inorganic parameter in both the Spring and Fall 2018 sampling rounds. Hardness was above the ODWS-OG in all shallow wells without treated samples, which is common in groundwater quality from southern Ontario. The following parameters were detected above the ODWS-AO or ODWS-MOH on at least one (1) occasion within shallow private wells:

Sodium exceeded the ODWS - MOH of 20 mg/L in twelve wells, with water quality results from one (1) well also exceeding the ODWS-AO of 200 mg/L, with four (4) of these wells reported as treated by a water softener.



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- Chloride exceeded the ODWS-AO guideline of 250 mg/L in two (2) wells.
- Total Dissolved Solids (TDS) (500 mg/L ODWS-AO) in six (6) wells with concentrations of up to 1,000 mg/L.

Water quality for all ten (10) deeper wells completed below 40 m BGS, including one well completed at an intermediate depth over 16 m BGS did not exceed the ODWS-MAC for any tested inorganic parameter in both the Spring and Fall 2018 sampling rounds. Hardness was above the ODWS-OG in the raw water from all deeper wells without treated samples, which is common in groundwater quality from southern Ontario. The following parameters were detected above the ODWS-AO or ODWS-MOH on at least one (1) occasion in 2018 sampling within the deeper private wells:

- Iron exceeded the ODWS-AO (0.3 mg/L) in eight (8) wells with concentrations up to 4.5 mg/L. Elevated iron is common in Thorncliffe-derived water in many areas in Southern Ontario, including within the Harmony Creek watershed (CLOCA, 2011).
- Turbidity exceeded the ODWS-AO (5 NTU) in five (5) of 10 deeper wells.
- Sodium was above the ODWS-MOH guideline in the three (3) deeper wells, two (2) of which corresponds to treated water (softener).
- Magnesium was above the ODWS-AO (0.05 mg/L) in one (1) of the deeper wells

5.2.3.3 Organic Water Quality

Water quality samples from private wells were tested for VOCs, SVOCs, PHCs and PCBs and results compared to ODWS. A summary of results is detailed below with the data presented in Table 5.

Low level concentrations of trihalomethanes (THMs) including bromodichloromethane, dibromochloromethane and chloroform were detected within at least one (1) sample from eight (8) shallow private wells. All of these compounds are commonly the by-product of disinfection and are created by the reaction of chlorine with organic carbon within the groundwater. Discussions with well owners indicated that prior to sampling, several of the well owners had recently disinfected their wells to address bacteriological detections.

5.2.4 Well Interference Responses

Hydro One received two (2) complaints in 2018 from private well owners participating in the Private Well Monitoring Program. One was related to shallow well water quality, the other related to shallow well water supply. For each individual response, the WIRP was implemented by contacting the well owner within 24 hours in order to assess the nature of the well owner's concern, as part of the WIRP *Initial Assessment* process. In each case, the conclusion of the *Initial Assessment* found the well owner's concern to be unrelated to Clarington TS construction activities. The complaint related to shallow well water supply involved a follow up visit which confirmed water levels had returned to normal levels. The report detailing the complaint investigation was requested by the complainant to be reviewed by a third party hydrogeologist, which was completed. Neither of the assessments required any additional investigation,



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referred to as the Secondary Assessment process in the WIRP. The well owners were provided with individual written responses acknowledging their concern and providing the technical details related to the findings of *Initial Assessment*.

5.3 CLIMATE MONITORING

Summer months in Southern Ontario are typically warmer drier months; which was true in June 2018 which had just 39 mm of precipitation. However, the months of July and August were among the wettest in 2018 with 117 mm and 106 mm, respectively. The total precipitation in 2018 was 867 mm, which is consistent with the long-term precipitation normal of 872 mm.

Groundwater recharge relies on precipitation to infiltrate into the shallow groundwater system, and eventually provide recharge to deeper groundwater systems. While a number of factors influence groundwater recharge, available recharge from precipitation and evapotranspiration are two important factors. Increased summer temperatures will typically increase evapotranspiration, and therefore, reduce the amount of water available for infiltration into the shallow groundwater system. Environment Canada temperature data for the same Oshawa Airport climate station indicates that there was an overall mean daily temperature increase over the six-month period of May through October from 16.3°C in 2017 to 17.1°C in 2018.

The combination of decreased precipitation and increased temperature in 2018 compared to 2017 lead to an overall slight decline in water levels in monitoring wells across the Project Area and in surrounding nearby private wells.



Conclusions and Recommendations February 15, 2019

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results presented in this 2018 Groundwater and Surface Monitoring Report, the following conclusions are provided:

- The Groundwater and Surface Water Monitoring Program, initiated in December 2013, and completed through October 2018, allowed for annual characterization and monitoring of groundwater and surface water conditions within the Project Area.
- The Monitoring Program continues to monitor water levels and water quality data for participating private wells within 1,200 m of the Station Site.
- Groundwater levels within the shallow overburden mimic topography, with shallow groundwater flow
 direction within the Station Site to the west and southwest towards the tributary of Harmony Creek and
 its associated branches. Monitoring wells at MW2-13, MW3-13, MW4-13, and MW5-14 are well
 positioned to serve as downgradient shallow groundwater monitoring wells for the Station Site.
- Precipitation totals in the Oshawa area in 2018 were lower than in 2017, but consistent with climate normals.
- Water level and water quality monitoring through to October 2018 indicates no adverse effects on the shallow groundwater system or in shallow or deep private wells as a result of Station Site grading and construction and the first year of operation of the Clarington TS.

The following recommendations are provided:

- Water level and water quality monitoring should continue semi-annually during post-station construction, as detailed in the Monitoring Program. Given that Station construction was completed in mid-2017, 2019 will represent the second full year of post-construction monitoring and data collection. The on-site monitoring is scheduled to be concluded following the Fall 2019 sampling, and release of the 2019 Annual Report (anticipated for early 2020).
- Sampling procedures for Project Area wells should continue with low-flow sampling protocols, as recommended in the Baseline Conditions Report Addendum.
- The need for removing or adding monitoring wells to the Monitoring Program should continue to be reviewed annually. Based on a review of 2018 results, no changes are currently recommended to the Monitoring Program.
- The WIRP should continue to be reviewed annually. Based on 2018 results, no changes are currently recommended.
- The condition of all monitoring wells and drive-point piezometers should continue to be inspected as part of the regular Monitoring Program and upgrades/replacement completed, as necessary.



References February 15, 2019

7.0 REFERENCES

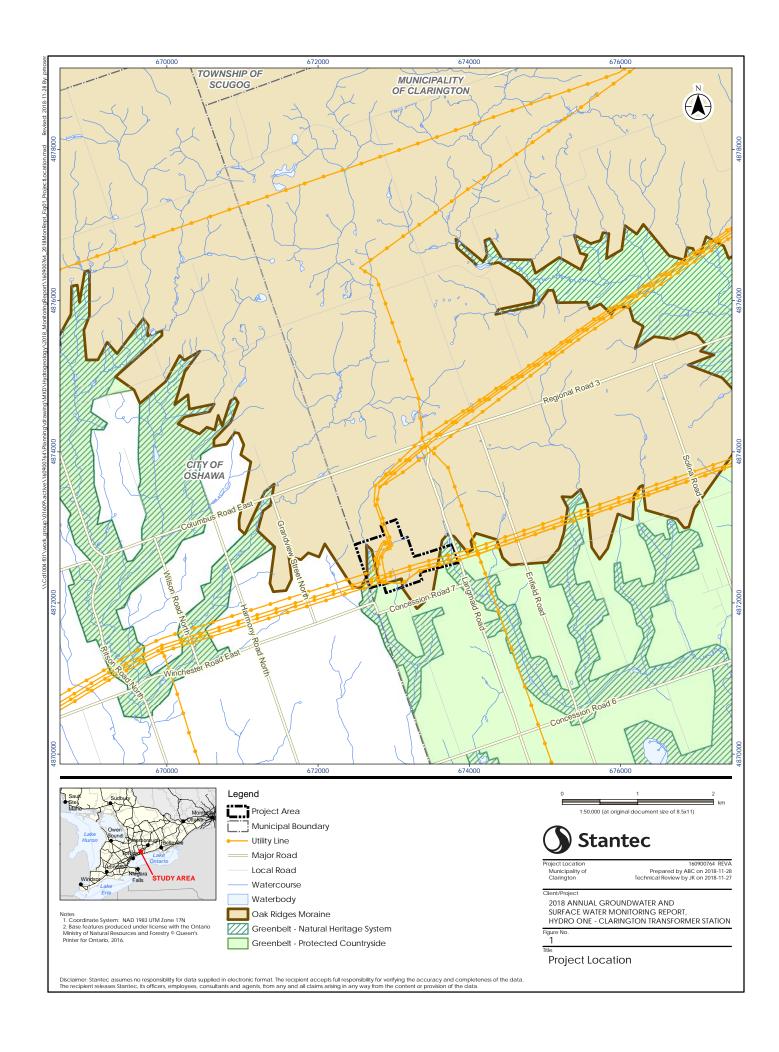
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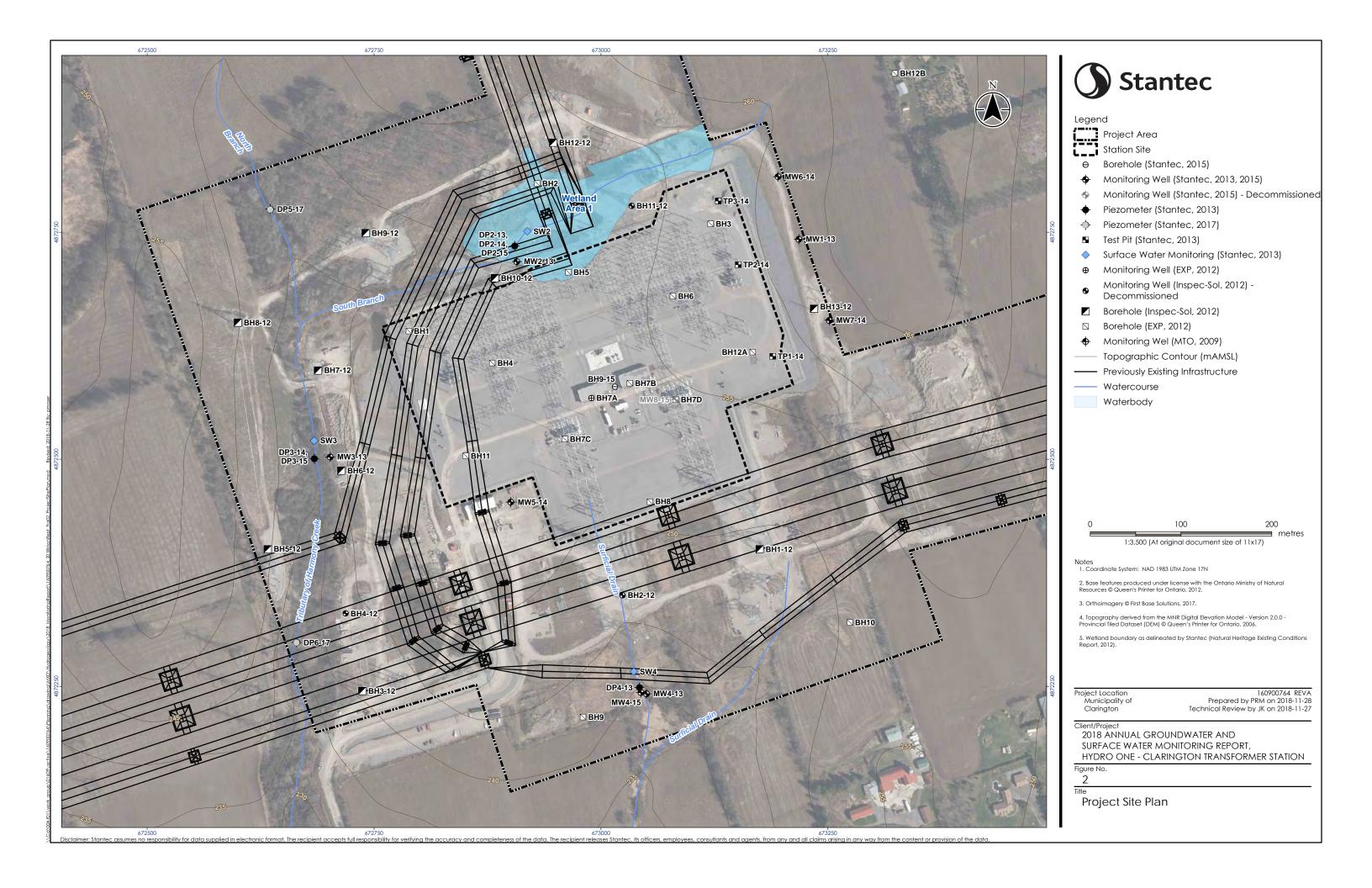
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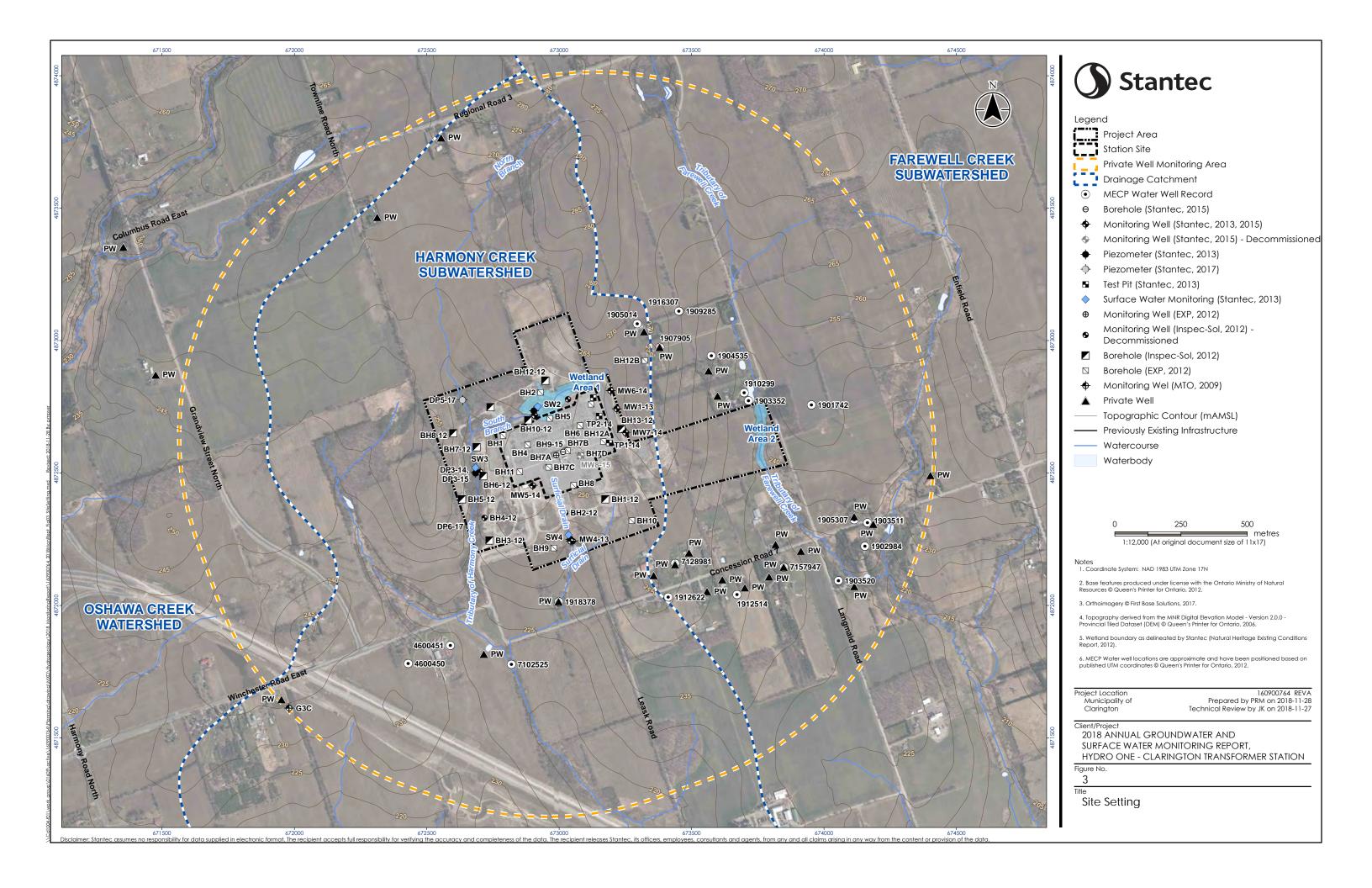


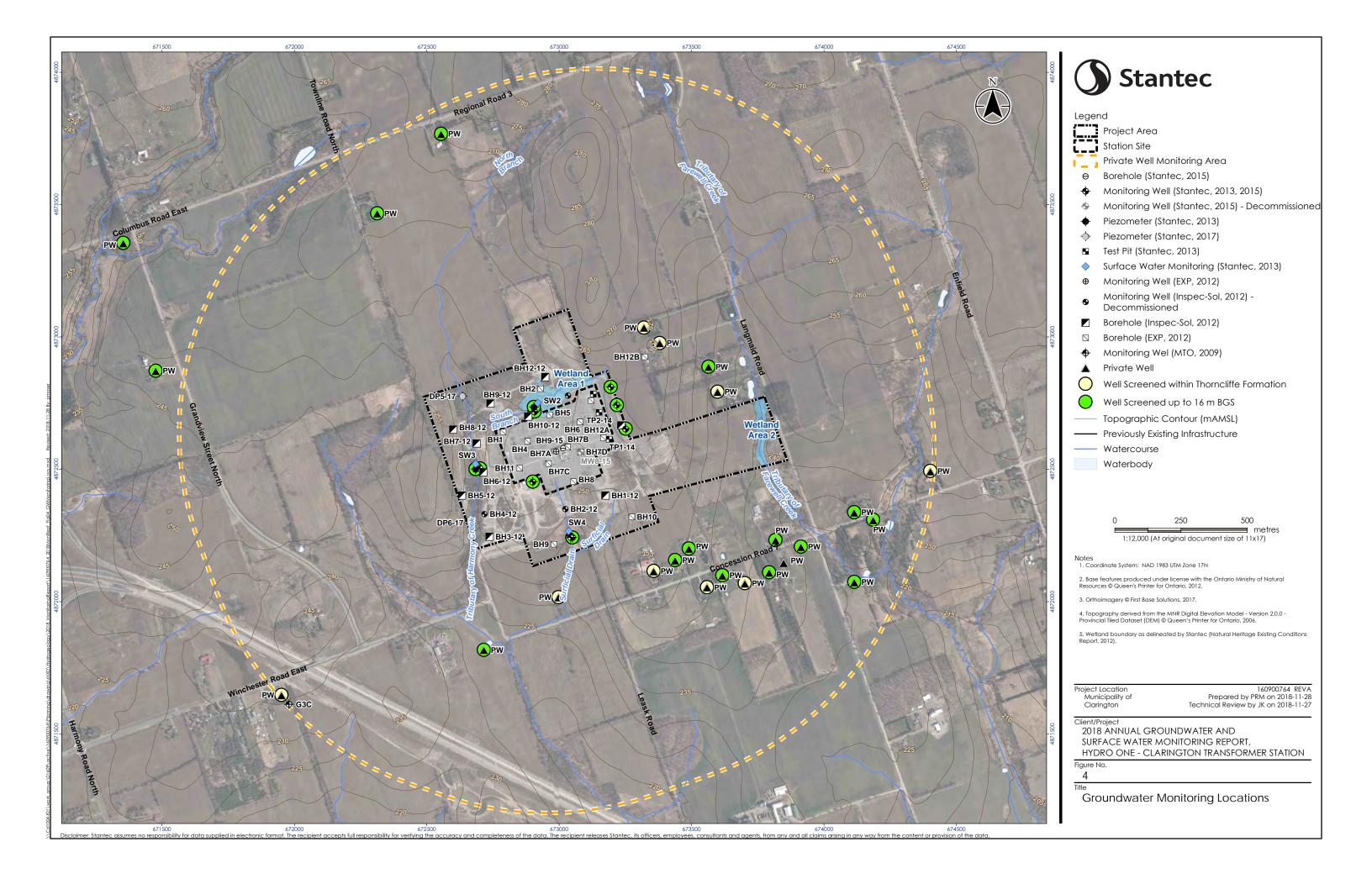
APPENDIX A:

Figures



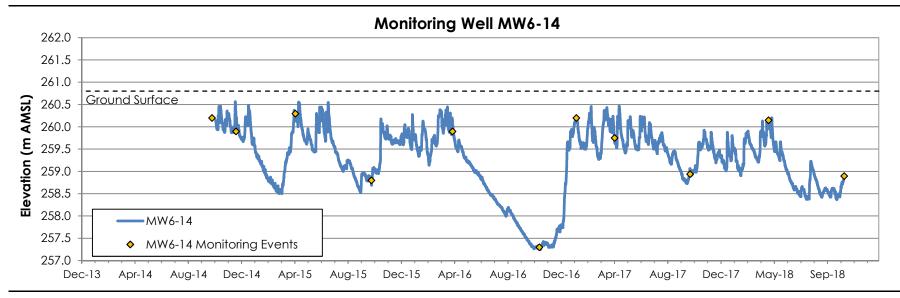


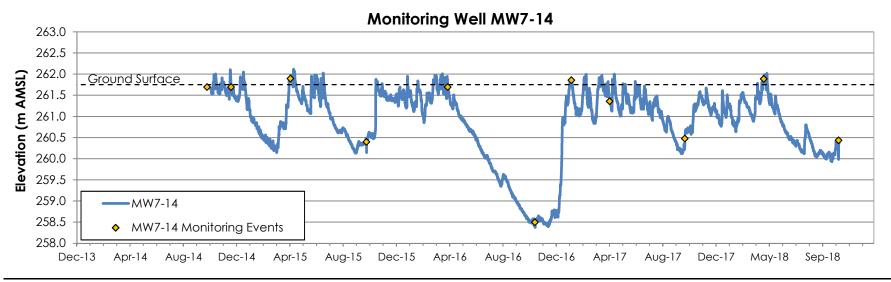


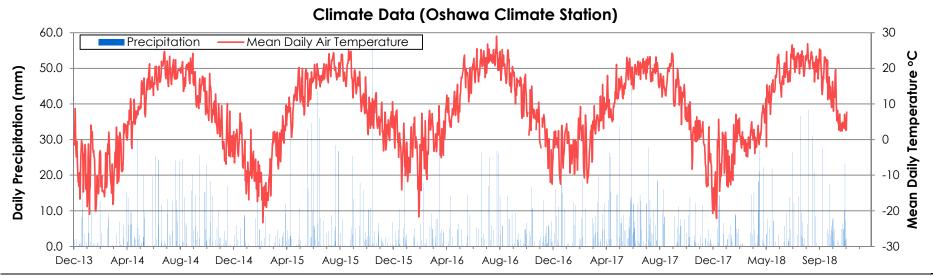


Monitoring Well MW1-13









Notes:

Precipitation and temperature data were obtained from Environment Canada for the Oshawa Climate Station. Climate data gaps were filled using data from the Blackstock and Oshawa WPCP Climate Stations, as well as the Oshawa Airport data from the Weather Network website.

Client/Project

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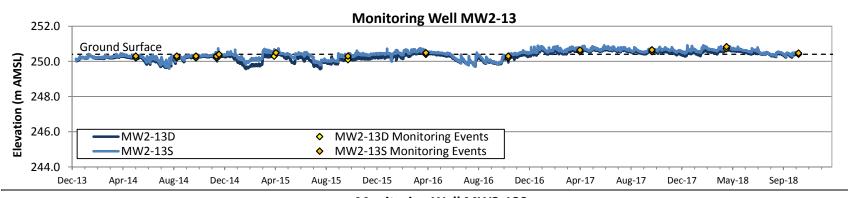
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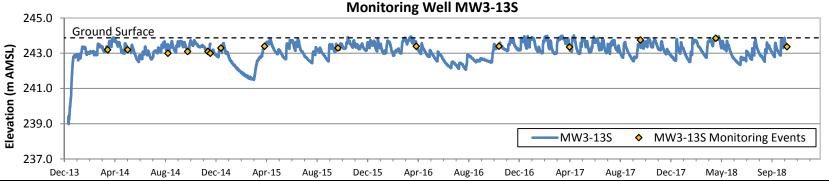
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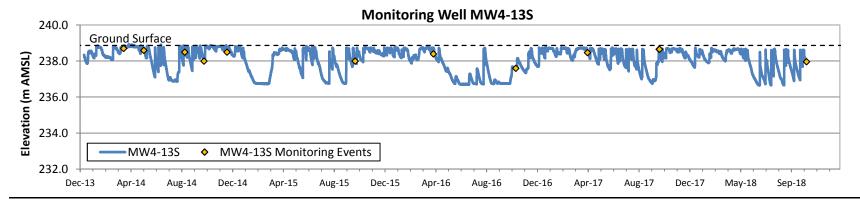
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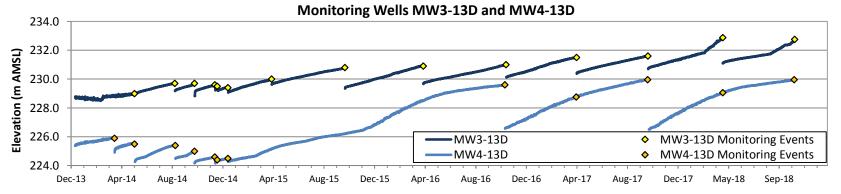
Hydrographs Monitoring Wells MW1, MW6, and MW7

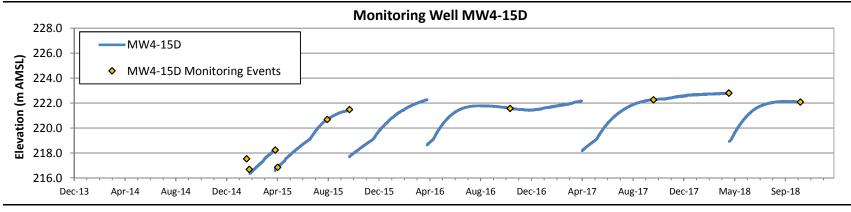


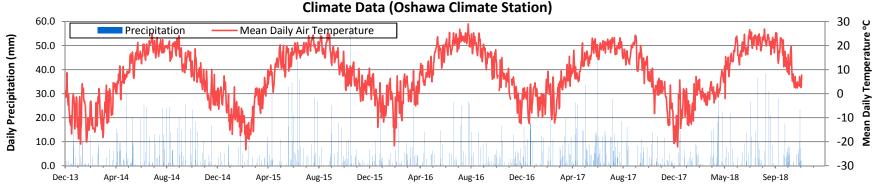












Notes:

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Figure No.

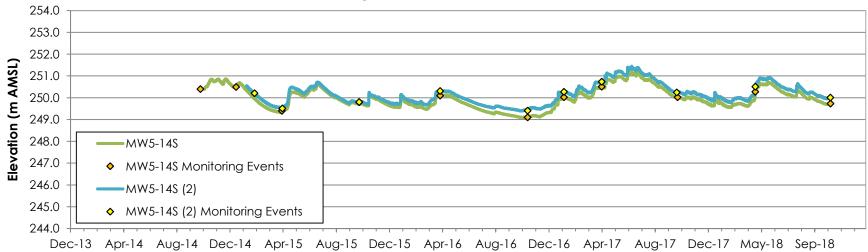
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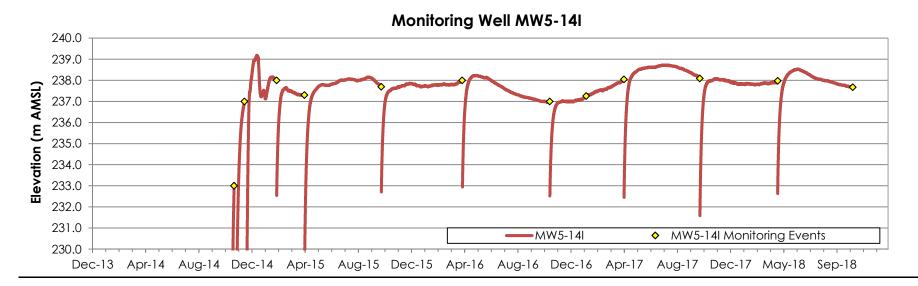
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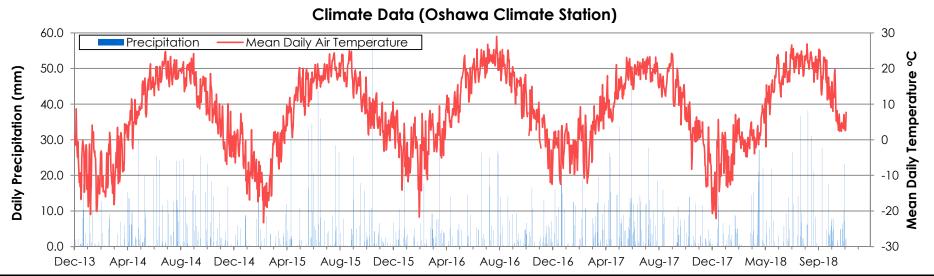
Hydrographs Monitoring Wells MW2, MW3, and MW4

Monitoring Well MW5-14S and MW5-14S (2)





Monitoring Well MW5-14D and MW5-14D (2) 221.0 220.0 219.0 MW5-14D 218.0 MW5-14D Monitoring Events 217.0 216.0 MW5-14D (2) 215.0 MW5-14D (2) Monitoring Events 214.0 213.0 212.0 211.0 210.0 Dec-13 Apr-14 Aug-14 Dec-14 Apr-15 Aug-15 Dec-15 Apr-16 Aug-16 Dec-16 Apr-17 Aug-17 Dec-17 May-18 Sep-18



Notes:

Precipitation and temperature data were obtained from Environment Canada for the Oshawa Climate Station. Climate data gaps were filled using data from the Blackstock and Oshawa WPCP Climate Stations, as well as the Oshawa Airport data from the Weather Network website.

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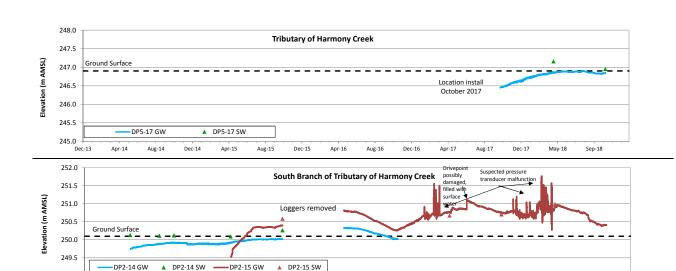
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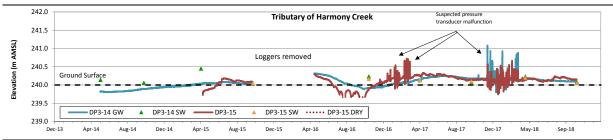
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Hydrographs Monitoring Well MW5







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Aug-16

Dec-16

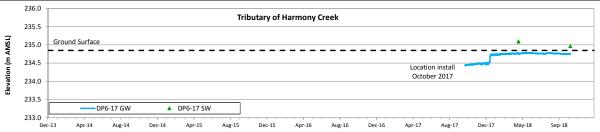
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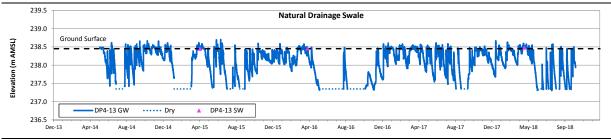
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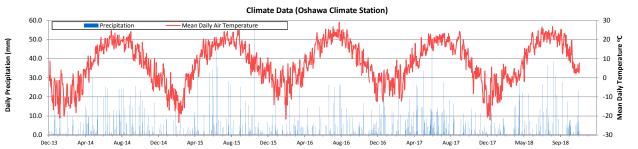
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Apr-14

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Precipitation and temperature data were obtained from Environment Canada for the Oshawa Climate Station. Climate data gaps were filled using data from the Blackstock and Oshawa WPCP Climate Stations, as well as the Oshawa Airport data from the Weather Network website.

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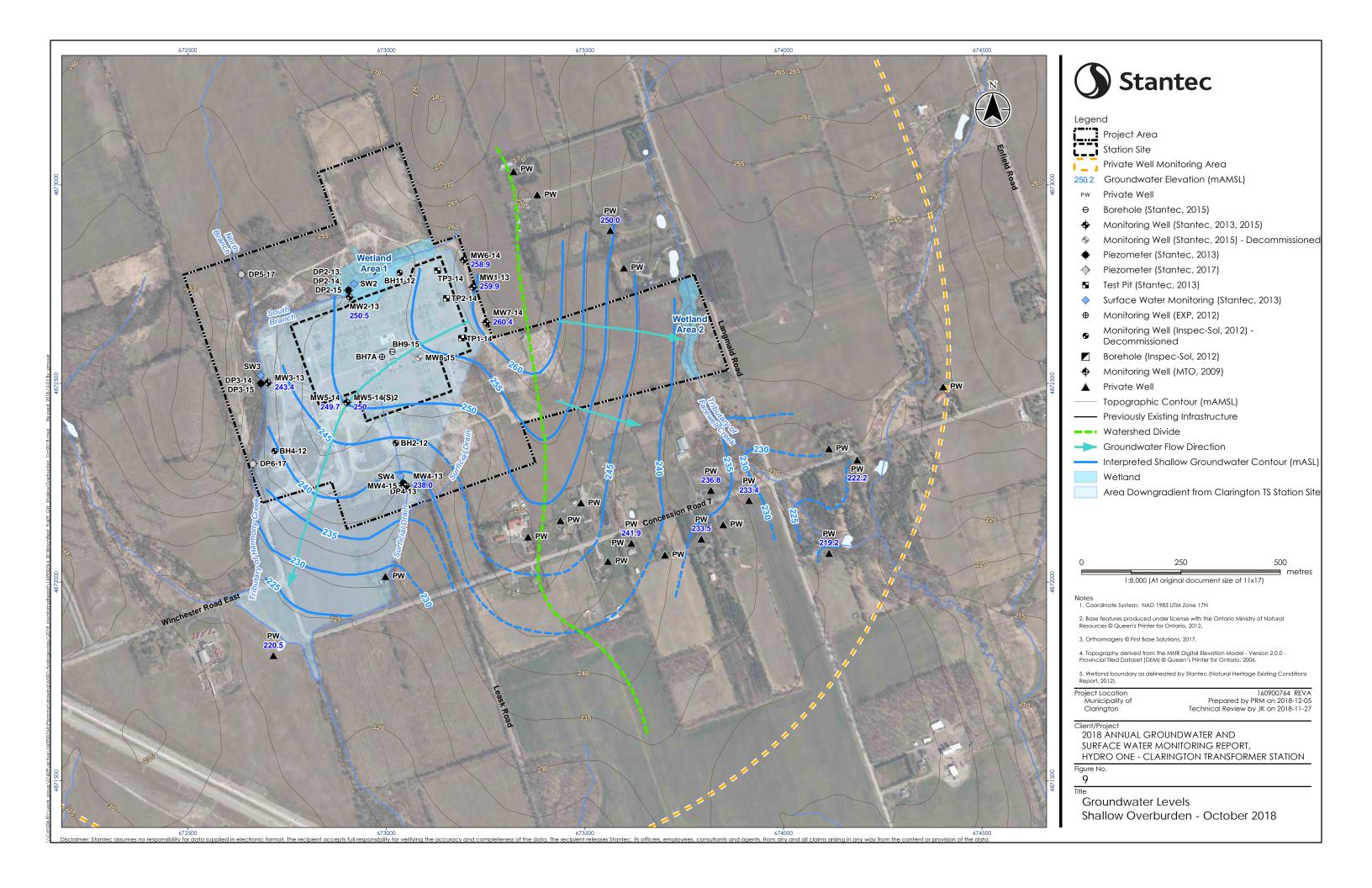
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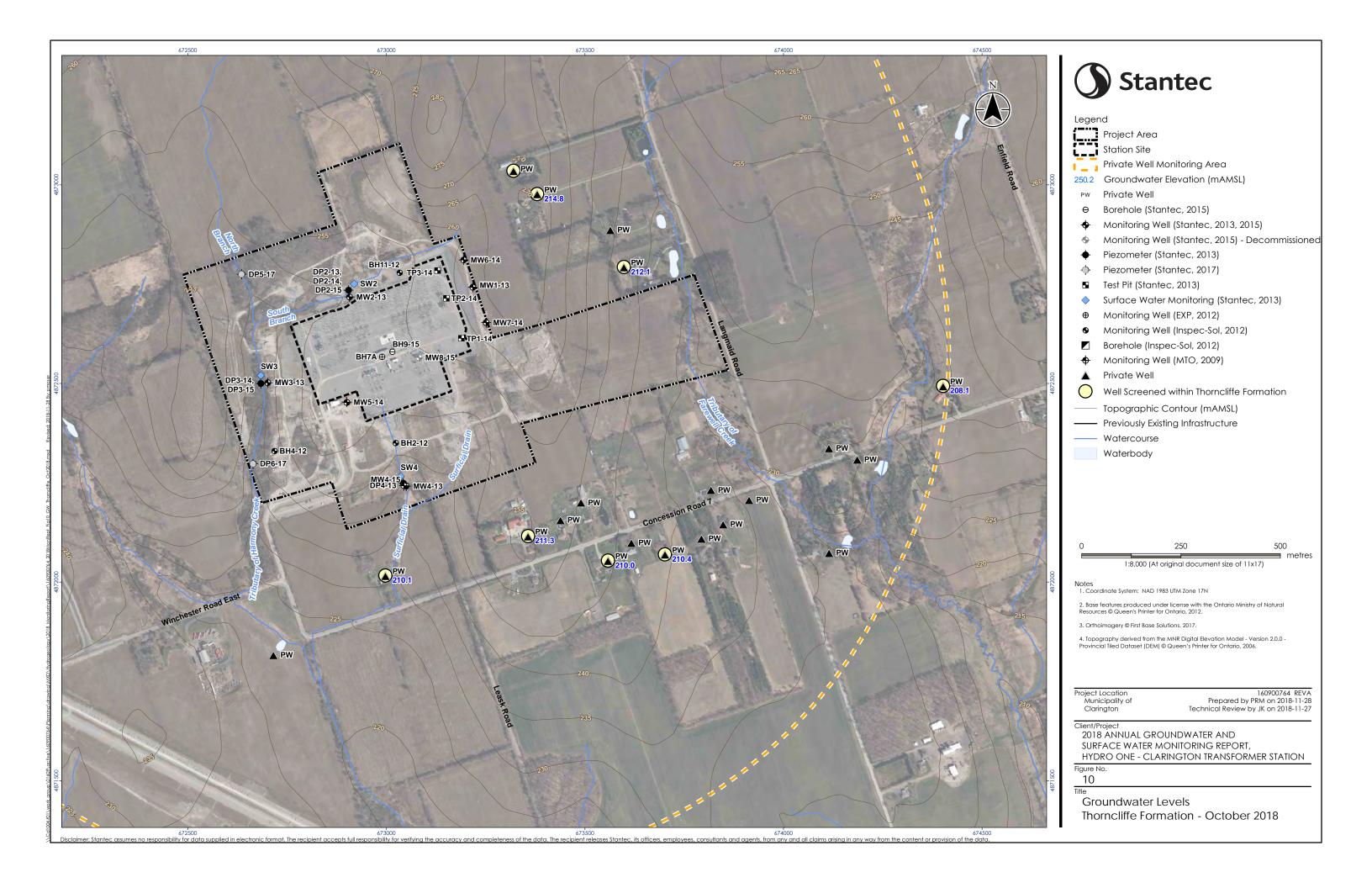
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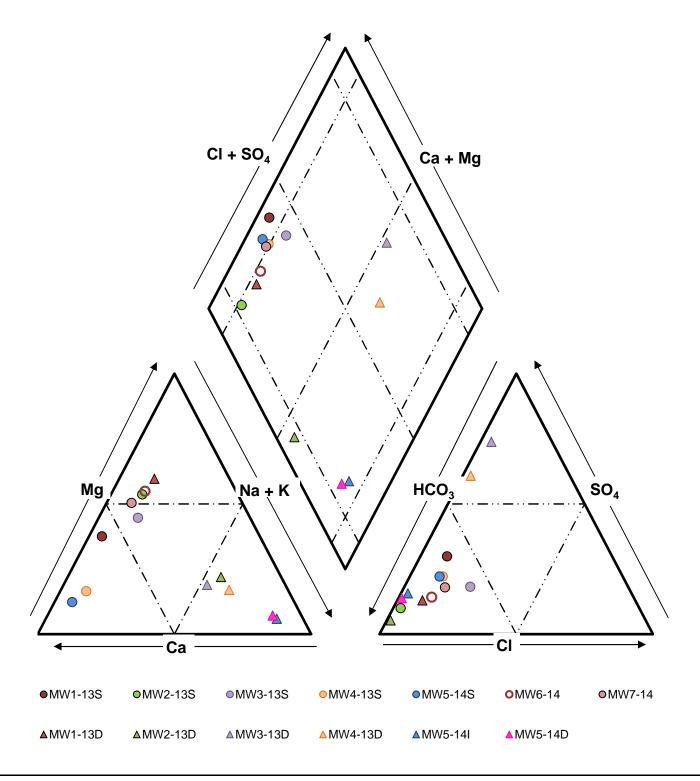
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Hydrographs Drivepoints









Water quality data from groundwater samples were collected on October 9, 2018 at MW5-14S/I/D, October 10, 2018 at MW2-13S/D, MW3-13S, MW4-13S/D, October 11, 2018 at MW1-13S/D, MW3-13D, MW6-14, MW7-14.



Client/Project

Hydro One Networks Inc. 2018 Annual Groundwater and Surface Water Monitoring Report

Figure No.

Title

11

Water Chemistry - Piper Plot

APPENDIX B:

Tables

TABLE 1
MONITORING WELL DETAILS
Clarington Tranformer Station
Hydro One Networks Inc.

		Location			Coordi	nates		Eleva	tion		Borehole	Well		Screened	l Interval		Screened	l Material
MOE		Installation					Ground Surface	Top of Casing		Stick-up	Depth	Diameter	Top of W	ell Screen	Bottom of	Well Screen		Hydrualic Conductivity
WWR No.	Well ID	Date	Status	Easting	Northing	Source	m AMSL	m AMSL	Source	(m AGS)	(m BGS)	(mm)	(m BGS)	(m AMSL)	(m BGS)	(m AMSL)	Screened Unit	(m/s)
Monitoring	y Wells		I					I	1			l		1				
-	MW1-13S	Dec-13	Monitoring Well	673222	4872738	Hydro One (Sept 2014)	262.52	263.39	Hydro One (Sept 2014)	0.87	6.1	51	3.05	259.47	6.10	256.42	Silty Sand Till	9.E-08
-	MW1-13D	Dec-13	Monitoring Well	673222	4872738	Hydro One (Sept 2014)	262.52	263.42	Hydro One (Sept 2014)	0.90	15.2	51	12.19	250.33	15.24	247.28	Silty Sand Till	9.E-06
-	MW2-13S	Dec-13	Monitoring Well	672910	4872716	Hydro One (Sept 2014)	250.42	251.27	Hydro One (Sept 2014)	0.85	4.6	51	1.52	248.90	4.57	245.85	Silty Sand Till	2.E-07
-	MW2-13D	Dec-13	Monitoring Well	672906	4872714	Hydro One (Sept 2014)	250.40	251.26	Hydro One (Sept 2014)	0.86	15.2	51	12.19	238.21	15.24	235.16	Silty Sand Till	1.E-07
-	MW3-13S	Dec-13	Monitoring Well	672702	4872499	Hydro One (Sept 2014)	243.87	244.80	Hydro One (Sept 2014)	0.93	6.7	51	3.66	240.21	6.71	237.16	Silty Sand Till	7.E-09
-	MW3-13D	Dec-13	Monitoring Well	672703	4872495	Hydro One (Sept 2014)	244.03	244.97	Hydro One (Sept 2014)	0.94	15.2	51	12.19	231.84	15.24	228.79	Silty Sand Till	na
-	MW4-13S	Dec-13	Monitoring Well	673051	4872242	Hydro One (Sept 2014)	238.86	239.78	Hydro One (Sept 2014)	0.92	4.6	51	1.52	237.34	4.57	234.29	Sand Silty Sand Till	1.3.E-05
-	MW4-13D	Dec-13	Monitoring Well	673050	4872238	Hydro One (Sept 2014)	238.72	239.55	Hydro One (Sept 2014)	0.83	15.2	51	12.19	226.53	15.24	223.48	Silty Sand Till	na
-	MW4-15D	Jan-15	Monitoring Well	673050	4872238	Approximated from MW4-13D	238.72	239.47	Approximated from MW4- 13D	0.75	25.1	51	19.89	218.83	22.94	215.78	Silty Sand Till	2.8.E-10
-	MW5-14S (2)	Nov-14	Monitoring Well	672901	4872453	Stantec GIS Mapping (2015)	252.60	253.34	Hydro One Topography (0.25 m contours)	0.74	4.1	51	2.48	250.12	4.00	248.60	Sand	2.8.E-07
-	MW5-14S	Oct-14	Monitoring Well	672901	4872453	Field GPS (2014)	252.60	253.51	Hydro One Topography (0.25 m contours)	0.91	6.1	51	3.10	249.50	6.10	246.50	Sandy Silt Till Silty Sand Till	1.6.E-05
-	MW5-14I	Oct-14	Monitoring Well	672901	4872453	Field GPS (2014)	252.60	253.43	Hydro One Topography (0.25 m contours)	0.83	40.1	51	37.10	215.50	40.10	212.50	Silty Sand Till	1.3.E-09
-	MW5-14D	Dec-14	Monitoring Well	672901	4872453	Stantec GIS Mapping (2015)	252.44	253.22	Hydro One Topography (0.25 m contours)	0.78	55.0	51	52.43	200.01	53.95	198.49	Sand	3.3.E-07
-	MW5-14D(2)	Dec-14	Monitoring Well	672901	4872453	Stantec GIS Mapping (2015)	252.44	253.52	Hydro One Topography (0.25 m contours)	1.08	129.5	51	112.01	140.43	113.54	138.90	Sand	-
-	MW6-14	Oct-14	Monitoring Well	673195	4872811	Field GPS (2014)	260.80	261.71	Hydro One Topography (0.25 m contours)	0.91	7.6	51	6.10	254.70	7.60	253.20	Silt Till	4.3.E-07
-	MW7-14	Oct-14	Monitoring Well	673254	4872654	Field GPS (2014)	261.75	262.65	Hydro One Topography (0.25 m contours)	0.90	7.6	51	6.10	255.65	7.60	254.15	Silt Till Sandy Silt Till	8.4.E-07
-	MW8-15	Jan-15	Abandoned	673082	4872565	Approximated from BH7D (EXP, 2012)	254.43	255.25	Approximated from BH7D (EXP, 2012)	0.82	16.9	51	13.72	240.71	15.24	239.19	Silty Sand to Sandy Silt Till	7.4.E-06

Notes:

Northing and Easting Coordinates presented as UTM NAD 83 Zone 17

na: not applicable

m AGS: metres above ground surface m BGS: metres below ground surface m AMSL: metres above mean sea level



TABLE 1 MONITORING WELL DETAILS Clarington Tranformer Station Hydro One Networks Inc.

		Location			Coordin	ates		Elev	ration	00.1	Borehole	W. II D' (Screened	Interval		Screened	Material
MOE		Installation	24.4			_	Ground Surface	Top of Casing		Stick-up	Depth	Well Diameter	Top of W	ell Screen	Bottom of	Well Screen		Hydrualic Conductivity
WWR No.	Well ID	Date	Status	Easting	Northing	Source	m AMSL	m AMSL	Source	(m AGS)	(m BGS)	(mm)	(m BGS)	(m AMSL)	(m BGS)	(m AMSL)	Screened Unit	(m/s)
Boreholes		<u>, </u>			,									,				
7191922	BH2-12	Nov-12	Abandoned	673024	4872350	Inspect-Sol (2012)	246.40	247.30	Hydro One Topography (0.25 m contours)	0.90	15.9	na	12.15	234.25	15.20	231.20	Sandy Silt Till	-
-	BH4-12	Nov-12	Abandoned	672719	4872330	Inspect-Sol (2012)	243.20	244.10	Hydro One Topography (0.25 m contours)	0.90	15.5	na	12.45	230.75	15.50	227.70	Sandy Silt Till	-
-	ВН7А	May-12	Abandoned	672989	4872568	EXP (2012)	253.20	na	Exp borehole log (2012)	na	15.7	na	4.70	248.50	7.75	245.45	Sandy Silt Till	-
-	BH9-15	Mar-15	Abandoned	673015	4872580	Approximated from BH7A (EXP, 2012)	253.60	na	Approximated from BH7A (EXP, 2012)	na	10.1	na	na	na	na	na	na	-
-	BH11-12	Nov-12	Abandoned	673034	4872779	Inspect-Sol (2012)	253.50	254.41	Hydro One Topography (0.25 m contours)	0.91	15.5	51	11.75	241.75	14.80	238.70	Sandy Silt Till Silt and Sand	-
Drivepoint	Piezometers																	
na	DP2-13 (MP2, SW2)	Dec-13	Destroyed	672900	4872725	Adjacent to DP2-14	250.10	251.14	Adjacent to DP2-14	1.04	1.21	25	0.79	249.31	1.21	248.89	na	-
na	DP2-14 (MP2, SW2)	May-14	Destroyed	672900	4872725	Hydro One (Sept 2014)	250.10	251.62	Hydro One (Sept 2014)	1.52	1.34	25	0.92	249.18	1.34	248.76	na	-
na	DP2-15 (MP2, SW2)	Apr-15	Piezometer	672900	4872725	Adjacent to DP2-14	250.10	251.28	Adjacent to DP2-14	1.18	1.68	25	1.26	248.84	1.68	248.42	na	-
na	DP3-14 (MP3, SW3)	May-14	Piezometer	672684	4872500	Field GPS (2014)	240.00	241.69	Hydro One Topography (0.25 m contours)	1.69	0.87	25	0.45	239.55	0.87	239.13	na	-
na	DP3-15 (MP3, SW3)	Apr-15	Piezometer	672684	4872500	Adjacent to DP3-14	240.00	241.80	Adjacent to DP3-14	1.80	0.76	25	0.34	239.66	0.76	239.24	na	-
na	DP4-13 (MP4, SW4)	Dec-13	Destroyed	673055	4872236	Hydro One (Sept 2014)	238.41	239.09	Hydro One (Sept 2014)	0.68	1.57	25	1.15	237.26	1.57	236.84	na	-
na	DP4-15 (MP4, SW4)	Apr-15	Piezometer	673055	4872236	Adjacent to DP4-13	238.41	239.61	Adjacent to DP4-13	1.20	1.35	25	0.93	237.48	1.35	237.06	na	-
na	DP5-17 (MP5)	Oct-17	Piezometer	672636	4872775	Field GPS (2017)	245.43	246.90	Hydro One Topography (0.25 m contours)	1.47	1.08	25	0.66	244.77	1.08	244.35	na	-
na	DP6-17 (MP6)	Oct-17	Piezometer	672665	4872298	Field GPS (2017)	234.85	236.27	Hydro One Topography (0.25 m contours)	1.42	1.13	25	0.71	234.14	1.13	233.72	na	-
Test Pits												<u> </u>				-		
na	TP1-14	Oct-14	Abandoned	673189	4872613	Field GPS (2014)	256.40	na	Hydro One Topography (0.25 m contours)	na	4.88	na	na	na	na	na	Silty Sand Till	-
na	TP2-14	Oct-14	Abandoned	673151	4872714	Field GPS (2014)	258.20	na	Hydro One Topography (0.25 m contours)	na	4.57	na	na	na	na	na	Silty Sand Till	-
na	TP3-14	Oct-14	Abandoned	673129	4872784	Field GPS (2014)	257.10	na	Hydro One Topography (0.25 m contours)	na	3.96	na	na	na	na	na	Silty Sand Till	-

Notes:

Northing and Easting Coordinates presented as UTM NAD 83 Zone 17 na: not applicable

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TABLE 2 PRIVATE WELL DETAILS Clarington Tranformer Station Hydro One Networks Inc.

Location	n		Coordii	nates		Elev	ration		
					Ground Surface	Top of Casing		Stick-up	Screened Unit
MOE WWR No.	Well ID	Easting	Northing	Source	m AMSL	m AMSL	Source	(m AGS)	
Private / Residential	Wells		1.	1		I	l	•	
-	PW-01	673817	4872232	Aerial imagery	237.32	237.71	Regional Topography (5 m contours)	0.39	Shallow Overburden Up to 16 m BGS
7157947	PW-02	673848	4872147	Aerial imagery	237.86	238.34	Regional Topography (5 m contours)	0.48	Intermediate Overburden
=	PW-03	673913	4872207	Aerial imagery	234.24	234.48	Regional Topography (5 m contours)	0.24	Shallow Overburden Up to 16 m BGS
-	PW-04	673490	4872201	Aerial imagery	249.75	249.93	Regional Topography (5 m contours)	0.18	Shallow Overburden
-	PW-05	673357	4872116	Aerial imagery	255.40	255.92	Regional Topography (5 m contours)	0.52	Thorncliffe Formation
1908311	PW-06	674402	4872494	Aerial imagery	238.15	238.60	Regional Topography (5 m contours)	0.45	Thorncliffe Formation
-	PW-08	671354	4873355	Aerial imagery	246.53	246.72	Regional Topography (5 m contours)	0.19	Shallow Overburden
-	PW-09	671476	4872872	Aerial imagery	249.20	249.50	Regional Topography (5 m contours)	0.30	Shallow Overburden Up to 16 m BGS
1910299 replaced 1916307	PW-10	673598	4872793	Aerial imagery	247.41	248.05	Regional Topography (5 m contours)	0.64	Thorncliffe Formation
1903520 1913606 amend	PW-11	674115	4872075	Aerial imagery	226.17	226.28	Regional Topography (5 m contours)	0.11	Shallow Overburden Up to 16 m BGS
-	PW-12	673793	4872111	Aerial imagery	238.38	238.49	Regional Topography (5 m contours)	0.11	Shallow Overburden Up to 16 m BGS
1917587	PW-13	671901	4871638	Aerial imagery	235.44	236.37	Regional Topography (5 m contours)	0.93	Thorncliffe Formation
-	PW-14	674186	4872309	Aerial imagery	231.30	231.38	Regional Topography (5 m contours)	0.08	Shallow Overburden Up to 16 m BGS
1905014	PW-15	673320	4873035	Aerial imagery	270.01	na	Regional Topography (5 m contours)	na	Thorncliffe Formation
-	PW-16	673564	4872887	Aerial imagery	250.69	251.25	Regional Topography (5 m contours)	0.56	Shallow Overburden Up to 16 m BGS
1907905	PW-17	673380	4872976	Aerial imagery	268.99	268.69	Regional Topography (5 m contours)	-0.30	Thorncliffe Formation
-	PW-18	673559	4872054	Aerial imagery	245.75	245.88	Regional Topography (5 m contours)	0.13	Thorncliffe Formation
-	PW-19	672554	4873767	Aerial imagery	271.15	271.60	Regional Topography (5 m contours)	0.45	Shallow Overburden Up to 16 m BGS
-	PW-20	673617	4872099	Aerial imagery	243.41	243.60	Regional Topography (5 m contours)	0.19	Shallow Overburden Up to 16 m BGS
1912514	PW-21	673702	4872069	Aerial imagery	240.29	240.77	Regional Topography (5 m contours)	0.48	Thorncliffe Formation
1918378	PW-22	672998	4872016	Aerial imagery	230.44	231.04	Regional Topography (5 m contours)	0.60	Thorncliffe Formation
-	PW-23	672313	4873467	Aerial imagery	261.68	261.68	Regional Topography (5 m contours)	0.00	Shallow Overburden Up to 16 m BGS
=	PW-24	673438	4872157	Aerial imagery	252.04	252.56	Regional Topography (5 m contours)	0.52	Shallow Overburden Up to 16 m BGS
-	PW-25	674115	4872337	Aerial imagery	234.44	235.14	Regional Topography (5 m contours)	0.70	Shallow Overburden Up to 16 m BGS
-	PW-26	672716	4871817	Aerial imagery	221.38	221.53	Regional Topography (5 m contours)	0.15	Shallow Overburden Up to 16 m BGS

Northing and Easting Coordinates presented as UTM NAD 83 Zone 17

-- not applicable

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m AMSL: metres above mean sea level



Table 3
Summary of Surface Water Analytical Results - 2018
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location Sample Date Sample ID Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Sample Type General Chemistry	Units	PWQO	18-Apr-18 WS-160900764- 20180418- RD 101 STANTEC MAXX B888909 GMM245	SI 16-May-18 WG-160900764- 20180516- RD02 STANTEC MAXX B8B5841 GSF385	W2 10-Oct-18 WS-160900764- 20181010- RD101 STANTEC MAXX B8Q7982 HZJ523	10-Oct-18 WS-160900764- 20181010- RD102 STANTEC MAXX B8Q7982 HZJ524 Field Duplicate	18-Apr-18 WS-160900764- 20180418- RD 104 STANTEC MAXX B888909 GMM248	SW3 16-May-18 WG-160900764- 20180516- RD01 STANTEC MAXX B8B5841 GSF384	10-Oct-18 WS-160900764- 20181010- RD1100 STANTEC MAXX B8Q7982 HZJ522	18-Apr-18 WS-160900764- 20180418- RD 102 STANTEC MAXX B888909 GMM246	SW4 18-Apr-18 WS-160900764- 20180418- RD 103 STANTEC MAXX B888909 GMM247 Field Duplicate	16-May-18 WG-160900764- 20180516- RDD3 STANTEC MAXX B8B5841 GSF386
Acidity Acidity	mg/L	n/v	<5.0	-	<5.0	<5.0	7.0	-	13	5.0	<5.0	-
Alkalinity, Bicarbonate (as CaCO3) Alkalinity, Carbonate (as CaCO3) Alkalinity, Total (as CaCO3) Almonia (as N) Chloride Cyanide (Free) Electrical Conductivity, Lab Fluoride	mg/L mg/L mg/L mg/L mg/L ug/L µmhos/cm mg/L	n/v n/v n/v s16 n/v n/v 5 ^A n/v	180 1.4 180 <0.050 42 <1 720 0.33	- - - - - - -	180 2.7 190 0.12 19 <1 870 0.38	180 2.7 190 0.069 19 <1 870 0.37	220 2.1 220 0.065 21 <1 560 0.11	- - - - - -	280 3.0 280 0.15 29 <1 930 0.27	190 1.9 190 0.085 15 <1 460 0.10	170 1.6 170 0.061 32 <1 500 0.10	- - - - - - -
Hardness (as CaCO3) Langelier Index (at 20 C) Langelier Index (at 4 C) Nitrate (as N) Nitrite (as N) Nitrite (as N)	mg/L none none mg/L mg/L	n/v n/v n/v n/v	320 0.741 0.492 2.33 2.33	- - - - -	440 1.12 0.867 0.66 0.66	440 1.11 0.862 0.65 0.65 <0.010	280 0.910 0.662 4.31 4.31 <0.010	- - - -	490 1.23 0.983 0.33 0.33 <0.010	230 0.792 0.543 0.14 0.14 <0.010	230 0.722 0.473 0.16 0.16 <0.010	- - - - -
Nittre (as N) Orthophosphate(as P) pH, lab Phosphorus, Total Saturation pH (at 20 C) Saturation pH (at 4 C)	mg/L mg/L S.U. mg/L none none	n/v n/v 6.5-8.5 ^A 0.03 _{s4} ^C n/v n/v	<0.010 <0.010 7.93 0.019 7.19 7.44	- - - -	<0.010 <0.010 8.19 <0.004 7.07 7.32	<0.010 <0.010 8.20 0.005 7.09 7.33	<0.010 <0.010 8.02 0.08^c 7.11 7.35	- - - -	<0.010 <0.010 8.06 0.007 6.83 7.07	<0.010 <0.010 8.03 0.32 ^c 7.24 7.48	<0.010 <0.010 8.00 0.27^c 7.28 7.53	- - - - -
Stuffate Total Dissolved Solids Total Organic Carbon Total Suspended Solids Turbidity, Lab	mg/L mg/L mg/L mg/L MTU	n/v n/v n/v n/v n/v	120 425 1.7 <10 6.7	- - - - -	280 510 1.9 <10	280 550 1.9 <10 0.4	39 370 3.5 120 24	- - - - -	210 580 2.9 <10	39 MI 300 8.2 340 110	35 330 6.8 170 310	- - - - -
Metals. Dissolved												
Aluminum Antimony Arsenic Barium Beryllium Boron Cadmium Calcium	µg/L µg/L µg/L µg/L µg/L µg/L µg/L	n/v 20 ^c 100 ^A 5 ^c n/v 1,100 _{s3} ^A 200a ^c 0.2 ^A 0.5 _{s12} ^c	- - - - - - 100,000	<5 <0.5 <1 50 <0.5 310^c <0.1 93,000	- - - - - - 130,000	- - - - - - 130,000	- - - - - - 99,000	<5 <0.5 <1 40 <0.5 89 <0.1 110,000	- - - - - - 160,000	- - - - - - 79,000	- - - - - - 81,000	<5 <0.5 <1 56 <0.5 62 <0.1 110,000
Constitution Cobalt Copper Iron Lead Magnesium	µg/L µg/L µg/L µg/L µg/L	0.9° 5 ^A 5 _{s13} ° 300 ^A 25 _{s14} A 5 _{s15} ° n/v	- - - - - - - 15,000	<5 <0.5 <1 <100 <0.5 14,000	- - - - - - - 25,000	- - - - - - - 25,000	- - - - - 7,700	<5 <0.5 <1 <100 <0.5 9,400	- - - - - - 21,000	75,000 - - - - - 6,500	- - - - - - - - - - - - - - - - - - -	<5 <0.5 <1 <100 <0.5 11,000
Manganese Mercury Molybdenum Nickel Phosphorus Potassium	µg/L µg/L µg/L µg/L µg/L	n/v 0.2 ^A 40 ^C 25 ^A 30 _{s4} ^C n/v	- <0.1 - - - 5,000	5 - 1.7 <1 <100 5,700	- <0.1 - - - 7,000	- <0.1 - - - 7,000	- <0.1 - - - 2,000	43 - 0.54 <1 <100 2,500	- <0.1 - - - 5,000	- <0.1 - - - 3,000	- <0.1 - - - 3,000	<2 - 0.59 <1 <100 2,600
Selenium Silicon Silver Sodium Strontium Thallium Titanium	µg/L µg/L µg/L µg/L µg/L µg/L	100 ^A n/v 0.1 ^A n/v n/v 0.3 _b ^C n/v	- - 26,000 - -	<2 2,500 <0.1 14,000 1,800 <0.05 <5	21,000	21,000	9,700 - -	<2 3,300 <0.1 8,200 670 <0.05 <5	21,000	9,800 - - -	- - 14,000 - -	<2 3,700 <0.1 9,900 520 <0.05 <5
Uranium Vanadium Zinc Zirconium Metals. Total	µg/L µg/L µg/L µg/L	5 _a ^C 6 ^C 30 ^A 20 ^C 4 _a ^C	- - -	0.8 <0.5 7.3 <1	- - -	- - -	- - -	0.61 <0.5 <5 <1	- - -	- - -	- - -	0.69 <0.5 <5 <1
Aluminum Antimony	μg/L μg/L	n/v 20 ^C	170 <0.5	33 <0.5	23 <0.5	25 <0.5	1,300 <0.5	120 <0.5	13 <0.5	7,300 <0.5	4,300 <0.5	99 <0.5
Arsenic Barium Beryllium Boron Cadmium	μg/L μg/L μg/L μg/L μg/L	100 ^A 5 ^C n/v 1,100 _{s3} ^A 200 _a ^C 0.2 ^A 0.5 _{s12} ^C	<1 38 <0.5 200 <0.1	<1 48 <0.5 330^c <0.1	<1 49 <0.5 470^c <0.1	<1 47 <0.5 470^c <0.1	<1 41 <0.5 41 <0.1	<1 39 <0.5 98 <0.1	<1 49 <0.5 300^c <0.1	3 140 <0.5 37 <0.1	1.9 93 <0.5 32 <0.1	<1 55 <0.5 66 <0.1
Calcium Chromium Chromium (Hexavalent) Cobalt Copper Iron	µg/L µg/L µg/L µg/L µg/L µg/L	n/v n/v 1 ^A 0.9 ^C 5 ^A 5 _{s13} ^C 300 ^A	98,000 <5 <0.50 <0.5 <1 220	91,000 <5 - <0.5 <1 <100	120,000 <5 <0.50 <0.5 <1 <100	130,000 <5 <0.50 <0.5 <1 250	100,000 <5 <0.50 0.73 2.1 1.700 ^A	110,000 <5 - <0.5 <1 170	150,000 <5 <0.50 <0.5 3.1	200,000 13 <0.50 3.9° 9.4 ^{AC} 8,700 ^A	150,000 7.8 <0.50 2.4^C 5.9^{AC} 5,200^A	110,000 <5 - <0.5 <1 110
Lead Magnesium Manganese Molybdenum Nickel	µg/L µg/L µg/L µg/L µg/L	25 _{s14} ^A 5 _{s15} ^C n/v n/v 40 ^C 25 ^A	<0.5 16,000 16 0.97 1.2	<0.5 14,000 9.6 1.6 <1	<0.5 25,000 180 1.8 1	<0.5 25,000 190 1.9 1.1	1.4 8,000 82 <0.5 1.7	<0.5 10,000 51 0.54 <1	<0.5 20,000 170 1 <1	8.3 ^{AC} 12,000 280 0.91 9.4	5 9,300 180 0.92 5.6	<0.5 11,000 5.1 0.55 <1
Phosphorus Potassium Selenium Silicon Siliver Sodium	µg/L µg/L µg/L µg/L µg/L µg/L	30 _{s4} ^C n/v 100 ^A n/v 0.1 ^A n/v	4,300 4,300 <2 2,200 <0.1 24,000	<100 5,900 <2 2,500 <0.1 15,000	<100 6,500 <2 2,700 <0.1 19,000	<100 6,700 <2 2,700 <0.1 20,000	2,000 <2 4,200 <0.1 8,700	<100 2,500 <2 3,500 <0.1 8,800	<100 4,500 <2 3,600 <0.1 19,000	4,500 <2 15,000 <0.1 9,900	3,400 <2 9,000 <0.1 15,000	<100 2,500 <2 3,700 <0.1 10,000
Strontium Thallium Ttanium Uranium Vanadium Zinc	µg/L µg/L µg/L µg/L µg/L	n/v 0.3 _b ^C n/v 5 _a ^C 6 ^C 30 ^A 20 ^C	1,800 <0.05 11 0.79 0.58 5.5	1,800 <0.05 <5 0.85 <0.5 <5	2,900 <0.05 <5 1.2 <0.5 <5	3,000 <0.05 <5 1.2 <0.5 <5	480 <0.05 57 0.59 2.6 11	690 <0.05 8.5 0.64 0.64 <5	1,800 <0.05 <5 0.88 <0.5 <5	530 0.12 310 0.84 12 ^c 60 ^{AC}	440 0.068 190 0.72 7.6^c 37^{AC}	520 <0.05 11 0.71 0.69 <5
Zirconium BTEX and Petroleum Hvdrocarbons Benzene Toluene Ethylbenzene	μg/L μg/L μg/L μg/L	100 _b ^C 0.8 ^C 8 ^C	<0.20 <0.20 <0.20 <0.20	- - -	<0.20 <0.20 <0.20 <0.20	<0.20 <0.20 <0.20 <0.20	<0.20 <0.20 <0.20 <0.20	- - -	<0.20 <0.20 <0.20 <0.20	<0.20 <0.20 <0.20 <0.20	<0.20 <0.20 <0.20 <0.20	- - -
Emyloenzene Xylene, m & p- Xylene, o- Xylenes, Total PHC F1 (C6-C10 range) PHC F1 (C6-C10 range) minus BTEX PHC F2 (>C10-C16 range) PHC F3 (>C16-C34 range)	µg/L µg/L µg/L µg/L µg/L µg/L µg/L	32 _{s17} B 40 _b C 72 _{s10} B n/v n/v n/v	<0.20 <0.20 <0.20 <0.20 <25 <25 <100 <200	- - - - - -	<0.20 <0.20 <0.20 <0.20 <25 <25 <100 <200	<0.20 <0.20 <0.20 <0.20 <25 <25 <100 <200	<0.20 <0.20 <0.20 <0.20 <25 <25 <100 <200	- - - - - -	<0.20 <0.20 <0.20 <0.20 <25 <25 <100 <200	<0.20 <0.20 <0.20 <0.20 <25 <25 <100 <200	<0.20 <0.20 <0.20 <0.20 <25 <25 <100 <200	- - - - - -



Sample Location					N2			SW3			SW4	
Sample Date			18-Apr-18 WS-160900764-	16-May-18 WG-160900764-	10-Oct-18 WS-160900764-	10-Oct-18 WS-160900764-	18-Apr-18 WS-160900764-	16-May-18 WG-160900764-	10-Oct-18 WS-160900764-	18-Apr-18 WS-160900764-	18-Apr-18 WS-160900764-	16-May-18 WG-160900764
Sample ID			20180418-	20180516-	20181010-	20181010-	20180418-	20180516-	20181010-	20180418-	20180418-	20180516-
Sampling Company			RD 101 STANTEC	RD02 STANTEC	RD101 STANTEC	RD102 STANTEC	RD 104 STANTEC	RD01 STANTEC	RD100 STANTEC	RD 102 STANTEC	RD 103 STANTEC	RD03 STANTEC
Laboratory			MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order			B888909	B8B5841	B8Q7982	B8Q7982	B888909	B8B5841	B8Q7982	B888909	B888909	B8B5841
Laboratory Sample ID Sample Type	Units	PWQO	GMM245	GSF385	HZJ523	HZJ524 Field Duplicate	GMM248	GSF384	HZJ522	GMM246	GMM247 Field Duplicate	GSF386
						·					•	
Polychlorinated Biphenyls Aroclor 1242	//	1 A	40.05		40.05	10.05	<0.05		40.05	40.05	10.05	
Aroclor 1242 Aroclor 1248	μg/L μg/L	s7 A s7	<0.05 <0.05	-	<0.05 <0.05	<0.05 <0.05	<0.05	-	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	-
Aroclor 1254	μg/L	s7	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	-
Aroclor 1260 Polychlorinated Biphenyls (PCBs)	μg/L μg/L	0.001 _{s7} ^A	<0.05 <0.05		<0.05 <0.05	<0.05 <0.05	<0.05 <0.05		<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	-
Semi-Volatile Organic Compounds	pg/L	0.001 _{\$7}	40.00	1	40.00	40.00	40.00	1	40.00	40.00	40.00	
Phthalates												
Bis(2-Ethylhexyl)phthalate (DEHP)	μg/L	0.6 ^A	<1	-	<1	<1	<1	-	<1	<1	<1	-
Diethyl Phthalate Dimethyl Phthalate	μg/L μg/L	n/v n/v	<0.1 <0.1		<0.1 <0.1	<0.1 <0.1	<0.1 <0.1		<0.1 <0.1	<0.1 <0.1	<0.1 <0.1	
Polycyclic Aromatic Hydrocarbons	pg/L	104	-0.1		10.1	-0.1	-0.1		10.1	-0.1	-0.1	
Acenaphthene	μg/L	n/v	<0.2	-	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	-
Acenaphthylene Anthracene	μg/L	n/v 0.0008 _a ^C	<0.2 <0.05	-	<0.2 < 0.05	<0.2 <0.05	<0.2 <0.05	-	<0.2 <0.05	<0.2 <0.05	<0.2 <0.05	-
Benzo(a)anthracene	μg/L μg/L	0.0008 _a C	<0.05 <0.05	-	<0.05	<0.05 <0.05	<0.05 <0.05	-	<0.05	<0.05	<0.05	-
Benzo(a)pyrene	μg/L	n/v	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	0.03	0.04	-
Benzo(b/j)fluoranthene Benzo(g,h,i)perylene	μg/L μg/L	n/v 0.00002 _a ^C	<0.05 <0.05	-	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05		<0.05 <0.05	0.06 <0.05	0.07 <0.05	-
Benzo(k)fluoranthene	μg/L μg/L	0.00002 _a C	<0.05	-	<0.05	<0.05	<0.05	_	<0.05	<0.05	<0.05	-
Chrysene	μg/L	0.0001 _a ^C	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	-
Dibenzo(a,h)anthracene Fluoranthene	μg/L μg/L	0.002 _a ^C 0.0008 _a ^C	<0.1 <0.2	_	<0.1 <0.2	<0.1 <0.2	<0.1 <0.2	_	<0.1 <0.2	<0.1 <0.2	<0.1 <0.2	-
Fluoranthene Fluorene	μg/L μg/L	0.0008 _a	<0.2 < 0.2	-	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	-	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	-
Indeno(1,2,3-cd)pyrene	μg/L	n/v	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-
Methylnaphthalene (Total) Methylnaphthalene, 1-	μg/L μg/L	n/v 2. ^C	<0.28 <0.2	-	<0.28 <0.2	<0.28 <0.2	<0.28 <0.2	-	<0.28 <0.2	<0.28 <0.2	<0.28 <0.2	-
Methylnaphthalene, 2-	μg/L	2 _b ^C 2 _b ^C 7 _a ^C	<0.2	-	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	-
Naphthalene	μg/L	7 _a ^C 0.03 _a ^C	<0.2 <0.1	-	<0.2 <0.1	<0.2 <0.1	<0.2 <0.1	-	<0.2 < 0.1	<0.2 <0.1	<0.2 <0.1	-
Phenanthrene Pyrene	μg/L μg/L	n/v	<0.05	-	<0.05	<0.05	<0.05	_	<0.05	0.05	0.06	-
Remaining Semi-Volatile Organic Comp	ounds	•										
Biphenyl, 1,1'- (Biphenyl)	μg/L	0.2 _a ^C	<0.1	-	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	-	<0.1	<0.1 <0.5	<0.1	-
Bis(2-Chloroethyl)ether Bis(2-Chloroisopropyl)ether	μg/L μg/L	200 _a ^C n/v	<0.5 <0.5	-	<0.5	<0.5 <0.5	<0.5 <0.5	-	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	-
Chloroaniline, 4-	μg/L	n/v	<1	-	<1	<1	<1	-	<1	<1	<1	-
Chlorophenol, 2- (ortho-Chlorophenol) Dichlorobenzidine, 3,3'-	μg/L μg/L	n/v 0.6 _a ^C	<0.1 <0.5	-	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	_	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	-
Dichlorophenol, 2,4-	μg/L	0.0 _a	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-
Dimethylphenol, 2,4-	μg/L	10 _b ^C	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-
Dinitrophenol, 2,4- Dinitrotoluene, 2,4-	μg/L μg/L	n/v 4 ^C	<2 <0.3	-	<2 <0.3	<2 <0.3	<2 <0.3	-	<2 <0.3	<2 <0.3	<2 <0.3	-
Dinitrotoluene, 2,6-	μg/L	6 ^c	<0.3	-	<0.3	<0.3	<0.3	-	<0.3	<0.3	<0.3	-
Pentachlorophenol Phenol	μg/L μg/L	0.5 ^A 5 _b ^C	<0.1 <0.5		<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	_	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	-
Trichlorobenzene, 1,2,4-	μg/L	0.5 ^A	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-
Trichlorophenol, 2,4,5-	μg/L	n/v	<0.2	-	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	-
Trichlorophenol, 2,4,6- Volatile Organic Compounds	μg/L	n/v	<0.2	-	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	-
Acetone	μg/L	n/v	<10	-	<10	<10	<10	-	<10	<10	<10	-
Bromodichloromethane	μg/L	200 _a ^C	<0.50	-	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	-
Bromoform (Tribromomethane) Bromomethane (Methyl bromide)	μg/L μg/L	60 _a ^C 0.9 _a ^C	<1.0 <0.50	-	<1.0 <0.50	<1.0 <0.50	<1.0 <0.50		<1.0 <0.50	<1.0 <0.50	<1.0 <0.50	-
Carbon Tetrachloride (Tetrachloromethane)	μg/L	n/v	<0.20	-	<0.20	<0.20	<0.20	-	<0.20	<0.20	<0.20	-
Chlorobenzene (Monochlorobenzene) Chloroform (Trichloromethane)	μg/L μg/L	15 ^A n/v	<0.20 <0.20		<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	_	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	-
Dibromochloromethane	μg/L μg/L	40 _a ^C	<0.20	-	<0.20	<0.20	<0.20	-	<0.20	<0.20	<0.20	-
Dichlorobenzene, 1,2-	μg/L	2.5 ^A	<0.50	-	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	-
Dichlorobenzene, 1,3- Dichlorobenzene, 1,4-	μg/L μg/L	2.5 ^A 4 ^A	<0.50 <0.50	-	<0.50 <0.50	<0.50 <0.50	<0.50 <0.50	_	<0.50 <0.50	<0.50 <0.50	<0.50 <0.50	-
Dichlorodifluoromethane (Freon 12)	μg/L	n/v	<1.0	-	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	-
Dichloroethane, 1,1- Dichloroethane, 1,2-	μg/L μg/L	200 ^C 100 ^C	<0.20 <0.50	-	<0.20 <0.50	<0.20 <0.50	<0.20 <0.50		<0.20 <0.50	<0.20 <0.50	<0.20 <0.50	-
Dichloroethene, 1,1-	μg/L μg/L	40 [°]	<0.20	-	<0.20	<0.20	<0.20] -	<0.20	<0.20	<0.20	-
Dichloroethene, cis-1,2-	μg/L	200 ^C	<0.50	-	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	-
Dichloroethene, trans-1,2- Dichloropropane, 1,2-	μg/L μg/L	200 ^C 0.7 _a ^C	<0.50 <0.20	_	<0.50 <0.20	<0.50 <0.20	<0.50 <0.20	_	<0.50 <0.20	<0.50 <0.20	<0.50 <0.20	-
Dichloropropene, 1,3- (sum of isomers cis + trans)	μg/L	n/v	<0.50	-	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	-
Dichloropropene, cis-1,3- Dichloropropene, trans-1,3-	μg/L μg/L	n/v 7. ^C	<0.30 <0.40	-	<0.30 <0.40	<0.30 <0.40	<0.30 <0.40		<0.30 <0.40	<0.30 <0.40	<0.30 <0.40	-
Ethylene Dibromide (Dibromoethane, 1,2-)	μg/L	7 _a ^C 5 _a	<0.20	-	<0.20	<0.20	<0.20	-	<0.20	<0.20	<0.20	-
Hexane (n-Hexane)	μg/L	n/v	<1.0	-	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	-
Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK)	μg/L μg/L	400 _a ^C n/v	<10 <5.0	-	<10 <5.0	<10 <5.0	<10 <5.0		<10 <5.0	<10 <5.0	<10 <5.0	-
Methyl tert-butyl ether (MTBE)	μg/L	200 _a ^C	<0.50	-	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	-
Methylene Chloride (Dichloromethane) Styrene	μg/L μg/L	100 _a ^C 4 _b ^C	<2.0 <0.50	-	<2.0 <0.50	<2.0 <0.50	<2.0 <0.50	_	<2.0 <0.50	<2.0 <0.50	<2.0 <0.50	-
Tetrachloroethane, 1,1,1,2-	μg/L μg/L	20 _a ^C	<0.50	-	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	-
Tetrachloroethane, 1,1,2,2-	μg/L	70 ^C	<0.50	-	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	-
Tetrachloroethene (PCE) Trichloroethane, 1,1,1-	μg/L μg/L	50 ^C 10 _a ^C	<0.20 <0.20	-	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20		<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	-
Trichloroethane, 1,1,2-	μg/L	800 [°]	<0.50	-	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	-
	μg/L	20 ^C	< 0.20	-	<0.20	<0.20	< 0.20	-	<0.20	<0.20	<0.20	-
Trichlorofluoromethane (Freen 11)			~0 FO		<0.50	<0.50	<0.50		<0.50	~0 FO	-0 FO	
Trichloroethene (TCE) Trichlorofluoromethane (Freon 11) Trihalomethanes	μg/L μg/L	n/v n/v	<0.50 <1.0	-	<0.50 <1.0	<0.50 <1.0	<0.50 <1.0	-	<0.50 <1.0	<0.50 <1.0	<0.50 <1.0	-

Provincial Water Quality Objectives of the Ministry of Environment and Energy (MOEE, 1999)

PWQO Table 2
PWQO Table 2 - Calculated

PWQO Table 2 - Interim

Concentration exceeds the indicated standard.

Measured concentration did not exceed the indicated standard. < 0.50 Laboratory reporting limit was greater than the applicable standard.

Analyte was not detected at a concentration greater than the laboratory reporting limit. No standard/guideline value. <0.03

n/v

Parameter not analyzed / not available.

This Interim PWQO was set for emergency purposes based on the best information readily available. Employ due caution when applying this value.

This Interim PWQO is currently under development. The value is subject to change upon publication by MOE.

The PWQO for beryllium is hardness dependent. If hardness <75 mg/L than PWQO is 0.011 mg/L. For hardness > 75 mg/L, PWQO is 1.1 mg/L.

Applies to Phosphorus, total. PWQO is 0.03 mg/L for rivers and streams, 0.02 mg/L for lakes, and 0.01 mg/L for lakes naturally below this value. Standard is applicable to total PCBs, and the individual Aroclors should be added for comparison.

The PWQO value for Total Xylenes is 72 ug/L, which is the sum of the PWQOs for the isomers.

The interim PWQO for cadmium is hardness dependent. If hardness <100 mg/L than PWQO is 0.0001 mg/L. For hardness >100 mg/L, PWQO is 0.0005 mg/L.

The interim PWQO for copper is hardness dependent. If hardness <20 mg/L than PWQO is 0.001 mg/L. For hardness >20 mg/L, PWQO is 0.005 mg/L.

PWQO for lead is alkalinity dependent. For alkalinity <20 mg/L, PWQO is 0.005 mg/L. For alkalinity between 40-80 mg/L, PWQO is 0.02 mg/L. For alkalinity >80 mg/L, PWQO is 0.025 mg/L.

Interim PWQO for lead is hardness dependent. For hardness <30 mg/L, interim PWQO is 0.001 mg/L. For hardness between 30-80 mg/L, interim PWQO is 0.003 mg/L. For hardness >80 mg/L, interim PWQO is 0.005 mg/L.

Alkalinity should not be decreased by more than 25% of the natural concentration.

s4 s7 s10 s12 s13 s14 s15 s16

The laboratory is unable to distinguish the m- and p-Xylene isomers, therefore the PWQO standards for m-Xylene (2 ug/L) and p-Xylene (30 ug/L) have been summed to apply to m&p-Xylenes. Detection limit was raised due to matrix interferences.



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location			ĺ	ĺ		MW1	I-13-D				MW1	-13-S		ĺ	MW	2-13-D	
Sample Date				19-Apr-18	19-Apr-18	19-Apr-18	19-Apr-18	11-Oct-18	11-Oct-18	19-Apr-18	19-Apr-18	11-Oct-18	11-Oct-18	18-Apr-18	18-Apr-18	10-Oct-18	10-Oct-18
·				WG-160900764	- WG-160900764-	WG-160900764	- WG-160900764-	WG-160900764	- WG-160900764	WG-160900764	WG-160900764	- WG-160900764-	WG-160900764	- WG-160900764	- WG-160900764	- WG-160900764	- WG-160900764
Sample ID				20180419-	20180419-	20180419-	20180419-	20181011-	20181011-	20180419-	20180419-	20181011-	20181011-	20180418-	20180418-	20181010-	20181010-
Cample 12				RD09	RD10	RD09A	RD10A	RD05	RD05A	RD11	RD11A	RD06	RD06A	RD05	RD05A	KR06	KR06A
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order				B890096	B890096	B890096	B890096	B8Q9429	B8Q9429	B890096	B890096	B8Q9429	B8Q9429	B888914	B888914	B8Q8068	B8Q8068
Laboratory Sample ID				GMS638	GMS640	GMS639	GMS641	HZR821	HZR822	GMS642	GMS643	HZR827	HZR828	GMM258	GMM259	HZK195	HZK196
,				Field Filtered	Field Filtered	Lab Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered
Filtered				Metals	Metals	svoc	svoc	Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc
Sample Type	Units	ODWS	Ontario SCS		Field Duplicate		Field Duplicate										
General Chemistry	<u> </u>			l.								1					
Acidity	mg/L	n/v	n/v	<5.0	<5.0	-	-	<5.0	-	8.8	-	6.8	-	<5.0	-	<5.0	-
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	n/v	190	190	-	-	180	-	230	-	200	-	95	-	94	-
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	1.3	1.5	-	-	2.0	-	1.3	-	1.5	-	1.5	-	2.0	-
Alkalinity, Total (as CaCO3)	mg/L	30-500 ^E	n/v	190	190	-	-	180	-	230	-	210	-	97	-	96	-
Ammonia (as N)	mg/L	n/v	n/v	0.088	0.078	-	-	0.12	-	<0.050	-	0.058	-	0.10	-	0.079	-
Anion Sum	meq/L	n/v	n/v	4.92	4.93	-	-	4.74	-	8.33	-	7.62	-	2.18	-	2.11	-
Cation Sum	meq/L	n/v	n/v	4.43	4.46	-	-	4.57	-	7.72	-	7.41	-	1.94	-	2.04	-
Chloride	mg/L	250 ^C	790 ^{FG}	17	18	-	-	15	-	23	-	24	-	1.2	-	1.0	-
Cyanide (Free)	μg/L	200 ^B	52 ^{FG}	<1	<1	-	-	<1	-	<1	-	<1	-	<1	-	<1	-
Dissolved Organic Carbon (DOC)	mg/L	5 ^C	n/v	0.74	0.72	-	-	0.65	-	0.94	-	0.98	-	0.74	-	0.74	-
Electrical Conductivity, Lab Fluoride	µmhos/cm	n/v 1.5 ^B	n/a ^{FG} n/v	460 0.25	460 0.25	-	-	420 0.27	-	810 0.10	-	690 0.13	-	190 0.77	-	190 0.69	-
Hardness (as CaCO3)	mg/L	· -		190 ^E	200 ^E	-	_		-	370 ^E		_	-	43 ^E	-	44 ^E	-
,	mg/L	80-100 ^E	n/v			-	-	200 ^E	-		-	350 ^E	-		-		-
Ion Balance	%	n/v	n/v	5.19 0.175	5.04 0.238	-	-	1.83 0.330	-	3.78 0.639	-	1.44 0.696	-	NC -0.222	-	NC -0.0500	-
Langelier Index (at 20 C)	none	n/v n/v	n/v n/v	-0.0740	-0.0120	-	-	0.330	-	0.839	-	0.696	-	-0.222 -0.473	-	-0.0500	-
Langelier Index (at 4 C)	none	10.0 _d B		-0.0740 <0.10		-	-	<0.10	-		-	1	-	-0.473 <0.10	-		-
Nitrate (as N)	mg/L	u	n/v		<0.10	-	-		-	16.5 ^B	-	9.25	-		-	<0.10	-
Nitrate + Nitrite (as N)	mg/L	10.0 _d ^B	n/v	<0.10	<0.10	-	-	<0.10	-	16.5 ^B	-	9.30	-	<0.10	-	<0.10	-
Nitrite (as N)	mg/L	1.0 _d ^B	n/v	<0.010	<0.010	-	-	<0.010	-	<0.010	-	0.057	-	<0.010	-	<0.010	-
Orthophosphate(as P)	mg/L	n/v	n/v	<0.010	<0.010	-	-	<0.010	-	<0.010	-	<0.010	-	<0.010	-	<0.010	-
pH, lab	S.U.	6.5-8.5 ^E	n/v	7.86	7.92	-	-	8.06	-	7.77	-	7.90	-	8.22	-	8.35	-
Saturation pH (at 20 C)	none	n/v	n/v	7.69	7.68	-	-	7.73	-	7.13	-	7.20	-	8.45	-	8.40	-
Saturation pH (at 4 C)	none	n/v	n/v	7.94	7.93	-	-	7.98	-	7.37	-	7.45	-	8.70	-	8.65	-
Sulfate	mg/L	500 _h ^C	n/v	28	29	-	-	29	-	92	-	100	-	8.3	-	5.3	-
Total Dissolved Solids	mg/L	500 ^C	n/v	235	225	-	-	205	-	490	-	410	-	140	-	80	-
Total Dissolved Solids (Calculated)	mg/L	500 ^C	n/v	250	260	-	-	250	-	480	-	440	-	-	-	120	-
Total Organic Carbon	mg/L	n/v	n/v	0.69	0.71	-	-	0.70	-	0.96	-	1.1	-	0.94	-	0.90	-
Total Suspended Solids	mg/L	n/v	n/v	<10	<10	-	-	<10	-	15	-	<10	-	22	-	<10	-
Turbidity, Lab	NTU	5 _i C _j E	n/v	1.5	0.9	-	-	3.4	-	3.6	-	1.2	-	31 ^c	-	38 ^c	-
BTEX and Petroleum Hydrocarbon	S																
Benzene	μg/L	1 ^B	0.5 ^F 5 ^G	<0.20	<0.20	-	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Toluene	μg/L	60 ^B 24 ^C	24 ^F 22 ^G	<0.20	<0.20	-	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	0.21	-
Ethylbenzene	μg/L	140 ^B 1.6 ^C	2.4 ^{FG}	<0.20	<0.20	-	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Xylene, m & p-	μg/L	n/v	s1 FG	<0.20	<0.20	-	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Xylene, o-	μg/L	n/v	<u>\$</u> 1	<0.20	<0.20	-	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Xylenes, Total	μg/L	90 ^B	72 _{s1} 300 _{s1} G	<0.20	<0.20	-	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
PHC F1 (C6-C10 range)	μg/L	n/v	67	<25	<25	-	-	<25	-	<25	-	<25	-	<25	-	<25	-
PHC F1 (C6-C10 range) minus BTEX	μg/L	n/v	420 _{s7} FG	<25	<25	-	-	<25	-	<25	-	<25	-	<25	-	<25	-
PHC F2 (>C10-C16 range)	μg/L	n/v	130 _{s15}	<100	<100	-	-	<100	-	<100	-	<100	-	<100	-	<100	-
PHC F3 (>C16-C34 range)	μg/L	n/v	500 _{s8} FG	<200	<200	-	-	<200	-	<200	-	<200	-	<200	-	<200	-
PHC F4 (>C34-C50 range)	μg/L	n/v	500 _{s10}	<200 YES	<200 YES	-	-	<200 YES	-	<200 YES	-	<200 YES	-	<200 YES	-	<200 YES	-
Chromatogram to baseline at C50 See notes on last page	none	n/v	n/v	1ES	TES	-	-	YES	-	rE5	-	1ES	-	T ES		YES	-



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location						MW1	I-13-D					-13-S			MW	2-13-D	
Sample Date				19-Apr-18	19-Apr-18	19-Apr-18	19-Apr-18	11-Oct-18	11-Oct-18	19-Apr-18	19-Apr-18	11-Oct-18	11-Oct-18	18-Apr-18	18-Apr-18	10-Oct-18	10-Oct-18
				WG-160900764	- WG-160900764-	WG-160900764	- WG-160900764-	WG-160900764	WG-160900764	WG-160900764-	WG-160900764	WG-160900764-	WG-160900764	WG-160900764	WG-160900764	- WG-160900764	- WG-16090076
Sample ID				20180419- RD09	20180419- RD10	20180419- RD09A	20180419- RD10A	20181011- RD05	20181011- RD05A	20180419- RD11	20180419- RD11A	20181011- RD06	20181011- RD06A	20180418- RD05	20180418- RD05A	20181010- KR06	20181010- KR06A
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order				B890096	B890096	B890096	B890096	B8Q9429	B8Q9429	B890096	B890096	B8Q9429	B8Q9429	B888914	B888914	B8Q8068	B8Q8068
Laboratory Sample ID				GMS638	GMS640	GMS639	GMS641	HZR821	HZR822	GMS642	GMS643	HZR827	HZR828	GMM258	GMM259	HZK195	HZK196
Filtered				Field Filtered Metals	Field Filtered Metals	Lab Filtered SVOC	Lab Filtered SVOC	Field Filtered Metals	Lab Filtered SVOC								
Sample Type	Units	ODWS	Ontario SCS		Field Duplicate		Field Duplicate										
Metals	L			I.		I .				<u> </u>				I			
Aluminum	μg/L	100 ^E	n/v	<5	<5	-	-	<5	-	<5	-	<5	-	<5	-	7.2	-
Antimony	μg/L	6 ^B	6 ^{FG}	<0.5	<0.5	-	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Arsenic	μg/L	10 ^B	25 ^{FG}	1.3	1.3	-	-	1.6	-	<1	-	<1	-	<1	-	<1	-
Barium	μg/L	1,000 ^B	1,000 ^{FG}	110	110	-	-	110	-	57	-	67	-	20	-	20	-
Beryllium	μg/L	n/v	4 ^{FG}	<0.5	<0.5	-	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Boron	μg/L	5,000 ^B	5,000 ^{FG}	28	28	-	-	31	-	<10	-	15	-	120	-	120	-
Cadmium	μg/L	5 ^B	2.1 ^{FG}	<0.1	<0.1	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	-	<0.1	-
Calcium	μg/L	n/v	n/v	27,000	27,000	-	-	25,000	-	95,000	-	86,000	-	8,500	-	8,900	-
Chromium	μg/L	50 ^B	50 ^{FG}	<5	<5	-	-	<5	-	<5	-	<5	-	<5	-	<5	-
Chromium (Hexavalent) Cobalt	μg/L	n/v	25 ^{FG} 3.8 ^{FG}	<0.50 <0.5	<0.50 <0.5	-	-	<0.50 <0.5	-	0.74 <0.5	-	<0.50	-	<0.50 <0.5	-	<0.50 <0.5	-
	μg/L	n/v	3.8 ^{FG}	<1	<1	-	-	<0.5	-	1.2	-	<0.5 <1	-	<0.5	-	<0.5	-
Copper	μg/L	1,000 ^C 300 ^C		100	110	-	-	110	-	<100	-	<100	-	<100	-	<100	-
Iron Lead	μg/L	10 ^B	n/v 10 ^{FG}	<0.5	<0.5	-	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Magnesium	μg/L μg/L	n/v	n/v	31,000	31,000	-	-	33,000	-	32,000	-	34,000	-	5,100	-	5,400	-
•		50°	n/v	4.5	4.9	_	_	5.5	_	<2	_	3.3	-	3.2	_	3.5	_
Manganese	μg/L	1 ^B				_	_		-		-		-		_		_
Mercury	μg/L		0.1 0.29 G	<0.1	<0.1	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	-	<0.1	-
Molybdenum	μg/L	n/v	70 ^{FG}	1.8	1.8	-	-	1.6	-	2	-	3.8	-	3.1	-	3.5	-
Nickel	μg/L	n/v	100 ^{FG}	<1	<1	-	-	<1	-	<1	-	<1	-	<1	-	<1	-
Phosphorus	μg/L	n/v	n/v	<100	<100	-	-	<100	-	<100	-	<100	-	<100	-	<100	-
Potassium	μg/L	n/v	n/v	2,400	2,400	-	-	2,400	-	2,500	-	3,800	-	1,700	-	1,800	-
Selenium	μg/L	50 ^B	10 ^{FG}	<2	<2	-	-	<2	-	<2	-	<2	-	<2	-	<2	-
Silicon	μg/L	n/v	n/v 1.2 ^{FG}	10,000	10,000	-	-	10,000	-	6,500	-	6,600	-	4,500 <0.1	-	4,700	-
Silver	μg/L	n/v		<0.1	<0.1	-	-	<0.1	-	<0.1	-	<0.1	-		-	<0.1	-
Sodium	μg/L	200,000 _g ^C 20,000 _g ^D	490,000 ^{FG}	11,000	11,000	-	-	12,000	-	5,200	-	5,800	-	24,000 ^b	-	25,000 ^D	-
Strontium	μg/L	n/v	n/v	540	540	-	-	650	-	310	-	340	-	260	-	280	-
Thallium	μg/L	n/v	2 ^{FG}	<0.05	<0.05	-	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-
Titanium	μg/L	n/v	n/v	<5 <0.1	<5	-	-	<5	-	<5 2	-	<5	-	<5 <0.1	-	<5	-
Uranium	μg/L	20 ^B	20 ^{FG} 6.2 ^{FG}	<0.1 <0.5	<0.1 <0.5	-	-	<0.1 <0.5	-	<0.5	-	3.1 <0.5	-	<0.1 <0.5	_	<0.1 <0.5	_
Vanadium	μg/L	n/v	6.2 ^{FG}			-	-	<0.5 <5	-	<0.5 <5	-		-	<0.5 <5	_	<0.5 <5	_
Zinc Ziroonium	μg/L μg/L	5,000 ^C	890 ^{. °}	<5 <1	<5 <1	-	-	<5 <1	-	<5 <1	-	<5 <1	-	<5 <1	_	<5 <1	_
Zirconium Polyoblorinated Pinhanyla	μg/L	n/v	11/7	<u> </u>		-	-		-	<u> </u>	-		-		-		-
Polychlorinated Biphenyls Aroclor 1242	μg/L	n/v	FG s14	<0.05	<0.05	-	_	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	
Aroclor 1248	μg/L	n/v		<0.05	<0.05	_	_	<0.05	_	<0.05	_	<0.05	_	<0.05	_	<0.05	_
Aroclor 1254	μg/L	n/v	s14 FG	<0.05	<0.05	_	_	<0.05	_	<0.05	_	<0.05	_	<0.05	_	<0.05	_
Aroclor 1260	μg/L	n/v	FG FG	<0.05	<0.05	_	_	<0.05	_	<0.05	_	<0.05	_	<0.05	_	<0.05	_
Polychlorinated Biphenyls (PCBs)	μg/L	3 ^B	0.2 _{e14} FG	<0.05	<0.05			<0.05		<0.05		<0.05		<0.05		<0.05	



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location						MW1	-13-D				MW1	-13-S			MW	2-13-D	
Sample Date				19-Apr-18	19-Apr-18	19-Apr-18	19-Apr-18	11-Oct-18	11-Oct-18	19-Apr-18	19-Apr-18	11-Oct-18	11-Oct-18	18-Apr-18	18-Apr-18	10-Oct-18	10-Oct-18
				WG-160900764	- WG-160900764-	WG-160900764	WG-160900764-	WG-160900764	WG-160900764	- WG-160900764-	- WG-160900764	WG-160900764-	WG-160900764	WG-160900764	WG-160900764	- WG-160900764	- WG-16090076
Sample ID				20180419- RD09	20180419- RD10	20180419- RD09A	20180419- RD10A	20181011- RD05	20181011- RD05A	20180419- RD11	20180419- RD11A	20181011- RD06	20181011- RD06A	20180418- RD05	20180418- RD05A	20181010- KR06	20181010- KR06A
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order				B890096	B890096	B890096	B890096	B8Q9429	B8Q9429	B890096	B890096	B8Q9429	B8Q9429	B888914	B888914	B8Q8068	B8Q8068
Laboratory Sample ID				GMS638	GMS640	GMS639	GMS641	HZR821	HZR822	GMS642	GMS643	HZR827	HZR828	GMM258	GMM259	HZK195	HZK196
Filtered				Field Filtered	Field Filtered	Lab Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered
Sample Type	Units	opws	Ontario SCS	Metals	Metals Field Duplicate	svoc	SVOC Field Duplicate	Metals	svoc								
Sample Type	Office	ODWS	Ontario 303		Tield Duplicate		i leiu Duplicate										
Semi-Volatile Organic Compounds																	
Phthalates																	
Bis(2-Ethylhexyl)phthalate (DEHP)	μg/L	n/v	10 ^{FG}	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diethyl Phthalate	μg/L	n/v	30 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethyl Phthalate	μg/L	n/v	30 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Polycyclic Aromatic Hydrocarbons																	
Acenaphthene	μg/L	n/v	4.1 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Acenaphthylene	μg/L	n/v	1 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Anthracene	μg/L	n/v	1 ^{FG} 1 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene	μg/L	n/v		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	μg/L	0.01 ^B	0.01 ^{FG}	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b/j)fluoranthene	μg/L	n/v	0.1 _{s2}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	μg/L	n/v	0.2 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	μg/L	n/v	0.1 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	μg/L	n/v n/v	0.1 ^{FG} 0.2 ^{FG}	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1
Dibenzo(a,h)anthracene Fluoranthene	μg/L μg/L	n/v	0.2 0.41 ^{FG}	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	μg/L	n/v	120 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Indeno(1,2,3-cd)pyrene	μg/L	n/v	0.2 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methylnaphthalene (Total)	μg/L	n/v	3.2 _{s3} FG	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28
Methylnaphthalene, 1-	μg/L	n/v	FG	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methylnaphthalene, 2-	μg/L	n/v	s3 FG s3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	μg/L	n/v	7 ^F 11 ^G	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenanthrene	μg/L	n/v	1 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	μg/L	n/v	4.1 ^{FG}	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Remaining Semi-Volatile Organic C	ompounds																
Biphenyl, 1,1'- (Biphenyl)	μg/L	n/v	0.5 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis(2-Chloroethyl)ether	μg/L	n/v	5 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-Chloroisopropyl)ether	μg/L	n/v	120 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorophanel 2 (artha Chlorophanel)	μg/L	n/v	10 ^{FG}	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorophenol, 2- (ortho-Chlorophenol)	μg/L	n/v	8.9 ^{FG} 0.5 ^{FG}	<0.1	<0.1	<0.1 <0.5	<0.1	<0.1 <0.5	<0.1 <0.5	<0.1	<0.1	<0.1 <0.5	<0.1	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1
Dichlorobenzidine, 3,3'- Dichlorophenol, 2,4-	μg/L μg/L	n/v 900 ^B	0.5 ^{FG}	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1
Dimethylphenol, 2,4-	μg/L μg/L	900- n/v	59 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1
Dinitrophenol, 2,4-	μg/L	n/v	10 ^{FG}	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Dinitrotoluene, 2,4-	μg/L	n/v	5 _{s13} FG	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Dinitrotoluene, 2,6-	μg/L	n/v	5 _{s13} FG	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Pentachlorophenol	μg/L	60 ^B	30 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenol	μg/L	n/v	890 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorobenzene, 1,2,4-	μg/L	n/v	3 ^F 70 ^G	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichlorophenol, 2,4,5-	μg/L	n/v	8.9 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Trichlorophenol, 2,4,6-	μg/L	5 ^B	2 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location			1			MW1	I-13-D				MW1	I-13-S			MW	2-13-D	
Sample Date				19-Apr-18	19-Apr-18	19-Apr-18	19-Apr-18	11-Oct-18	11-Oct-18	19-Apr-18	19-Apr-18	11-Oct-18	11-Oct-18	18-Apr-18	18-Apr-18	10-Oct-18	10-Oct-18
Sample ID				WG-160900764 20180419- RD09	- WG-160900764- 20180419- RD10	WG-160900764 20180419- RD09A	- WG-160900764- 20180419- RD10A	WG-160900764 20181011- RD05	- WG-160900764 20181011- RD05A	- WG-160900764 20180419- RD11	WG-160900764 20180419- RD11A	- WG-160900764- 20181011- RD06	WG-160900764- 20181011- RD06A	WG-160900764 20180418- RD05	- WG-160900764 20180418- RD05A	- WG-160900764 20181010- KR06	4- WG-160900764 20181010- KR06A
Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID				STANTEC MAXX B890096 GMS638 Field Filtered	STANTEC MAXX B890096 GMS640 Field Filtered	STANTEC MAXX B890096 GMS639 Lab Filtered	STANTEC MAXX B890096 GMS641 Lab Filtered	STANTEC MAXX B8Q9429 HZR821 Field Filtered	STANTEC MAXX B8Q9429 HZR822 Lab Filtered	STANTEC MAXX B890096 GMS642 Field Filtered	STANTEC MAXX B890096 GMS643 Lab Filtered	STANTEC MAXX B8Q9429 HZR827 Field Filtered	STANTEC MAXX B8Q9429 HZR828 Lab Filtered	STANTEC MAXX B888914 GMM258 Field Filtered	STANTEC MAXX B888914 GMM259 Lab Filtered	STANTEC MAXX B8Q8068 HZK195 Field Filtered	STANTEC MAXX B8Q8068 HZK196 Lab Filtered
Filtered				Metals	Metals	SVOC	SVOC	Metals	SVOC								
Sample Type	Units	odws	Ontario SCS	Motalo	Field Duplicate	0.00	Field Duplicate	Motaro	0.00	Motaro	0.00	Moturo	0.00	Motaro	0.00	motaro	0.00
Volatile Organic Compounds	<u> </u>																
Acetone	μg/L	n/v	2.700 ^{FG}	<10	<10	_	_	<10	_	<10	_	<10	-	<10	_	<10	_
Bromodichloromethane	μg/L	n/v	16 ^{FG}	< 0.50	<0.50	-	_	<0.50	-	<0.50	-	<0.50	_	< 0.50	_	<0.50	-
Bromoform (Tribromomethane)	μg/L	n/v	5 ^F 25 ^G	<1.0	<1.0	-	_	<1.0	_	<1.0	-	<1.0	_	<1.0	_	<1.0	_
Bromomethane (Methyl bromide)	μg/L	n/v	0.89 ^{FG}	< 0.50	<0.50	-	_	<0.50	_	<0.50	-	<0.50	_	< 0.50	_	<0.50	_
Carbon Tetrachloride (Tetrachloromethane)	μg/L	2 ^B	0.2 ^F 0.79 ^G	<0.20	<0.20	-	_	<0.20	_	<0.20	-	<0.20	_	<0.20	_	<0.20	_
Chlorobenzene (Monochlorobenzene)	μg/L	80 ^B 30 _f ^C	30 ^{FG}	<0.20	<0.20	-	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Chloroform (Trichloromethane)	μg/L	n/v	2 ^F 2.4 ^G	<0.20	<0.20	-	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Dibromochloromethane	μg/L	n/v	25 ^{FG}	< 0.50	<0.50	-	-	<0.50	-	<0.50	-	<0.50	-	< 0.50	-	<0.50	-
Dichlorobenzene, 1,2-	μg/L	200 ^B 3 _f ^C	3 ^{FG}	< 0.50	<0.50	-	_	<0.50	_	<0.50	-	<0.50	_	< 0.50	_	<0.50	_
Dichlorobenzene, 1,3-	μg/L	n/v	59 ^{FG}	< 0.50	<0.50	-	-	<0.50	-	<0.50	-	<0.50	-	< 0.50	-	<0.50	-
Dichlorobenzene, 1,4-	μg/L	5 ^B 1 _f ^C	0.5 ^F 1 ^G	< 0.50	<0.50	-	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Dichlorodifluoromethane (Freon 12)	μg/L	n/v	590 ^{FG}	<1.0	<1.0	-	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-
Dichloroethane, 1,1-	μg/L	n/v	5 ^{FG}	<0.20	<0.20	-	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Dichloroethane, 1,2-	μg/L	5 ^B	0.5 ^F 1.6 ^G	<0.50	<0.50	-	-	<0.50	-	<0.50	-	<0.50	-	< 0.50	-	<0.50	-
Dichloroethene, 1,1-	μg/L	14 ^B	0.5 ^F 1.6 ^G	<0.20	<0.20	-	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Dichloroethene, cis-1,2-	μg/L	n/v	1.6 ^{FG}	< 0.50	<0.50	-	-	<0.50	-	<0.50	-	<0.50	-	< 0.50	-	<0.50	-
Dichloroethene, trans-1,2-	μg/L	n/v	1.6 ^{FG}	< 0.50	<0.50	-	-	<0.50	-	<0.50	-	<0.50	-	< 0.50	-	<0.50	-
Dichloropropane, 1,2-	μg/L	n/v	0.58 ^F 5 ^G	<0.20	<0.20	-	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Dichloropropene, 1,3- (sum of isomers cis + trans)	μg/L	n/v	0.5 _{s11} FG FG	<0.50	<0.50	-	-	<0.50	-	<0.50	-	<0.50	-	< 0.50	-	<0.50	-
Dichloropropene, cis-1,3-	μg/L	n/v	s11 FG	< 0.30	<0.30	-	-	<0.30	-	<0.30	-	<0.30	-	< 0.30	-	<0.30	-
Dichloropropene, trans-1,3-	μg/L	n/v	s11	<0.40	<0.40	-	-	<0.40	-	<0.40	-	<0.40	-	<0.40	-	<0.40	-
Ethylene Dibromide (Dibromoethane, 1,2-)	μg/L	n/v	0.2 ^{FG}	<0.20	<0.20	-	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Hexane (n-Hexane)	μg/L	n/v	5 ^F 51 ^G	<1.0	<1.0	-	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-
Methyl Ethyl Ketone (MEK) (2-Butanone)	μg/L	n/v	1,800 ^{FG}	<10	<10	-	-	<10	-	<10	-	<10	-	<10	-	<10	-
Methyl Isobutyl Ketone (MIBK)	μg/L	n/v	640 ^{FG}	<5.0	<5.0	-	-	<5.0	-	<5.0	-	<5.0	-	<5.0	-	<5.0	-
Methyl tert-butyl ether (MTBE)	μg/L	15 ^C	15 ^{FG}	<0.50	<0.50	-	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Methylene Chloride (Dichloromethane)	μg/L	50 ^B	26 ^F 50 ^G	<2.0	<2.0	-	-	<2.0	-	<2.0	-	<2.0	-	<2.0	-	<2.0	-
Styrene	μg/L	n/v	5.4 ^{FG}	<0.50	<0.50	-	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Tetrachloroethane, 1,1,1,2-	μg/L	n/v	1.1 ^{FG}	<0.50	<0.50	-	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Tetrachloroethane, 1,1,2,2-	μg/L	n/v	0.5 ^F 1 ^G	<0.50	<0.50	-	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Tetrachloroethene (PCE)	μg/L	10 ^B	0.5 ^F 1.6 ^G	<0.20	<0.20	-	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Trichloroethane, 1,1,1-	μg/L	n/v	23 ^F 200 ^G	<0.20	<0.20	-	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Trichloroethane, 1,1,2-	μg/L	n/v	0.5 ^F 4.7 ^G	<0.50	<0.50	-	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Trichloroethene (TCE)	μg/L	5 ^B	0.5 ^F 1.6 ^G	<0.20	<0.20	-	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Trichlorofluoromethane (Freon 11)	μg/L	n/v	150 ^{FG}	<0.50	<0.50	-	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Trihalomethanes	μg/L	100 _b B	n/v	<1.0	<1.0	-	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-
Vinyl Chloride	μg/L	1 ^B	0.5 ^{FG}	<0.20	<0.20	-	-	<0.20	-	<0.20	-	<0.20	-	< 0.20	-	<0.20	



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location						-13-S				3-13-D				3-13-S			I-13-D
Sample Date				18-Apr-18	18-Apr-18	10-Oct-18	10-Oct-18	18-Apr-18	18-Apr-18	11-Oct-18	11-Oct-18	18-Apr-18	18-Apr-18	10-Oct-18	10-Oct-18	10-Oct-18	10-Oct-18
				WG-160900764	WG-160900764	WG-160900764	WG-160900764	WG-160900764	WG-160900764	- WG-160900764	WG-160900764	- WG-160900764-	- WG-160900764	- WG-160900764	WG-160900764	WG-160900764	- WG-160900764
Sample ID				20180418- RD06	20180418- RD06A	20181010- KR07	20181010- KR07A	20180418- RD07	20180418- RD07A	20181011- RD08	20181011- RD08A	20180418- RD08	20180418- RD08A	20181010- KR05	20181010- KR05A	20181010- KR04	20181010- KR04A
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order				B888914	B888914	B8Q8068	B8Q8068	B888914	B888914	B8Q9429	B8Q9429	B888914	B888914	B8Q8068	B8Q8068	B8Q8068	B8Q8068
Laboratory Sample ID				GMM260	GMM261	HZK197	HZK198	GMM262	GMM263	HZR829	HZR830	GMM264	GMM265	HZK193	HZK194	HZK189	HZK190
Filtered				Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered
Sample Type	Units	ODWS	Ontario SCS	Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc
Jampie Type	Oilles	ODWS	Ontario 303														
General Chemistry		1		T													
Acidity	mg/L	n/v	n/v	<5.0	-	6.2	-	<5.0	-	8.4	-	8.8	-	9.6	-	<5.0	-
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	n/v	180	-	200	-	160	_	150	-	230	-	230	_	130	-
Alkalinity, Carbonate (as CaCO3) Alkalinity, Total (as CaCO3)	mg/L mg/L	n/v 30-500 ^E	n/v n/v	2.2 180	-	2.0 200	-	1.4 160	_	1.2 150	-	2.1 230	_	2.0 230	_	1.5 130	-
Ammonia (as N)	mg/L	30-500 ⁻ n/v	n/v	0.11		0.15		<0.050		0.051	_	<0.050		<0.050		0.056	
Anion Sum	meg/L	n/v	n/v	4.36	_	4.60	_	14.2	_	13.6	_	7.42	_	8.02	_	7.19	_
Cation Sum	meg/L	n/v	n/v	4.13	_	4.36	_	14.7		14.2	_	7.06	_	7.95	_	7.19	_
Chloride	mg/L	250 ^c	790 ^{FG}	4.6	_	4.4	_	20	_	19	_	41	_	68	_	7.10	_
Cyanide (Free)	μg/L	200 ^B	52 ^{FG}	<1	_	<1	_	<1	_	<1	_	<1	_	<1	_	<1	_
Dissolved Organic Carbon (DOC)	mg/L	5 ^C	n/v	0.74	_	0.78	_	1.3	_	1.9	_	0.85	_	0.80	_	1.0	_
Electrical Conductivity, Lab	µmhos/cm	n/v	n/a ^{FG}	390	_	400	_	1,400	_	1,300	_	710	_	750	_	700	-
Fluoride	mg/L	1.5 ^B	n/v	0.28	-	0.27	-	0.40	-	0.40	-	0.28	-	0.25	-	0.64	-
Hardness (as CaCO3)	mg/L	80-100 ^E	n/v	180 ^E	-	190 ^E	-	350 ^E	-	340 ^E	-	300 ^E	-	340 ^E	-	140 ^E	-
Ion Balance	%	n/v	n/v	2.73	-	2.67	-	1.58	-	1.96	-	2.52	_	0.440	-	0.0700	-
Langelier Index (at 20 C)	none	n/v	n/v	0.434	-	0.428	-	0.555	-	0.473	-	0.676	-	0.690	-	0.242	-
Langelier Index (at 4 C)	none	n/v	n/v	0.185	-	0.178	-	0.310	-	0.227	-	0.427	-	0.442	-	-0.00700	-
Nitrate (as N)	mg/L	10.0 _d ^B	n/v	<0.10	-	<0.10	-	<0.10	-	<0.10	-	0.56	-	0.39	-	0.11	-
Nitrate + Nitrite (as N)	mg/L	10.0 _d B	n/v	<0.10	_	<0.10	_	<0.10	_	<0.10	_	0.56	_	0.39	_	0.11	_
Nitrite (as N)	mg/L	1.0 _d ^B	n/v	<0.010	_	0.020	_	<0.010	_	<0.010	_	<0.010	_	<0.010	_	<0.010	_
Orthophosphate(as P)	mg/L	n/v	n/v	<0.010	_	<0.010	_	<0.010	_	<0.010	_	<0.010	_	0.049	_	<0.010	_
pH, lab	S.U.	6.5-8.5 ^E	n/v	8.10	_	8.04	_	7.98	_	7.90	_	8.00	_	7.96	_	8.08	_
Saturation pH (at 20 C)	none	n/v	n/v	7.67	_	7.61	_	7.43	_	7.43	_	7.33	_	7.27	_	7.84	_
Saturation pH (at 4 C)	none	n/v	n/v	7.92	_	7.86	_	7.68	_	7.68	_	7.57	_	7.52	_	8.09	_
Sulfate	mg/L	500 _h ^C	n/v	25	_	22	_	500	_	480	_	78	_	70	_	210	_
Total Dissolved Solids	mg/L	500 ^C	n/v	210	_	205	_	1,040 ^C	_	860 ^C	_	390	_	405	_	410	_
Total Dissolved Solids (Calculated)	mg/L	500 [°]	n/v	_	_	240	_	-	_	890 ^c	-	_	_	430	_	450	_
Total Organic Carbon	mg/L	n/v	n/v	0.79	_	0.96	_	2.7	_	2.0	_	0.85	_	0.87	_	2.5	_
Total Suspended Solids	mg/L	n/v	n/v	11	_	44	_	460	_	260	_	13	_	<10	_	500	_
Turbidity, Lab	NTU	5, ^C ,E	n/v	7.0 ^C	_	56 ^C	_	64 ^C	_	9.2 ^C	_	0.7	_	0.6	_	13 ^C	_
BTEX and Petroleum Hydrocarbons										V		1		1			
Benzene	μg/L	1 ^B	0.5 ^F 5 ^G	<0.20	_	<0.20	_	<0.20	-	<0.20	_	<0.20	_	<0.20	-	<0.20	-
Toluene	μg/L	60 ^B 24 ^C	24 ^F 22 ^G	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Ethylbenzene	μg/L	140 ^B 1.6 ^C	2.4 ^{FG}	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Xylene, m & p-	μg/L	n/v	FG s1 FG	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Xylene, o-	μg/L	n/v_	<u>\$</u> 1	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Xylenes, Total	μg/L	90 ^B	72 _{s1} ^F 300 _{s1} ^G	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
PHC F1 (C6-C10 range)	μg/L	n/v	FG s7	<25	-	<25	-	<25	-	<25	-	<25	-	<25	-	<25	-
PHC F1 (C6-C10 range) minus BTEX	μg/L	n/v	420 _{s7} FG	<25	-	<25	-	<25	-	<25	-	<25	-	<25	-	<25	-
PHC F2 (>C10-C16 range)	μg/L	n/v	150 _{s15} FG	<100	-	<100	-	<100	-	<100	-	<100	-	<100	-	<100	-
PHC F3 (>C16-C34 range)	μg/L	n/v	500 _{s8}	<200	-	<200	-	<200	-	<200	-	<200	-	<200	-	<200	-
PHC F4 (>C34-C50 range)	μg/L	n/v	500 _{s10}	<200	-	<200	-	<200	-	<200	-	<200	-	<200	-	<200	-
Chromatogram to baseline at C50 See notes on last page	none	n/v	n/v	YES	-	YES	-	YES	-	YES	-	YES	-	YES	-	YES	-



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location					MW2	!-13-S			MW3	3-13-D			MW3	3-13-S		MW4	-13-D
Sample Date				18-Apr-18	18-Apr-18	10-Oct-18	10-Oct-18	18-Apr-18	18-Apr-18	11-Oct-18	11-Oct-18	18-Apr-18	18-Apr-18	10-Oct-18	10-Oct-18	10-Oct-18	10-Oct-18
				WG-160900764-	WG-160900764	WG-160900764-	WG-160900764	WG-160900764	WG-160900764	- WG-160900764	WG-160900764	WG-160900764	WG-160900764	WG-160900764-	WG-160900764	- WG-160900764	WG-16090076
Sample ID				20180418- RD06	20180418- RD06A	20181010- KR07	20181010- KR07A	20180418- RD07	20180418- RD07A	20181011- RD08	20181011- RD08A	20180418- RD08	20180418- RD08A	20181010- KR05	20181010- KR05A	20181010- KR04	20181010- KR04A
Sampling Company				STANTEC	STANTEC												
Laboratory				MAXX	MAXX												
Laboratory Work Order				B888914	B888914	B8Q8068	B8Q8068	B888914	B888914	B8Q9429	B8Q9429	B888914	B888914	B8Q8068	B8Q8068	B8Q8068	B8Q8068
Laboratory Sample ID				GMM260	GMM261	HZK197	HZK198	GMM262	GMM263	HZR829	HZR830	GMM264	GMM265	HZK193	HZK194	HZK189	HZK190
Filtered				Field Filtered Metals	Lab Filtered SVOC												
Sample Type	Units	ODWS	Ontario SCS														
Metals	l	<u> </u>	1			I.						l		I.		<u>I</u>	
Aluminum	μg/L	100 ^E	n/v	<5	-	<5	-	<5	-	<5	-	<5	-	<5	-	<5	-
Antimony	μg/L	6 ^B	6 ^{FG}	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Arsenic	μg/L	10 ^B	25 ^{FG}	<1	-	<1	-	<1	-	<1	-	<1	-	<1	-	<1	-
Barium	μg/L	1,000 ^B	1,000 ^{FG}	63	-	75	-	19	-	19	-	50	-	60	-	21	-
Beryllium	μg/L	n/v	4 ^{FG}	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Boron	μg/L	5,000 ^B	5,000 ^{FG}	33 <0.1	-	47 <0.1	-	270 <0.1	-	270 <0.1	-	73 <0.1	-	74	-	300	-
Cadmium Calcium	μg/L	5 ^B n/v	2.1 ^{FG} n/v		-		-	<0.1 84,000	-	82,000	-	57,000	-	<0.1 65,000	-	<0.1	-
Calcium Chromium	μg/L μg/L	50 ^B	50 ^{FG}	29,000 <5	_	30,000 <5	-	64,000 <5	-	62,000 <5	-	57,000 <5	-	<5	-	31,000 <5	-
Chromium (Hexavalent)	μg/L	n/v	25 ^{FG}	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_	1.6	_	<0.50	_
Cobalt	μg/L	n/v	3.8 ^{FG}	<0.5	_	<0.5	_	<0.5	_	<0.5	_	<0.5	_	<0.5	_	<0.5	_
Copper	μg/L	1.000 ^C	69 ^{FG}	<1	_	<1	_	<1	_	<1	_	<1	_	<1	_	<1	_
Iron	μg/L	300 ^C	n/v	<100	_	<100	_	<100	_	<100	_	<100	_	<100	_	<100	_
Lead	μg/L	10 ^B	10 ^{FG}	<0.5	_	<0.5	-	<0.5	_	<0.5	_	<0.5	-	<0.5	-	<0.5	_
Magnesium	μg/L	n/v	n/v	27,000	-	28,000	-	35,000	-	33,000	-	38,000	-	43,000	-	15,000	-
Manganese	μg/L	50 ^C	n/v	24	-	57 ^C	-	2.7	-	<2	-	3.5	-	6.5	-	<2	-
Mercury	μg/L	1 ^B	0.1 ^F 0.29 ^G	<0.1	_	<0.1	-	<0.1	_	<0.1	_	<0.1	-	<0.1	-	<0.1	_
Molybdenum	μg/L	n/v	70 ^{FG}	1.4	_	1.6	-	81 ^{FG}	_	82 ^{FG}	-	5.9	_	5.9	-	120 ^{FG}	-
Nickel	μg/L	n/v	100 ^{FG}	<1	_	<1	_	2.7	_	<1	-	<1	_	<1	_	<1	-
Phosphorus	μg/L	n/v	n/v	<100	-	<100	-	<100	-	<100	-	<100	-	<100	-	<100	-
Potassium	μg/L	n/v	n/v	1,800	-	2,100	-	4,500	-	4,500	-	4,500	-	5,100	-	3,200	-
Selenium	μg/L	50 ^B	10 ^{FG}	<2	-	<2	-	<2	-	<2	-	<2	-	<2	-	<2	-
Silicon	μg/L	n/v	n/v	6,800	-	8,800	-	3,700	-	3,800	-	5,300	-	5,900	-	3,200	-
Silver	μg/L	n/v	1.2 ^{FG}	<0.1	-	<0.1	-	<0.1	-	<0.1	-	<0.1	-	<0.1	-	<0.1	-
Sodium	μg/L	200,000 _g ^C 20,000 _g ^D	490,000 ^{FG}	9,600	-	10,000	-	170,000 ^D	-	170,000 ^D	-	22,000 ^D	-	23,000 ^D	-	100,000 ^D	-
Strontium	μg/L	n/v	n/v	560	-	630	-	1,400	-	1,400	-	800	-	910	-	740	-
Thallium	μg/L	n/v	2 ^{FG}	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-
Titanium	μg/L	n/v	n/v	<5	-	<5	-	<5	-	<5	-	<5	-	<5	-	<5	-
Uranium	μg/L	20 ^B	20 ^{FG}	0.26	-	0.24	-	4.5	-	4.4	-	2.9	-	3.2	-	2.3	-
Vanadium	μg/L	n/v	6.2 ^{FG}	<0.5	-	<0.5	-	<0.5	-	<0.5	-	0.6	-	0.74	-	<0.5	-
Zinc Zirconium	μg/L μg/L	5,000 ^C n/v	890 ^{FG} n/v	<5 <1	-	<5 <1	-	<5 <1	-	<5 <1	_	<5 <1	_	<5 <1	-	<5 <1	-
	μg/L	n/v	n/v	<1	-	<1	-	<1	-	<1	-	<1	-	<1	-	<1	-
Polychlorinated Biphenyls		n/v	I FG	<0.0F		<0.0F		<0.05		<0.0F	I	<0.05	I	<0.0F		<0.0F	
Aroclor 1242 Aroclor 1248	μg/L	n/v n/v	s14 FG	<0.05 <0.05	-	<0.05 <0.05	_	<0.05 <0.05	_	<0.05 <0.05	_	<0.05 <0.05	-	<0.05 <0.05	-	<0.05 <0.05	
Aroclor 1246 Aroclor 1254	μg/L μg/L	n/v	s14	<0.05	<u>-</u>	<0.05	_	<0.05	_	<0.05		<0.05	_	<0.05	_	<0.05	
Aroclor 1260	μg/L μg/L	n/v	S14 FG	<0.05	-	<0.05	-	<0.05	-	<0.05	_	<0.05	_	<0.05		<0.05	
Polychlorinated Biphenyls (PCBs)	μg/L	3 ^B	0.2 _{e14} FG	<0.05	_	<0.05	_	<0.05	_	<0.05	_	<0.05	_	<0.05	_	<0.05	_



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location						!-13-S				3-13-D				3-13-S			-13-D
Sample Date				18-Apr-18	18-Apr-18	10-Oct-18	10-Oct-18	18-Apr-18	18-Apr-18	11-Oct-18	11-Oct-18	18-Apr-18	18-Apr-18	10-Oct-18	10-Oct-18	10-Oct-18	10-Oct-18
Sample ID				WG-160900764 20180418-	WG-160900764 20180418-	20181010-	WG-160900764 20181010-	WG-160900764 20180418-	20180418-	- WG-160900764- 20181011-	WG-160900764 20181011-	20180418-	- WG-160900764 20180418-	20181010-	WG-160900764 20181010-	- WG-160900764 20181010-	WG-16090076
				RD06	RD06A	KR07	KR07A	RD07	RD07A	RD08	RD08A	RD08	RD08A	KR05	KR05A	KR04	KR04A
Sampling Company Laboratory Laboratory Work Order				STANTEC MAXX B888914	STANTEC MAXX B888914	STANTEC MAXX B8Q8068	STANTEC MAXX B8Q8068	STANTEC MAXX B888914	STANTEC MAXX B888914	STANTEC MAXX B8Q9429	STANTEC MAXX B8Q9429	STANTEC MAXX B888914	STANTEC MAXX B888914	STANTEC MAXX B8Q8068	STANTEC MAXX B8Q8068	STANTEC MAXX B8Q8068	STANTEC MAXX B8Q8068
Laboratory Sample ID				GMM260 Field Filtered	GMM261 Lab Filtered	HZK197 Field Filtered	HZK198 Lab Filtered	GMM262 Field Filtered	GMM263 Lab Filtered	HZR829 Field Filtered	HZR830 Lab Filtered	GMM264 Field Filtered	GMM265 Lab Filtered	HZK193 Field Filtered	HZK194 Lab Filtered	HZK189 Field Filtered	HZK190 Lab Filtered
Filtered				Metals	SVOC	Metals	svoc	Metals	SVOC	Metals	svoc	Metals	SVOC	Metals	svoc	Metals	svoc
Sample Type	Units	ODWS	Ontario SCS														
Semi-Volatile Organic Compounds					I.	I.		I				<u> </u>				1	
Phthalates																	
Bis(2-Ethylhexyl)phthalate (DEHP)	μg/L	n/v	10 ^{FG}	<1	<1	<1	<1	5	<1	3	<1	<1	<1	<1	<1	<1	<1
Diethyl Phthalate	μg/L	n/v	30 ^{FG} 30 ^{FG}	<0.1 <0.1	<0.1 <0.1	<0.1 <0.1	<0.1 <0.1	<0.1 <0.1	<0.1 <0.1	<0.1 <0.1	<0.1						
Dimethyl Phthalate Polycyclic Aromatic Hydrocarbons	μg/L	n/v	30, 0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	μg/L	n/v	4.1 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Acenaphthylene	μg/L μg/L	n/v	4.1 1 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Anthracene	μg/L	n/v	1 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene	μg/L	n/v	1 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	μg/L	0.01 ^B	0.01 ^{FG}	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.02 ^{BFG}	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b/j)fluoranthene	μg/L	n/v	0.1 _{s2} FG	< 0.05	<0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	μg/L	n/v	0.2 ^{FG}	< 0.05	<0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	< 0.05	<0.05
Benzo(k)fluoranthene	μg/L	n/v	0.1 ^{FG}	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	μg/L	n/v	0.1 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenzo(a,h)anthracene	μg/L	n/v	0.2 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene Fluorene	μg/L	n/v	0.41 ^{FG} 120 ^{FG}	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2	<0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2	<0.2 <0.2	<0.2	<0.2 <0.2	<0.2	<0.2 <0.2
Indeno(1,2,3-cd)pyrene	μg/L	n/v n/v	0.2 ^{FG}	<0.2 <0.1	<0.2	<0.2 <0.1	<0.2 <0.1	<0.2 <0.1	<0.2	<0.2	<0.2 <0.1	<0.2 <0.1	<0.2	<0.2 <0.1	<0.2	<0.2 <0.1	<0.2
Methylnaphthalene (Total)	μg/L μg/L	n/v	0.2 FG	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28
Methylnaphthalene, 1-	μg/L	n/v	3.2 _{s3} FG FG	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methylnaphthalene, 2-	μg/L	n/v	s3 FG	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	μg/L	n/v	7 ^{s3} 11 ^G	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenanthrene	μg/L	n/v	1 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	μg/L	n/v	4.1 ^{FG}	< 0.05	<0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	< 0.05	<0.05
Remaining Semi-Volatile Organic Co	mpounds																
Biphenyl, 1,1'- (Biphenyl)	μg/L	n/v	0.5 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis(2-Chloroethyl)ether	μg/L	n/v	5 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-Chloroisopropyl)ether	μg/L	n/v	120 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroaniline, 4-	μg/L	n/v	10 ^{FG}	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorophenol, 2- (ortho-Chlorophenol)	μg/L	n/v	8.9 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorobenzidine, 3,3'-	μg/L	n/v	0.5 ^{FG} 20 ^{FG}	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5						
Dichlorophenol, 2,4- Dimethylphenol, 2,4-	μg/L μg/L	900 ^B n/v	59 ^{FG}	<0.1	<0.5	<0.1	<0.1 <0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 <0.5
Dinitrophenol, 2,4-	μg/L μg/L	n/v	10 ^{FG}	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Dinitrophenol, 2,4-	μg/L	n/v	5-42 ^{FG}	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Dinitrotoluene, 2,6-	μg/L	n/v	5 _{s13} ^{FG} 5 _{s13} ^{FG}	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Pentachlorophenol	μg/L	60 ^B	30 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenol	μg/L	n/v	890 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorobenzene, 1,2,4-	μg/L	n/v	3 ^F 70 ^G	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichlorophenol, 2,4,5-	μg/L	n/v	8.9 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Trichlorophenol, 2,4,6-	μg/L	5 ^B	2 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location					MW2	-13-S			MW:	3-13-D			MW	3-13-S		MW4	-13-D
Sample Date				18-Apr-18	18-Apr-18	10-Oct-18	10-Oct-18	18-Apr-18	18-Apr-18	11-Oct-18	11-Oct-18	18-Apr-18	18-Apr-18	10-Oct-18	10-Oct-18	10-Oct-18	10-Oct-18
Sample ID				WG-160900764 20180418- RD06	- WG-160900764- 20180418- RD06A	WG-160900764 20181010- KR07	WG-160900764 20181010- KR07A	WG-160900764 20180418- RD07	- WG-160900764 20180418- RD07A	I- WG-160900764 20181011- RD08	WG-160900764 20181011- RD08A	- WG-160900764- 20180418- RD08	- WG-160900764 20180418- RD08A	- WG-160900764 20181010- KR05	- WG-160900764 20181010- KR05A	- WG-160900764 20181010- KR04	WG-16090076 20181010- KR04A
Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID				STANTEC MAXX B888914 GMM260 Field Filtered	STANTEC MAXX B888914 GMM261 Lab Filtered	STANTEC MAXX B8Q8068 HZK197 Field Filtered	STANTEC MAXX B8Q8068 HZK198 Lab Filtered	STANTEC MAXX B888914 GMM262 Field Filtered	STANTEC MAXX B888914 GMM263 Lab Filtered	STANTEC MAXX B8Q9429 HZR829 Field Filtered	STANTEC MAXX B8Q9429 HZR830 Lab Filtered	STANTEC MAXX B888914 GMM264 Field Filtered	STANTEC MAXX B888914 GMM265 Lab Filtered	STANTEC MAXX B8Q8068 HZK193 Field Filtered	STANTEC MAXX B8Q8068 HZK194 Lab Filtered	STANTEC MAXX B8Q8068 HZK189 Field Filtered	STANTEC MAXX B8Q8068 HZK190 Lab Filtered
Filtered				Metals	SVOC												
Sample Type	Units	ODWS	Ontario SCS														
Volatile Organic Compounds																	
Acetone	μg/L	n/v	2,700 ^{FG}	<10	-	<10	-	<10	-	<10		<10	-	<10	-	<10	-
Bromodichloromethane	μg/L	n/v	16 ^{FG}	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	_	<0.50	-	<0.50	-
Bromoform (Tribromomethane) Bromomethane (Methyl bromide)	μg/L	n/v n/v	5 ^F 25 ^G 0.89 ^{FG}	<1.0 <0.50	-	<1.0 <0.50	_	<1.0 <0.50	-								
Carbon Tetrachloride (Tetrachloromethane)	μg/L	11/V	0.89 0.2 ^F 0.79 ^G	<0.50	_	<0.50	-	<0.20	-	<0.20	_	<0.20	-	<0.50	-	<0.20	-
Chlorobenzene (Monochlorobenzene)	μg/L μg/L	80 ^B 30 _f ^C	30 ^{FG}	<0.20	_	<0.20	-	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	-
Chloroform (Trichloromethane)	μg/L	n/v	2 ^F 2.4 ^G	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20		<0.20	_	<0.20	_
Dibromochloromethane	μg/L	n/v	2 2.4 25 ^{FG}	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_
Dichlorobenzene, 1,2-	μg/L	200 ^B 3, ^C	3 ^{FG}	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50		<0.50	_	<0.50	_
Dichlorobenzene, 1,3-	μg/L	n/v	59 ^{FG}	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_
Dichlorobenzene, 1,4-	μg/L	5 ^B 1 _f ^C	0.5 ^F 1 ^G	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_
Dichlorodifluoromethane (Freon 12)	μg/L	n/v	590 ^{FG}	<1.0	_	<1.0	_	<1.0	_	<1.0	_	<1.0	_	<1.0	_	<1.0	_
Dichloroethane, 1,1-	μg/L	n/v	5 ^{FG}	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	_
Dichloroethane, 1,2-	μg/L	5 ^B	0.5 ^F 1.6 ^G	<0.50	_	<0.50	-	< 0.50	_	<0.50	-	< 0.50	_	<0.50	_	<0.50	-
Dichloroethene, 1,1-	μg/L	14 ^B	0.5 ^F 1.6 ^G	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Dichloroethene, cis-1,2-	μg/L	n/v	1.6 ^{FG}	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Dichloroethene, trans-1,2-	μg/L	n/v	1.6 ^{FG}	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Dichloropropane, 1,2-	μg/L	n/v	0.58 ^F 5 ^G	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Dichloropropene, 1,3- (sum of isomers cis + trans)	μg/L	n/v	0.5 _{s11} FG FG	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Dichloropropene, cis-1,3-	μg/L	n/v	FG s11 FG	<0.30	-	<0.30	-	<0.30	-	<0.30	-	<0.30	-	<0.30	-	<0.30	-
Dichloropropene, trans-1,3-	μg/L	n/v	-44	<0.40	-	<0.40	-	<0.40	-	<0.40	-	<0.40	-	<0.40	-	<0.40	-
Ethylene Dibromide (Dibromoethane, 1,2-)	μg/L	n/v	0.2 ^{FG}	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Hexane (n-Hexane)	μg/L	n/v	5 ^F 51 ^G	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-
Methyl Ethyl Ketone (MEK) (2-Butanone)	μg/L	n/v	1,800 ^{FG}	<10	-	<10	-	<10	-	42	-	<10	-	<10	-	<10	-
Methyl Isobutyl Ketone (MIBK)	μg/L	n/v	640 ^{FG}	<5.0	-	<5.0	-	<5.0	-	<5.0	-	<5.0	-	<5.0	-	<5.0	-
Methyl tert-butyl ether (MTBE)	μg/L	15 ^C	15 ^{FG}	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Methylene Chloride (Dichloromethane)	μg/L	50 ^B	26 ^F 50 ^G	<2.0	-	<2.0	-	<2.0	-	<2.0	-	<2.0	-	<2.0	-	<2.0	-
Styrene	μg/L	n/v	5.4 ^{FG} 1.1 ^{FG}	<0.50 <0.50	-	<0.50	-	<0.50 <0.50	-	<0.50	-	<0.50	-	<0.50 <0.50	-	<0.50	-
Tetrachloroethane, 1,1,1,2- Tetrachloroethane, 1,1,2,2-	μg/L μg/L	n/v n/v	1.1 G	<0.50	-	<0.50 <0.50	_	<0.50	_	<0.50 <0.50	-	<0.50 <0.50	_	<0.50	_	<0.50 <0.50	_
Tetrachloroethane, 1,1,2,2- Tetrachloroethene (PCE)	μg/L μg/L	10 ^B	0.5 1 0.5 1	<0.50	_	<0.50		<0.20		<0.50	_	<0.20		<0.50		<0.50	_
Trichloroethane, 1,1,1-	μg/L μg/L	n/v	23 ^F 200 ^G	<0.20	-	<0.20	_	<0.20		<0.20	_	<0.20		<0.20		<0.20	_
Trichloroethane, 1,1,1-	μg/L μg/L	n/v	0.5 ^F 4.7 ^G	<0.50	_	<0.50	_	<0.50		<0.50	_	<0.50	_	<0.50	_	<0.50	_
Trichloroethene (TCE)	μg/L	5 ^B	0.5 4.7 0.5 ^F 1.6 ^G	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20		<0.20		<0.20	_
Trichlorofluoromethane (Freon 11)	μg/L	n/v	150 ^{FG}	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50		<0.50	_	<0.50	_
Trihalomethanes	μg/L	100 _b B	n/v	<1.0	_	<1.0	_	<1.0	_	<1.0	_	<1.0	_	<1.0	_	<1.0	_
Vinyl Chloride	µg/L	1B	0.5 ^{FG}	<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20	



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location					MW4	-13-S		MW4	-15D		MW5	5-14-D			MW	5-14-I	
Sample Date				3-May-18	3-May-18	10-Oct-18	10-Oct-18	19-Apr-18	19-Apr-18	17-Apr-18	17-Apr-18	9-Oct-18	9-Oct-18	17-Apr-18	17-Apr-18	9-Oct-18	9-Oct-18
				WG160900764-	WG160900764-	WG-160900764	WG-160900764	WG-160900764	WG-160900764	WG-160900764	WG-160900764	- WG-160900764-	WG-160900764	WG-160900764	- WG-160900764	- WG-160900764	- WG-160900764
Sample ID				20180503- RD01	20180503- RD01A	20181010- KR03	20181010- KR03A	20180419- RD15	20180419- RD15A	20180417- RD03	20180417- RD03A	201809- RD01	201809- RD01A	20180417- RD01	20180417- RD01A	201809- RD02	201809- RD02A
Sampling Company Laboratory				STANTEC MAXX	STANTEC MAXX												
Laboratory Work Order Laboratory Sample ID				B8A3252 GPO468 Field Filtered	B8A3252 GPO469 Lab Filtered	B8Q8068 HZK191 Field Filtered	B8Q8068 HZK192 Lab Filtered	B890096 GMS691 Field Filtered	B890096 GMS692 Lab Filtered	B887445 GME307 Field Filtered	B887445 GME308 Lab Filtered	B8Q6619 HZB429 Field Filtered	B8Q6619 HZB430 Lab Filtered	B887445 GME303 Field Filtered	B887445 GME304 Lab Filtered	B8Q6619 HZB436 Field Filtered	B8Q6619 HZB437 Lab Filtered
Filtered				Metals	SVOC												
Sample Type	Units	ODWS	Ontario SCS														
General Chemistry	•	•	•														
Acidity	mg/L	n/v	n/v	31	-	55	-	<5.0	-	<5.0	-	<5.0	-	<5.0	-	<5.0	-
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	n/v	290	-	370	-	130	-	410	-	140	-	89	-	90	-
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	1.5	-	1.4	-	1.2	-	13	-	4.4	-	1.4	-	1.6	-
Alkalinity, Total (as CaCO3)	mg/L	30-500 ^E	n/v	290	-	370	-	130	-	420	-	140	-	90	-	92	-
Ammonia (as N)	mg/L	n/v	n/v	0.065	-	0.064	-	<0.050	-	<0.050	-	0.084	-	<0.050	-	<0.050	-
Anion Sum	meq/L	n/v	n/v	8.53	-	11.3	-	4.34	-	8.94	-	3.43	-	2.34	-	2.33	-
Cation Sum	meq/L	n/v	n/v	8.63	-	11.4	-	3.73	-	2.24	-	2.30	-	2.19	-	2.06	-
Chloride	mg/L	250 ^C	790 ^{FG}	36	-	48	-	4.7	-	5.2	-	1.4	-	2.1	-	2.0	-
Cyanide (Free)	μg/L	200 ^B	52 ^{FG}	<1	-	<1	-	<1	-	<1	-	<1	-	<1	-	<1	-
Dissolved Organic Carbon (DOC)	mg/L	5 ^C	n/v	1.8	-	1.9	-	1.2	-	1.6	-	0.88	-	0.86	-	0.77	-
Electrical Conductivity, Lab	µmhos/cm	n/v	n/a ^{FG}	820	-	1,000	-	400	-	240	-	230	-	230	-	190	-
Fluoride	mg/L	1.5 ^B	n/v	<0.10	-	0.13	-	1.0	-	1.3	-	1.3	-	1.5	-	1.4	-
Hardness (as CaCO3)	mg/L	80-100 ^E	n/v	380 ^E	-	520 ^E	-	48 ^E	-	20 ^E	-	20 ^E	-	17 ^E	-	16 ^E	-
Ion Balance	%	n/v	n/v	0.590	-	0.810	-	7.55	-	59.9	-	19.8	-	NC	-	NC	-
Langelier Index (at 20 C)	none	n/v	n/v	0.854	-	0.888	-	-0.232	-	0.398	-	-0.0340	-	-0.550	-	-0.559	-
Langelier Index (at 4 C)	none	n/v	n/v	0.606	-	0.641	-	-0.481	-	0.150	-	-0.285	-	-0.800	-	-0.809	-
Nitrate (as N)	mg/L	10.0 _d ^B	n/v	<0.10	-	0.32	-	0.41	-	<0.10	-	<0.10	-	<0.10	-	<0.10	-
Nitrate + Nitrite (as N)	mg/L	10.0 _d ^B	n/v	<0.10	-	0.32	-	0.41	-	<0.10	-	<0.10	-	<0.10	-	<0.10	-
Nitrite (as N)	mg/L	1.0 _d ^B	n/v	<0.010	-	<0.010	-	<0.010	-	<0.010	-	<0.010	-	<0.010	-	<0.010	-
Orthophosphate(as P)	mg/L	n/v	n/v	<0.010	-	<0.010	-	<0.010	-	<0.010	-	<0.010	-	0.026	-	0.017	-
pH, lab	S.U.	6.5-8.5 ^E	n/v	7.75	-	7.59	-	7.99	-	8.54 ^E	-	8.52 ^E	-	8.22	-	8.28	-
Saturation pH (at 20 C)	none	n/v	n/v	6.89	-	6.71	-	8.22	-	8.15	-	8.56	-	8.77	-	8.84	-
Saturation pH (at 4 C)	none	n/v	n/v	7.14	-	6.95	-	8.47	-	8.39	-	8.81	-	9.02	-	9.09	-
Sulfate	mg/L	500 _h ^C	n/v	82	-	120	-	69	-	14	-	22	-	19	-	17	-
Total Dissolved Solids	mg/L	500 ^C	n/v	490	-	670 ^C	-	265	-	400	-	220	-	140	-	250	-
Total Dissolved Solids (Calculated)	mg/L	500 ^C	n/v	470	_	620 ^C	_	240	_	-	_	170	_	-	_	130	_
Total Organic Carbon	mg/L	n/v	n/v	1.9	_	1.9	_	2.4	_	2.5	_	1.2	_	0.96	_	0.91	_
Total Suspended Solids	mg/L	n/v	n/v	17	_	<10	_	280	_	420	_	39	_	<10	_	<10	_
Turbidity, Lab	NTU	5, C, E	n/v	1.9	_	2.5	_	47 ^C	_	1.400 ^C	-	160 ^C	_	2.6	_	1.8	_
BTEX and Petroleum Hydrocarbons	-	. ,				'	1	-		-,					'		'
Benzene	μg/L	1 ^B	0.5 ^F 5 ^G	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Toluene	μg/L	60 ^B 24 ^C	24 ^F 22 ^G	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	_
Ethylbenzene	μg/L	140 ^B 1.6 ^C	2.4 ^{FG}	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	_	<0.20	_
Xylene, m & p-	μg/L	n/v	FG s1	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Xylene, o-	μg/L	n/v	FG s1	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Xylenes, Total	μg/L	90 ^B	72 _{s1} ^F 300 _{s1} ^G	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
PHC F1 (C6-C10 range)	μg/L	n/v	FG s7	<25	-	<25	-	<25	-	<25	-	<25	-	<25	-	<25	-
PHC F1 (C6-C10 range) minus BTEX	μg/L	n/v	420 _{s7} FG	<25	-	<25	-	<25	-	<25	-	<25	-	<25	-	<25	-
PHC F2 (>C10-C16 range)	μg/L	n/v	150 _{s15} FG	<100	-	<100	-	<100	-	<100	-	<100	-	<100	-	<100	-
PHC F3 (>C16-C34 range)	μg/L	n/v	500 _{s8} FG	<200	-	<200	-	<200	-	<200	-	<200	-	<200	-	<200	-
PHC F4 (>C34-C50 range)	μg/L	n/v	500 _{s10} FG	<200	-	<200	-	<200	-	<200	-	<200	-	<200	-	<200	-
Chromatogram to baseline at C50	none	n/v	n/v	YES	-												



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location					MW4	I-13-S		MW4	-15D		MW	5-14-D			MW	/5-14-I	
Sample Date				3-May-18	3-May-18	10-Oct-18	10-Oct-18	19-Apr-18	19-Apr-18	17-Apr-18	17-Apr-18	9-Oct-18	9-Oct-18	17-Apr-18	17-Apr-18	9-Oct-18	9-Oct-18
				WG160900764-	WG160900764-	WG-160900764	- WG-160900764	WG-160900764	WG-160900764	- WG-160900764	- WG-160900764	- WG-160900764	- WG-160900764	WG-160900764	WG-160900764	- WG-160900764	WG-1609007
Sample ID				20180503- RD01	20180503- RD01A	20181010- KR03	20181010- KR03A	20180419- RD15	20180419- RD15A	20180417- RD03	20180417- RD03A	201809- RD01	201809- RD01A	20180417- RD01	20180417- RD01A	201809- RD02	201809- RD02A
Sampling Company				STANTEC	STANTEC												
Laboratory				MAXX	MAXX												
Laboratory Work Order				B8A3252	B8A3252	B8Q8068	B8Q8068	B890096	B890096	B887445	B887445	B8Q6619	B8Q6619	B887445	B887445	B8Q6619	B8Q6619
Laboratory Sample ID				GPO468	GPO469	HZK191	HZK192	GMS691	GMS692	GME307	GME308	HZB429	HZB430	GME303	GME304	HZB436	HZB437
Filtered				Field Filtered Metals	Lab Filtered SVOC												
Sample Type	Units	ODWS	Ontario SCS														
Metals	<u> </u>	<u> </u>	1	-				1						<u>I</u>			
Aluminum	μg/L	100 ^E	n/v	<5	-	<5	-	11	-	24	-	27	-	73	-	68	-
Antimony	μg/L	6 ^B	6 ^{FG}	<0.5	-	<0.5	-	0.58	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Arsenic	μg/L	10 ^B	25 ^{FG}	<1	-	<1	-	2	-	1.9	-	1.7	-	2.9	-	2.3	-
Barium	μg/L	1,000 ^B	1,000 ^{FG}	66	-	170	-	31	-	5	-	4.9	-	7.1	-	7.7	-
Beryllium	μg/L	n/v	4 ^{FG}	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Boron	μg/L	5,000 ^B	5,000 ^{FG}	52	-	92	-	210	-	200	-	210	-	230	-	220	-
Cadmium	μg/L	5 ^B	2.1 ^{FG}	<0.1	-	<0.1	-	<0.1	-	<0.1	-	<0.1	-	<0.1	-	<0.1	-
Calcium	μg/L	n/v	n/v 50 ^{FG}	130,000	-	170,000	-	11,000	-	4,700	-	4,800	-	4,300	-	4,000 <5	-
Chromium	μg/L	50 ^B	25 ^{FG}	<5	-	<5	-	<5 10.50	-	<5 +0.50	-	<5	-	<5 -0.50	-	_	-
Chromium (Hexavalent) Cobalt	μg/L μg/L	n/v n/v	3.8 ^{FG}	<0.50 <0.5	-	<0.50 <0.5	_	<0.50 <0.5	_	<0.50 <0.5	-	<0.50 <0.5	-	<0.50 <0.5	_	<0.50 <0.5	_
Copper	μg/L	1.000°	5.6 69 ^{FG}	<1	_	<1	_	<1	_	<1	_	<1	_	1.3	_	<1	
Iron	μg/L	300 ^c	n/v	<100	_	<100		<100	_	<100	_	<100	_	<100	_	<100	
Lead	μg/L	10 ^B	10 ^{FG}	<0.5	_	<0.5	_	<0.5	_	<0.5	_	<0.5	_	<0.5	_	<0.5	_
Magnesium	μg/L	n/v	n/v	15,000	_	23,000	_	4,700	_	1,900	_	2,000	_	1.400	_	1,500	_
Manganese	μg/L	50 ^C	n/v	8.7	_	7.8	_	<2	_	<2	_	2.1	_	<2	_	<2	_
Mercury	μg/L	1 ^B	0.1 ^F 0.29 ^G	<0.1	_	<0.1	_	<0.1	_	<0.1	_	<0.1	_	<0.1	_	<0.1	_
Molybdenum	μg/L	n/v	70 ^{FG}	<0.5	_	<0.5	_	49	_	4.1	_	4	_	7.3	_	6.2	_
Nickel	μg/L	n/v	100 ^{FG}	<1	_	<1	_	<1	_	<1	_	<1	_	<1	_	<1	_
Phosphorus	μg/L	n/v	n/v	<100	_	<100	_	<100	_	<100	_	<100	_	<100	_	<100	_
Potassium	μg/L	n/v	n/v	1,100	_	1.900	_	980	_	440	_	420	_	610	_	560	_
Selenium	μg/L	50 ^B	10 ^{FG}	<2	_	<2	_	<2	_	<2	_	<2	_	<2	_	<2	_
Silicon	μg/L	n/v	n/v	3,600	_	6,400	_	2,900	_	3,300	-	3,400	_	3,100	_	3,000	-
Silver	μg/L	n/v	1.2 ^{FG}	<0.1	-	<0.1	-	<0.1	-	<0.1	-	<0.1	-	<0.1	-	<0.1	-
Sodium	μg/L	200,000 _a ^C 20,000 _a ^D	490,000 ^{FG}	22,000 ^D	-	24,000 ^D	-	63,000 ^D	-	42,000 ^D	-	43,000 ^D	-	42,000 ^D	-	40,000 ^D	-
Strontium	μg/L	n/v	n/v	450	-	760	-	300	-	100	-	110	-	91	-	98	-
Thallium	μg/L	n/v	2 ^{FG}	< 0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-
Titanium	μg/L	n/v	n/v	<5	-	<5	-	<5	-	<5	-	<5	-	<5	-	<5	-
Uranium	μg/L	20 ^B	20 ^{FG}	0.67	-	0.9	-	1.9	-	0.42	-	0.34	-	0.6	-	0.51	-
Vanadium	μg/L	n/v	6.2 ^{FG}	<0.5	-	<0.5	-	2.7	-	<0.5	-	<0.5	-	1.1	-	0.93	-
Zinc	μg/L	5,000 ^C	890 ^{FG}	<5	-	<5	-	<5	-	<5	-	<5	-	<5	-	<5	-
Zirconium	μg/L	n/v	n/v	<1	-	<1	-	<1	-	<1	-	<1	-	<1	-	<1	
Polychlorinated Biphenyls																	
Aroclor 1242	μg/L	n/v	s14 FG	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-
Aroclor 1248	μg/L	n/v	s14 FG	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-
Arcelor 1254	μg/L	n/v	s14 FG	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-
Aroclor 1260	μg/L	n/v 3 ^B	s14	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-
Polychlorinated Biphenyls (PCBs) See notes on last page	μg/L	35	0.2 _{s14} FG	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location						-13-S		MW4				-14-D				5-14-I	
Sample Date				3-May-18	3-May-18	10-Oct-18	10-Oct-18	19-Apr-18	19-Apr-18	17-Apr-18	17-Apr-18	9-Oct-18	9-Oct-18	17-Apr-18	17-Apr-18	9-Oct-18	9-Oct-18
				WG160900764-	WG160900764-	WG-160900764-	WG-160900764	WG-160900764	WG-160900764	WG-160900764-	WG-160900764	- WG-160900764	- WG-160900764	WG-160900764	WG-160900764	- WG-160900764	- WG-1609007
Sample ID				20180503-	20180503-	20181010-	20181010-	20180419-	20180419-	20180417-	20180417-	201809-	201809-	20180417-	20180417-	201809-	201809-
•				RD01	RD01A	KR03	KR03A	RD15	RD15A	RD03	RD03A	RD01	RD01A	RD01	RD01A	RD02	RD02A
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order				B8A3252	B8A3252	B8Q8068	B8Q8068	B890096	B890096	B887445	B887445	B8Q6619	B8Q6619	B887445	B887445	B8Q6619	B8Q6619
Laboratory Sample ID				GPO468	GPO469	HZK191	HZK192	GMS691	GMS692	GME307	GME308	HZB429	HZB430	GME303	GME304	HZB436	HZB437
Filtered				Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered
	11:4	ODWS	0-4	Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc
Sample Type	Units	ODWS	Ontario SCS														
Semi-Volatile Organic Compounds	•		•														
Phthalates																	
Bis(2-Ethylhexyl)phthalate (DEHP)	μg/L	n/v	10 ^{FG}	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diethyl Phthalate	μg/L	n/v	30 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethyl Phthalate	μg/L	n/v	30 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Polycyclic Aromatic Hydrocarbons														_			-
Acenaphthene	μg/L	n/v	4.1 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Acenaphthylene	μg/L	n/v	1 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Anthracene	μg/L	n/v	1 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene	μg/L	n/v	0.01 ^{FG}	<0.05 <0.01	<0.05 0.03^{BFG}	<0.05 <0.01	<0.05	<0.05	<0.05 <0.01	<0.05	<0.05	<0.05	<0.05	<0.05 <0.01	<0.05	<0.05	<0.05
Benzo(a)pyrene	μg/L	0.01 ^B	0.01° G 0.1 _{s2} FG			<0.01	<0.01	<0.01	<0.01	<0.01 <0.05	<0.01	<0.01	<0.01 <0.05		<0.01	<0.01	<0.01
Benzo(b/j)fluoranthene	μg/L	n/v n/v	0.1 _{s2} 0.2 ^{FG}	<0.05 <0.05	0.07 <0.05	<0.05	<0.05 <0.05	<0.05 <0.05	<0.05	<0.05	<0.05 <0.05	<0.05 <0.05	<0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05
Benzo(g,h,i)perylene Benzo(k)fluoranthene	μg/L μg/L	n/v	0.2 0.1 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	μg/L	n/v	O 1 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenzo(a,h)anthracene	μg/L	n/v	0.2 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	μg/L	n/v	0.41 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Fluorene	μg/L	n/v	120 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Indeno(1,2,3-cd)pyrene	μg/L	n/v	0.2 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methylnaphthalene (Total)	μg/L	n/v	3.2 _{s3} ^{FG}	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28
Methylnaphthalene, 1-	μg/L	n/v	FG s3 FG	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methylnaphthalene, 2-	μg/L	n/v	S3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	μg/L	n/v	7 ^F 11 ^G	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenanthrene	μg/L	n/v	4.1 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene Pomoining Somi Voletile Organia Co	µg/L	n/v	4.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Remaining Semi-Volatile Organic Co		-4.	o =FG	-0.1	<0.1	<0.1	±0.4	10.4	<0.1	1 40.4	<0.1	<0.1	<0.1	-0.4	<0.1	<0.1	<0.1
Biphenyl, 1,1'- (Biphenyl) Bis(2-Chloroethyl)ether	μg/L μg/L	n/v n/v	0.5 ^{FG} 5 ^{FG}	<0.1 <0.5	<0.1	<0.1	<0.1 <0.5	<0.1 <0.5	<0.1	<0.1 <0.5	<0.1	<0.5	<0.1	<0.1 <0.5	<0.1	<0.1	<0.1
Bis(2-Chloroisopropyl)ether	μg/L μg/L	n/v	120 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroaniline, 4-	μg/L	n/v	10 ^{FG}	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorophenol, 2- (ortho-Chlorophenol)	μg/L	n/v	8.9 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorobenzidine, 3,3'-	μg/L	n/v	0.5 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorophenol, 2,4-	μg/L	900 ^B	20 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethylphenol, 2,4-	μg/L	n/v	59 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dinitrophenol, 2,4-	μg/L	n/v	10 ^{FG}	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Dinitrotoluene, 2,4-	μg/L	n/v	5 _{s13} FG 5 ₋₁₃ FG	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Dinitrotoluene, 2,6-	μg/L	n/v	9813	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Pentachlorophenol	μg/L	60 ^B	30 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenol	μg/L	n/v	890 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorophonal, 2.4.5	μg/L	n/v	3 ^F 70 ^G 8.9 ^{FG}	<0.1 <0.2	<0.1 <0.2	<0.1 <0.2	<0.1 <0.2	<0.1	<0.1 <0.2	<0.1 <0.2	<0.1 <0.2	<0.1 <0.2	<0.1 <0.2	<0.1	<0.1 <0.2	<0.1 <0.2	<0.1 <0.2
Trichlorophenol, 2,4,5- Trichlorophenol, 2,4,6-	μg/L ug/L	n/v 5 ^B	8.9 ^r G	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2
See notes on last page	µg/L	Ü		~0.2	70.2	~U. ∠	~U.Z	70.2	~∪.∠	~U.Z	70.2	~U.Z	~U.Z	~U. Z	~U.Z	70.2	



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location					MW4	l-13-S		MW	4-15D		MW	5-14-D			MW	5-14-I	
Sample Date				3-May-18	3-May-18	10-Oct-18	10-Oct-18	19-Apr-18	19-Apr-18	17-Apr-18	17-Apr-18	9-Oct-18	9-Oct-18	17-Apr-18	17-Apr-18	9-Oct-18	9-Oct-18
				WG160900764-	WG160900764-	WG-160900764	WG-160900764	- WG-160900764	- WG-160900764	WG-160900764	- WG-160900764	- WG-160900764-	WG-160900764	WG-160900764	WG-160900764	- WG-160900764	- WG-16090076
Sample ID				20180503- RD01	20180503- RD01A	20181010- KR03	20181010- KR03A	20180419- RD15	20180419- RD15A	20180417- RD03	20180417- RD03A	201809- RD01	201809- RD01A	20180417- RD01	20180417- RD01A	201809- RD02	201809- RD02A
Sampling Company				STANTEC	STANTEC												
Laboratory				MAXX	MAXX												
Laboratory Work Order				B8A3252	B8A3252	B8Q8068	B8Q8068	B890096	B890096	B887445	B887445	B8Q6619	B8Q6619	B887445	B887445	B8Q6619	B8Q6619
Laboratory Sample ID				GPO468 Field Filtered	GPO469 Lab Filtered	HZK191 Field Filtered	HZK192 Lab Filtered	GMS691 Field Filtered	GMS692 Lab Filtered	GME307	GME308 Lab Filtered	HZB429 Field Filtered	HZB430 Lab Filtered	GME303 Field Filtered	GME304 Lab Filtered	HZB436 Field Filtered	HZB437 Lab Filtered
Filtered				Metals	SVOC	Metals	SVOC	Metals	SVOC	Field Filtered Metals	SVOC	Metals	SVOC	Metals	SVOC	Metals	SVOC
Sample Type	Units	ODWS	Ontario SCS														
Volatile Organic Compounds																	
Acetone	μg/L	n/v	2,700 ^{FG}	<10	-	<10	-	<10	-	<10	-	<10	-	<10	-	<10	-
Bromodichloromethane	μg/L	n/v	16 ^{FG}	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Bromoform (Tribromomethane)	μg/L	n/v	5 ^F 25 ^G 0.89 ^{FG}	<1.0 <0.50	-												
Bromomethane (Methyl bromide)	μg/L	n/v	0.89° 0.79 ^G	<0.50	_	<0.50	-	<0.50	-	<0.50	_	<0.50	-	<0.50	-	<0.50	-
Carbon Tetrachloride (Tetrachloromethane) Chlorobenzene (Monochlorobenzene)	μg/L	80 ^B 30 _f ^C	0.2° 0.79° 30 ^{FG}	<0.20		<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Chloroform (Trichloromethane)	μg/L μg/L	n/v	2 ^F 2.4 ^G	<0.20	_	<0.20	_	<0.20	_	<0.20		<0.20	_	<0.20	_	<0.20	_
Dibromochloromethane	μg/L	n/v	25 ^{FG}	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_
Dichlorobenzene, 1,2-	μg/L	200 ^B 3, ^C	3 ^{FG}	<0.50	_	<0.50	_	<0.50	_	<0.50		<0.50	_	<0.50	_	<0.50	_
Dichlorobenzene, 1,3-	μg/L	n/v	59 ^{FG}	<0.50	_	<0.50	_	<0.50	_	<0.50		<0.50	_	<0.50	_	<0.50	_
Dichlorobenzene, 1,4-	μg/L	5 ^B 1 _f C	0.5 ^F 1 ^G	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_
Dichlorodifluoromethane (Freon 12)	μg/L	n/v	590 ^{FG}	<1.0	_	<1.0	_	<1.0	_	<1.0	_	<1.0	_	<1.0	_	<1.0	_
Dichloroethane, 1,1-	μg/L	n/v	5 ^{FG}	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	_
Dichloroethane, 1.2-	μg/L	5 ^B	0.5 ^F 1.6 ^G	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_
Dichloroethene, 1,1-	μg/L	14 ^B	0.5 ^F 1.6 ^G	<0.20	_	<0.20	-	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	_
Dichloroethene, cis-1,2-	μg/L	n/v	1.6 ^{FG}	< 0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Dichloroethene, trans-1,2-	μg/L	n/v	1.6 ^{FG}	< 0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	< 0.50	-	<0.50	-
Dichloropropane, 1,2-	μg/L	n/v	0.58 ^F 5 ^G	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Dichloropropene, 1,3- (sum of isomers cis + trans)	μg/L	n/v	0.5 _{s11} FG	< 0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	< 0.50	-	<0.50	-
Dichloropropene, cis-1,3-	μg/L	n/v	s11 FG	< 0.30	-	<0.30	-	< 0.30	-	<0.30	-	<0.30	-	< 0.30	-	<0.30	-
Dichloropropene, trans-1,3-	μg/L	n/v	s11	<0.40	-	<0.40	-	<0.40	-	<0.40	-	<0.40	-	<0.40	-	<0.40	-
Ethylene Dibromide (Dibromoethane, 1,2-)	μg/L	n/v	0.2 ^{FG}	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Hexane (n-Hexane)	μg/L	n/v	5 ^F 51 ^G	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-
Methyl Ethyl Ketone (MEK) (2-Butanone)	μg/L	n/v	1,800 ^{FG}	<10	-	<10	-	<10	-	<10	-	<10	-	<10	-	<10	-
Methyl Isobutyl Ketone (MIBK)	μg/L	n/v	640 ^{FG}	<5.0	-	<5.0	-	<5.0	-	<5.0	-	<5.0	-	<5.0	-	<5.0	-
Methyl tert-butyl ether (MTBE)	μg/L	15 ^C	15 ^{FG}	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Methylene Chloride (Dichloromethane)	μg/L	50 ^B	26 ^F 50 ^G	<2.0	-	<2.0	-	<2.0	-	<2.0	-	<2.0	-	<2.0	-	<2.0	-
Styrene	μg/L	n/v	5.4 ^{FG}	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Tetrachloroethane, 1,1,1,2-	μg/L	n/v	1.1 ^{FG}	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Tetrachloroethane, 1,1,2,2-	μg/L	n/v 10 ^B	0.5 ^F 1 ^G	<0.50 <0.20	-	<0.50 <0.20	-	<0.50 <0.20	-	<0.50 <0.20	_	<0.50 <0.20	_	<0.50 <0.20	_	<0.50 <0.20	_
Tetrachloroethene (PCE) Trichloroethane, 1,1,1-	μg/L	10 ⁵ n/v	0.5 ^F 1.6 ^G 23 ^F 200 ^G	<0.20	-	<0.20	-	<0.20	_	<0.20	-	<0.20	-	<0.20	_	<0.20	_
Trichloroethane, 1,1,1-	μg/L	n/v	0.5 ^F 4.7 ^G	<0.50	_	<0.50	_	<0.20	_	<0.20	_	<0.50	_	<0.50	_	<0.20	_
Trichloroethane, 1,1,2- Trichloroethene (TCE)	μg/L μg/L	5 ^B	0.5 4.7 0.5 ^F 1.6 ^G	<0.50		<0.20	_	<0.50		<0.50		<0.50		<0.50		<0.50	[
Trichlorofluoromethane (Freon 11)	μg/L μg/L	n/v	150 ^{FG}	<0.50	_	<0.50	_	<0.50		<0.50	_	<0.50	_	<0.50	_	<0.50	
Trihalomethanes	μg/L μg/L	100 _b ^B	n/v	-0.50		<1.0	_	<1.0		<1.0		<1.0		<1.0		<1.0	-
Vinyl Chloride	μg/L	100b ⊿B	0.5 ^{FG}	<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20	



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location						i-14-S				14-S (2)				V6-14	
Sample Date				17-Apr-18	17-Apr-18	9-Oct-18	9-Oct-18	17-Apr-18	17-Apr-18	9-Oct-18	9-Oct-18	19-Apr-18	19-Apr-18	11-Oct-18	11-Oct-18
				WG-160900764	WG-160900764	WG-160900764-	WG-160900764	- WG-160900764	- WG-160900764	- WG-160900764	WG-160900764	WG-160900764	WG-160900764	- WG-160900764	WG-16090076
Sample ID				20180417-	20180417-	201809-	201809-	20180417-	20180417-	201809-	201809-	20180419-	20180419-	20181011-	20181011-
				RD02	RD02A	KR02	KR02A	RD04	RD04A	KR01	KR01A	RD12	RD12A	RD07	RD07A
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order				B887445	B887445	B8Q6619	B8Q6619	B887445	B887445	B8Q6619	B8Q6619	B890096	B890096	B8Q9429	B8Q9429
Laboratory Sample ID				GME305	GME306	HZB434	HZB435	GME309	GME310	HZB431	HZB432	GMS644	GMS645	HZR825	HZR826
Filtered				Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered
Sample Type	Units	odws	Ontario SCS	Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc
Campic Type	00	05110	Ontario 000												
General Chemistry				•											
Acidity	mg/L	n/v	n/v	21	-	28	-	21	-	24	-	<5.0	-	<5.0	-
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	n/v	290	-	270	-	310	-	250	-	200	-	200	-
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	1.3	-	1.4	-	1.6	-	1.3	-	1.5	-	1.7	-
Alkalinity, Total (as CaCO3)	mg/L	30-500 ^೬	n/v	290	-	270	-	320	-	250	-	200	-	200	-
Ammonia (as N)	mg/L	n/v	n/v	<0.050	-	<0.050	-	<0.050	-	<0.050	-	<0.050	-	0.070	-
Anion Sum	meq/L	n/v	n/v	8.92	-	8.55	-	9.70	-	9.05	-	5.35	-	5.44	-
Cation Sum Chloride	meq/L	n/v 250 ^C	n/v 790 ^{FG}	8.38 62	-	7.74 31	-	8.94 74	-	8.35 35	-	4.81 23	-	5.12 23	-
Cyanide (Free)	mg/L μg/L	200 ^B	52 ^{FG}	<1	-	<1	-	<1	_	<1	_	23 <1	_	<1	_
Dissolved Organic Carbon (DOC)	μg/L mg/L	200 5 ^c	n/v	0.97	-	1.0	-	1.0	_	1.1	_	0.95	_	0.87	_
Electrical Conductivity, Lab	µmhos/cm	n/v	n/a ^{FG}	840	_	690	_	920	_	730	_	520	_	480	_
Fluoride	mg/L	1.5 ^B	n/v	<0.10	_	<0.10	_	<0.10	_	<0.10	_	0.28	_	0.28	_
Hardness (as CaCO3)	mg/L	80-100 ^E	n/v	360 ^E	_	360 ^E	_	390 ^E	_	390 ^E	_	210 ^E	_	230 ^E	_
Ion Balance	// // // // // // // // // // // // //	n/v	n/v	3.10		4.92		4.08		4.00		5.26		3.06	
Langelier Index (at 20 C)	none	n/v	n/v	0.801	_	0.770	_	0.889	_	0.809	_	0.322	_	0.420	_
Langelier Index (at 4 C)	none	n/v	n/v	0.553	_	0.523	_	0.640	_	0.561	_	0.0720	_	0.169	
Nitrate (as N)	mg/L	10.0 _d B	n/v	4.83	_	6.56	_	4.28	_	5.64	_	<0.10	_	<0.10	_
Nitrate + Nitrite (as N)	mg/L	10.0 _d ^B	n/v	4.83		6.56		4.28		5.64		<0.10		<0.10	
* *	_	<u>~</u>	n/v	<0.010	-	<0.010	-	<0.010	_	<0.010	_	<0.10	_	<0.010	_
Nitrite (as N) Orthophosphate(as P)	mg/L mg/L	1.0 _d ^B n/v	n/v	<0.010	-	<0.010	-	<0.010	-	<0.010	-	<0.010	-	<0.010	-
, ,	S.U.			7.68	-	7.74	-		_	7.74	-	7.90	-	7.95	-
pH, lab		6.5-8.5 ^E	n/v		-		-	7.72	-		-		-		-
Saturation pH (at 20 C) Saturation pH (at 4 C)	none	n/v n/v	n/v n/v	6.88 7.13	-	6.97 7.22	-	6.83 7.08	-	6.93 7.18	_	7.58 7.83	_	7.53 7.78	-
Sulfate	none mg/L	500 _h ^C	n/v	46	-	86	-	47	_	120	_	34	_	37	_
Total Dissolved Solids	_	500h 500 ^C	n/v	470	-	685 ^C	-	490	_	465	_	250	_	155	_
	mg/L			470	-		-	490	_	-	-		-		-
Total Dissolved Solids (Calculated)	mg/L	500 ^C	n/v	-	-	470	-	-	-	510°	-	270	-	290	-
Total Organic Carbon	mg/L	n/v	n/v	1.0	-	1.0	-	0.99	-	1.1	-	1.0	-	0.98	-
Total Suspended Solids Turbidity, Lab	mg/L NTU	n/v 5 ^{,C} ,E	n/v n/v	<10 5.8 ^C	-	19 6.7^C	-	20 13 ^C	-	<10 0.3	-	38 6.3 ^C	-	24 9.4 ^C	-
BTEX and Petroleum Hydrocarbons		J _{i j}	11/1	5.0		0.1		13	<u>-</u>	0.5		6.3	<u> </u>	9.4	
Benzene	μg/L	1 ^B	0.5 ^F 5 ^G	<0.20	-	<0.20	-	<0.20	_	<0.20	-	<0.20	-	<0.20	-
Toluene	μg/L	60 ^B 24 ^C	24 ^F 22 ^G	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	_
Ethylbenzene	μg/L	140 ^B 1.6 ^C	2.4 ^{FG}	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	_
Xylene, m & p-	μg/L	n/v	FG s1	<0.20	-	<0.20	-	<0.20	_	<0.20	_	<0.20	_	<0.20	_
Xylene, o-	μg/L	n/v	FG s1	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Xylenes, Total	μg/L	90 ^B	72 _{s1} 300 _{s1} G	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
PHC F1 (C6-C10 range)	μg/L	n/v	FG s7	<25	-	<25	-	<25	-	<25	-	<25	-	<25	-
PHC F1 (C6-C10 range) minus BTEX	μg/L	n/v	420 _{s7} FG	<25	-	<25	-	<25	-	<25	-	<25	-	<25	-
PHC F2 (>C10-C16 range)	μg/L	n/v	150 _{s15} FG	<100	-	<100	-	<100	-	<100	-	<100	-	<100	-
PHC F3 (>C16-C34 range)	μg/L	n/v	J00 ₈ 8	<200	-	<200	-	<200	-	<200	-	<200	-	<200	-
PHC F4 (>C34-C50 range)	μg/L	n/v	500 _{s10} FG	<200	-	<200	-	<200	-	<200	-	<200	-	<200	-
Chromatogram to baseline at C50	none	n/v	n/v	YES	-	YES	-	YES	-	YES	-	YES	-	YES	-



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location					MW5	-14-S			MW5-	14-S (2)			MW	6-14	
Sample Date				17-Apr-18	17-Apr-18	9-Oct-18	9-Oct-18	17-Apr-18	17-Apr-18	9-Oct-18	9-Oct-18	19-Apr-18	19-Apr-18	11-Oct-18	11-Oct-18
				WG-160900764	WG-160900764	WG-160900764-	WG-160900764	WG-160900764	- WG-160900764	. WG-160900764	WG-160900764	WG-160900764	WG-160900764	- WG-160900764-	- WG-160900764
Sample ID				20180417-	20180417-	201809-	201809-	20180417-	20180417-	201809-	201809-	20180419-	20180419-	20181011-	20181011-
				RD02	RD02A	KR02	KR02A	RD04	RD04A	KR01	KR01A	RD12	RD12A	RD07	RD07A
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order				B887445	B887445	B8Q6619	B8Q6619	B887445	B887445	B8Q6619	B8Q6619	B890096	B890096	B8Q9429	B8Q9429
Laboratory Sample ID				GME305	GME306	HZB434	HZB435	GME309	GME310	HZB431	HZB432	GMS644	GMS645	HZR825	HZR826
Filtered				Field Filtered Metals	Lab Filtered SVOC	Field Filtered Metals	Lab Filtered SVOC	Field Filtered Metals	Lab Filtered SVOC	Field Filtered Metals	Lab Filtered SVOC	Field Filtered Metals	Lab Filtered SVOC	Field Filtered Metals	Lab Filtered SVOC
Sample Type	Units	odws	Ontario SCS		3400	Wietais	3400	Wetais	3000	Ivietais	3400	Wetais	3400	ivietais	3000
Metals		-	1	•				T				T			-
Aluminum	μg/L	100 ^E	n/v	<5 -0.5	-	<5	-	<5	-	6	-	6.6	-	9.1	-
Antimony	μg/L	6 ^B	6 ^{FG} 25 ^{FG}	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Arsenic Barium	μg/L	10 ^B 1,000 ^B	1,000 ^{FG}	<1 57	_	<1 64	-	<1 40	-	<1 49	-	<1 68	_	<1 74	_
Beryllium	μg/L μg/L	1,000 n/v	4 ^{FG}	<0.5	_	<0.5	_	<0.5	_	<0.5	-	<0.5	-	<0.5	_
Boron	μg/L	5,000 ^B	5.000 ^{FG}	25	_	74	_	<10		<10	_	27	_	32	1 -
Cadmium	μg/L	5,500 5 ^B	2.1 ^{FG}	<0.1	_	<0.1	_	<0.1	_	<0.1	_	<0.1	_	<0.1	_
Calcium	μg/L	n/v	n/v	130,000	_	130,000	_	140,000	_	130,000	_	34,000	_	34,000	_
Chromium	μg/L	50 ^B	50 ^{FG}	<5	_	<5	_	<5	_	<5	_	<5	_	<5	_
Chromium (Hexavalent)	μg/L	n/v	25 ^{FG}	1.1	_	1.5	-	0.67	_	0.94	_	< 0.50	_	<0.50	_
Cobalt	μg/L	n/v	3.8 ^{FG}	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Copper	μg/L	1,000 ^C	69 ^{FG}	<1	-	<1	-	2.1	-	<1	-	2.2	-	<1	-
Iron	μg/L	300 ^c	n/v	<100	-	<100	-	<100	-	<100	-	<100	-	<100	-
Lead	μg/L	10 ^B	10 ^{FG}	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Magnesium	μg/L	n/v	n/v	9,300	-	12,000	-	12,000	-	15,000	-	31,000	-	34,000	-
Manganese	μg/L	50 [°]	n/v	<2	-	<2	-	<2	-	<2	-	3.4	-	25	-
Mercury	μg/L	1 ^B	0.1 ^F 0.29 ^G	<0.1	-	<0.1	-	<0.1	-	<0.1	-	<0.1	-	<0.1	-
Molybdenum	μg/L	n/v	70 ^{FG}	<0.5	-	<0.5	-	<0.5	-	<0.5	-	4.7	-	4.5	-
Nickel	μg/L	n/v	100 ^{FG}	<1	-	<1	-	<1	-	1	-	<1	-	<1	-
Phosphorus	μg/L	n/v	n/v	<100	-	<100	-	<100	-	<100	-	<100	-	<100	-
Potassium	μg/L	n/v	n/v	1,000	-	1,300	-	1,100	-	1,000	-	3,000	-	3,200	-
Selenium	μg/L	50 ^B	10 ^{FG}	<2	-	<2	-	<2	-	<2	-	<2	-	<2	-
Silicon Silver	μg/L μg/L	n/v n/v	n/v 1.2 ^{FG}	4,200 <0.1	-	5,200 <0.1	- -	4,800 <0.1	-	5,900 <0.1	-	8,000 <0.1	-	9,800 <0.1	-
Sodium		200,000 ₀ ^C 20,000 ₀ ^D	490.000 ^{FG}		_	11.000	_		_	11.000	-	11,000	-	12.000	_
Strontium	μg/L		,	26,000 ⁰ 260	-	270		26,000 ^D 260	-	270	-	500	_	600	_
Thallium	μg/L μg/L	n/v n/v	n/v 2 ^{FG}	<0.05	_	<0.05	- -	< 0.05	_	<0.05	-	< 0.05	_	<0.05	_
Titanium	μg/L μg/L	n/v	n/v	<5	_	<5	_	<5	_	<5	_	<5	_	<5	1 [
Uranium	μg/L	20 ^B	20 ^{FG}	0.47	_	0.63	_	0.65		0.57	_	1.3	_	1.2	1 -
Vanadium	μg/L	n/v	6.2 ^{FG}	<0.5	_	<0.5	_	<0.5	_	<0.5	_	<0.5	_	<0.5	_
Zinc	μg/L	5.000 ^C	890 ^{FG}	<5	_	<5	_	<5	_	<5	_	<5	_	<5	_
Zirconium	μg/L	n/v	n/v	<1	-	<1	-	<1	_	<1	-	<1	-	<1	-
Polychlorinated Biphenyls			•	•				-		•		-		•	
Aroclor 1242	μg/L	n/v	FG s14 FG	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-
Aroclor 1248	μg/L	n/v	s14	< 0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-
Aroclor 1254	μg/L	n/v	FG s14 FG	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-
Aroclor 1260	μg/L	n/v	S14	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-
Polychlorinated Biphenyls (PCBs)	μg/L	3 ^B	0.2 _{s14} FG	< 0.05	-	<0.05	-	< 0.05	-	< 0.05	-	<0.05	-	< 0.05	-



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location					MW5	-14-S			MW5-1	l4-S (2)			MW	6-14	
Sample Date				17-Apr-18	17-Apr-18	9-Oct-18	9-Oct-18	17-Apr-18	17-Apr-18	9-Oct-18	9-Oct-18	19-Apr-18	19-Apr-18	11-Oct-18	11-Oct-18
				WG-160900764	WG_160900764	WG-160900764	WG-160900764	WG-160900764	WG-160900764	WG-160900764	WG-160900764	WG-160900764	WG-160900764	- WG-160900764	WG-1609007
Sample ID				20180417-	20180417-	201809-	201809-	20180417-	20180417-	201809-	201809-	20180419-	20180419-	20181011-	20181011-
Campic is				RD02	RD02A	KR02	KR02A	RD04	RD04A	KR01	KR01A	RD12	RD12A	RD07	RD07A
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order				B887445	B887445	B8Q6619	B8Q6619	B887445	B887445	B8Q6619	B8Q6619	B890096	B890096	B8Q9429	B8Q9429
Laboratory Sample ID				GME305	GME306	HZB434	HZB435	GME309	GME310	HZB431	HZB432	GMS644	GMS645	HZR825	HZR826
• •				Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered
Filtered				Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc
Sample Type	Units	ODWS	Ontario SCS												
Semi-Volatile Organic Compounds								L				l		I.	
Phthalates															
Bis(2-Ethylhexyl)phthalate (DEHP)	μg/L	n/v	10 ^{FG}	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diethyl Phthalate	μg/L	n/v	30 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethyl Phthalate	μg/L	n/v	30 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Polycyclic Aromatic Hydrocarbons															
Acenaphthene	μg/L	n/v	4.1 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Acenaphthylene	μg/L	n/v	1 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Anthracene	μg/L	n/v	1 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene	μg/L	n/v	1 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	μg/L	0.01 ^B	0.01 ^{FG}	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b/j)fluoranthene	μg/L	n/v	0.1 _{s2} FG	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	μg/L	n/v	0.2 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	μg/L	n/v	0.1 ^{FG}	< 0.05	<0.05	<0.05	< 0.05	<0.05	<0.05 <0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	μg/L	n/v n/v	0.1 ^{FG} 0.2 ^{FG}	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1
Dibenzo(a,h)anthracene Fluoranthene	μg/L μg/L	n/v	0.2 0.41 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	μg/L μg/L	n/v	120 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Indeno(1,2,3-cd)pyrene	μg/L	n/v	0.2 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methylnaphthalene (Total)	μg/L	n/v	3.2 _{s3} FG	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28
Methylnaphthalene, 1-	μg/L	n/v	FG	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methylnaphthalene, 2-	μg/L	n/v	s3 FG s3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	μg/L	n/v	7 ^F 11 ^G	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenanthrene	μg/L	n/v	1 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	μg/L	n/v	4.1 ^{FG}	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Remaining Semi-Volatile Organic Co	mpounds														
Biphenyl, 1,1'- (Biphenyl)	μg/L	n/v	0.5 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis(2-Chloroethyl)ether	μg/L	n/v	5 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-Chloroisopropyl)ether	μg/L	n/v	120 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroaniline, 4-	μg/L	n/v	10 ^{FG}	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorophenol, 2- (ortho-Chlorophenol)	μg/L	n/v	8.9 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorobenzidine, 3,3'-	μg/L	n/v	0.5 ^{FG} 20 ^{FG}	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1	<0.5 <0.1
Dichlorophenol, 2,4- Dimethylphenol, 2,4-	μg/L μg/L	900 ^B n/v	20 ^{FG}	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5
Dinitrophenol, 2,4-	μg/L μg/L	n/v	10 ^{FG}	<2	<2	<2	<0.5 <2	<0.5 <2	<2	<2	<2	<2	<2	<2	<2
Dinitrotoluene, 2.4-	μg/L μg/L	n/v	5 ^{FG}	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Dinitrotoluene, 2,6-	μg/L	n/v	5 _{s13} FG 5 _{s13} FG	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Pentachlorophenol	μg/L	60 ^B	30 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenol	μg/L	n/v	890 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorobenzene, 1,2,4-	μg/L	n/v	3 ^F 70 ^G	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichlorophenol, 2,4,5-	μg/L	n/v	8.9 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Trichlorophenol, 2,4,6-	μg/L	5 ^B	2 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location					MW5	-14-S			MW5-	14-S (2)			MW	/6-14	
Sample Date				17-Apr-18	17-Apr-18	9-Oct-18	9-Oct-18	17-Apr-18	17-Apr-18	9-Oct-18	9-Oct-18	19-Apr-18	19-Apr-18	11-Oct-18	11-Oct-18
•				WG-160900764.	WG-160900764-	WG-160900764-	WG-160900764	WG-160900764-	WG-160900764	- WG-160900764	WG-160900764	WG-160900764	WG-160900764	. WG-160900764	WG-16090076
Sample ID				20180417-	20180417-	201809-	201809-	20180417-	20180417-	201809-	201809-	20180419-	20180419-	20181011-	20181011-
				RD02	RD02A	KR02	KR02A	RD04	RD04A	KR01	KR01A	RD12	RD12A	RD07	RD07A
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order				B887445	B887445	B8Q6619	B8Q6619	B887445	B887445	B8Q6619	B8Q6619	B890096	B890096	B8Q9429	B8Q9429
Laboratory Sample ID				GME305	GME306	HZB434	HZB435	GME309	GME310	HZB431	HZB432	GMS644	GMS645	HZR825	HZR826
Filtered				Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered	Field Filtered	Lab Filtered
				Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc	Metals	svoc
Sample Type	Units	ODWS	Ontario SCS												
Volatile Organic Compounds	<u>'</u>		•							'		•		'	
Acetone	μg/L	n/v	2,700 ^{FG}	<10	-	<10	-	<10	-	<10	-	<10	-	<10	-
Bromodichloromethane	μg/L	n/v	16 ^{FG}	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Bromoform (Tribromomethane)	μg/L	n/v	5 ^F 25 ^G	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-
Bromomethane (Methyl bromide)	μg/L	n/v	0.89 ^{FG}	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Carbon Tetrachloride (Tetrachloromethane)	μg/L	2 ^B	0.2 ^F 0.79 ^G	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Chlorobenzene (Monochlorobenzene)	μg/L	80 ^B 30 _f ^C	30 ^{FG}	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Chloroform (Trichloromethane)	μg/L	n/v	2 ^F 2.4 ^G	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Dibromochloromethane	μg/L	n/v	25 ^{FG} 3 ^{FG}	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Dichlorobenzene, 1,2-	μg/L	200 ^B 3 _f ^C	59 ^{FG}	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Dichlorobenzene, 1,3- Dichlorobenzene, 1,4-	μg/L	n/v 5 ^B 1 _f ^C		<0.50 <0.50	-	<0.50 <0.50	-	<0.50 <0.50	-	<0.50 <0.50	-	<0.50 <0.50	-	<0.50 <0.50	-
Dichlorodifluoromethane (Freon 12)	μg/L μg/L	ອ 1 _f n/v	0.5 ^F 1 ^G 590 ^{FG}	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-
Dichloroethane, 1,1-		n/v	5 ^{FG}	<0.20	-	<0.20	-	<0.20	_	<0.20	_	<0.20	-	<0.20	-
Dichloroethane, 1,1-	μg/L μg/L	5 ^B	0.5 ^F 1.6 ^G	<0.50	-	<0.50	-	<0.50	_	<0.50	-	<0.50	_	<0.50	_
Dichloroethene, 1,1-	μg/L μg/L	14 ^B	0.5 1.6 0.5 ^F 1.6 ^G	<0.20	-	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	_
Dichloroethene, cis-1.2-	µg/L	n/v	1.6 ^{FG}	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_
Dichloroethene, trans-1.2-	μg/L	n/v	1.6 ^{FG}	< 0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_
Dichloropropane, 1,2-	μg/L	n/v	0.58 ^F 5 ^G	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	_	<0.20	_
Dichloropropene, 1,3- (sum of isomers cis + trans)	μg/L	n/v	0.5 _{s11} ^{FG}	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_	<0.50	_
Dichloropropene, cis-1,3-	μg/L	n/v		<0.30	_	<0.30	_	<0.30	_	<0.30	_	<0.30	_	<0.30	_
Dichloropropene, trans-1,3-	μg/L	n/v	s11 FG s11	<0.40	-	<0.40	_	<0.40	_	<0.40	_	< 0.40	_	<0.40	_
Ethylene Dibromide (Dibromoethane, 1,2-)	μg/L	n/v	0.2 ^{FG}	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	_	<0.20	-
Hexane (n-Hexane)	μg/L	n/v	5 ^F 51 ^G	<1.0	-	<1.0	-	<1.0	_	<1.0	-	<1.0	-	<1.0	-
Methyl Ethyl Ketone (MEK) (2-Butanone)	μg/L	n/v	1,800 ^{FG}	<10	-	<10	-	<10	-	<10	-	<10	-	<10	-
Methyl Isobutyl Ketone (MIBK)	μg/L	n/v	640 ^{FG}	<5.0	-	<5.0	-	<5.0	-	<5.0	-	<5.0	-	<5.0	-
Methyl tert-butyl ether (MTBE)	μg/L	15 ^C	15 ^{FG}	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Methylene Chloride (Dichloromethane)	μg/L	50 ^B	26 ^F 50 ^G	<2.0	-	<2.0	-	<2.0	-	<2.0	-	<2.0	-	<2.0	-
Styrene	μg/L	n/v	5.4 ^{FG}	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Tetrachloroethane, 1,1,1,2-	μg/L	n/v	1.1 ^{FG}	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Tetrachloroethane, 1,1,2,2-	μg/L	n/v	0.5 ^F 1 ^G	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Tetrachloroethene (PCE)	μg/L	10 ^B	0.5 ^F 1.6 ^G	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Trichloroethane, 1,1,1-	μg/L	n/v	23 ^F 200 ^G	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Trichloroethane, 1,1,2-	μg/L	n/v	0.5 ^F 4.7 ^G	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Trichloroethene (TCE)	μg/L	5 ^B	0.5 ^F 1.6 ^G	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-
Trichlorofluoromethane (Freon 11)	μg/L	n/v	150 ^{FG}	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
Trihalomethanes	μg/L	100 _b ^B	n/v 0.5 ^{FG}	<1.0 <0.20	-	<1.0 <0.20	-	<1.0 <0.20	-	<1.0	-	<1.0	-	<1.0	-



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location						MV	<i>l</i> 7-14			FIELD	BLANK	TRIP I	BLANK
Sample Date				19-Apr-18	19-Apr-18	19-Apr-18	19-Apr-18	11-Oct-18	11-Oct-18	19-Apr-18	11-Oct-18	19-Apr-18	11-Oct-18
				WG-160900764	- WG-160900764-	WG-160900764	- WG-160900764-	WG-160900764	WG-160900764-				
Sample ID				20180419- RD13	20180419- RD14	20180419- RD13A	20180419- RD14A	20181011- RD04	20181011- RD04A	FIELD BLANK	FIELD BLANK	TRIP BLANK	TRIP BLANK
Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID				STANTEC MAXX B890096 GMS646 Field Filtered	STANTEC MAXX B890096 GMS689 Field Filtered	STANTEC MAXX B890096 GMS647 Lab Filtered	STANTEC MAXX B890096 GMS690 Lab Filtered	STANTEC MAXX B8Q9429 HZR817 Field Filtered	STANTEC MAXX B8Q9429 HZR818 Lab Filtered	STANTEC MAXX B890096 GMS693	STANTEC MAXX B8Q9429 HZR832	STANTEC MAXX B890096 GMS695	STANTEC MAXX B8Q9429 HZR833
Filtered Sample Type	Units	ODWS	Ontario SCS	Metals	Metals Field Duplicate	svoc	SVOC Field Duplicate	Metals	svoc	Field Blank	Field Blank	Trip Blank	Trip Blank
					_								-
General Chemistry									1			ı	
Acidity	mg/L	n/v	n/v	<5.0	<5.0	-	-	5.2	-	-	-	-	-
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	n/v	190	180	-	-	190	-	-	-	-	-
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	1.5	1.5	-	-	1.4	-	-	-	-	-
Alkalinity, Total (as CaCO3)	mg/L	30-500 ^E	n/v	190 <0.050	190 <0.050	_	_	190 0.070		-	-	-	_
Ammonia (as N)	mg/L	n/v	n/v			-	-		-	-	-	-	-
Anion Sum	meq/L	n/v n/v	n/v n/v	5.57 5.27	5.55 5.28	-	_	5.66 5.55	-	-	-	-	_
Cation Sum	meq/L		790 ^{FG}	30	30	-	-	30	-	-	-	-	-
Chloride Cyanide (Free)	mg/L μg/L	250 ^C 200 ^B	52 ^{FG}	<1	<1	_	_	<1	_	-	-	-	-
Dissolved Organic Carbon (DOC)		200 5 ^c	-	0.84	0.87	_	_	0.77	_	-	-	-	_
Electrical Conductivity, Lab	mg/L	n/v	n/v n/a ^{FG}	550	550	-	-	530	-	-	-	-	-
Fluoride	µmhos/cm	1.5 ^B	n/a n/v	0.18	0.18	-	-	0.21	-	-	-	-	-
	mg/L					-	-		-	-	-	-	-
Hardness (as CaCO3)	mg/L	80-100 ^E	n/v	240 ^E	240 ^E	-	-	250 ^E	-	-	-	-	-
Ion Balance	%	n/v	n/v	2.82	2.57	-	-	1.05	-	-	-	-	-
Langelier Index (at 20 C)	none	n/v	n/v	0.447	0.419	-	-	0.426	-	-	-	-	-
Langelier Index (at 4 C)	none	n/v	n/v	0.198	0.169	-	-	0.176	-	-	-	-	-
Nitrate (as N)	mg/L	10.0 _d ^B	n/v	0.69	0.66	-	-	0.43	-	-	-	-	-
Nitrate + Nitrite (as N)	mg/L	10.0 _d ^B	n/v	0.69	0.66	-	-	0.43	-	-	-	-	-
Nitrite (as N)	mg/L	1.0 _d ^B	n/v	<0.010	<0.010	-	-	<0.010	-	-	-	-	-
Orthophosphate(as P)	mg/L	n/v	n/v	<0.010	<0.010	-	-	<0.010	-	-	-	-	-
pH, lab	S.U.	6.5-8.5 ^E	n/v	7.95	7.92	_	_	7.89	_	-	-	-	_
Saturation pH (at 20 C)	none	n/v	n/v	7.50	7.50	_	_	7.47	_	_	_	-	_
Saturation pH (at 4 C)	none	n/v	n/v	7.75	7.75	_	_	7.72	_	-	_	-	_
Sulfate	mg/L	500 _b ^C	n/v	45	45	_	_	49	_	_	_	-	_
Total Dissolved Solids	mg/L	500 [°]	n/v	280	285	_	_	210	_	_	_	-	_
Total Dissolved Solids (Calculated)	mg/L	500 ^c	n/v	300	300	_	_	310	_	_		_	_
,	_	n/v	n/v	0.85	0.84			0.87	-	_	_	_	
Total Organic Carbon Total Suspended Solids	mg/L mg/L	n/v n/v	n/v n/v	0.85 <10	<10	_	_	<10		_	_	_	_
Turbidity, Lab	mg/L NTU	nv 5, ^C , ^E	n/v n/v	0.7	0.8	_	_	0.4		_	_	_	_
BTEX and Petroleum Hydrocarbon		O _{i j}	11/ V	0.7	0.0			0.4	_		-		
Benzene Benzene	μg/L	1 ^B	0.5 ^F 5 ^G	<0.20	<0.20		_	<0.20		<0.20	<0.20	<0.20	<0.20
Toluene		1 ⁵ 60 ^B 24 ^C	0.5 5° 24 ^F 22 ^G	<0.20	<0.20	_	_	<0.20		<0.20 <0.20	<0.20	<0.20	<0.20
Ethylbenzene	μg/L	60° 24° 140 ⁸ 1.6 ^C	24 22 2.4 FG	<0.20	<0.20	_	_	<0.20	_	<0.20	<0.20	<0.20	<0.20
Xylene, m & p-	μg/L μg/L	140- 1.6- n/v		<0.20	<0.20	_	_	<0.20		<0.20 <0.20	<0.20	<0.20	<0.20
Xylene, o-	μg/L μg/L	n/v	s1 FG	<0.20	<0.20			<0.20		<0.20	<0.20	<0.20	<0.20
Xylenes, Total	μg/L μg/L	90 ^B	72 _{s1} ^{s1} _F 300 _{s1} ^G	<0.20	<0.20			<0.20	_	<0.20	<0.20	<0.20	<0.20
PHC F1 (C6-C10 range)	μg/L μg/L	n/v	FG	<0.20 <25	<25	_		<25		<25	-0.20	-0.20	-0.20
PHC F1 (C6-C10 range) minus BTEX	μg/L μg/L	n/v	420 _{s7} FG	<25 <25	<25	_	_	<25	_	<25 <25	_	_	_
PHC F1 (C6-C10 range) minus B1EX PHC F2 (>C10-C16 range)		n/v n/v	42U _{S7}	<100	<100	_		<100		~25	_	_	
	μg/L	n/v n/v	150 _{s15} FG	<200	<100	_	_	<100		_	_	_	_
PHC F3 (>C16-C34 range)	μg/L		300 ₈₈			-	_		-	-	-	-	-
PHC F4 (>C34-C50 range)	μg/L	n/v	300 _{s10}	<200	<200	_	_	<200		-	-	-	_
Chromatogram to baseline at C50 See notes on last page	none	n/v	n/v	YES	YES	-	-	YES	-	-	-	-	-



Table 4
Summary of Groundwater Analytical Results - 2018 Monitoring Wells
Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location							7-14				BLANK		BLANK
Sample Date				19-Apr-18	19-Apr-18	19-Apr-18	19-Apr-18	11-Oct-18	11-Oct-18	19-Apr-18	11-Oct-18	19-Apr-18	11-Oct-18
Sample ID				WG-160900764- 20180419- RD13	WG-160900764- 20180419- RD14	WG-160900764 20180419- RD13A	WG-160900764- 20180419- RD14A	WG-160900764 20181011- RD04	WG-160900764- 20181011- RD04A	FIELD BLANK	FIELD BLANK	TRIP BLANK	TRIP BLANK
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order				B890096	B890096	B890096	B890096	B8Q9429	B8Q9429	B890096	B8Q9429	B890096	B8Q9429
Laboratory Sample ID				GMS646	GMS689	GMS647	GMS690	HZR817	HZR818	GMS693	HZR832	GMS695	HZR833
Filtered				Field Filtered Metals	Field Filtered Metals	Lab Filtered SVOC	Lab Filtered SVOC	Field Filtered Metals	Lab Filtered SVOC				
Sample Type	Units	ODWS	Ontario SCS		Field Duplicate	0.00	Field Duplicate		0.00	Field Blank	Field Blank	Trip Blank	Trip Blank
Metals	l .	<u> </u>	I.										
Aluminum	μg/L	100 ^E	n/v	9.4	9.6	-	-	11	-	-	-	-	-
Antimony	μg/L	6 ^B	6 ^{FG}	<0.5	<0.5	-	-	<0.5	-	-	-	-	-
Arsenic	μg/L	10 ^B	25 ^{FG}	1	1.1	-	-	1.5	-	-	-	-	-
Barium	μg/L	1,000 ^B	1,000 ^{FG}	92	95	-	-	110	-	-	-	-	-
Beryllium	μg/L	n/v	4 ^{FG}	<0.5	<0.5	-	-	<0.5	-	-	-	-	-
Boron	μg/L	5,000 ^B	5,000 ^{FG}	13	17	-	-	16	-	-	-	-	-
Cadmium	μg/L	5 ^B	2.1 ^{FG}	<0.1	<0.1	-	-	<0.1	-	-	-	-	-
Calcium	μg/L	n/v	n/v	44,000	44,000	-	-	45,000	-	-	-	-	-
Chromium	μg/L	50 ^B	50 ^{FG}	<5	<5	-	-	<5	-	-	-	-	-
Chromium (Hexavalent)	μg/L	n/v	25 ^{FG}	<0.50	<0.50	-	-	<0.50	-	-	-	-	-
Cobalt	μg/L	n/v	3.8 ^{FG}	<0.5	<0.5	-	-	<0.5	-	-	-	-	-
Copper	μg/L	1,000 ^C	69 ^{FG}	<1	<1	-	-	<1	-	-	-	-	-
Iron	μg/L	300 ^c	n/v	<100	<100	-	-	<100	-	-	-	-	-
Lead	μg/L	10 ^B	10 ^{FG}	<0.5	<0.5	-	-	<0.5	-	-	-	-	-
Magnesium	μg/L	n/v	n/v	32,000	32,000	-	-	34,000	-	-	-	-	-
Manganese	μg/L	50 [°]	n/v	7.4	6.6	-	-	13	-	-	-	-	-
Mercury	μg/L	1 ^B	0.1 ^F 0.29 ^G	<0.1	<0.1	-	-	<0.1	-	-	-	-	-
Molybdenum	μg/L	n/v	70 ^{FG}	1.9	1.9	-	-	2.2	-	-	-	-	-
Nickel	μg/L	n/v	100 ^{FG}	<1	<1	-	_	<1	_	-	_	-	-
Phosphorus	μg/L	n/v	n/v	<100	<100	-	-	<100	_	-	_	-	-
Potassium	μg/L	n/v	n/v	2,600	2,600	-	_	2,800	_	-	_	-	-
Selenium	μg/L	50 ^B	10 ^{FG}	<2	<2	-	_	<2	_	-	_	-	_
Silicon	μg/L	n/v	n/v	9,300	9,300	-	_	11,000	_	-	_	-	_
Silver	μg/L	n/v	1.2 ^{FG}	<0.1	<0.1	-	-	<0.1	-	-	-	-	-
Sodium	μg/L	200,000 ₀ ^C 20,000 ₀ ^D	490,000 ^{FG}	9,400	9,500	-	_	10,000	_	-	_	-	-
Strontium	μg/L	n/v	n/v	380	380	_	_	440	_	-	_	-	_
Thallium	μg/L	n/v	2 ^{FG}	<0.05	<0.05	_	_	<0.05	_	-	_	-	_
Titanium	μg/L	n/v	n/v	<5	<5	_	_	<5	_	-	_	-	_
Uranium	μg/L	20 ^B	20 ^{FG}	1.1	1.1	_	_	1	_	-	_	-	_
Vanadium	μg/L	n/v	6.2 ^{FG}	<0.5	<0.5	-	-	<0.5	_	-	_	-	-
Zinc	μg/L	5,000 ^C	890 ^{FG}	<5	<5	-	-	<5	-	-	-	-	-
Zirconium	μg/L	n/v	n/v	<1	<1	-	-	<1	-	-	-	-	-
Polychlorinated Biphenyls													
Aroclor 1242	μg/L	n/v	FG s14 FG	<0.05	<0.05	-	-	<0.05	-	-	-	-	-
Aroclor 1248	μg/L	n/v	FG s14 FG	<0.05	<0.05	-	-	<0.05	-	-	-	-	-
Aroclor 1254	μg/L	n/v	FG s14 FG	<0.05	<0.05	-	-	<0.05	-	-	-	-	-
Aroclor 1260	μg/L	n/v		<0.05	<0.05	-	-	<0.05	-	-	-	-	-
Polychlorinated Biphenyls (PCBs)	μg/L	3 ^B	0.2 _{s14} FG	< 0.05	<0.05	-	-	<0.05	-	-	-	-	-



Table 4
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Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location						MV	7-14			FIELD	BLANK	TRIP E	BLANK
Sample Date				19-Apr-18	19-Apr-18	19-Apr-18	19-Apr-18	11-Oct-18	11-Oct-18	19-Apr-18	11-Oct-18	19-Apr-18	11-Oct-18
				WG-160900764	- WG-160900764-	WG-160900764	WG-160900764-	WG-160900764	- WG-160900764-			-	
Sample ID				20180419- RD13	20180419- RD14	20180419- RD13A	20180419- RD14A	20181011- RD04	20181011- RD04A	FIELD BLANK	FIELD BLANK	TRIP BLANK	TRIP BLAN
Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID				STANTEC MAXX B890096 GMS646	STANTEC MAXX B890096 GMS689	STANTEC MAXX B890096 GMS647	STANTEC MAXX B890096 GMS690	STANTEC MAXX B8Q9429 HZR817	STANTEC MAXX B8Q9429 HZR818	STANTEC MAXX B890096 GMS693	STANTEC MAXX B8Q9429 HZR832	STANTEC MAXX B890096 GMS695	STANTEC MAXX B8Q9429 HZR833
Filtered				Field Filtered Metals	Field Filtered Metals	Lab Filtered SVOC	Lab Filtered SVOC	Field Filtered Metals	Lab Filtered SVOC				
Sample Type	Units	ODWS	Ontario SCS		Field Duplicate	3400	Field Duplicate		3400	Field Blank	Field Blank	Trip Blank	Trip Blank
Semi-Volatile Organic Compounds	<u></u>												
Phthalates													
Bis(2-Ethylhexyl)phthalate (DEHP)	μg/L	n/v	10 ^{FG}	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diethyl Phthalate	μg/L	n/v	30 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethyl Phthalate	μg/L	n/v	30 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Polycyclic Aromatic Hydrocarbons													
Acenaphthene	μg/L	n/v	4.1 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Acenaphthylene	μg/L	n/v	1 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Anthracene	μg/L	n/v	1 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene	μg/L	n/v	1 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	μg/L	0.01 ^B	0.01 ^{FG}	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b/j)fluoranthene	μg/L	n/v	0.1 _{s2} FG	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	μg/L	n/v	0.2 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	μg/L	n/v	0.1 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	μg/L	n/v	0.1 ^{FG} 0.2 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.05	< 0.05
Dibenzo(a,h)anthracene	μg/L	n/v	0.2 G	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	μg/L	n/v	0.41 ^{FG} 120 ^{FG}	<0.2	<0.2 <0.2	<0.2	<0.2	<0.2 <0.2	<0.2 <0.2	<0.2	<0.2	<0.2	<0.2
Fluorene	μg/L	n/v n/v	0.2 ^{FG}	<0.2 <0.1	<0.2	<0.2 <0.1	<0.2 <0.1	<0.2	<0.2	<0.2 <0.1	<0.2 <0.1	<0.2 <0.1	<0.2 <0.1
Indeno(1,2,3-cd)pyrene Methylnaphthalene (Total)	μg/L	n/v	0.2 FG	<0.1	<0.28	<0.28	<0.28	<0.28	<0.28	<0.1	<0.28	<0.1	<0.1
Methylnaphthalene, 1-	μg/L	n/v	3.2 _{s3} ^{FG}	<0.26	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.26
Wethylnaphthalene, 2-	μg/L μg/L	n/v	s3 FG	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene		n/v	7 ^F 11 ^G	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenanthrene	μg/L μg/L	n/v	1 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.1	<0.2	<0.2
Pyrene	μg/L	n/v	4.1 ^{FG}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Remaining Semi-Volatile Organic C		100	1 4.1	-0.00	10.00	-0.00	-0.00	-0.00	10.00	-0.00	10.00	-0.00	10.00
Biphenyl, 1,1'- (Biphenyl)	μg/L	n/v	0.5 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis(2-Chloroethyl)ether	μg/L	n/v	5 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-Chloroisopropyl)ether	μg/L	n/v	120 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroaniline, 4-	μg/L	n/v	10 ^{FG}	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorophenol, 2- (ortho-Chlorophenol)	μg/L	n/v	8.9 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorobenzidine, 3,3'-	μg/L	n/v_	0.5 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorophenol, 2,4-	μg/L	900 ^B	20 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethylphenol, 2,4-	μg/L	n/v	59 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dinitrophenol, 2,4-	μg/L	n/v	10 ^{FG}	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Dinitrotoluene, 2,4-	μg/L	n/v	5 _{s13} FG 5 _{s13} FG	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Dinitrotoluene, 2,6-	μg/L	n/v		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Pentachlorophenol	μg/L	60 ^B	30 ^{FG}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenol	μg/L	n/v	890 ^{FG}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorobenzene, 1,2,4-	μg/L	n/v	3 ^F 70 ^G	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichlorophenol, 2,4,5-	μg/L	n/v	8.9 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Trichlorophenol, 2,4,6- See notes on last page	μg/L	5 ^B	2 ^{FG}	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2



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Clarington Tranformer Station
Hydro One Networks Inc.

Sample Location						MV	7-14			FIELD	BLANK	TRIP I	BLANK
Sample Date				19-Apr-18	19-Apr-18	19-Apr-18	19-Apr-18	11-Oct-18	11-Oct-18	19-Apr-18	11-Oct-18	19-Apr-18	11-Oct-18
				WG-160900764	WG-160900764-	WG-160900764	WG-160900764-	WG-160900764	WG-160900764-				
Sample ID				20180419- RD13	20180419- RD14	20180419- RD13A	20180419- RD14A	20181011- RD04	20181011- RD04A	FIELD BLANK	FIELD BLANK	TRIP BLANK	TRIP BLANK
Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID				STANTEC MAXX B890096 GMS646	STANTEC MAXX B890096 GMS689	STANTEC MAXX B890096 GMS647	STANTEC MAXX B890096 GMS690	STANTEC MAXX B8Q9429 HZR817	STANTEC MAXX B8Q9429 HZR818	STANTEC MAXX B890096 GMS693	STANTEC MAXX B8Q9429 HZR832	STANTEC MAXX B890096 GMS695	STANTEC MAXX B8Q9429 HZR833
Filtered				Field Filtered Metals	Field Filtered Metals	Lab Filtered SVOC	Lab Filtered SVOC	Field Filtered Metals	Lab Filtered SVOC				
Sample Type	Units	ODWS	Ontario SCS		Field Duplicate		Field Duplicate			Field Blank	Field Blank	Trip Blank	Trip Blank
Volatile Organic Compounds						1		1					
Acetone	μg/L	n/v	2,700 ^{FG}	<10	<10	-	-	<10	-	<10	<10	<10	<10
Bromodichloromethane	μg/L	n/v	16 ^{FG}	<0.50	<0.50	-	-	<0.50	-	<0.50	<0.50	<0.50	<0.50
Bromoform (Tribromomethane)	μg/L	n/v	5 ^F 25 ^G	<1.0	<1.0	-	-	<1.0	-	<1.0	<1.0	<1.0	<1.0
Bromomethane (Methyl bromide)	μg/L	n/v	0.89 ^{FG}	<0.50	<0.50	-	-	<0.50	-	<0.50	<0.50	<0.50	<0.50
Carbon Tetrachloride (Tetrachloromethane)	μg/L	2 ^B	0.2 ^F 0.79 ^G	<0.20	<0.20	-	-	<0.20	-	<0.20	<0.20	<0.20	<0.20
Chlorobenzene (Monochlorobenzene)	μg/L	80 ^B 30 _f ^C	30 ^{FG}	<0.20	<0.20	-	-	<0.20	-	<0.20	<0.20	<0.20	<0.20
Chloroform (Trichloromethane)	μg/L	n/v	2 ^F 2.4 ^G	<0.20	<0.20	-	-	<0.20	-	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	μg/L	n/v	25 ^{FG}	<0.50	<0.50	-	-	<0.50	-	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,2-	μg/L	200 ^B 3 _f ^C	3 ^{FG}	< 0.50	<0.50	-	-	<0.50	-	< 0.50	<0.50	< 0.50	<0.50
Dichlorobenzene, 1,3-	μg/L	n/v	59 ^{FG}	<0.50	<0.50	-	-	<0.50	-	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,4-	μg/L	5 ^B 1 _f ^C	0.5 ^F 1 ^G	<0.50	<0.50	-	-	<0.50	-	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane (Freon 12)	μg/L	n/v	590 ^{FG}	<1.0	<1.0	-	-	<1.0	-	<1.0	<1.0	<1.0	<1.0
Dichloroethane, 1,1-	μg/L	n/v	5 ^{FG}	<0.20	<0.20	-	-	<0.20	-	<0.20	<0.20	<0.20	<0.20
Dichloroethane, 1,2-	μg/L	5 ^B	0.5 ^F 1.6 ^G	<0.50	<0.50	-	-	<0.50	-	<0.50	<0.50	<0.50	<0.50
Dichloroethene, 1,1-	μg/L	14 ^B	0.5 ^F 1.6 ^G	<0.20	<0.20	-	-	<0.20	-	<0.20	<0.20	<0.20	<0.20
Dichloroethene, cis-1,2-	μg/L	n/v	1.6 ^{FG}	<0.50	<0.50	-	-	<0.50	-	<0.50	<0.50	<0.50	<0.50
Dichloroethene, trans-1,2-	μg/L	n/v	1.6 ^{FG}	<0.50	<0.50	-	-	<0.50	-	<0.50	<0.50	<0.50	<0.50
Dichloropropane, 1,2-	μg/L	n/v	0.58 ^F 5 ^G	<0.20	<0.20	-	-	<0.20	-	<0.20	<0.20	<0.20	<0.20
Dichloropropene, 1,3- (sum of isomers cis + trans)	μg/L	n/v	0.5 _{s11} FG	<0.50	<0.50	-	-	<0.50	-	<0.50	<0.50	<0.50	<0.50
Dichloropropene, cis-1,3-	μg/L	n/v	s11 FG	< 0.30	<0.30	-	-	<0.30	-	< 0.30	<0.30	< 0.30	<0.30
Dichloropropene, trans-1,3-	μg/L	n/v	s11	<0.40	<0.40	-	-	<0.40	-	<0.40	<0.40	<0.40	<0.40
Ethylene Dibromide (Dibromoethane, 1,2-)	μg/L	n/v	0.2 ^{FG}	<0.20	<0.20	-	-	<0.20	-	<0.20	<0.20	<0.20	<0.20
Hexane (n-Hexane)	μg/L	n/v	5 ^F 51 ^G	<1.0	<1.0	-	-	<1.0	-	<1.0	<1.0	<1.0	<1.0
Methyl Ethyl Ketone (MEK) (2-Butanone)	μg/L	n/v	1,800 ^{FG}	<10	<10	-	-	<10	-	<10	<10	<10	<10
Methyl Isobutyl Ketone (MIBK)	μg/L	n/v	640 ^{FG}	<5.0	<5.0	-	-	<5.0	-	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether (MTBE)	μg/L	15 ^C	15 ^{FG}	< 0.50	<0.50	-	-	<0.50	-	< 0.50	<0.50	< 0.50	<0.50
Methylene Chloride (Dichloromethane)	μg/L	50 ^B	26 ^F 50 ^G	<2.0	<2.0	-	-	<2.0	-	<2.0	<2.0	<2.0	<2.0
Styrene	μg/L	n/v	5.4 ^{FG}	<0.50	<0.50	-	-	<0.50	-	<0.50	<0.50	<0.50	<0.50
Tetrachloroethane, 1,1,1,2-	μg/L	n/v	1.1 ^{FG}	<0.50	<0.50	-	-	<0.50	-	<0.50	<0.50	<0.50	<0.50
Tetrachloroethane, 1,1,2,2-	μg/L	n/v	0.5 ^F 1 ^G	< 0.50	<0.50	-	-	<0.50	-	<0.50	<0.50	<0.50	<0.50
Tetrachloroethene (PCE)	μg/L	10 ^B	0.5 ^F 1.6 ^G	<0.20	<0.20	-	-	<0.20	-	<0.20	<0.20	<0.20	<0.20
Trichloroethane, 1,1,1-	μg/L	n/v	23 ^F 200 ^G	<0.20	<0.20	-	-	<0.20	-	<0.20	<0.20	<0.20	<0.20
Trichloroethane, 1,1,2-	μg/L	n/v	0.5 ^F 4.7 ^G	< 0.50	<0.50	-	-	<0.50	-	<0.50	<0.50	<0.50	<0.50
Trichloroethene (TCE)	μg/L	5 ^B	0.5 ^F 1.6 ^G	<0.20	<0.20	-	-	<0.20	-	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane (Freon 11)	μg/L	n/v	150 ^{FG}	<0.50	<0.50	-	-	<0.50	-	<0.50	<0.50	<0.50	<0.50
Trihalomethanes	μg/L	100 _b ^B	n/v	<1.0	<1.0	-	-	<1.0	-	-	-	-	-
Vinyl Chloride	μq/L	1 ^B	0.5 ^{FG}	<0.20	<0.20	_	_	<0.20	_	<0.20	<0.20	<0.20	<0.20



Table 4

Summary of Groundwater Analytical Results - 2018 Monitoring Wells

Clarington Tranformer Station

Hydro One Networks Inc.

Notes:

ODWS O.Reg 169/03 - Ontario Drinking Water Quality Standards (January 1, 2018); Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines (MOE, 2006), in support of O.Reg 169/03

- Schedule 1 Microbiological Standards (expressed as a maximum)
- Schedule 2 Chemical Standards (expressed as a maximum acceptable concentration)
 ODWS Table 4 Chemical/Physical Objectives and Guidelines, Aesthetic Objectives
- ODWS Table 4 Medical Officer of Health Reporting Limit
- ODWS Table 4 Chemical/Physical Objectives and Guidelines, Operational Guidelines
- Ontario SCS Soil, Ground Water and Sediment Standards for Use under Part XV.I of the Environmental Protection Act (MOE, 2011) Site Condition Standards (SCS)
 - F Table 6 All Types of Property Use Coarse Textured Soils
 - Table 8 All Types of Property Use
- 6.5^A Concentration exceeds the indicated standard.
- 15.2 Measured concentration did not exceed the indicated standard.
- <0.50 Laboratory reporting limit was greater than the applicable standard.
- <0.03 Analyte was not detected at a concentration greater than the laboratory reporting limit.</p>
- n/v No standard/guideline value.
- Parameter not analyzed / not available
- Expressed as a running annual average of quarterly results.
- Where both nitrate and nitrite are present, the total of the two should not exceed 10 mg/L (as nitrogen).
- Refer to ODWS Table 2 for health related standard
- The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.
- When sulfate levels exceed 500 mg/L, water may have a laxative effect on some people.
- Applicable for all waters at the point of consumption.
- The operational guidelines for filtration processes are provided as performance criteria in the Procedure for Disinfection of Drinking Water in Ontario.
- _{n/a} FG Not applicable.
- 1FG Standard is applicable to total xylenes, and m & p-xylenes and o-xylenes should be summed for comparison.
- Standard is for benzo(b)fluoranthene, and therefore, the result is a combination of the two isomers, against which the standard has been compared.
- Standard is applicable to both 1-methylnaphthalene and 2-methylnaphthalene, with the provision that if both are detected the sum of the two must not exceed the standard.
- Standard is applicable to PHC in the F1 range minus BTEX.
- Standard is applicable to PHC in the F3 range, minus PAHs (other than naphthalene). If PAHs were not analyzed, the standard is applied to F3.
- If baseline is not reached during F4 analysis, then gravimetric analysis is to be performed, and the standard is applied to the higher of the two results.
- Standard is applicable to 1,3-Dichloropropene, and the individual isomers (cis + trans) should be added for comparison.
- FG Standard is applicable to total PCBs, and the individual Aroclors should be added for comparison.
- Standard is applicable to PHC in the F2 range minus naphthalene. If naphthalene was not analyzed, the standard is applied to F2.
- DB Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.
- IB The detection limit was raised due to instrument background.
- MI Detection limit was raised due to matrix interferences.
- NA Not analyzed
- NC Not calculated



Table 5
Summary of Groundwater Analytical Results - 2018 Private Wells
Clarington Transformer Station
Hydro One Networks Inc.

Sample Location			PW-01		7-02	PW	/-03	PW	7-04
Aquifer			Shallow Overburden		ner/ firmed	Shallow O	verburden	Shallow O	verburden
Sample Date			10-Oct-18	19-Apr-18	11-Oct-18	19-Apr-18	11-Oct-18	19-Apr-18	11-Oct-18
Sample ID			WG-160900764-	WG-160900764-	WG-160900764-	WG-160900764-	WG-160900764-	WG-160900764-	WG-160900764-
Water Type			20181010-JK14 Raw	20180419-JK21 Raw	20181011-JK22 Raw	20180419-JK20 Raw	20181011-JK21 Raw	20180419-JK17 Raw	20181011-JK20 Raw
Sample Tap			Outside	Inside	Inside	Outside (Barn)	Outside (Barn)	Outside	Outside
			(Back House)	(Basement)	(Basement)	(No Purge)	(No Purge)	(Back house)	(Back house)
Treatment Type Sampling Company			None STANTEC	None STANTEC	None STANTEC	None STANTEC	None STANTEC	None STANTEC	None STANTEC
Laboratory			MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order			B8Q8015	B889899	B8Q8634	B889899	B8Q8634	B889899	B8Q8634
Laboratory Sample ID	Haita	ODWS	HZJ737	GMR465	HZN562	GMR464	HZN561	GMR461 Total Metals	HZN560
Filtered	Units	ODWS	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals
General Chemistry	1								
Acidity Alkalinity, Bicarbonate (as CaCO3)	mg/L mg/L	n/v n/v	33 320	21 310	23 320	33 330	21 330	29 340	38 340
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	1.1	1.5	1.2	1.6	2.6	1.2	2.0
Alkalinity, Total (as CaCO3)	mg/L	30-500 ^E	330	320	330	330	330	340	350
Ammonia (as N) Anion Sum	mg/L me/L	n/v n/v	0.064 7.41	0.086 9.15	0.092 9.75	<0.050 8.79	0.086 8.60	0.073 8.44	<0.050 8.63
Cation Sum	me/L	n/v	7.08	8.88	9.21	8.83	7.98	7.85	8.05
Chloride	mg/L	250 ^C	12	71	86	41	44	12	13
Cyanide (Free) Dissolved Organic Carbon (DOC)	μg/L mg/L	200 ^B 5 ^C	<1 1.1	<1 0.78	<1 0.84	<1 1.5	<1 1.3	<1 1.2	<1 1.2
Electrical Conductivity, Lab	µmhos/cm	n/v	660	880	880	870	780	790	760
Fluoride	mg/L	1.5 ^B	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Hardness (as CaCO3)	mg/L	80-100 ^E	340 ^E	400 ^E	400 ^E	380 ^E	340 ^E	360 ^E	370 ^E
lon Balance Langelier Index (at 20 C)	% none	n/v n/v	2.23 0.714	1.51 0.794	2.84 0.735	0.230 0.885	3.73 1.06	3.62 0.694	3.51 0.930
Langelier Index (at 20 C)	none	n/v	0.466	0.546	0.487	0.637	0.811	0.445	0.681
Nitrate (as N)	mg/L	10.0 _d ^B	3.92	1.01	0.70	7.96	3.58	7.35	7.34
Nitrate + Nitrite (as N) Nitrite (as N)	mg/L mg/l	10.0 _d ^B 1.0 _d ^B	3.92 <0.010	1.01 <0.010	0.7 <0.010	7.96 <0.010	3.58 <0.010	7.35 <0.010	7.34 <0.010
Orthophosphate(as P)	mg/L mg/L	1.0 _d - n/v	<0.010	<0.010	<0.010	0.010	<0.010	<0.010	<0.010
pH, lab	S.U.	6.5-8.5 ^E	7.56	7.69	7.61	7.70	7.92	7.58	7.79
Saturation pH (at 20 C)	none	n/v n/v	6.85 7.10	6.90 7.15	6.87 7.12	6.82 7.07	6.86 7.11	6.89 7.13	6.86
Saturation pH (at 4 C) Sulfate	none mg/L	500 _h ^C	7.10	7.15 37	7.12 36	7.07 20	7.11 24	7.13 35	7.11 40
Total Dissolved Solids	mg/L	500 ^C	345	455	440	475	390	425	370
Total Organic Carbon	mg/L	n/v	1.0	0.84	0.80	1.6	1.4	1.3	1.1
Total Suspended Solids	mg/L	n/v 5 _i ° E	<10	<10	<10	<10	<10 0.1	<10	<10
Turbidity, Lab Metals	NTU	j 5 _{i j}	0.1	0.5	1.2	<0.1	0.1	<0.1	0.1
Aluminum	μg/L	100 ^E	5.2	<5	<5	<5	20	6.1	<5
Antimony	μg/L μg/L	6 ^B	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arsenic	μg/L	10 ^B	<1	<1	<1	<1	<1	<1	<1
Barium Beryllium	μg/L μg/L	1,000 ^B n/v	45 <0.5	63 <0.5	67 <0.5	44 <0.5	53 <0.5	110 <0.5	120 <0.5
Boron	μg/L μg/L	5,000 ^B	13	<10	12	33	18	11	12
Cadmium	μg/L	5 ^B	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Calcium Chromium	μg/L μg/L	n/v 50 ^B	120,000 <5	110,000 <5	120,000 <5	130,000 <5	120,000 <5	110,000 <5	110,000 <5
Chromium (Hexavalent)	μg/L μg/L	n/v	0.55	<0.50	<0.50	<0.50	0.58	0.86	0.90
Cobalt	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Copper Iron	μg/L	1,000 ^C 300 ^C	6 <100	7.4 340^C	6.1 320^C	<1 <100	<1 <100	5 <100	9.5 <100
Lead	μg/L μg/L	10 ^B	<0.5	1.1	0.68	<0.5	<0.5	0.85	0.61
Magnesium	μg/L	n/v	11,000	27,000	26,000	12,000	12,000	23,000	24,000
Manganese	μg/L	50 ^C	<2	3	5.1	<2	2	3.7	<2
Mercury Makindanum	μg/L	1 ^B n/v	<0.1 <0.5	0.3 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5
Molybdenum Nickel	μg/L μg/L	n/v	<1	<1	<1	<1	<1	<1	<1
Phosphorus	μg/L	n/v	<100	<100	<100	<100	<100	<100	<100
Potassium Selenium	μg/L	n/v 50 ^B	1,000 <2	1,800 <2	1,900 <2	1,600 <2	1,600 <2	9,100 <2	9,300 <2
Selenium Silicon	μg/L μg/L	50° n/v	<2 6,200	<2 6,300	<2 6,300	<2 5,100	<2 5,700	<2 7,200	7,800
Silver	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sodium	μg/L	200,000 _g ^C 20,000 _g ^D	6,400	19,000	27,000 ^D	28,000 ^D	27,000 ^D	8,900	9,700
Strontium Thallium	μg/L μg/L	n/v n/v	220 <0.05	270 <0.05	280 <0.05	250 <0.05	250 <0.05	270 <0.05	290 <0.05
Fitanium	μg/L μg/L	n/v	<5	<5	<5	<5	<5	<5	<5
Jranium	μg/L	20 ^B	0.61	16	11	0.78	1.1	1.1	1.4
√anadium Zinc	μg/L μg/L	n/v 5,000 ^C	<0.5 <5	<0.5 11	<0.5 7.3	<0.5 <5	<0.5 <5	<0.5 99	<0.5 67
Zirconium	μg/L μg/L	5,000 n/v	<5 <1	<1	7.3 <1	<5 <1	<5 <1	99 <1	<1
Microbiological Analysis									
Escherichia coli (E.Coli)	cfu/100mL	0 ^A	0	0	0	0	NDOGT ^A	0	0
Total Coliform Background	cfu/100mL	n/v	250	0	0	33	NDOGT	8	300
Total Coliforms	cfu/100mL	0 ^A	28 ^A	0	0	12 ^A	NDOGT ^A	0	82 ^A
BTEX and Petroleum Hydrocarbons Benzene	110/1	1 ^B	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzene Foluene	μg/L μg/L	1 ⁵ 60 ⁸ 24 ^C	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20
Ethylbenzene	μg/L	140 ^B 1.6 ^C	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Kylene, m & p-	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Xylene, o- Xylenes, Total	μg/L μg/L	n/v 90 ^B	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20
PHC F1 (C6-C10 range)	μg/L	n/v	<25	<25	<25	<25	<25	<25	<25
	μg/L	n/v	<25	<25	<25	<25	<25	<25	<25
PHC F1 (C6-C10 range) minus BTEX	μg/L μg/L	n/v n/v	<100 <200	<100 <200	<100 <200	<100 <200	<100 <200	<100 <200	<100 <200
PHC F2 (>C10-C16 range)			<200 <200	<200 <200	<200 <200	<200 <200	<200 <200	<200 <200	<200
PHC F2 (>C10-C16 range) PHC F3 (>C16-C34 range)		n/v			YES	YES	YES	YES	YES
PHC F2 (>C10-C16 range) PHC F3 (>C16-C34 range) PHC F4 (>C34-C50 range)	μg/L none	n/v n/v	YES	YES	120		120	TLS	120
PHC F2 (>C10-C16 range) PHC F3 (>C16-C34 range) PHC F4 (>C34-C50 range) Chromatogram to baseline at C50 Polychlorinated Biphenyls	μg/L	n/v							
PHC F2 (>C10-C16 range) PHC F3 (>C16-C34 range) PHC F4 (>C34-C50 range) Chromatogram to baseline at C50 Polychlorinated Biphenyls Aroclor 1242	μg/L none μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PHC F2 (>C10-C16 range) PHC F3 (>C16-C34 range) PHC F4 (>C34-C50 range) Chromatogram to baseline at C50 Polychlorinated Biphenyls Aroclor 1242 Aroclor 1248	μg/L none μg/L μg/L	n/v n/v n/v	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05
PHC F2 (>C10-C16 range) PHC F3 (>C16-C34 range) PHC F4 (>C34-C50 range) Chromatogram to baseline at C50 Polychlorinated Biphenyls Aroclor 1242	μg/L none μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Table 5
Summary of Groundwater Analytical Results - 2018 Private Wells
Clarington Transformer Station
Hydro One Networks Inc.

Sample Location			PW-01 Shallow		/-02 ner/		/-03		/-04
Aquifer			Overburden		firmed	Shallow C	verburden	Shallow O	verburden
Sample Date			10-Oct-18	19-Apr-18	11-Oct-18	19-Apr-18	11-Oct-18	19-Apr-18	11-Oct-18
Sample ID			WG-160900764-						
Water Type			20181010-JK14 Raw	20180419-JK21 Raw	20181011-JK22 Raw	20180419-JK20 Raw	20181011-JK21 Raw	20180419-JK17 Raw	20181011-JK20 Raw
••			Outside	Inside	Inside	Outside (Barn)	Outside (Barn)	Outside	Outside
Sample Tap			(Back House)	(Basement)	(Basement)	(No Purge)	(No Purge)	(Back house)	(Back house)
Treatment Type			None						
Sampling Company Laboratory			STANTEC MAXX						
Laboratory Work Order			B8Q8015	B889899	B8Q8634	B889899	B8Q8634	B889899	B8Q8634
Laboratory Sample ID			HZJ737	GMR465	HZN562	GMR464	HZN561	GMR461	HZN560
Filtered	Units	ODWS	Total Metals						
Semi-Volatile Organic Compounds									
Acenaphthene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Acenaphthylene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Anthracene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene Benzo(a)pyrene	μg/L μg/L	n/v 0.01 ^B	<0.05 <0.01						
Benzo(b/j)fluoranthene	μg/L μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.05	<0.05
Benzo(k)fluoranthene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Biphenyl, 1,1'- (Biphenyl)	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis(2-Chloroethyl)ether Bis(2-Chloroisopropyl)ether	μg/L μg/L	n/v n/v	<0.5 <0.5						
Bis(2-Ethylhexyl)phthalate (DEHP)	μg/L μg/L	n/v	<1	<0.5 <1	<1	<0.5 <1	<1	<0.5 <1	<1
Chloroaniline, 4-	μg/L	n/v	<1	<1	<1	<1	<1	<1	<1
Chlorophenol, 2- (ortho-Chlorophenol)	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenzo(a,h)anthracene Dichlorobenzidine, 3,3'-	μg/L μg/L	n/v n/v	<0.1 <0.5						
Dichlorophenol, 2,4-	μg/L μg/L	900 ^B 0.3 _f ^C	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.1
Diethyl Phthalate	μg/L	n/v	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1
Dimethyl Phthalate	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethylphenol, 2,4-	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dinitrophenol, 2,4- Dinitrotoluene, 2,4-	μg/L μg/L	n/v n/v	<2 <0.3						
Dinitrotoluene, 2,6-	μg/L μg/L	n/v	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Fluoranthene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Fluorene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Indeno(1,2,3-cd)pyrene	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methylnaphthalene (Total) Methylnaphthalene, 1-	μg/L	n/v n/v	<0.28 <0.2						
Methylnaphthalene, 2-	μg/L μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Pentachlorophenol	μg/L	60 ^B 30 _f ^C	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenol Pyrene	μg/L μg/L	n/v n/v	<0.5 <0.05						
Trichlorobenzene, 1,2,4-	μg/L μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorophenol, 2,4,5-	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Trichlorophenol, 2,4,6- Volatile Organic Compounds	μg/L	5 ^B 2 _f ^C	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Acetone	μg/L	n/v	<10	<10	<10	<10	<10	<10	<10
Bromodichloromethane	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform (Tribromomethane)	μg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane (Methyl bromide) Carbon Tetrachloride (Tetrachloromethane)	μg/L μg/L	n/v 2 ^B	<0.50 <0.20						
Calbon Tetrachionde (Tetrachioromethane) Chlorobenzene (Monochlorobenzene)	μg/L μg/L	80 ^B 30f ^C	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform (Trichloromethane)	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.22
Dibromochloromethane	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,2-	μg/L	200 ^B 3 _f ^C	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,3- Dichlorobenzene, 1,4-	μg/L μg/L	n/v 5 ^B 1 _f ^C	<0.50 <0.50						
Dichlorodifluoromethane (Freon 12)	μg/L μg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dichloroethane, 1,1-	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloroethane, 1,2-	μg/L	5 ^B	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethene, 1,1-	μg/L	14 ^B	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloroethene, cis-1,2- Dichloroethene, trans-1,2-	μg/L μα/l	n/v n/v	<0.50 <0.50						
Dichloropropane, 1,2-	μg/L μg/L	n/v	<0.20	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20
Dichloropropene, 1,3- (sum of isomers cis + trans)	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloropropene, cis-1,3-	μg/L	n/v	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dichloropropene, trans-1,3-	μg/L	n/v	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane)	μg/L μα/l	n/v n/v	<0.20 <1.0						
Methyl Ethyl Ketone (MEK) (2-Butanone)	μg/L μg/L	n/v	<10	<10	<10	<10	<10	<10	<10
Methyl Isobutyl Ketone (MIBK)	μg/L	n/v	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether (MTBE)	μg/L	15 ^C	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methylene Chloride (Dichloromethane)	μg/L	50 ^B	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Styrene Tetrachloroethane 1 1 1 2	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethane, 1,1,1,2- Tetrachloroethane, 1,1,2,2-	μg/L μg/L	n/v n/v	<0.50 <0.50						
Tetrachloroethane, 1,1,2,2- Tetrachloroethene (PCE)	μg/L μg/L	10 ^B	<0.20	<0.20	<0.20	<0.50	<0.20	<0.50	<0.20
Trichloroethane, 1,1,1-	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethane, 1,1,2-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethene (TCE)	μg/L	5 ^B	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane (Freon 11)	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trihalomethanes	μg/L	100 _b ^B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.22
Vinyl Chloride	μg/L	1 ^B	<0.20	< 0.20	<0.20	<0.20	<0.20	<0.20	<0.20



Table 5
Summary of Groundwater Analytical Results - 2018 Private Wells
Clarington Transformer Station
Hydro One Networks Inc.

Comple Leastion	İ	I	l pw	-05	DIA	/-06	l DIA	/-08	DIA.	/-09
Sample Location Aquifer			Thorncliffe			Formation		v-uo Overburden		verburden
Sample Date			18-Apr-18	9-Oct-18	17-Apr-18	10-Oct-18	19-Apr-18	10-Oct-18	3-May-18	11-Oct-18
Sample ID			WG-160900764-	WG-160900764-		WG-160900764-	WG-160900764-		WG-160900764-	WG-160900764-
•			20180418-JK11 Raw	20181009-JK8 Raw	20180417-JK2 Raw	20181010-JK10 Raw	20180419-JK18 Treated	20181010-JK17 Treated	20180503-RD02 Raw	20181011-JK24 Raw
Water Type			Outside	Outside					Outside	Outside
Sample Tap			(Driveway)	(Driveway)	, ,	Inside (Kitchen)	, ,	, ,	(Back house)	(Back house)
Treatment Type Sampling Company			None STANTEC	None STANTEC	None STANTEC	None STANTEC	Softener STANTEC	Softener STANTEC	None STANTEC	None STANTEC
Laboratory			MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order Laboratory Sample ID			B888862 GML890	B8Q6729 HZC412	B887457 GME357	B8Q8015 HZJ733	B889899 GMR462	B8Q8015 HZJ740	B8A2432 GPK260	B8Q8634 HZN564
Filtered	Units	ODWS	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals
General Chemistry Acidity	mg/L	n/v	<5.0	6.6	<5.0	<5.0	17	18	17	28
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	190	190	150	150	260	290	280	320
Alkalinity, Carbonate (as CaCO3) Alkalinity, Total (as CaCO3)	mg/L mg/L	n/v 30-500 ^E	1.8 190	1.9 190	2.0 150	1.8 150	1.2 260	1.8 290	3.0 280	2.3 320
Ammonia (as N)	mg/L	n/v	0.15	0.16	0.24	0.33	0.11	0.17	<0.050	0.072
Anion Sum Cation Sum	me/L	n/v n/v	4.10 3.83	4.17 4.12	3.26 3.20	3.16 3.07	18.1 17.5	18.7 17.9	7.31 7.02	8.01 7.45
Chloride	me/L mg/L	250 ^C	1.8	2.0	3.20 2.1	1.7	430 ^C	430 ^C	7.02 29	33
Cyanide (Free)	μg/L	200 ^B	<1	<1	<1	<1	<1	<1	<1	<1
Dissolved Organic Carbon (DOC)	mg/L	5 ^C n/v	0.75 360	0.75 330	0.76 290	0.73 280	0.94 2,000	1.5 2,000	1.7 690	1.2 710
Electrical Conductivity, Lab Fluoride	µmhos/cm mg/L	n/v 1.5 ^B	0.16	0.14	0.21	0.20	2,000 <0.10	<0.10	<0.10	<0.10
Hardness (as CaCO3)	mg/L	80-100 ^E	170 ^E	190 ^E	120 ^E	110 ^E	320 ^E	180 ^E	300 ^E	310 ^E
Ion Balance Langelier Index (at 20 C)	% none	n/v n/v	3.32 0.544	0.590 0.589	1.01 0.305	1.48 0.210	1.62 0.437	2.38 0.341	2.07 1.07	3.63 0.985
Langelier Index (at 20 C) Langelier Index (at 4 C)	none	n/v	0.544	0.340	0.0550	-0.0400	0.437	0.0950	0.826	0.965
Nitrate (as N)	mg/L	10.0 _d ^B	<0.10	<0.10	<0.10	<0.10	0.23	<0.10	7.93	4.71
Nitrate + Nitrite (as N) Nitrite (as N)	mg/L mg/L	10.0 _d ^B 1.0 _d ^B	<0.10 <0.010	<0.10 <0.010	<0.10 <0.010	<0.10 <0.010	0.23 <0.010	0.013 0.013	7.93 <0.010	4.71 <0.010
Orthophosphate(as P)	mg/L	n/v	<0.010	<0.010	0.013	<0.010	<0.010	<0.010	<0.010	<0.010
pH, lab Saturation pH (at 20 C)	S.U. none	6.5-8.5 ^E n/v	8.01 7.47	8.03 7.44	8.16 7.86	8.11 7.90	7.69 7.25	7.82 7.48	8.05 6.98	7.88 6.90
Saturation pH (at 4 C)	none	n/v	7.72	7.69	8.11	8.15	7.50	7.72	7.23	7.15
Sulfate	mg/L	500 _h ^C	12	11	11	7.4	35	37	13	15
Total Dissolved Solids Total Organic Carbon	mg/L mg/L	500 ^C n/v	230 0.76	290 0.71	180 0.76	120 0.74	940^c 0.92	970 ^c 1.5	435 1.6	390 1.2
Total Suspended Solids	mg/L	n/v	<10	<10	<10	<10	<10	<10	<10	<10
Turbidity, Lab	NTU	5, E	10 ^C	5.4 ^C	1.2	0.8	0.2	0.3	<0.1	<0.1
Metals		T =	_		·	_	_	_		
Aluminum Antimony	μg/L μg/L	100 ^E 6 ^B	<5 <0.5	6.9 <0.5	<5 <0.5	<5 <0.5	<5 <0.5	<5 <0.5	<5 <0.5	<5 <0.5
Arsenic	μg/L	10 ^B	<1	<1	<1	<1	<1	<1	<1	<1
Barium Beryllium	μg/L μg/L	1,000 ^B n/v	160 <0.5	170 <0.5	100 <0.5	89 <0.5	81 <0.5	69 <0.5	59 <0.5	58 <0.5
Boron	μg/L μg/L	5,000 ^B	20	19	42	48	22	24	25	17
Cadmium	μg/L	5 ^B	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Calcium Chromium	μg/L μg/L	n/v 50 ^B	44,000 <5	49,000 <5	22,000 <5	19,000 <5	75,000 <5	40,000 <5	110,000 <5	110,000 <5
Chromium (Hexavalent)	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.56	0.72
Copper	μg/L	n/v 1,000 ^C	<0.5 14	<0.5 31	<0.5 <1	<0.5 3.9	<0.5 22	<0.5 31	<0.5 4.9	<0.5 4.6
Copper Iron	μg/L μg/L	300°	1,500 ^C	1,800 ^C	400 ^c	3.9 320 ^c	<100	480 ^C	4.9 <100	<100
Lead	μg/L	10 ^B	0.97	5.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Magnesium	μg/L	n/v	15,000	16,000	17,000	15,000	32,000	19,000	8,900	10,000
Manganese Mercury	μg/L μg/L	50 ^C 1 ^B	24 <0.1	30 <0.1	8.3 <0.1	7.8 <0.1	22 <0.1	16 <0.1	<2 <0.1	<2 <0.1
Molybdenum	μg/L	n/v	0.72	0.63	0.77	0.75	<0.5	<0.5	0.52	<0.5
Nickel	μg/L	n/v	1 <100	1.1 <100	<1 <100	<1 <100	<1 <100	<1 <100	<1 <100	<1 <100
Phosphorus Potassium	μg/L μg/L	n/v n/v	980	1,000	560	500	1,400	860	4,800	3,200
Selenium	μg/L	50 ^B	<2	<2	<2	<2	<2	<2	<2	<2
Silicon Silver	μg/L μg/L	n/v n/v	11,000 <0.1	12,000 <0.1	7,900 <0.1	8,000 <0.1	7,500 <0.1	8,300 <0.1	4,300 <0.1	5,700 <0.1
Sodium	μg/L μg/L	200,000 _g ^C 20,000 _g ^D	6,800	6,800	15,000	19,000	250,000 ^{CD}	330,000 ^{CD}	21,000 ^D	25,000 ^D
Strontium	μg/L	n/v	240	250	370	330	320	170	210	220
Thallium Titanium	μg/L μg/L	n/v n/v	<0.05 <5	<0.05 <5	<0.05 <5	<0.05 <5	<0.05 <5	<0.05 <5	<0.05 <5	<0.05 <5
Uranium	μg/L μg/L	20 ^B	<0.1	<0.1	<0.1	<0.1	0.22	0.15	0.27	0.3
Vanadium	μg/L	n/v	< 0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Zinc Zirconium	μg/L μg/L	5,000 ^C n/v	27 <1	21 <1	<5 <1	<5 <1	210 <1	140 <1	11 <1	5.2 <1
Microbiological Analysis										
Escherichia coli (E.Coli)	cfu/100mL	0 ^A	0	0	0	0	0	0	0	0
Total Coliforms	cfu/100mL	n/v 0 ^A	0	46 6^A	0 0	0	0	220 7^A	8 44A	17 0
Total Coliforms BTEX and Petroleum Hydrocarbons	cfu/100mL	I U	l U	b"	U	U	l U	<i></i>	11 ^A	U
Benzene	μg/L	1 ^B	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	μg/L	60 ^B 24 ^C	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Ethylbenzene Xylene, m & p-	μg/L μg/L	140 ^B 1.6 ^C n/v	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20
Xylene, o-	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Xylenes, Total PHC F1 (C6-C10 range)	μg/L	90 ^B n/v	<0.20 <25	<0.20 <25	<0.20 <25	<0.20 <25	<0.20 <25	<0.20 <25	<0.20 <25	<0.20
PHC F1 (C6-C10 range) PHC F1 (C6-C10 range) minus BTEX	μg/L μg/L	n/v n/v	<25 <25	<25 <25	<25 <25	<25 <25	<25 <25	<25 <25	<25 <25	<25 <25
PHC F2 (>C10-C16 range)	μg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F3 (>C16-C34 range) PHC F4 (>C34-C50 range)	μg/L μg/L	n/v n/v	<200 <200	<200 <200	<200 <200	<200 <200	<200 <200	<200 <200	<200 <200	<200 <200
Chromatogram to baseline at C50	none	n/v	YES	YES	YES	YES	YES	YES	YES	YES
Polychlorinated Biphenyls										
	μg/L	n/v	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05
Aroclor 1242 Aroclor 1248	110/							- \u.ua		SULUD
Aroclor 1242 Aroclor 1248 Aroclor 1254	μg/L μg/L	n/v n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aroclor 1248										

Table 5
Summary of Groundwater Analytical Results - 2018 Private Wells
Clarington Transformer Station
Hydro One Networks Inc.

Sample Location			PW	/-05	PW	<i>I</i> -06	PW	7-08	PW	/-09
Aquifer			Thorncliffe	Formation	Thorncliffe	Formation	Shallow O	verburden	Shallow O	verburden
Sample Date			18-Apr-18	9-Oct-18	17-Apr-18	10-Oct-18	19-Apr-18	10-Oct-18	3-May-18	11-Oct-18
·			WG-160900764-	WG-160900764-	WG-160900764-		WG-160900764-	WG-160900764-	WG-160900764-	WG-160900764
Sample ID			20180418-JK11	20181009-JK8	20180417-JK2	20181010-JK10	20180419-JK18		20180503-RD02	
Water Type			Raw	Raw	Raw	Raw	Treated	Treated	Raw	Raw
Sample Tap			Outside (Driveway)	Outside (Driveway)	Inside (Kitchen)	Inside (Kitchen)	Inside (Kitchen)	Inside (Kitchen)	Outside (Back house)	Outside (Back house)
Treatment Type			None	None	None	None	Softener	Softener	None	None
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order			B888862	B8Q6729	B887457	B8Q8015	B889899	B8Q8015	B8A2432	B8Q8634
Laboratory Sample ID Filtered	Units	ODWS	GML890 Total Metals	HZC412 Total Metals	GME357 Total Metals	HZJ733 Total Metals	GMR462 Total Metals	HZJ740 Total Metals	GPK260 Total Metals	HZN564 Total Metals
riitereu	Offics	ODWS	Total Wetais	Total Wetais	Total Wetais	Total Wetais	Total Wetais	Total Wetais	Total Wetais	Total Wetais
Semi-Volatile Organic Compounds										
Acenaphthene Acenaphthylene	μg/L μg/L	n/v n/v	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2
Anthracene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene	μg/L	n/v_	<0.05	<0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	μg/L	0.01 ^B	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b/j)fluoranthene Benzo(g,h,i)perylene	μg/L	n/v n/v	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05
Benzo(k)fluoranthene	μg/L μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Biphenyl, 1,1'- (Biphenyl)	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis(2-Chloroethyl)ether	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-Chloroisopropyl)ether	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-Ethylhexyl)phthalate (DEHP)	μg/L	n/v	<1	<1	<1	<1	<1	<1	<1	<1
Chloroaniline, 4- Chlorophenol, 2- (ortho-Chlorophenol)	μg/L	n/v n/v	<1 <0.1	<1 <0.1	<1 <0.1	<1 <0.1	<1 <0.1	<1 <0.1	<1 <0.1	<1 <0.1
Chiorophenoi, 2- (ortho-Chiorophenoi) Chrysene	μg/L μg/L	n/v	<0.05	<0.1	<0.1 <0.05	<0.1	<0.1 <0.05	<0.1 <0.05	<0.1 <0.05	<0.05
Dibenzo(a,h)anthracene	μg/L μg/L	n/v	<0.1	<0.03	<0.03	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorobenzidine, 3,3'-	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorophenol, 2,4-	μg/L	900 ^B 0.3 _f ^C	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Diethyl Phthalate	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethyl Phthalate Dimethylphenol, 2,4-	μg/L μg/L	n/v n/v	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5
initrophenol, 2,4-	μg/L μg/L	n/v	<2	<2	<2	<2	<2	<2	<2	<2
Dinitrotoluene, 2,4-	μg/L	n/v	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Dinitrotoluene, 2,6-	μg/L	n/v	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Fluoranthene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
luorene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
ndeno(1,2,3-cd)pyrene lethylnaphthalene (Total)	μg/L μg/L	n/v n/v	<0.1 <0.28	<0.1 <0.28	<0.1 <0.28	<0.1 <0.28	<0.1 <0.28	<0.1 <0.28	<0.1 <0.28	<0.1 <0.28
Methylnaphthalene, 1-	μg/L μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methylnaphthalene, 2-	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Pentachlorophenol	μg/L	60 ^B 30 _f ^C	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenol Pyrene	μg/L μg/L	n/v n/v	<0.5 <0.05	<0.5 <0.05	<0.5 <0.05	<0.5 <0.05	<0.5 <0.05	<0.5 <0.05	<0.5 <0.05	<0.5 <0.05
Frichlorobenzene, 1,2,4-	μg/L μg/L	n/v	<0.1	<0.05	<0.03	<0.05	<0.05	<0.05	<0.05	<0.1
Frichlorophenol, 2,4,5-	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Trichlorophenol, 2,4,6-	μg/L	5 ^B 2 _f ^C	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Volatile Organic Compounds Acetone	μg/L	n/v	<10	<10	<10	<10	<10	<10	<10	<10
Bromodichloromethane	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	0.62	<0.50	<0.50	1.3
Bromoform (Tribromomethane)	μg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane (Methyl bromide)	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon Tetrachloride (Tetrachloromethane)	μg/L	2 ^B 80 ^B 30f ^C	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20 <0.20
thlorobenzene (Monochlorobenzene) thloroform (Trichloromethane)	μg/L μg/L	80° 30f° n/v	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 2.7	<0.20 0.41	<0.20 <0.20	<0.20 4.9
Dibromochloromethane	μg/L μg/L	n/v	<0.50	<0.50	<0.50	<0.50	0.81	<0.50	<0.50	0.66
Dichlorobenzene, 1,2-	μg/L	200 ^B 3 _f ^C	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,3-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,4-	μg/L	5 ^B 1 _f ^C	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1-	μg/L μg/L	n/v n/v	<1.0 <0.20	<1.0 <0.20	<1.0 <0.20	<1.0 <0.20	<1.0 <0.20	<1.0 <0.20	<1.0 <0.20	<1.0 <0.20
		5 ^B	<0.20	<0.20	<0.20 <0.50	<0.20	<0.20 <0.50	<0.20	<0.20	<0.20
JICHIOTOETHANE. 1.2-	Ha/I		-0.00	-0.00		<0.20	<0.20	<0.20	<0.20	<0.20
	μg/L μg/L	14 ^B	<0.20	<0.20	<0.20	\0.20				<0.50
Dichloroethene, 1,1-			<0.50	<0.50	<0.20 <0.50	<0.50	<0.50	<0.50	<0.50	
oichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2-	µg/L µg/L µg/L	14 ^B n/v n/v	<0.50 <0.50	<0.50 <0.50	<0.50 <0.50	<0.50 <0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2-	μg/L μg/L μg/L μg/L	14 ^B n/v n/v n/v	<0.50 <0.50 <0.20	<0.50 <0.50 <0.20	<0.50 <0.50 <0.20	<0.50 <0.50 <0.20	<0.50 <0.20	<0.50 <0.20	<0.50 <0.20	<0.50 <0.20
Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans)	µg/L µg/L µg/L µg/L µg/L	14 ^B n/v n/v n/v n/v	<0.50 <0.50 <0.20 <0.50	<0.50 <0.50 <0.20 <0.50	<0.50 <0.50 <0.20 <0.50	<0.50 <0.50 <0.20 <0.50	<0.50 <0.20 <0.50	<0.50 <0.20 <0.50	<0.50 <0.20 <0.50	<0.50 <0.20 <0.50
Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3-	µg/L µg/L µg/L µg/L µg/L µg/L	14 ^B n/v n/v n/v n/v n/v	<0.50 <0.50 <0.20 <0.50 <0.30	<0.50 <0.50 <0.20 <0.50 <0.30	<0.50 <0.50 <0.20 <0.50 <0.30	<0.50 <0.50 <0.20 <0.50 <0.30	<0.50 <0.20 <0.50 <0.30	<0.50 <0.20 <0.50 <0.30	<0.50 <0.20 <0.50 <0.30	<0.50 <0.20 <0.50 <0.30
Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3-	hg/L hg/L hg/L hg/L hg/L hg/L	14 ^B n/v n/v n/v n/v	<0.50 <0.50 <0.20 <0.50	<0.50 <0.50 <0.20 <0.50	<0.50 <0.50 <0.20 <0.50	<0.50 <0.50 <0.20 <0.50	<0.50 <0.20 <0.50	<0.50 <0.20 <0.50	<0.50 <0.20 <0.50	<0.50 <0.20 <0.50
Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloropropene, trans-1,2- Dichloropropene, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane)	µg/L µg/L µg/L µg/L µg/L µg/L	14 ^B n/v n/v n/v n/v n/v n/v	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40	<0.50 <0.20 <0.50 <0.30 <0.40	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0
Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone)	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	14 ^B n/v	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10
Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK)	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	14 ^B n/v	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0
Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Eithylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK) Methyl tert-butyl ether (MTBE)	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	14 ⁸ n/v	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50
Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloropropane, 1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK) Methyl tert-butyl ether (MTBE) Methylene Chloride (Dichloromethane)	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	14 ⁸ n/v n/v n/v n/v n/v n/v n/v n/v n/v 15 ^c 50 ⁸	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <2.0	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <50 <0.50 <2.0	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <50 <0.50 <2.0	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10.0 <5.0 <0.50 <2.0	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <50.0 <0.50 <2.0	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <0.50 <0.50 <2.0	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <2.20	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <2.0
Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloropropane, 1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK) Methyl tert-butyl ether (MTBE) Methylene Chloride (Dichloromethane) Styrene	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	14 ⁸ n/v	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <5.50 <0.50 <2.0 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <2.0 <0.50
Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK) Methyl tert-butyl ether (MTBE) Methylene Chloride (Dichloromethane) Styrene Fetrachloroethane, 1,1,1,2-	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	14 ^B n/v n/v n/v n/v n/v n/v n/v n/v n/v 15 ^C 50 ^B n/v	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <2.0	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10.0 <5.0 <0.50 <2.0	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <50.0 <0.50 <2.0	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <5.50 <0.50 <2.0 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <2.20	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <2.0
Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, cis-1,2- Dichloropropane, 1,2- Dichloropropane, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK) Methyl tert-butyl ether (MTBE) Methylene Chloride (Dichloromethane) Styrene Tetrachloroethane, 1,1,1,2- Tetrachloroethane, 1,1,2-	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	14 ^B n/v	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50	<0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50	<0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50
Dichloroethane, 1,2- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK) Methyl tert-butyl ether (MTBE) Methylene Chloride (Dichloromethane) Styrene Tetrachloroethane, 1,1,1,2- Tetrachloroethane, 1,1,2- Tetrachloroethene (PCE) Trichloroethane, 1,1,1-	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	14 ⁸ n/v	<0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.20	<0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.20 <0.20	<0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.20	<0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.20	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.20	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <2.0 <0.50 <0.50 <0.50 <0.20 <0.20 <0.20	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <2.0 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20
Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK) Methyl tert-butyl ether (MTBE) Methylene Chloride (Dichloromethane) Styrene Tetrachloroethane, 1,1,1,2- Tetrachloroethane, 1,1,1- Trichloroethane, 1,1,1- Trichloroethane, 1,1,1- Trichloroethane, 1,1,2-	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	14 ^B n/v	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <2.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	<0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.50 <0.50	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.50	<0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <2.0 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <2.0 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <2.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.20 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <2.0 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.50
Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK) Methyl tert-butyl ether (MTBE) Methylene Chloride (Dichloromethane) Styrene Tetrachloroethane, 1,1,1,2- Tetrachloroethane, 1,1,1- Trichloroethane, 1,1,1- Trichloroethane, 1,1,2- Trichloroethane, 1,1,2- Trichloroethane, 1,1,2- Trichloroethane (TCE)	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	14 ^B n/v	<0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.20 <0.20	<0.50 <0.50 <0.50 <0.50 <0.30 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <2.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20	<0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <2.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.50 <0.20 <0.50 <0.20 <0.50 <0.20	<0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <2.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.50 <0.20 <0.50 <0.20 <0.50 <0.20 <0.50 <0.20	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <2.0 <0.50 <0.50 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <2.0 <0.50 <0.50 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.00 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.50 <0.20 <0.20 <0.20
Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK) Methyl tert-butyl ether (MTBE) Methylene Chloride (Dichloromethane) Styrene Tetrachloroethane, 1,1,1,2- Tetrachloroethane, 1,1,1- Trichloroethane, 1,1,1- Trichloroethane, 1,1,1- Trichloroethane, 1,1,1- Trichloroethane, 1,1,2-	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	14 ^B n/v	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <2.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	<0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.50 <0.50	<0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.50	<0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <2.0 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <2.0 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <2.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.20 <0.50	<0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.50



Table 5
Summary of Groundwater Analytical Results - 2018 Private Wells
Clarington Transformer Station
Hydro One Networks Inc.

Sample Location Aquifer			PW Thorncliffe			/-11		/-12 verburden	PW-13 Thorncliffe
Sample Date Sample ID Water Type Sample Tap Treatment Type Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Filtered General Chemistry	Units	ODWS	18-Apr-18 WG-160900764- 20180418-JK8 Raw Inside (Basement) None STANTEC MAXX B88862 GML887 Total Metals	9-Oct-18 WG-160900764- 20181009-JK2 Raw Inside (Basement) None STANTEC MAXX B8Q6729 HZC406 Total Metals	17-Apr-18 WG-160900764- 20180417-JK4 Raw Outside (Back Deck) None STANTEC MAXX B887457 GME359 Total Metals	11-Oct-18 WG-160900764- 20181011-JK19 Raw Outside (Back Deck) None STANTEC MAXX B8Q8634 HZN559 Total Metals	18-Apr-18 WG-160900764- 20180418-JK14 Treated Outside (Right house) Softener STANTEC MAXX B888862 GML894 Total Metals	10-Oct-18 WG-160900764- 20181010-JK13 Treated Outside (Right house) Softener STANTEC MAXX B8Q8015 HZJ736 Total Metals	Formation 9-Oct-18 WG-160900764- 20181009-JK1 Treated Outside (Back house) Softener STANTEC MAXX B8Q6729 HZC405 Total Metals
Acidity Alkalinity, Bicarbonate (as CaCO3) Alkalinity, Carbonate (as CaCO3) Alkalinity, Total (as CaCO3) Ammonia (as N) Anion Sum Cation Sum Chloride Cyanide (Free) Dissolved Organic Carbon (DOC) Electrical Conductivity, Lab Fluoride Hardness (as CaCO3) Ion Balance Langelier Index (at 20 C) Langelier Index (at 4 C) Nitrate (as N) Nitrate + Nitrite (as N) Nitrite (as N) Orthophosphate(as P)	mg/L mg/L mg/L mg/L mg/L mg/L me/L mg/L µg/L µg/L µmhos/cm mg/L % none none mg/L mg/L mg/L mg/L	n/v n/v n/v 30-500 ^E n/v n/v n/v 250 ^C 200 ^B 5 ^C n/v 1.5 ^B 80-100 ^E n/v n/v 1.0 _d 1.0 _d n/v	7.0 210 1.9 210 <0.050 5.62 5.38 13 <1 0.63 530 <0.10 250 ^E 2.17 0.736 0.487 <0.10 <0.10 <0.010 <0.010 <0.010	10 220 1.8 220 <0.050 5.81 5.70 13 <1 0.59 520 <0.10 270 ^E 0.960 0.735 0.486 <0.10 <0.010 <0.010 <0.010	15 210 2.5 220 <0.050 4.88 4.71 13 <1 1.4 460 <0.10 220 ^E 1.72 0.935 0.686 1.29 1.29 <0.010 <0.010	32 350 1.9 350 0.069 10.3 9.69 93 <1 0.98 930 <0.10 410 ^E 3.25 0.979 0.731 3.31 <0.010 <0.010	11 310 2.7 320 <0.050 7.01 6.69 10 <1 1.8 650 <0.10 11 ^E 2.36 -0.390 -0.639 1.68 1.68 <0.010 <0.010	21 330 1.3 330 0.075 8.90 8.93 50 <1 1.1 860 <0.10 1.4 ^E 0.170 -1.67 -1.92 1.26 1.26 <0.010 0.015	<5.0 130 1.5 130 0.15 3.30 3.21 2.0 <1 0.65 300 0.34 91 1.35 0.0960 -0.155 <0.10 <0.010 <0.010 <0.010
Orthophosphate(as P) pH, lab Saturation pH (at 20 C) Saturation pH (at 4 C) Sulfate Total Dissolved Solids Total Organic Carbon Total Suspended Solids Turbidity, Lab Metals	s.U. none none mg/L mg/L mg/L mg/L NTU	6.5-8.5 ^E n/v n/v 500 _h ^C 500 ^C n/v n/v 5 ^C 5 ^C 5 ^E	8.00 7.26 7.51 51 315 0.63 <10	7.96 7.22 7.47 53 295 0.63 <10	8.10 7.17 7.41 5.1 265 1.3 <10	7.77 6.79 7.04 23 490 0.94 <10 <0.1	7.96 8.35 8.59 13 365 1.8 <10	7.61 9.28 9.53 38 480 1.1 <10 0.2	8.11 8.01 8.26 33 135 0.65 <10
Aluminum Antimony Arsenic Barium Beryllium Boron Cadmium Calcium Chromium Chromium (Hexavalent) Cobalt Copper Iron Lead Magnesium Manganese Mercury Molybdenum Nickel Phosphorus Potassium Selenium Silicon Siliver	Hall Hall Hall Hall Hall Hall Hall Hall	100 ^E 6 ^B 10 ^B 1,000 ^B n/v 5,000 ^B 5 ^B n/v 50 ^B n/v 1,000 ^C 300 ^C 10 ^B n/v 50 ^C 1 ^B n/v 50 ^C 1 ^B n/v n/v n/v n/v n/v n/v n/v	<5 <0.5 <1 79 <0.5 <10 <0.1 69,000 <5 <0.50 <0.50 <0.50 <0.55 <1 <0.50 <0.55 <1 <0.50 <0.5 <1 <0.50 <0.5 <0.5 <0.5 <0.5 <0.5 <0.5 <0.	<5 <0.5 <1 78 <0.5 <10 <0.1 73,000 <5 <0.50 <0.50 <0.5 <1 2,600° <0.5 21,000 61° <1 <10 <10 <10 <10 <10 <10 <10 <10 <10	5.9 <0.5 <11 22 <0.5 <10 <0.1 81,000 <5 <0.50 <0.5 5.4 <100 <0.5 4,400 <2 <0.1 <100 630 <2 3,100 <0.1	<5 <0.5 <1 70 <0.5 16 <0.1 140,000 <5 0.87 <0.5 7.7 <100 <0.5 18,000 <2 <0.1 <0.5 <1 <100 880 <2 7,000 <0.5 <1 <100 800 <2 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.1 <0.5 <0.5 <0.5 <0.1 <0.5 <0.5 <0.5 <0.5 <0.1 <0.5 <0.5 <0.5 <0.5 <0.5 <0.5 <0.5 <0.5	<5 <0.5 <1 <2 <0.5 <10 <0.1 3,900 <5 <0.50 <0.50 <0.5 21 <100 <0.5 260 <2 <0.1 <0.5 <1 <100 <200 <2 3,500 <0.1	<5 <0.5 <11 <2 <0.5 15 <0.1 460 <5 <0.50 <0.5 39 <100 0.71 63 <2 <0.1 <0.5 <1 0.5 <0.5 <0.5 <0.5 <0.7 <0.5 <0.7 <0.7 <0.7 <0.7 <0.7 <0.7 <0.7 <0.7	16 <0.5 3 33 <0.5 75 <0.1 18,000 <5 <0.50 <0.5 <1 <100 <0.5 11,000 8.3 <0.1 5.1 <100 800 <2 6,600 <0.1
Sodium Strontium Thallium Titanium Uranium Vanadium Zinc Zirconium Microbiological Analysis	µg/L µg/L µg/L µg/L µg/L µg/L µg/L	200,000g ^C 20,000g ^D n/v n/v n/v 20 ^B n/v 5,000 ^C n/v	4,700 220 <0.05 <5 <0.1 <0.5 <5 <1	4,800 220 <0.05 <5 <0.1 <0.5 <5 <1	6,300 150 <0.05 <5 0.17 <0.5 5.1 <1	33,000 ^D 290 <0.05 <5 0.5 <0.5 12 <1	150,000 ^D 6.6 <0.05 <5 0.76 <0.5 <5 1	200,000 ^D <1 <0.05 <5 4.7 <0.5 <5 <1	31,000 ^D 370 <0.05 <5 0.47 <0.5 <5 <1
Escherichia coli (E.Coli) Total Coliform Background Total Coliforms	cfu/100mL cfu/100mL cfu/100mL	0 ^A n/v 0 ^A	0 0 0	0 8 0	54^A 800 78^A	0 21 0	0 130 10^A	0 3 0	0 12 0
BTEX and Petroleum Hydrocarbons Benzene Toluene Ethylbenzene Xylene, m & p- Xylene, o- Xylenes, Total PHC F1 (C6-C10 range) PHC F1 (C6-C10 range) minus BTEX PHC F2 (>C10-C16 range) PHC F3 (>C16-C34 range) PHC F4 (>C34-C50 range) Chromatogram to baseline at C50	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	1 ⁸ 60 ⁸ 24 ^C 140 ⁸ 1.6 ^C n/v n/v 90 ⁸ n/v n/v n/v n/v n/v	<0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <2.25 <100 <200 <200 <200 YES	<0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <2.25 <100 <200 <200 <200 YES	<0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <2.25 <100 <200 <200 <200 YES	<0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <2.25 <100 <200 <200 <200 YES	<0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <2.25 <25 <100 <200 <200 <200 YES	<0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <2.25 <100 <200 <200 <200 YES	<0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <2.25 <100 <200 <200 <200 YES
Polychlorinated Biphenyls Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1260 Polychlorinated Biphenyls (PCBs) See notes on last page	µg/L µg/L µg/L µg/L µg/L	n/v n/v n/v n/v 3 ^B	<0.05 <0.05 <0.05 <0.05 <0.05	<0.05 <0.05 <0.05 <0.05 <0.05	<0.05 <0.05 <0.05 <0.05 <0.05	<0.05 <0.05 <0.05 <0.05 <0.05	<0.05 <0.05 <0.05 <0.05 <0.05	<0.05 <0.05 <0.05 <0.05 <0.05	<0.05 <0.05 <0.05 <0.05 <0.05

Table 5
Summary of Groundwater Analytical Results - 2018 Private Wells
Clarington Transformer Station
Hydro One Networks Inc.

Sample Location			PW	<i>I</i> -10	PW	<i>I</i> -11	PW	<i>I</i> -12	PW-13
Aquifer			Thorncliffe	Formation	Shallow C	verburden	Shallow O	verburden	Thorncliffe
Sample Date			18-Apr-18	9-Oct-18	17-Apr-18	11-Oct-18	18-Apr-18	10-Oct-18	Formation 9-Oct-18
Sample ID			WG-160900764-	WG-160900764-	WG-160900764-	WG-160900764-	WG-160900764-	WG-160900764-	WG-16090076
·			20180418-JK8	20181009-JK2	20180417-JK4	20181011-JK19	20180418-JK14	20181010-JK13	20181009-JK
Water Type			Raw	Raw	Raw	Raw	Treated	Treated	Treated
Sample Tap			Inside (Basement)	Inside (Basement)	Outside (Back Deck)	Outside (Back Deck)	Outside (Right house)	Outside (Right house)	Outside (Back house)
Treatment Type			None	None	None	None	Softener	Softener	Softener
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order Laboratory Sample ID			B888862 GML887	B8Q6729 HZC406	B887457 GME359	B8Q8634 HZN559	B888862 GML894	B8Q8015 HZJ736	B8Q6729 HZC405
Filtered	Units	ODWS	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals
T Interest	Onits	ODIIIS	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Wetais
Semi-Volatile Organic Compounds		,							
Acenaphthene Acenaphthylene	μg/L μg/L	n/v n/v	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2
Anthracene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	μg/L	0.01 ^B	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b/j)fluoranthene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene Benzo(k)fluoranthene	μg/L μg/L	n/v n/v	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05
Biphenyl, 1,1'- (Biphenyl)	μg/L μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bis(2-Chloroethyl)ether	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-Chloroisopropyl)ether	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-Ethylhexyl)phthalate (DEHP)	μg/L	n/v	<1	<1	<1	<1	<1	<1	<1
Chloroaniline, 4- Chlorophenol, 2- (ortho-Chlorophenol)	μg/L μα/l	n/v n/v	<1 <0.1	<1 <0.1	<1 <0.1	<1 <0.1	<1 <0.1	<1 <0.1	<1 <0.1
Chiorophenoi, 2- (ortho-Chiorophenoi) Chrysene	μg/L μg/L	n/v n/v	<0.1 <0.05	<0.1 <0.05	<0.1 <0.05	<0.1 <0.05	<0.1 <0.05	<0.1 <0.05	<0.1 <0.05
Dibenzo(a,h)anthracene	μg/L μg/L	n/v	<0.03	<0.1	<0.03	<0.1	<0.03	<0.03	<0.03
Dichlorobenzidine, 3,3'-	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorophenol, 2,4-	μg/L	900 ^B 0.3 _f ^C	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Diethyl Phthalate	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethyl Phthalate Dimethylphenol, 2,4-	μg/L μg/L	n/v n/v	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5
Dinitrophenol, 2,4-	μg/L μg/L	n/v	<2	<2	<0.5 <2	<2	<0.5 <2	<2	<2
Dinitrotoluene, 2,4-	μg/L	n/v	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Dinitrotoluene, 2,6-	μg/L	n/v	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
luoranthene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
fluorene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
ndeno(1,2,3-cd)pyrene	μg/L	n/v n/v	<0.1 <0.28	<0.1 <0.28	<0.1 <0.28	<0.1 <0.28	<0.1 <0.28	<0.1 <0.28	<0.1 <0.28
Methylnaphthalene (Total) Methylnaphthalene, 1-	μg/L μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.26	<0.20	<0.2
Methylnaphthalene, 2-	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Pentachlorophenol	μg/L	60 ^B 30 _f ^C	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenol Pyrene	μg/L μg/L	n/v n/v	<0.5 <0.05	<0.5 <0.05	<0.5 <0.05	<0.5 <0.05	<0.5 <0.05	<0.5 <0.05	<0.5 <0.05
Frichlorobenzene, 1,2,4-	μg/L μg/L	n/v	<0.05	<0.05	<0.03	<0.05	<0.05	<0.05	<0.03
Trichlorophenol, 2,4,5-	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Frichlorophenol, 2,4,6-	μg/L	5 ^B 2 _f ^C	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Volatile Organic Compounds	μg/L	n/v	<10	<10	<10	<10	<10	<10	<10
Bromodichloromethane	μg/L	n/v	<0.50	<0.50	<0.50	1.1	<0.50	11	<0.50
Bromoform (Tribromomethane)	μg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	4.3	<1.0
Bromomethane (Methyl bromide)	μg/L	n/v	<0.50	<0.50	< 0.50	<0.50	<0.50	<0.50	<0.50
Carbon Tetrachloride (Tetrachloromethane) Chlorobenzene (Monochlorobenzene)	μg/L	2 ^B 80 ^B 30f ^C	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chlorobenzene (Monochlorobenzene) Chloroform (Trichloromethane)	μg/L μg/L	80° 30f° n/v	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 5.9	<0.20 <0.20	<0.20 13	<0.20 <0.20
Dibromochloromethane	μg/L μg/L	n/v	<0.50	<0.50	<0.50	1.3	<0.50	12	<0.20
Dichlorobenzene, 1,2-	μg/L	200 ^B 3 _f ^C	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,3-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,4-	μg/L	5 ^B 1 _f ^C	<0.50	<0.50	< 0.50	<0.50	<0.50	<0.50	< 0.50
Dichlorodifluoromethane (Freon 12)	μg/L	n/v	<1.0	<1.0 <0.20	<1.0	<1.0	<1.0	<1.0	<1.0
Dichloroethane, 1,1- Dichloroethane, 1,2-	μg/L μg/L	n/v 5 ^B	<0.20 <0.50	<0.20 <0.50	<0.20 <0.50	<0.20 <0.50	<0.20 <0.50	<0.20 <0.50	<0.20 <0.50
Dichloroethene, 1,1-	μg/L μg/L	14 ^B	<0.50	<0.20	<0.50	<0.20	<0.50	<0.50	<0.20
Dichloroethene, cis-1,2-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	< 0.50
Dichloroethene, trans-1,2-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloropropane, 1,2-	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloropropene, 1,3- (sum of isomers cis + trans)	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
lichloropropene, cis-1,3- Dichloropropene, trans-1,3-	μg/L μg/l	n/v n/v	<0.30 <0.40	<0.30 <0.40	<0.30 <0.40	<0.30 <0.40	<0.30 <0.40	<0.30 <0.40	<0.30 <0.40
thylene Dibromide (Dibromoethane, 1,2-)	μg/L μg/L	n/v n/v	<0.40	<0.40	<0.40 <0.20	<0.40	<0.40 <0.20	<0.40	<0.40 <0.20
lexane (n-Hexane)	μg/L μg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl Ethyl Ketone (MEK) (2-Butanone)	μg/L	n/v	<10	<10	<10	<10	<10	<10	<10
Nethyl Isobutyl Ketone (MIBK)	μg/L	n/v	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether (MTBE)	μg/L	15 ^C	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methylene Chloride (Dichloromethane)	μg/L	50 ^B	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Styrene Fetrachloroethane, 1,1,1,2-	μg/L μα/l	n/v n/v	<0.50 <0.50	<0.50 <0.50	<0.50 <0.50	<0.50 <0.50	<0.50 <0.50	<0.50 <0.50	<0.50 <0.50
retrachloroethane, 1,1,1,2- Fetrachloroethane, 1,1,2,2-	μg/L μg/L	n/v	<0.50	<0.50	<0.50 <0.50	<0.50	<0.50 <0.50	<0.50	<0.50
Fetrachloroethene (PCE)	μg/L μg/L	10 ^B	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Frichloroethane, 1,1,1-	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Γrichloroethane, 1,1,2-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethene (TCE)	μg/L	5 ^B	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
	/	n/v	< 0.50	<0.50	< 0.50	<0.50	< 0.50	<0.50	< 0.50
, ,	μg/L			-4.0		0.0	-4.0	40.0	-4 ^
Trichlorofluoromethane (Freon 11) Trihalomethanes Vinyl Chloride	μg/L μg/L μg/L	100 _b ^B	<1.0 <0.20	<1.0 <0.20	<1.0 <0.20	8.3 <0.20	<1.0 <0.20	40.3 <0.20	<1.0 <0.20



Table 5
Summary of Groundwater Analytical Results - 2018 Private Wells
Clarington Transformer Station
Hydro One Networks Inc.

Sample Location	I	I	l pw	<i>l</i> -14	PW	/ ₋₁₅	PW.	<i>l-</i> 16	PW	L-17
Aquifer				verburden	Thorncliffe		Shallow O		Thorncliffe	
•										
Sample Date			17-Apr-18 WG-160900764-	10-Oct-18 WG-160900764-	20-Apr-18 WG-160900764-	11-Oct-18 WG-160900764-	18-Apr-18 WG-160900764-	10-Oct-18 WG-160900764-	18-Apr-18 WG-160900764-	10-Oct-18 WG-160900764-
Sample ID			20180417-JK6	20181010-JK11	20180420-JK22		20180418-JK9	20181010-JK16		20181010-JK15
Water Type			Raw	Raw	Treated	Treated	Raw	Raw	Raw	Raw
Sample Tap			Inside (Kitchen)	Inside (Kitchen)	Outside (Back house)	Outside (Back house)	Outside (Back house)	Outside (Back house)	Outside (Back house)	Outside (Back house)
Treatment Type			None	None	Softener / UV	Softener / UV	None	None	None	None
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory Laboratory Work Order			MAXX B887457	MAXX B8Q8015	MAXX B889899	MAXX B8Q8634	MAXX B888862	MAXX B8Q8015	MAXX B888862	MAXX B8Q8015
Laboratory Sample ID			GME361	HZJ734	GMR466	HZN563	GML888	HZJ739	GML895	HZJ738
Filtered	Units	ODWS	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals
General Chemistry										
Acidity	mg/L	n/v	25	33	24	5.2	15	25	9.8	15
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	330	330	360	230	270	280	220	220
Alkalinity, Carbonate (as CaCO3) Alkalinity, Total (as CaCO3)	mg/L mg/L	n/v 30-500 ^E	1.5 330	1.0 330	1.9 360	2.8 230	2.1 280	1.5 280	1.7 220	1.6 230
Ammonia (as N)	mg/L	n/v	0.064	0.056	<0.050	<0.050	<0.050	<0.050	<0.050	0.086
Anion Sum	me/L	n/v	11.6	10.2	7.46	6.25	6.87	6.98	5.97	6.08
Cation Sum Chloride	me/L	n/v 250 ^C	11.9 150	10.0 86	6.99 2.7	5.84 15	6.27 14	6.53 15	5.76 15	6.23 15
Cyanide (Free)	mg/L μg/L	200 ^B	<1	<1	<1	<1	<1	<1	<1	<1
Dissolved Organic Carbon (DOC)	mg/L	5 ^C	1.4	1.1	1.2	0.70	1.0	0.95	0.79	0.76
Electrical Conductivity, Lab	µmhos/cm	n/v	1,200	940	740	580	630	620	560	560
Fluoride Hardness (as CaCO3)	mg/L mg/L	1.5 ^B 80-100 ^E	<0.10 450 ^E	<0.10 410 ^E	<0.10 5.6^E	<0.10 <1.0 ^E	<0.10 300^E	<0.10 310 ^E	<0.10 270 ^E	<0.10 300^E
Ion Balance	mg/L %	80-100- n/v	450 ⁻ 1.17	0.690	5.6 3.25	<1.0 - 3.39	4.57	310 ⁻ 3.27	1.80	1.24
Langelier Index (at 20 C)	none	n/v	0.889	0.701	-1.16	NC	0.937	0.810	0.715	0.735
Langelier Index (at 4 C)	none	n/v	0.642	0.453	-1.41	NC	0.688	0.560	0.466	0.486
Nitrate (as N) Nitrate + Nitrite (as N)	mg/L	10.0 _d ^B 10.0 _d ^B	3.10 3.11	5.75 5.75	<0.10 <0.10	7.83 7.83	7.70 7.7	7.46 7.46	<0.10 <0.10	<0.10 <0.10
Nitrite (as N)	mg/L mg/L	1.0 _d	0.010	<0.010	<0.10	<0.010	<0.010	<0.010	<0.10	<0.10
Orthophosphate(as P)	mg/L	n/v	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH, lab	S.U.	6.5-8.5 ^E	7.69 6.80	7.52 6.82	7.76 8.01	8.13 NC	7.91 6.98	7.76 6.05	7.92 7.20	7.89 7.16
Saturation pH (at 20 C) Saturation pH (at 4 C)	none none	n/v n/v	6.80 7.05	6.82 7.07	8.91 9.16	NC NC	6.98 7.22	6.95 7.20	7.20 7.45	7.16 7.41
Sulfate	mg/L	500 _h ^C	34	37	6.0	33	19	18	54	54
Total Dissolved Solids	mg/L	500 ^C	655 ^C	485	420	295	335	330	315	300
Total Organic Carbon	mg/L	n/v	1.4	1.0	1.3	0.69	1.0	0.90	0.81	0.83
Total Suspended Solids Turbidity, Lab	mg/L NTU	n/v 5 _i ° i E	<10 <0.1	<10 <0.1	<10 <0.1	<10 <0.1	<10 <0.1	<10 <0.1	29 21^C	<10 33 ^C
Metals		<u> </u>	0	0	0	U.	0	0		
Aluminum	μg/L	100 ^E	<5	<5	<5	<5	<5	<5	<5	<5
Antimony	μg/L	6 ^B	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arsenic	μg/L	10 ^B	<1 66	<1 63	<1 <2	<1 <2	<1 39	<1 45	<1 42	<1 45
Barium Beryllium	μg/L μg/L	1,000 ^B n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron	μg/L	5,000 ^B	12	22	<10	<10	<10	<10	<10	<10
Cadmium	μg/L	5 ^B	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Calcium Chromium	μg/L μg/L	n/v 50 ^B	150,000 <5	130,000 <5	950 <5	<200 <5	100,000 <5	110,000 <5	76,000 <5	81,000 <5
Chromium (Hexavalent)	μg/L	n/v	<0.50	0.52	<0.50	<0.50	0.65	0.80	<0.50	<0.50
Cobalt	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Copper Iron	μg/L	1,000 ^C 300 ^C	35 <100	36 <100	23 <100	14 <100	6.2 <100	5.1 <100	<1	3.9 3,000 ^C
Lead	μg/L μg/L	10 ^B	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	1,900^C <0.5	3,000 <0.5
Magnesium	μg/L	n/v	18,000	18,000	780	<50	11,000	11,000	21,000	23,000
Manganese	μg/L	50 ^C	<2	<2	<2	<2	<2	<2	26	29
Mercury	μg/L	1 ^B	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum Nickel	μg/L μg/L	n/v n/v	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	3.1 <1	3.1 <1
Phosphorus	μg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
Potassium	μg/L	n/v	810	1,100	92,000	1,000	790	890	1,100	1,200
Selenium Silicon	μg/L μg/L	50 ^B n/v	<2 5,800	<2 6,200	<2 3,900	<2 6,000	<2 5,400	<2 6,300	<2 5,200	<2 5,700
Silver	μg/L μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sodium	μg/L	200,000 _g ^C 20,000 _g ^D	66,000 ^D	41,000 ^D	100,000 ^D	130,000 ^D	4,500	5,000	4,100	4,300
Strontium	μg/L	n/v	320	270	1.9	<1	190	200	260	270
Thallium Titanium	μg/L μg/L	n/v n/v	<0.05 <5	<0.05 <5	<0.05 <5	<0.05 <5	<0.05 <5	<0.05 <5	<0.05 <5	<0.05 <5
Uranium	μg/L	20 ^B	1	1.7	0.23	0.82	0.47	0.58	0.63	0.73
Vanadium	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Zinc Zirconium	μg/L μg/L	5,000 ^C n/v	38 <1	39 <1	<5 <1	<5 <1	12 <1	7.8 <1	<5 <1	<5 <1
Microbiological Analysis	, µ9/∟	1 1 1 1 1		-1	-1	-1	-1	-1	-1	-1
Escherichia coli (E.Coli)	cfu/100mL	0 ^A	0	0	0	0	0	0	0	0
Total Coliform Background	cfu/100mL	n/v	56	0	0	150	11	82	0	0
Total Coliforms	cfu/100mL	0 ^A	0	0	0	0	39 ^A	34 ^A	0	0
BTEX and Petroleum Hydrocarbons		I 8	T							
Benzene Toluene	μg/L	1 ^B 60 ^B 24 ^C	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20	<0.20 <0.20
Toluene Ethylbenzene	μg/L μg/L	140 ^B 1.6 ^C	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20	<0.20 <0.20	<0.20 <0.20
Xylene, m & p-	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Xylene, o-	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Xylenes, Total PHC F1 (C6-C10 range)	μg/L μg/L	90 ^B n/v	<0.20 <25	<0.20 <25	<0.20 <25	<0.20 <25	<0.20 <25	<0.20 <25	<0.20 <25	<0.20 <25
PHC F1 (C6-C10 range) minus BTEX	μg/L μg/L	n/v	<25	<25	<25	<25	<25	<25	<25	<25
PHC F2 (>C10-C16 range)	μg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F3 (>C16-C34 range)	μg/L	n/v	<200 <200	<200	<200	<200	<200 <200	<200	<200 <200	<200 <200
	μg/L	n/v n/v	<200 YES	<200 YES	<200 YES	<200 YES	<200 YES	<200 YES	<200 YES	<200 YES
PHC F4 (>C34-C50 range)	none					. =-	~			
PHC F4 (>C34-C50 range) Chromatogram to baseline at C50	none	100	•							
PHC F4 (>C34-C50 range) Chromatogram to baseline at C50 Polychlorinated Biphenyls Aroclor 1242	none μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PHC F4 (>C34-C50 range) Chromatogram to baseline at C50 Polychlorinated Biphenyls Aroclor 1242 Aroclor 1248	μg/L μg/L	n/v n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PHC F4 (>C34-C50 range) Chromatogram to baseline at C50 Polychlorinated Biphenyls Aroclor 1242 Aroclor 1248 Aroclor 1254	μg/L μg/L μg/L	n/v n/v n/v	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05
PHC F4 (>C34-C50 range) Chromatogram to baseline at C50 Polychlorinated Biphenyls Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1260 Polychlorinated Biphenyls (PCBs)	μg/L μg/L	n/v n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Table 5
Summary of Groundwater Analytical Results - 2018 Private Wells
Clarington Transformer Station
Hydro One Networks Inc.

Sample Location			PW	<i>I</i> -14	PW	<i>l</i> -15	PW	<i>I-</i> 16	PW	<i>I</i> -17
Aquifer			Shallow O	verburden	Thorncliffe	Formation	Shallow C	verburden	Thorncliffe	Formation
Sample Date			17-Apr-18	10-Oct-18	20-Apr-18	11-Oct-18	18-Apr-18	10-Oct-18	18-Apr-18	10-Oct-18
·			WG-160900764-	WG-160900764-	WG-160900764-		WG-160900764-	WG-160900764-	WG-160900764-	WG-160900764
Sample ID			20180417-JK6	20181010-JK11	20180420-JK22		20180418-JK9	20181010-JK16	20180418-JK15	20181010-JK15
Water Type			Raw	Raw	Treated	Treated	Raw	Raw	Raw	Raw
Sample Tap			Inside (Kitchen)	Inside (Kitchen)	Outside	Outside	Outside	Outside	Outside	Outside
Treatment Type			None	None	(Back house) Softener / UV	(Back house) Softener / UV	(Back house) None	(Back house) None	(Back house) None	(Back house) None
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order			B887457	B8Q8015	B889899	B8Q8634	B888862	B8Q8015	B888862	B8Q8015
Laboratory Sample ID			GME361	HZJ734	GMR466	HZN563	GML888	HZJ739	GML895	HZJ738
Filtered	Units	ODWS	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals
Semi-Volatile Organic Compounds			<u> </u>							
Acenaphthene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Acenaphthylene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Anthracene Benzo(a)anthracene	μg/L μg/L	n/v n/v	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05
Benzo(a)pyrene	μg/L μg/L	0.01 ^B	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Benzo(b/j)fluoranthene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	μg/L	n/v	< 0.05	<0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Biphenyl, 1,1'- (Biphenyl)	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis(2-Chloroethyl)ether	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-Chloroisopropyl)ether Bis(2-Ethylbeyyl)obthalate (DEHP)	μg/L	n/v n/v	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 1
Bis(2-Ethylhexyl)phthalate (DEHP) Chloroaniline, 4-	μg/L μg/L	n/v n/v	<1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	1 <1
Chlorophenol, 2- (ortho-Chlorophenol)	μg/L μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	μg/L μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenzo(a,h)anthracene	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorobenzidine, 3,3'-	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorophenol, 2,4-	μg/L	900 ^B 0.3 _f ^C	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Diethyl Phthalate	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
himethyl Phthalate	μg/L	n/v n/v	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5
Dimethylphenol, 2,4- Dinitrophenol, 2,4-	μg/L μg/L	n/v	<2	<2	<0.5 <2	<2	<2	<2	<0.5 <2	<2
Dinitrotoluene, 2,4-	μg/L	n/v	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Dinitrotoluene, 2,6-	μg/L	n/v	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Fluoranthene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
luorene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
ndeno(1,2,3-cd)pyrene	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methylnaphthalene (Total) Methylnaphthalene, 1-	μg/L	n/v n/v	<0.28 <0.2	<0.28 <0.2	<0.28 <0.2	<0.28 <0.2	<0.28 <0.2	<0.28 <0.2	<0.28 <0.2	<0.28 <0.2
Methylnaphthalene, 2-	μg/L μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	μg/L μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Pentachlorophenol	μg/L	60 ^B 30 _f ^C	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenol	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Frichlorobenzene, 1,2,4-	μg/L	n/v	<0.1	<0.1	<0.1	<0.1 <0.2	<0.1	<0.1	<0.1	<0.1
Frichlorophenol, 2,4,5- Frichlorophenol, 2,4,6-	μg/L μg/L	n/v 5 ^B 2 _f ^C	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2	<0.2 <0.2
Volatile Organic Compounds		•								
Acetone Bromodichloromethane	μg/L μg/L	n/v n/v	<10 <0.50	<10 <0.50	<10 <0.50	<10 <0.50	<10 <0.50	<10 <0.50	<10 <0.50	<10 <0.50
Bromoform (Tribromomethane)	μg/L μg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane (Methyl bromide)	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon Tetrachloride (Tetrachloromethane)	μg/L	2 ^B	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chlorobenzene (Monochlorobenzene)	μg/L	80 ^B 30f ^C	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform (Trichloromethane)	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,2- Dichlorobenzene, 1,3-	μg/L μα/l	200 ^B 3 _f ^C n/v	<0.50 <0.50	<0.50 <0.50	<0.50 <0.50	<0.50 <0.50	<0.50 <0.50	<0.50 <0.50	<0.50 <0.50	<0.50 <0.50
Dichlorobenzene, 1,3- Dichlorobenzene, 1,4-	μg/L μg/L	5 ^B 1 _f ^C	<0.50	<0.50	<0.50 <0.50	<0.50	<0.50 <0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane (Freon 12)	μg/L μg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dichloroethane, 1,1-	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloroethane, 1,2-	μg/L	5 ^B _	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethene, 1,1-	μg/L	14 ^B	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloroethene, cis-1,2-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethene, trans-1,2-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloropropane, 1,2-	μg/L μα/l	n/v n/v	<0.20 <0.50	<0.20 <0.50	<0.20 <0.50	<0.20 <0.50	<0.20 <0.50	<0.20 <0.50	<0.20 <0.50	<0.20 <0.50
lichloropropene, 1,3- (sum of isomers cis + trans) lichloropropene, cis-1,3-	μg/L μg/L	n/v	<0.30	<0.50	<0.50	<0.50	<0.30	<0.50	<0.30	<0.50
Dichloropropene, trans-1,3-	μg/L	n/v	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Ethylene Dibromide (Dibromoethane, 1,2-)	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Hexane (n-Hexane)	μg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl Ethyl Ketone (MEK) (2-Butanone)	μg/L	n/v	<10	<10	<10	<10	<10	<10	<10	<10
Methyl Isobutyl Ketone (MIBK)	μg/L	n/v	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether (MTBE)	μg/L	15 ^C	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methylene Chloride (Dichloromethane) Styrene	μg/L	50 ^B n/v	<2.0 <0.50	<2.0 <0.50	<2.0 <0.50	<2.0 <0.50	<2.0 <0.50	<2.0 <0.50	<2.0 <0.50	<2.0 <0.50
Styrene Tetrachloroethane, 1,1,1,2-	μg/L μg/L	n/v n/v	<0.50	<0.50	<0.50 <0.50	<0.50	<0.50 <0.50	<0.50	<0.50	<0.50
Fetrachloroethane, 1,1,2,2-	μg/L μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Fetrachloroethene (PCE)	μg/L	10 ^B	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Frichloroethane, 1,1,1-	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethane, 1,1,2-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethene (TCE)	μg/L	5 ^B	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane (Freon 11)	μg/L	n/v 100 _b ^B	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
		100 5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Frihalomethanes /inyl Chloride	μg/L μg/L	100 _b	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20



Table 5
Summary of Groundwater Analytical Results - 2018 Private Wells
Clarington Transformer Station
Hydro One Networks Inc.

Sample Location			PW			/-19	PW-			/-21
Aquifer			Thorncliffe			verburden	Shallow Ov			Formation
Sample Date			19-Apr-18 WG-160900764-	9-Oct-18 WG-160900764-	17-Apr-18 WG-160900764-	9-Oct-18 WG-160900764-	18-Apr-18 WG-160900764-	9-Oct-18 WG-160900764-	17-Apr-18 WG-160900764-	9-Oct-18 WG-16090076
Sample ID			20180419-JK19	20181009-JK6	20180417-JK1	20181009-JK3	20180418-JK16	20181009-JK4	20180417-JK3	20181009-JH
Vater Type			Raw	Raw	Raw	Raw	Raw	Raw	Raw	Raw
Sample Tap			Outside	Outside	Inside	Inside	Basement	Outside	Inside	Inside
•			(Back house)	(Back house)	(Basement)	(Basement)	Laundry Tub Tap	(Back house)	(Basement)	(Basement
Freatment Type Sampling Company			None STANTEC	None STANTEC	None STANTEC	None STANTEC	None STANTEC	None STANTEC	None STANTEC	None STANTEC
_aboratory			MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order			B889899	B8Q6729	B887457	B8Q6729	B888862	B8Q6729	B887457	B8Q6729
Laboratory Sample ID			GMR463	HZC410	GME356	HZC407	GML896	HZC408	GME358	HZC411
Filtered	Units	ODWS	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals	Total Metal
O Oh i - fra -										
General Chemistry Acidity	mg/L	n/v	5.8	6.6	31	19	33	41	<5.0	5.2
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	210	210	340	310	360	390	210	200
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	1.4	1.9	1.8	1.9	2.1	2.2	2.1	2.3
Alkalinity, Total (as CaCO3)	mg/L	30-500 ^E	210	210	340	310	360	390	210	210
Ammonia (as N)	mg/L	n/v	0.17	0.17	0.050	0.062	<0.050	0.064	0.12	0.12
Anion Sum Cation Sum	me/L me/L	n/v n/v	4.54 4.38	4.61 4.50	14.1 14.3	17.9 18.1	10.4 9.52	12.0 11.6	4.54 4.41	4.51 4.34
Chloride	mg/L	250 ^c	1.8	2.0	240	390 ^C	87	120	2.2	2.4
Cyanide (Free)	μg/L	200 ^B	<1	<1	<1	<1	<1	<1	<1	<1
Dissolved Organic Carbon (DOC)	mg/L	5 ^C	1.2	1.3	2.2	1.1	1.6	1.7	1.4	1.4
Electrical Conductivity, Lab	µmhos/cm	n/v	400	350	1,500	1,800	960	1,000	420	350
Fluoride	mg/L	1.5 ^B	0.12	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Hardness (as CaCO3)	mg/L	80-100 ^E	200 ^E	200 ^E	390 ^E	410 ^E	380 ^E	450 ^E	210 ^E	200 ^E
on Balance	%	n/v	1.77	1.23	0.680	0.720	4.57	1.84	1.41	1.97
angelier Index (at 20 C)	none	n/v	0.514	0.677	0.906	0.840	0.952	1.02	0.710	0.741
Langelier Index (at 4 C)	none	n/v	0.265	0.427	0.659	0.594	0.704	0.771	0.460	0.492
litrate (as N)	mg/L	10.0 _d ^B	<0.10	<0.10	2.46	2.93	1.95	1.33	<0.10	<0.10
litrate + Nitrite (as N) litrite (as N)	mg/L mg/L	10.0 _d ^B 1.0 _d ^B	<0.10 <0.010	<0.10 <0.010	2.46 <0.010	2.93 <0.010	1.95 <0.010	1.33 <0.010	<0.10 <0.010	<0.10 <0.010
Orthophosphate(as P)	mg/L	n/v	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
oH, lab	S.U.	6.5-8.5 ^E	7.84	7.99	7.75	7.83	7.79	7.78	8.04	8.09
Saturation pH (at 20 C)	none	n/v	7.33	7.31	6.84	6.99	6.84	6.77	7.33	7.34
Saturation pH (at 4 C)	none	n/v	7.58	7.56	7.09	7.23	7.09	7.01	7.58	7.59
Sulfate	mg/L	500 _h °	14	14	17	31	28	34	16	16
otal Dissolved Solids	mg/L	500 ^C	220	220	780 ^C	1,000 ^C	520 ^C	610 ^c	240	245
otal Organic Carbon	mg/L	n/v	1.3	1.3	2.2	1.1	1.6	1.6	1.4	1.5
Total Suspended Solids	mg/L	n/v	<10	11	<10	<10	<10	<10	<10	<10
Turbidity, Lab	NTU	5 _i ° _j °	3.2	17 ^C	<0.1	0.1	<0.1	0.1	5.8 ^C	4.7
Metals										
Aluminum	μg/L	100 ^E	<5	<5	<5	<5	<5	<5	<5	<5
Antimony	μg/L	6 ^B	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arsenic Barium	μg/L μg/L	10 ^B 1,000 ^B	<1 160	<1 180	<1 66	<1 150	<1 67	<1 90	<1 140	<1 130
Beryllium	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron	μg/L	5,000 ^B	13	13	<10	<10	16	28	<10	11
Cadmium	μg/L	5 ^B	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Calcium	μg/L	n/v	56,000	56,000	140,000	120,000	120,000	140,000	57,000	56,000
Chromium	μg/L	50 ^B	<5	<5	<5	<5	<5	<5	<5	<5
Chromium (Hexavalent)	μg/L	n/v	<0.50	<0.50	<0.50	0.60	<0.50	<0.50	<0.50	<0.50
Cobalt	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 <1
Copper ron	μg/L μg/L	1,000 ^C 300 ^C	1.6 1.400 ^C	1.9 4.500^C	3.4 <100	3.2 <100	7.8 <100	9.2 <100	<1 1.800 ^C	1.300 ^C
.ead	μg/L	10 ^B	<0.5	4,500 <0.5	0.8	1.4	<0.5	<0.5	<0.5	<0.5
Magnesium	μg/L	n/v	16,000	15,000	9,000	29,000	20,000	26,000	16,000	16,000
Manganese	μg/L	50 ^C	23	24	<2	<2	<2	<2	38	36
Mercury	μg/L	1 ^B	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	μg/L	n/v	0.53	0.51	<0.5	<0.5	<0.5	<0.5	0.76	0.98
Nickel	μg/L	n/v	<1	<1	<1	<1	<1	<1	<1	<1
Phosphorus	μg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
Potassium	μg/L	n/v	950	980	660	2,200	1,400	1,900	930	900
Selenium	μg/L	50 ^B	<2 10,000	<2 12,000	<2 3 500	< <u>2</u>	<2 5 500	<2 7.600	<2 0.200	<2
Silicon	μg/L	n/v	10,000 <0.1	12,000 <0.1	3,500 <0.1	7,800 <0.1	5,500 <0.1	7,600 <0.1	9,300 <0.1	9,200 <0.1
Silver Sodium	μg/L	n/v 200,000 _g ^C 20,000 _g ^D	<0.1 4,800	<0.1 4,800	<0.1 150,000 ^D	<0.1 230.000 ^{CD}	<0.1 44,000 ^D	<0.1 60,000 ^D	<0.1 4,400	<0.1 4,400
Strontium	μg/L μg/L	200,000 _g 20,000 _g n/v	230	4,800 230	150,000 290	390	44,000 290	350	4,400 230	230
Thallium	μg/L μg/L	n/v	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fitanium	μg/L	n/v	<5	<5	<5	<5	<5	<5	<5	<5
Jranium	μg/L	20 ^B	<0.1	<0.1	0.37	0.72	0.93	1.3	<0.1	<0.1
/anadium	μg/L	n/v	<0.5	<0.5	<0.5	0.54	<0.5	<0.5	<0.5	<0.5
Zinc	μg/L	5,000 ^C	6.3	<5	<5	<5	10	11	5.1	<5
Zirconium Microbiological Analysis	μg/L	n/v	<1	<1	<1	<1	<1	<1	<1	<1
Escherichia coli (E.Coli)	cfu/100mL	0 ^A	0	0	0	0	0	46 ^A	0	0
Fotal Coliform Background	cfu/100mL	n/v	26	5	140	300	69	46 89	0	0
Total Coliforms	cfu/100mL	0 ^A	0	0	0	26 ^A	12 ^A	69 ^A	0	0
BTEX and Petroleum Hydrocarbons										
enzene	μg/L	1 ^B	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
oluene	μg/L	60 ^B 24 ^C	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Ethylbenzene	μg/L	140 ^B 1.6 ^C	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
(ylene, m & p- (ylene, o-	μg/L μg/l	n/v n/v	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20
kylene, o- Kylenes, Total	μg/L μg/L	n/v 90 ^B	<0.20	<0.20 <0.20	<0.20 <0.20	<0.20	<0.20 <0.20	<0.20	<0.20 <0.20	<0.20 <0.20
PHC F1 (C6-C10 range)	μg/L μg/L	n/v	<25	<25	<0.20 <25	<25	<0.20 <25	<25	<0.20 <25	<25
PHC F1 (C6-C10 range) minus BTEX	μg/L	n/v	<25	<25	<25	<25	<25	<25	<25	<25
PHC F2 (>C10-C16 range)	μg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F3 (>C16-C34 range)	μg/L	n/v	<200	<200	<200	<200	<200	<200	<200	<200
PHC F4 (>C34-C50 range)	μg/L	n/v	<200	<200	<200	<200	<200	<200	<200	<200
Chromatogram to baseline at C50	none	n/v	YES	YES	YES	YES	YES	YES	YES	YES
Polychlorinated Biphenyls		T :								
croclor 1242	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
croclor 1248	μg/L	n/v n/v	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05
roclor 1254						-0.00	-0.00	-0.00		-0.03
roclor 1254 roclor 1260	μg/L μg/L	n/v	<0.05	<0.05	<0.05	<0.05	< 0.05	< 0.05	<0.05	<0.05



Table 5
Summary of Groundwater Analytical Results - 2018 Private Wells
Clarington Transformer Station
Hydro One Networks Inc.

Sample Location			PW	-18	PW	<i>I</i> -19	PW-	20	PW	'-21
Aquifer			Thorncliffe	Formation	Shallow O	verburden	Shallow Ov	erburden	Thorncliffe	Formation
Sample Date			19-Apr-18	9-Oct-18	17-Apr-18	9-Oct-18	18-Apr-18	9-Oct-18	17-Apr-18	9-Oct-18
·			WG-160900764-	WG-160900764-	WG-160900764-		WG-160900764-	WG-160900764-	WG-160900764-	WG-160900764
Sample ID			20180419-JK19	20181009-JK6	20180417-JK1	20181009-JK3	20180418-JK16	20181009-JK4	20180417-JK3	20181009-JK7
Water Type			Raw							
Sample Tap			Outside	Outside	Inside	Inside	Basement	Outside	Inside	Inside
• •			(Back house)	(Back house)	(Basement)	(Basement)	Laundry Tub Tap	(Back house)	(Basement)	(Basement)
Treatment Type Sampling Company			None STANTEC							
Laboratory			MAXX							
Laboratory Work Order			B889899	B8Q6729	B887457	B8Q6729	B888862	B8Q6729	B887457	B8Q6729
Laboratory Sample ID			GMR463	HZC410	GME356	HZC407	GML896	HZC408	GME358	HZC411
Filtered	Units	ODWS	Total Metals							
Semi-Volatile Organic Compounds										
Acenaphthene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Acenaphthylene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Anthracene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene Benzo(a)pyrene	μg/L	n/v 0.01 ^B	<0.05 <0.01							
Benzo(b/j)fluoranthene	μg/L μg/L	0.01 n/v	<0.05	<0.05	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01
Benzo(g,h,i)perylene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	μg/L	n/v	< 0.05	< 0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05
Biphenyl, 1,1'- (Biphenyl)	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis(2-Chloroethyl)ether	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-Chloroisopropyl)ether	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-Ethylhexyl)phthalate (DEHP) Chloroaniline, 4-	μg/L μg/L	n/v n/v	<1 <1							
Chlorophenol, 2- (ortho-Chlorophenol)	μg/L μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenzo(a,h)anthracene	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorobenzidine, 3,3'-	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorophenol, 2,4-	μg/L	900 ^B 0.3 _f ^C	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Diethyl Phthalate	μg/L	n/v	<0.1 <0.1	<0.1	<0.1 <0.1	<0.1 <0.1	<0.1 <0.1	<0.1 <0.1	<0.1 <0.1	<0.1 <0.1
Dimethyl Phthalate Dimethylphenol, 2,4-	μg/L μg/L	n/v n/v	<0.1	<0.1 <0.5	<0.1	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5	<0.1 <0.5
Dinitrophenol, 2,4-	μg/L	n/v	<2	<2	<2	<2	<2	<2	<2	<2
Dinitrotoluene, 2,4-	μg/L	n/v	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Dinitrotoluene, 2,6-	μg/L	n/v	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Fluoranthene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Fluorene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Indeno(1,2,3-cd)pyrene	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methylnaphthalene (Total)	μg/L	n/v n/v	<0.28 <0.2							
Methylnaphthalene, 1- Methylnaphthalene, 2-	μg/L μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Pentachlorophenol	μg/L	60 ^B 30 _f ^C	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenol	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorobenzene, 1,2,4-	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichlorophenol, 2,4,5- Trichlorophenol, 2,4,6-	μg/L μg/L	n/v 5 ^B 2 _f ^C	<0.2 <0.2							
Volatile Organic Compounds	1 1-3	<u> </u>							· · · · · ·	
Acetone	μg/L	n/v	<10	<10	<10	<10	<10	<10	<10	<10
Bromodichloromethane Bromoform (Tribromomethane)	μg/L	n/v n/v	<0.50 <1.0	<0.50 <1.0	<0.50 <1.0	0.71 <1.0	<0.50 <1.0	<0.50 <1.0	<0.50 <1.0	<0.50 <1.0
Bromomethane (Methyl bromide)	μg/L μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon Tetrachloride (Tetrachloromethane)	μg/L	2 ^B	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chlorobenzene (Monochlorobenzene)	μg/L	80 ^B 30f ^C	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform (Trichloromethane)	μg/L	n/v	<0.20	<0.20	0.48	0.69	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	μg/L	n/v	<0.50	<0.50	<0.50	0.99	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,2-	μg/L	200 ^B 3 _f ^C	<0.50 <0.50							
Dichlorobenzene, 1,3- Dichlorobenzene, 1,4-	μg/L μg/L	n/v 5 ^B 1 _f ^C	<0.50 <0.50							
Dichlorodifluoromethane (Freon 12)	μg/L μg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50 <1.0	<1.0
Dichloroethane, 1,1-	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloroethane, 1,2-	μg/L	5 ^B	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethene, 1,1-	μg/L	14 ^B	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloroethene, cis-1,2-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloropropage 1.2	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans)	μg/L μg/L	n/v n/v	<0.20 <0.50							
Dichloropropene, 1,3- (sum of isomers cis + trans)	μg/L μg/L	n/v	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dichloropropene, trans-1,3-	μg/L	n/v	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Ethylene Dibromide (Dibromoethane, 1,2-)	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Hexane (n-Hexane)	μg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl Ethyl Ketone (MEK) (2-Butanone)	μg/L	n/v	<10	<10	<10	<10	<10	<10	<10	<10
Methyl tert butyl ether (MTRE)	μg/L	n/v	<5.0 <0.50							
Methyl tert-butyl ether (MTBE) Methylene Chloride (Dichloromethane)	μg/L μg/L	15 ^C 50 ^B	<0.50 <2.0							
Styrene	μg/L μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethane, 1,1,1,2-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethane, 1,1,2,2-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethene (PCE)	μg/L	10 ^B	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethane, 1,1,1-	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethane, 1,1,2-	μg/L	n/v _R	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethene (TCE)	μg/L	5 ^B	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane (Freon 11) Trihalomethanes	μg/L μg/L	n/v 100 _b ^B	<0.50 <1.0	<0.50 <1.0	<0.50 0.48	<0.50 2.39	<0.50 <1.0	<0.50 <1.0	<0.50 <1.0	<0.50 <1.0
maiomoniano						<0.20				<0.20
Vinyl Chloride	μg/L	1 ^B	< 0.20	<0.20	<0.20	<0.000	<0.20	<0.20	<0.20	<0.70



Table 5
Summary of Groundwater Analytical Results - 2018 Private Wells
Clarington Transformer Station
Hydro One Networks Inc.

Sample Location			PW-22	PW	I-23	PW	<i>l</i> -24
Aquifer			Thorncliffe Formation	Shallow C	verburden	Shallow C	verburden
Sample Date			18-Apr-18	17-Apr-18	10-Oct-18	18-Apr-18	9-Oct-18
Sample ID			WG-160900764-	WG-160900764-	WG-160900764-	WG-160900764-	WG-16090076
Water Type			20180418-JK10 Raw	20180417-JK7 Raw	20181010-JK18 Raw	20180418-JK12 Raw	20181009-JK
••				Outside	Outside	Outside	Outside
Sample Tap			Inside (Kitchen)	(Garage)	(Garage)	(Front house)	(Front house
Treatment Type			Charcoal Filter STANTEC	None STANTEC	None STANTEC	Softener STANTEC	Softener STANTEC
Sampling Company Laboratory			MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order			B888862	B887457	B8Q8015	B888862	B8Q6729
Laboratory Sample ID			GML889	GME362	HZJ741	GML892	HZC409
Filtered	Units	ODWS	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals
General Chemistry							
Acidity	mg/L	n/v	<5.0	22	31	31	64
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	160	310	330	360	400
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	1.7	1.6	1.5	1.8	1.6
Alkalinity, Total (as CaCO3) Ammonia (as N)	mg/L	30-500 ^E n/v	160 0.16	320 <0.050	330 0.068	360 <0.050	400 <0.050
Anion Sum	mg/L me/L	n/v	3.40	7.59	8.50	8.69	9.53
Cation Sum	me/L	n/v	3.20	7.54	8.21	8.11	9.22
Chloride	mg/L	250 ^C	<1.0	20	44	22	25
Cyanide (Free)	μg/L	200 ^B	<1	<1	<1	<1	<1
Dissolved Organic Carbon (DOC) Electrical Conductivity, Lab	mg/L µmhos/cm	5 ^C n/v	0.67 300	2.4 700	1.6 780	1.1 800	1.3 750
Fluoride	mg/L	1.5 ^B	0.26	<0.10	<0.10	<0.10	<0.10
Hardness (as CaCO3)	mg/L	80-100 ^E	130 ^E	320 ^E	360 ^E	8.0 ^E	410 ^E
Ion Balance	%	n/v	3.10	0.340	1.71	3.43	1.67
Langelier Index (at 20 C)	none	n/v n/v	0.341 0.0910	0.841 0.592	0.842 0.594	-0.758 -1.01	0.860 0.612
Langelier Index (at 4 C) Nitrate (as N)	none mg/L	10.0 _d ^B	0.0910 <0.10	0.592 5.31	3.62	-1.01 6.83	5.35
Nitrate + Nitrite (as N)	mg/L	10.0 _d ^B	<0.10	5.31	3.62	6.83	5.35
Nitrite (as N)	mg/L	1.0 _d ^B	<0.010	<0.010	<0.010	<0.010	<0.010
Orthophosphate(as P) pH, lab	mg/L S.U.	n/v 6.5-8.5 ^E	<0.010 8.06	0.015 7.74	0.014 7.68	0.011 7.74	<0.010 7.62
рн, іар Saturation pH (at 20 C)	S.U. none	6.5-8.5 ⁻ n/v	8.06 7.72	7.74 6.90	7.68 6.84	7.74 8.50	6.76
Saturation pH (at 4 C)	none	n/v	7.97	7.15	7.09	8.75	7.01
Sulfate	mg/L	500 _h °	9.9	15	17	21	22
Total Dissolved Solids	mg/L	500 ^C	175	375	425	480	505 ^C
Total Organic Carbon Total Suspended Solids	mg/L mg/L	n/v n/v	0.67 <10	2.4 <10	1.6 <10	1.1 <10	1.4 <10
Turbidity, Lab	NTU	5, E	1.3	2.2	0.2	<0.1	0.2
Metals			l .			l .	
Aluminum	μg/L	100 ^E	<5	86	6.9	<5	6.1
Antimony	μg/L	6 ^B	<0.5	<0.5	<0.5	<0.5	<0.5
Arsenic Barium	μg/L μg/L	10 ^B 1,000 ^B	1.7 110	<1 45	<1 58	<1 <2	<1 69
Beryllium	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5
Boron	μg/L	5,000 ^B	41	27	28	11	12
Cadmium	μg/L	5 ^B	<0.1	<0.1	<0.1	<0.1	<0.1
Calcium Chromium	μg/L μg/L	n/v 50 ^B	28,000 <5	110,000 <5	120,000 <5	2,600 <5	130,000 <5
Chromium (Hexavalent)	μg/L	n/v	<0.50	<0.50	<0.50	1.0	0.85
Cobalt	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5
Copper Iron	μg/L	1,000 ^C	<1	35 <100	17 <100	11 <100	21 <100
Lead	μg/L μg/L	300 ^C 10 ^B	440^C <0.5	1.2	<0.5	<0.5	0.99
Magnesium	μg/L	n/v	14,000	12,000	14,000	380	23,000
Manganese	μg/L	50 ^C	21	2.4	2.4	<2	<2
Mercury	μg/L	1 ^B	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum Nickel	μg/L μg/L	n/v n/v	1.1 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1
Phosphorus	μg/L	n/v	<100	<100	<100	<100	<100
Potassium	μg/L	n/v	810	2,600	2,000	<200	2,800
Selenium	μg/L	50 ^B	<2	<2	<2	<2	<2
Silicon Silver	μg/L	n/v n/v	9,800 <0.1	5,400 <0.1	6,700 <0.1	7,900 <0.1	10,000 <0.1
Silver Sodium	μg/L μg/L	n/v 200,000 _g ^C 20,000 _g ^D	<0.1 13,000	<0.1 24.000 ^D	<0.1 21,000 ^D	<0.1 180.000 ^D	20,000
Strontium	μg/L	n/v	290	230	260	5.6	260
Thallium	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	μg/L	n/v	<5 <0.1	<5 0.33	<5 0.38	<5 0.41	<5 0.76
Uranium Vanadium	μg/L μg/L	20 ^B n/v	<0.1 <0.5	0.32 <0.5	0.38 <0.5	0.41 <0.5	0.76 <0.5
Zinc	μg/L μg/L	5,000 ^C	<5	33	17	8.9	9.2
Zirconium	μg/L	n/v	<1	<1	<1	<1	<1
Microbiological Analysis	.	T .	T	T		1	
Escherichia coli (E.Coli)	cfu/100mL	0 ^A	0	0 460	NDOGT ^A	0	0
Total Coliform Background Total Coliforms	cfu/100mL cfu/100mL	n/v 0 ^A	0	460 16^A	NDOGT NDOGT ^A	0 0	62 7^A
BTEX and Petroleum Hydrocarbons			ı	10	HDOG1	<u> </u>	
Benzene	μg/L	1 ^B	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	μg/L	60 ^B 24 ^C	<0.20	<0.20	<0.20	<0.20	<0.20
Ethylbenzene Xylene, m & p-	μg/L μg/L	140 ^B 1.6 ^C n/v	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20
Xylene, o-	μg/L μg/L	n/v	<0.20	<0.20	<0.20	<0.20	<0.20
Xylenes, Total	μg/L	90 ^B	<0.20	<0.20	<0.20	<0.20	<0.20
PHC F1 (C6-C10 range)	μg/L	n/v	<25	<25	<25	<25	<25
PHC F1 (C6-C10 range) minus BTEX PHC F2 (>C10-C16 range)	μg/L	n/v n/v	<25 <100	<25 <100	<25 <100	<25 <100	<25 <100
PHC F2 (>C10-C16 range) PHC F3 (>C16-C34 range)	μg/L μg/L	n/v n/v	<100 <200	<100 <200	<100	<100 <200	<100 <200
PHC F4 (>C34-C50 range)	μg/L	n/v	<200	<200	<200	<200	<200
Chromatogram to baseline at C50	none	n/v	YES	YES	YES	YES	YES
Polychlorinated Biphenyls			40.05	40.0F	40.0F	40.05	20.0T
Aroclor 1242 Aroclor 1248	μg/L μg/L	n/v n/v	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05
Aroclor 1254	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05
Aroclor 1260 Polychlorinated Biphenyls (PCBs)	μg/L μg/L	n/v 3 ^B	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05

Table 5
Summary of Groundwater Analytical Results - 2018 Private Wells
Clarington Transformer Station
Hydro One Networks Inc.

Sample Location			PW-22	PW	1-23	PW	I-24
Aquifer			Thorncliffe	Shallow O	verburden	Shallow O	verburden
Sample Date			Formation 18-Apr-18	17-Apr-18	10-Oct-18	18-Apr-18	9-Oct-18
·			WG-160900764-	WG-160900764-	WG-160900764-	WG-160900764-	WG-160900764
Sample ID			20180418-JK10	20180417-JK7	20181010-JK18	20180418-JK12	20181009-JK
Water Type			Raw	Raw	Raw	Raw	Raw
Sample Tap			Inside (Kitchen)	Outside	Outside	Outside	Outside
			, ,	(Garage)	(Garage)	(Front house)	(Front house
Treatment Type			Charcoal Filter	None	None	Softener	Softener
Sampling Company Laboratory			STANTEC MAXX	STANTEC MAXX	STANTEC MAXX	STANTEC MAXX	STANTEC MAXX
Laboratory Laboratory Work Order			B888862	B887457	B8Q8015	B888862	B8Q6729
Laboratory Sample ID			GML889	GME362	HZJ741	GML892	HZC409
Filtered	Units	ODWS	Total Metals	Total Metals	Total Metals	Total Metals	Total Metals
Semi-Volatile Organic Compounds							
Acenaphthene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2
Acenaphthylene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2
Anthracene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene Benzo(a)pyrene	μg/L μg/L	n/v 0.01 ^B	<0.05 <0.01	<0.05 <0.01	<0.05 <0.01	<0.05 <0.01	<0.05 <0.01
Benzo(b/j)fluoranthene	μg/L μg/L	0.01 n/v	<0.05	<0.01	<0.01	<0.01	<0.05
Benzo(g,h,i)perylene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	<0.05
Biphenyl, 1,1'- (Biphenyl)	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1
Bis(2-Chloroethyl)ether	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-Chloroisopropyl)ether	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-Ethylhexyl)phthalate (DEHP)	μg/L	n/v	<1	<1	<1	<1	<1
Chlorophonel 2 (ortho Chlorophonel)	μg/L	n/v	<1	<1 <0.1	<1	<1	<1
Chlorophenol, 2- (ortho-Chlorophenol) Chrysene	μg/L	n/v n/v	<0.1 <0.05	<0.1 <0.05	<0.1 <0.05	<0.1 <0.05	<0.1 <0.05
Cnrysene Dibenzo(a,h)anthracene	μg/L μg/L	n/v n/v	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1
Dichlorobenzidine, 3,3'-	μg/L μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorophenol, 2,4-	μg/L	900 ^B 0.3 _f ^C	<0.1	<0.1	<0.1	<0.1	<0.1
Diethyl Phthalate	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethyl Phthalate	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethylphenol, 2,4-	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	<0.5
Dinitrophenol, 2,4-	μg/L	n/v	<2	<2	<2	<2	<2
Dinitrotoluene, 2,4-	μg/L	n/v	<0.3	<0.3	<0.3	<0.3	<0.3
Dinitrotoluene, 2,6-	μg/L	n/v	<0.3 <0.2	<0.3 <0.2	<0.3 <0.2	<0.3 <0.2	<0.3 <0.2
Fluoranthene Fluorene	μg/L μg/L	n/v n/v	<0.2	<0.2	<0.2	<0.2	<0.2
Indeno(1,2,3-cd)pyrene	μg/L μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1
Methylnaphthalene (Total)	μg/L	n/v	<0.28	<0.28	<0.28	<0.28	<0.28
Methylnaphthalene, 1-	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2
Methylnaphthalene, 2-	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	<0.2
Pentachlorophenol	μg/L	60 ^B 30 _f ^C	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1
Phenol	μg/L	n/v	<0.5	< 0.5	<0.5	< 0.5	<0.5
Pyrene Trichlorobenzene, 1,2,4-	μg/L	n/v n/v	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1	<0.05 <0.1
Trichlorophenol, 2,4,5-	μg/L μg/L	n/v	<0.1	<0.1	<0.1	<0.1	<0.1
Trichlorophenol, 2,4,6-	μg/L	5 ^B 2 _f ^C	<0.2	<0.2	<0.2	<0.2	<0.2
Volatile Organic Compounds							
Acetone	μg/L	n/v	<10	<10	<10	<10	<10
Bromodichloromethane Bromoform (Tribromomethane)	μg/L	n/v n/v	<0.50 <1.0	<0.50 <1.0	<0.50 <1.0	4.1 <1.0	<0.50 <1.0
Bromororm (Tribromomethane) Bromomethane (Methyl bromide)	μg/L μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon Tetrachloride (Tetrachloromethane)	μg/L μg/L	2 ^B	<0.20	<0.20	<0.20	<0.20	<0.20
Chlorobenzene (Monochlorobenzene)	μg/L	80 ^B 30f ^C	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform (Trichloromethane)	μg/L	n/v	<0.20	<0.20	3.9	5.9	0.54
Dibromochloromethane	μg/L	n/v	<0.50	<0.50	<0.50	2.4	<0.50
Dichlorobenzene, 1,2-	μg/L	200 ^B 3 _f ^C	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,3-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	<0.50
D'ablanch a service 4 d		5 ^B 1 _f ^C	<0.50		< 0.50	<0.50	<0.50
Dichlorobenzene, 1,4-	μg/L			<0.50		-10	
Dichlorodifluoromethane (Freon 12)	μg/L	n/v	<1.0	<1.0	<1.0	<1.0 <0.20	<1.0 <0.20
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1-	μg/L μg/L	n/v n/v	<1.0 <0.20	<1.0 <0.20	<1.0 <0.20	<0.20	<0.20
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethane, 1,2-	μg/L μg/L μg/L	n/v n/v 5 ^B	<1.0 <0.20 <0.50	<1.0 <0.20 <0.50	<1.0 <0.20 <0.50	<0.20 <0.50	<0.20 <0.50
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1-	μg/L μg/L	n/v n/v	<1.0 <0.20	<1.0 <0.20	<1.0 <0.20	<0.20	<0.20
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethane, 1,2- Dichloroethene, 1,1- Dichloroethene, cis-1,2-	μg/L μg/L μg/L μg/L	n/v n/v 5 ^B 14 ^B	<1.0 <0.20 <0.50 <0.20	<1.0 <0.20 <0.50 <0.20	<1.0 <0.20 <0.50 <0.20	<0.20 <0.50 <0.20	<0.20 <0.50 <0.20
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethane, 1,2- Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2-	μg/L μg/L μg/L μg/L μg/L	n/v n/v 5 ^B 14 ^B n/v n/v	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.20	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.20	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.20	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethane, 1,2- Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans)	µg/L µg/L µg/L µg/L µg/L µg/L µg/L	n/v n/v 5 ^B 14 ^B n/v n/v n/v	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.50	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.50	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.50	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50	<0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.50
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3-	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	n/v n/v 5 ^B 14 ^B n/v n/v n/v n/v	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.20 <0.50 <0.30	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.20 <0.50 <0.30	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.20 <0.50 <0.30	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethane, 1,2- Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3-	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	n/v n/v 5B 14B n/v n/v n/v n/v n/v n/v	<1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.50 <0.40	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethane, 1,2- Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-)	нд/L нд/L нд/L нд/L нд/L нд/L нд/L нд/L	n/v n/v 5B 14B n/v n/v n/v n/v n/v n/v n/v	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.40 <0.20	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.40 <0.20	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20	<0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethane, 1,2- Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane)	Hg/L Hg/L Hg/L Hg/L Hg/L Hg/L Hg/L Hg/L	n/v n/v 5B 14B n/v n/v n/v n/v n/v n/v n/v n/v	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.20 <0.50 <0.20 <1.50	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0	<0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethane, 1,2- Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone)	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	n/v n/v 5B 14B n/v n/v n/v n/v n/v n/v n/v	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.40 <0.20	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.40 <0.20	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20	<0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethane, 1,2- Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2-	Hg/L Hg/L Hg/L Hg/L Hg/L Hg/L Hg/L Hg/L	n/v n/v 5B 14B n/v n/v n/v n/v n/v n/v n/v n/v	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <1.0 <10	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethane, 1,2- Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropane, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK)	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	n/v n/v 5B 14B n/v	<1.0 <0.20 <0.50 <0.20 <0.55 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <1.0 <1.0 <1.0 <5.0	<1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <1.0 <1.0 <1.0 <5.0	<0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <1.0 <1.0 <5.0	<0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <1.0 <1.0 <1.0
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethane, 1,2- Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloropropene, trans-1,2- Dichloropropene, 1,3- (Sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK) Methyl tert-butyl ether (MTBE) Methylene Chloride (Dichloromethane) Styrene	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	n/v n/v 5 ⁸ 14 ⁸ n/v	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.20 <0.50 <0.10 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.50 <0.20 <0.50 <1.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.20 <0.50 <1.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50	<0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethane, 1,2- Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropane, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK) Methyl tert-butyl ether (MTBE) Methylene Chloride (Dichloromethane) Styrene Tetrachloroethane, 1,1,1,2-	нд/L нд/L	n/v n/v 5B 14B n/v	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.50 <0.10 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.20 <0.50 <1.00 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50	<0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.050 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00 <0.00
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethane, 1,2- Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK) Methyl tert-butyl ether (MTBE) Methylene Chloride (Dichloromethane) Styrene Tetrachloroethane, 1,1,1,2- Tetrachloroethane, 1,1,1,2-	нд/L нд/L	n/v n/v 5B 14B n/v	<1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	<1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.30 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	<1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.30 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <1.0 <10 <5.0 <0.50 <2.0 <0.50 <0.50 <0.50	<0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethane, 1,2- Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloroethene, trans-1,2- Dichloropropane, 1,2- Dichloropropane, 1,3- Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK) Methyl tert-butyl ether (MTBE) Methylene Chloride (Dichloromethane) Styrene Tetrachloroethane, 1,1,1,2- Tetrachloroethane, 1,1,2,2- Tetrachloroethene (PCE)	нд/L нд/L	n/v n/v 5B 14B n/v	<1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20	<1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20	<1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20	<0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.5	<0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethane, 1,2- Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloropropene, trans-1,2- Dichloropropene, 1,3- (sum of isomers cis + trans) Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK) Methyl tert-butyl ether (MTBE) Methylene Chloride (Dichloromethane) Styrene Tetrachloroethane, 1,1,1,2- Tetrachloroethane, 1,1,2- Tetrachloroethene (PCE) Trichloroethane, 1,1,1-	нд/L нд/L	n/v n/v 58 148 n/v	<1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.20 <0.50 <1.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.20	<1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20	<0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.20 <0.20	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.20 <0.20
Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethane, 1,2- Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloropropene, trans-1,2- Dichloropropene, 1,3- Dichloropropene, cis-1,3- Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK) Methyl tert-butyl ether (MTBE) Methylene Chloride (Dichloromethane) Styrene Tetrachloroethane, 1,1,1,2- Tetrachloroethane, 1,1,1,2- Tetrachloroethane, 1,1,1- Trichloroethane, 1,1,1- Trichloroethane, 1,1,1- Trichloroethane, 1,1,2-	hg/L hg/L hg/L hg/L hg/L hg/L hg/L hg/L	n/v n/v 5B 14B n/v	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.50	<1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	<1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	<0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50
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Dichlorodifluoromethane (Freon 12) Dichloroethane, 1,1- Dichloroethane, 1,2- Dichloroethene, 1,1- Dichloroethene, cis-1,2- Dichloropropene, trans-1,2- Dichloropropene, 1,3- Dichloropropene, cis-1,3- Dichloropropene, cis-1,3- Dichloropropene, trans-1,3- Ethylene Dibromide (Dibromoethane, 1,2-) Hexane (n-Hexane) Methyl Ethyl Ketone (MEK) (2-Butanone) Methyl Isobutyl Ketone (MIBK) Methyl tert-butyl ether (MTBE) Methylene Chloride (Dichloromethane) Styrene Tetrachloroethane, 1,1,1,2- Tetrachloroethane, 1,1,1,2- Tetrachloroethane, 1,1,1- Trichloroethane, 1,1,1- Trichloroethane, 1,1,1- Trichloroethane, 1,1,2-	hg/L hg/L hg/L hg/L hg/L hg/L hg/L hg/L	n/v n/v 5B 14B n/v	<1.0 <0.20 <0.50 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.20 <0.50	<1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	<1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	<0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	<0.20 <0.50 <0.20 <0.50 <0.50 <0.20 <0.50 <0.30 <0.40 <0.20 <1.0 <10 <5.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50



Table 5
Summary of Groundwater Analytical Results - 2018 Private Wells
Clarington Transformer Station
Hydro One Networks Inc.

Sample To	Sample Location				/-25	PW-26		
Sample D	Aquifer			Shallow O	verburden	Shallow C	verburden	
Semiple 1	Sample Date						10-Oct-18 WG-160900764	
Sample To Counted to Coun	Sample ID						20181010-JK12	
Side house)	Water Type					Raw	Raw	
Treatment Type	Sample Tap					Outside Tap	Outside Tap	
Laboratory				Softener	Softener		None	
Laboratory Work Order Laboratory Work Order Laboratory Work Order Laboratory Small Policy Total Medials Total Medi				_		_	STANTEC MAXX	
Total Metals							B8Q8015	
General Chemistry	Laboratory Sample ID			GME360	HZC413	GML893	HZJ735	
Acadiny Rearborate (as CaCO3) mgl. nov 19 88 84 Alkalenity, Carborate (as CaCO3) mgl. nov 20 300 450 155 Alkalenity, Carborate (as CaCO3) mgl. nov 20 300 300 450 155 Alkalenity, Carborate (as CaCO3) mgl. nov 20 300 300 450 155 Alkalenity, Carborate (as CaCO3) mgl. nov 20 300 300 450 155 Alkalenity, Carborate (as CaCO3) mgl. nov 7.38 7.38 15.7 Chloride mgl. nov 7.38 7.38 15.7 Chloride mgl. 2607 241 15 170 Chloride mgl. 10 20 13 13 14 14 14 14 14 14 14 14 14 14 14 14 14	Filtered	Units	ODWS	Total Metals	Total Metals	Total Metals	Total Metals	
Acadiny Rearborate (as CaCO3) mgl. nov 19 88 84 Alkalenity, Carborate (as CaCO3) mgl. nov 20 300 450 155 Alkalenity, Carborate (as CaCO3) mgl. nov 20 300 300 450 155 Alkalenity, Carborate (as CaCO3) mgl. nov 20 300 300 450 155 Alkalenity, Carborate (as CaCO3) mgl. nov 20 300 300 450 155 Alkalenity, Carborate (as CaCO3) mgl. nov 7.38 7.38 15.7 Chloride mgl. nov 7.38 7.38 15.7 Chloride mgl. 2607 241 15 170 Chloride mgl. 10 20 13 13 14 14 14 14 14 14 14 14 14 14 14 14 14	General Chemistry		<u> </u>					
Albalinity, Carbonnet (as CaCOS)		mg/L	n/v	19	26	84	91	
Akalminy, froat (as GeO3) Ammonis (as N) Ammonis (a	, ,	-					460	
Ammonistics (as N) Ammonistics (, ,	_	_				<1.0 460	
Cation Sum		-					0.077	
Chloride mg/L 2506							16.5	
Cyanide (Prev) Upil. South Sou							17.0 190	
Dissolved Organic Carbon (DOC) mg/L 5° 1.3 1.1 2.1		-					<1	
Fillorate mg/L fig. doi:10 do	Dissolved Organic Carbon (DOC)	mg/L	5 ^C	1.3	1.1	2.1	2.6	
Hardness (ac CaCO3) mg/L mg/L mg/L mg/L mone mg/L mone mg/L mone	· · · · · · · · · · · · · · · · · · ·						1,600 <0.10	
In Balance %		_		_			<0.10 610 ^E	
Langelier Index (at 4 C)	Ion Balance	_	n/v	2.98	2.88	0.0100	1.34	
Nimize (a N) Nimiz	, ,			0.959	0.955		0.773	
Niltrate (sin N)	• ,						0.526 0.97	
Militrée (as N)	, ,	-	10.0 _d ^B				0.97	
Silvarion pri (at 20 C)		_	1.0 _d ^B				<0.010	
Saluration pH (et 20 C)	,	-					<0.010 7.31	
Sulfate	Saturation pH (at 20 C)		n/v	6.94	6.87	6.57	6.54	
Total Organic Carbon mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L							6.79	
Total Organic Carbon mg/L n/v 1.3 1.2 2.1 Turbidity, Lab MTU 5.6 1 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10 < <10		_					900 ^C	
Total Supeneded Solids		-					2.4	
Metals	•	mg/L	n/v	<10	<10	<10	<10	
Aluminum		NTU	5 _{i j} E	<0.1	0.6	<0.1	<0.1	
Artimony			IE	1	7.0			
Arsenic							<5 <0.5	
Berylllum	•						<1	
Boron			,				120	
Cadmium							<0.5 28	
Chromium							<0.1	
Liporitim (Hexavalent)							210,000	
Cobalt							<5 <0.50	
Iron	,		n/v				<0.5	
Lead μg/L μg/L 108 < 0.5 < 0.5 0.67 < 0.5 Manganesum μg/L n/V 5,900 14,000 20,000 15 Mercury μg/L 18 < 0.1	• •						11	
Magnesium μg/L n/v 5,900 14,000 20,000 18 Manganese μg/L 50° <2							<100 <0.5	
Mercury μg/L 18 -0.1 -0.1 -0.1 -0.1 -0.1 -0.1 -0.1 -0.1 -0.1 -0.5							19,000	
Molybdénum	Manganese	μg/L		<2	<2	6.5	6.7	
Nickel	· ·						<0.1	
Phosphorus							<0.5 <1	
Selenium	Phosphorus	μg/L	n/v	<100	<100	<100	<100	
Silicon							1,500	
Silver							<2 5,300	
Strontium	Silver	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	
Thallium				,			110,000 ^D	
Titanium							410 <0.05	
Uranium μg/L yg/L yg/L yg/L n/v 2.08 vo.5 vo.5 vo.5 vo.5 vo.5 vo.5 vo.5 vo.5			n/v	<5	<5	<5	<5	
Zinconium		μg/L					1.1	
Description							<0.5 <5	
Escherichia coli (E.Coli)							<1	
Total Coliform Background Cfu/100mL Cfu/100mL Cfu/100mL O^A O NDOGT 10 NIDOGT NDOGT SA NDOGT NDOGT SA SA NDOGT SA	• •					·		
Total Coliforms	, ,		-				NDOGTA	
Benzene	•						NDOGT NDOGT ^A	
Benzene μg/L 18 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20		ora/ TOUTIL	<u> </u>		NDOGI	3	MDOGI	
Toluene		μg/L			<0.20	<0.20	<0.20	
Xylene, m & p- μg/L n/v <0.20		μg/L					<0.20	
Xylene, o- μg/L n/v <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <	,						<0.20 <0.20	
Xylenes, Total μg/L 90 ⁸ <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.20 <0.							<0.20	
PHC F1 (C6-C10 range) minus BTEX μg/L n/v <25 <25 <25 <25 PHC F2 (>C10-C16 range) μg/L n/v <100 <100 <100 <200 <200 <200 <200 <200	Xylenes, Total	μg/L	90 ^B	<0.20	<0.20	<0.20	<0.20	
PHC F2 (>C10-C16 range)							<25	
PHC F3 (>C16-C34 range)	` ,						<25 <100	
PHC F4 (>C34-C50 range)	PHC F3 (>C16-C34 range)			<200	<200	<200	<200	
Polychlorinated Biphenyls Aroclor 1242 μg/L n/v <0.05	PHC F4 (>C34-C50 range)	μg/L					<200	
Arocior 1242 μg/L n/v <0.05 <0.05 <0.05 < Arocior 1248 μg/L n/v <0.05	-	none	n/v	YES	YES	YES	YES	
Aroclor 1248 μg/L n/v <0.05 <0.05 <0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0	• •	ua/l	n/v	<0.05	<0.05	<0.05	<0.05	
	Aroclor 1248			<0.05	<0.05	<0.05	<0.05	
		μg/L		<0.05			<0.05	
	Aroclor 1260 Polychlorinated Binhenyls (PCBs)	μg/L ug/l	n/v 3 ^B	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	

Table 5 Summary of Groundwater Analytical Results - 2018 Private Wells **Clarington Transformer Station** Hydro One Networks Inc.

Sample Location				<i>l</i> -25	PW-26		
Aquifer			Shallow C	verburden	Shallow O	verburden	
Sample Date			17-Apr-18	9-Oct-18	18-Apr-18	10-Oct-18	
·			WG-160900764-	WG-160900764-	WG-160900764-	WG-160900764	
Sample ID			20180417-JK5	20181009-JK9	20180418-JK13	20181010-JK1	
Water Type			Treated	Treated	Raw	Raw	
Sample Tap			Outside	Outside	Outside Tap	Outside Tap	
			(Side house)	(Side house)	•	•	
Treatment Type			Softener	Softener	None	None	
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	
Laboratory			MAXX	MAXX	MAXX	MAXX	
Laboratory Work Order			B887457	B8Q6729	B888862	B8Q8015	
Laboratory Sample ID			GME360	HZC413	GML893	HZJ735	
Filtered	Units	ODWS	Total Metals	Total Metals	Total Metals	Total Metals	
Semi-Volatile Organic Compounds			1				
Acenaphthene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	
Acenaphthylene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	
Anthracene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	
Benzo(a)anthracene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	
Benzo(a)pyrene	μg/L	0.01 ^B	<0.01	<0.01	<0.01	<0.01	
Benzo(b/j)fluoranthene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	
Benzo(g,h,i)perylene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	
Benzo(k)fluoranthene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	
Biphenyl, 1,1'- (Biphenyl)	μg/L μg/L	n/v	<0.05	<0.05	<0.05	<0.05	
Bis(2-Chloroethyl)ether	μg/L μg/L	n/v	<0.1	<0.5	<0.5	<0.5	
Bis(2-Chloroisopropyl)ether		n/v	<0.5	<0.5	<0.5	<0.5	
Bis(2-Chioroisopropyr)ether Bis(2-Ethylhexyl)phthalate (DEHP)	μg/L	n/v n/v	<0.5 <1	<0.5	<0.5 <1	<0.5 <1	
Bis(2-Etnyinexyi)phthalate (DEHP) Chloroaniline, 4-	μg/L		<1	<1	<1 <1	<1	
	μg/L	n/v					
Chlorophenol, 2- (ortho-Chlorophenol)	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	
Chrysene	μg/L	n/v	<0.05	<0.05	<0.05	<0.05	
Dibenzo(a,h)anthracene	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	
Dichlorobenzidine, 3,3'-	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	
Dichlorophenol, 2,4-	μg/L	900 ^B 0.3 _f ^C	<0.1	<0.1	<0.1	<0.1	
Diethyl Phthalate	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	
Dimethyl Phthalate	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	
Dimethylphenol, 2,4-	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	
Dinitrophenol, 2,4-	μg/L	n/v	<2	<2	<2	<2	
Dinitrotoluene, 2,4-	μg/L	n/v	<0.3	<0.3	<0.3	<0.3	
Dinitrotoluene, 2,6-	μg/L	n/v	<0.3	<0.3	<0.3	<0.3	
Fluoranthene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	
Fluorene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	
ndeno(1,2,3-cd)pyrene	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	
Methylnaphthalene (Total)	μg/L	n/v	<0.28	<0.28	<0.28	<0.28	
Methylnaphthalene, 1-	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	
Methylnaphthalene, 2-	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	
Naphthalene	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	
Pentachlorophenol	μg/L	60 ^B 30 _f ^C	<0.1	<0.1	<0.1	<0.1	
Phenanthrene	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	
Phenol	μg/L	n/v	<0.5	<0.5	<0.5	<0.5	
Pyrene	μg/L	n/v	< 0.05	<0.05	< 0.05	<0.05	
Trichlorobenzene, 1,2,4-	μg/L	n/v	<0.1	<0.1	<0.1	<0.1	
Trichlorophenol, 2,4,5-	μg/L	n/v	<0.2	<0.2	<0.2	<0.2	
Frichlorophenol, 2,4,6-	μg/L	5 ^B 2 _f ^C	<0.2	<0.2	<0.2	<0.2	
Volatile Organic Compounds							
Acetone	μg/L	n/v	<10	<10	<10	<10	
Bromodichloromethane	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	
Bromoform (Tribromomethane)	μg/L	n/v	<1.0	<1.0	<1.0	<1.0	
Bromomethane (Methyl bromide)	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	
Carbon Tetrachloride (Tetrachloromethane)	μg/L	2 ^B	<0.20	<0.20	<0.20	<0.20	
Chlorobenzene (Monochlorobenzene)	μg/L	80 ^B 30f ^C	<0.20	<0.20	<0.20	<0.20	
Chloroform (Trichloromethane)	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	
Dibromochloromethane	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	
Dichlorobenzene, 1,2-	μg/L	200 ^B 3 _f ^C	<0.50	<0.50	<0.50	<0.50	
Dichlorobenzene, 1,3-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	
Dichlorobenzene, 1,4-	μg/L	5 ^B 1 _f ^C	<0.50	<0.50	<0.50	<0.50	
Dichlorodifluoromethane (Freon 12)	μg/L	n/v	<1.0	<1.0	<1.0	<1.0	
Dichloroethane, 1,1-	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	
Dichloroethane, 1,2-	μg/L	5 ^B	<0.50	<0.50	<0.50	<0.50	
Dichloroethene, 1,1-	μg/L	14 ^B	<0.20	<0.20	<0.20	<0.20	
Dichloroethene, cis-1,2-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	
Dichloroethene, trans-1,2-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	
Dichloropropane, 1,2-	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	
Dichloropropene, 1,3- (sum of isomers cis + trans)	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	
Dichloropropene, cis-1,3-	μg/L	n/v	<0.30	<0.30	<0.30	<0.30	
Dichloropropene, trans-1,3-	μg/L	n/v	<0.40	<0.40	<0.40	<0.40	
Ethylene Dibromide (Dibromoethane, 1,2-)	μg/L	n/v	<0.20	<0.20	<0.20	<0.20	
Hexane (n-Hexane)	μg/L	n/v	<1.0	<1.0	<1.0	<1.0	
Methyl Ethyl Ketone (MEK) (2-Butanone)	μg/L	n/v	<10	<10	<10	<10	
Methyl Isobutyl Ketone (MIBK)	μg/L	n/v	<5.0	<5.0	<5.0	<5.0	
Methyl tert-butyl ether (MTBE)	μg/L	15 ^C	<0.50	<0.50	<0.50	<0.50	
Methylene Chloride (Dichloromethane)	μg/L	50 ^B	<2.0	<2.0	<2.0	<2.0	
Styrene	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	
Fetrachloroethane, 1,1,1,2-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	
Fetrachloroethane, 1,1,2,2-	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	
Fetrachloroethane, 1,1,2,2-	μg/L μg/L	10 ⁸	<0.20	<0.20	<0.20	<0.20	
Frichloroethane, 1,1,1-		n/v	<0.20	<0.20	<0.20	<0.20	
Frichloroethane, 1,1,1-	μg/L	n/v n/v	<0.50	<0.50	<0.50	<0.20	
	μg/L μg/L	5 ^B					
Frichloroethene (TCE)		i b	<0.20	<0.20	<0.20	<0.20	
				-0.50	20 FC	-0.50	
Frichlorofluoromethane (Freon 11)	μg/L	n/v	<0.50	<0.50	<0.50	<0.50	
Trichloroethene (TCE) Trichlorofluoromethane (Freon 11) Trihalomethanes Vinyl Chloride				<0.50 <1.0 <0.20	<0.50 <1.0 <0.20	<0.50 <1.0 <0.20	

O.Reg 169/03 - Ontario Drinking Water Quality Standards (January 1, 2018); Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines (MOE, 2006), in support of O.Reg 169/03 Schedule 1 - Microbiological Standards (expressed as a maximum) ODWS8

Schedule 2 - Chemical Standards (expressed as a maximum acceptable concentration)

ODWS Table 4 - Chemical/Physical Objectives and Guidelines, Aesthetic Objectives ODWS Table 4 - Medical Officer of Health Reporting Limit

ODWS Table 4 - Chemical/Physical Objectives and Guidelines, Operational Guidelines

Concentration exceeds the indicated standard. 15.2 Measured concentration did not exceed the indicated standard.

<0.50 Laboratory reporting limit was greater than the applicable standard. < 0.03

Analyte was not detected at a concentration greater than the laboratory reporting limit. No standard/guideline value.

n/v Parameter not analyzed / not available.

Expressed as a running annual average of quarterly results.

Where both nitrate and nitrite are present, the total of the two should not exceed 10 mg/L (as nitrogen). Refer to ODWS Table 2 for health related standard

The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.

When sulfate levels exceed 500 mg/L, water may have a laxative effect on some people.

Applicable for all waters at the point of consumption.

The operational guidelines for filtration processes are provided as performance criteria in the Procedure for Disinfection of Drinking Water in Ontario.

NC No data due to overgrowth. NDOGT



APPENDIX C:

Groundwater and Surface Water Monitoring Plan and Approvals

Stantec

Stantec Consulting Ltd.

300 - 675 Cochrane Drive West Tower Markham ON L3R 0B8 Tel: (905) 944-7777

Fax: (905) 474-9889

June 13, 2014 File: 160900764

Attention: Mr. Paul Dalmazzi

HydroOne Environmental Engineering and Project Support 483 Bay Street, 6th Floor, South Tower Toronto, ON M5G 2P5

Dear Mr. Dalmazzi,

Reference: Groundwater and Surface Water Monitoring Program, Clarington Transformer Station

Stantec Consulting Ltd. (Stantec) is pleased to submit to Hydro One Networks Inc. (Hydro One) our Groundwater and Surface Water Monitoring Program for the Clarington Transformer Station. The transformer station is to be located on Hydro One property ('Project Area') located in the Regional Municipality of Durham, in the Municipality of Clarington, on Part Lots 33, 34, and 35, Concession Road #7. The Project Area and the extents of the transformer station itself, hereinafter referred to as the 'Site', are shown on Figure 1.

BACKGROUND

In their Class EA Project Environmental Study Report (Project ESR), Hydro One has committed to undertake a groundwater and surface water monitoring program that includes monitoring wells and surface water monitoring locations within its property boundaries (*Project Area*), and offering private well monitoring to well owners on properties immediately adjacent to the *Site*. This commitment is to cover pre, during, and post transformer station construction periods, and will include monitoring of water levels and water quality.

Stantec compiled available geotechnical and hydrogeological information as well as reviewed Ontario Ministry of the Environment (MOE) water well records, Ontario Geological Survey mapping, Oak Ridges Moraine Conservation Plan, and Ministry of Affairs and Housing Greenbelt Plan. Stratigraphy beneath the Site is found to consist of silt till overburden which is known as the Newmarket Till, with pockets of Halton Till at surface. The till contains occasional isolated sand to silty sand lenses, with several nearby private wells reportedly installed within these lenses. The MOE water well record database indicates the presence of a deep (greater than 75 m below ground surface) silty sand aquifer consisting of medium to fine sand and gravel which is regionally recognized as the Thorncliffe Aquifer.

OBJECTIVES

The following Groundwater and Surface Water Monitoring Program has three primary objectives: to fulfill Hydro One's commitment to implement a pre, during, and post transformer station construction groundwater and surface water monitoring program; to refine our understanding of the physical and chemical characteristics of the shallow and intermediate depth groundwater systems at the *Site*; and to establish a pre-construction baseline of groundwater conditions, including seasonal variations of groundwater quality, quantity, and surface water / groundwater interaction. The monitoring data collected will provide the technical foundation on which to assess whether adverse impacts occurred during or post construction.



MONITORING PROGRAM SCOPE

The Groundwater and Surface Water Monitoring Program includes several key tasks, including installing new groundwater monitoring wells (completed in Fall 2013), implementing a private well monitoring program, surface water monitoring, decommissioning of geotechnical monitoring wells (completed Fall 2013), water level and water quality monitoring, and preparing annual monitoring summary reports through the duration of the monitoring program.

Complementing the groundwater monitoring program, surface water features located on the north (wetland), west (creek), and south (drainage swale) sides of the *Site* will be monitored. Background water levels within three newly installed shallow piezometers (mini shallow wells) will be recorded prior to construction of the transformer station, and compared to monitoring results recorded during and post construction. The monitoring data collected will provide the technical foundation on which to further characterize our understanding of the shallow groundwater system, to assess whether adverse impacts occurred during or post construction, and to provide guidance for appropriate mitigation, if needed.

Owners of private wells on properties immediately adjacent to the east and south of the *Site* will be able to have the water level and water quality in their wells monitored prior to, during, and post construction of the transformer station. A baseline of seasonal normal groundwater levels and groundwater quality will be established prior to construction of the transformer station. Once construction of the transformer station begins, the well monitoring program will continue with observations compared to baseline conditions, allowing for an assessment of potential impacts on the natural environment and of the efficacy of the engineered containment structures and water treatment systems to be installed.

Groundwater and surface water data collected prior to construction of the transformer station will help define the relationship between the shallow and intermediate depth groundwater systems at the Site and how they interact with each other; providing a baseline to which monitoring data collected during construction and post construction will be compared. Specifically, the Groundwater and Surface Water Monitoring Program will allow for quantification of the following hydrogeological characteristics of the site:

- Refinement of Site geologic stratigraphy;
- Seasonal shallow and intermediate groundwater water levels across the site;
- Seasonal shallow and intermediate groundwater chemistry;
- Vertical groundwater gradients (identify areas of upward, neutral, or downward groundwater movement) between surface water and shallow groundwater system, and shallow and intermediate depth groundwater systems;
- Shallow and intermediate depth hydraulic conductivity, including variations in hydraulic conductivity associated with the different geologic materials identified during previous and recent drilling programs;
- Continuous (hourly) groundwater level monitoring to allow for observation and calculation of seasonal variations in surface water, groundwater, and private wells; and,
- Potential changes in shallow groundwater elevation associated with the cut portion (east side)
 of the grading area, including the potential radius of groundwater influence, and potential for
 private well interference.



The hydrogeologic conditions presented in the Project ESR will be confirmed through the analyses and interpretation of groundwater and surface water data collected prior to construction of the transformer station. The monitoring program will continue during and post construction of the transformer station in order to confirm that the mitigation measures and engineered containment structures designed to protect the natural form and function of the surface water system, shallow and intermediate groundwater systems, and the adjacent private water wells are functioning as designed.

MONITORING INSTALLATIONS

The Groundwater and Surface Water Monitoring Program takes into consideration potential adverse impacts of the project on the natural environment in the absence of implementing any mitigations measures (containment structures, water treatment, etc.). These include the introduction of chemical substances and changes to the natural form and function of the shallow and intermediate depth groundwater and surface water systems. As a result, the depths of the monitoring wells, monitoring frequency, and selected water quality analyses of the entire monitoring program have been selected with detection of potential changes to these receptors as their primary objective.

Site Monitoring Wells

The groundwater monitoring wells installed at the *Site* during the previous geotechnical investigations were all installed at an intermediate depth (screened between approximately 11 m and 15 m depth). These monitoring wells were located where excavations for footings or foundations are planned, and as a result, needed to be decommissioned prior to construction of these foundations.

In the Fall of 2013, this monitoring program was initiated by installing pairs of new monitoring wells on each side of the *Site* (Figure 1). The new intermediate depth (approximately 10 m to 15 m depth) wells have been paired with shallow depth wells (approximately 1 m to 3 m depth) intended to intersect the elevation of the shallow water table. By installing pairs of shallow and intermediate depth wells, changes in groundwater levels, groundwater chemistry and vertical hydraulic gradients (upward or downward movement of groundwater) will be able to be measured and monitored seasonally prior to, during, and post construction of the transformer station.

Drive point piezometers (shallow mini wells) have also been installed within the *Site's* surface water features in order to monitor seasonal shallow groundwater and surface water levels within the wetland (north side), creek (west side) and drainage swale (south side) features found on-*Site*.



The new groundwater monitoring wells were installed according to the MOE Water Resource Act (O. Reg. 903). A licensed well drilling contractor was retained and has completed the following:

- Installation of three (3) stream/wetland drive-point piezometers;
- Drilling and installation of four (4) shallow and intermediate depth pairs of groundwater monitoring wells (8 wells in total); advanced to depth of approximately 1 to 3 m and 10 to 15 m, respectively;
- Complete grouting (sealing) of outer well annulus;
- Installation of protective and lockable well casing; and,
- Decommissioning of former geotechnical wells according to the MOE Water Resource Act (O. Reg. 903).

Upon completing installation of the new monitoring wells in December 2013, the water level in several wells were observed to have recovered slowly, with some not recovering sufficiently after several days to allow for a collection of water quality samples. Monitoring of the new wells will continue with the completion of a water level monitoring event in Winter 2014, noting if any wells are frozen.

In Spring 2014, the new wells will be developed, hydraulically tested (slug tests) to confirm estimates presented in the Project ESR, and sampled for groundwater quality. Selected representative soil samples obtained and preserved during drilling will be submitted for laboratory sieve grain size analyses.

Private Well Monitoring

The private well monitoring program will include providing notification to all potential groundwater users within 1,200 m of the *Site*, informing the property and/or well owners of the transformer station construction schedule, and the parameters of the private well monitoring program.

The distributed notification information will provide the details of the monitoring program, and include appropriate project contact information for Hydro One regarding construction concerns. During the door-to-door site visits, Stantec will also make note of and attempt to contact well owners that may not appear in the MOE's records for the purpose of offering participation in the private well monitoring program.

Participation in the private well monitoring program will only be completed with the owner's authorization, and will include water quality sampling and water level monitoring, depending on well accessibility. Water level monitoring involves installing an automated well water level logger (pressure transducer), which can only be completed at accessible wells by a licensed well contractor. The automated loggers will monitor 'continuous' water levels (at 5 to 60 minute intervals) from Spring 2014 until two years following completion of construction. The loggers would be removed at the end of the monitoring program.



Private well water quality samples will be collected from a raw water tap (prior to any treatment or filtration), where available. If no raw water tap is present, a sample may be collected directly from the well, depending on well accessibility and well owner authorization. After purging water from the well, the samples will be collected directly into laboratory supplied sample containers. The samples will not be field filtered and will be submitted for general chemistry, turbidity, metals, hydrocarbons (F1-F4 and BTEX), and bacteriological analyses. To supplement and provide quality assurance, temperature, conductivity, and pH data will be collected in the field at the time of sampling.

Individual private well analytical results will be presented in a letter to each resident following each sampling event along with the available water level data. Private well data will remain confidential, and is not permitted to be shared with the general public. However, monitoring reports for data collected on-Site will be prepared annually and made available to the public by Hydro One.

SURFACE WATER MONITORING

A Stantec terrestrial ecologist will monitor the *Site* prior to transformer station construction to confirm the presence or absence of groundwater seeps within the *Project Area*, identifying notable indicator parameters and plant species. Ecological monitoring will continue annually during construction of the transformer station, and for two years following completion of construction. Surface water levels and water quality samples will be collected from three (3) surface water monitoring locations (at piezometer installation locations) and submitted for laboratory analyses following the monitoring schedule discussed below.

WATER QUALITY ANALYSES

Groundwater water quality samples from each of the new on-Site monitoring wells and participating private wells will be collected according to laboratory protocols, preserved, and submitted for laboratory analyses (general chemistry, metals, and hydrocarbons (F1-F4 and BTEX)) to Maxxam Analytics, an accredited laboratory. Well water quality parameter analyses will be compared to Ontario Drinking Water Quality Standards (ODWQS).

Surface water quality samples will be collected from each of the three new surface water monitoring locations adjacent to the new piezometer installations (when surface water is present) according to laboratory protocols, preserved, and submitted for laboratory analyses (general chemistry, metals, and hydrocarbons (F1-F4 and BTEX)) to Maxxam Analytics. Surface water quality parameter analyses will be compared to Provincial Water Quality Objectives (PWQO).

A water quality parameter list is included in the attached Tables 1 and 2.

MONITORING SCHEDULE

The Groundwater and Surface Water Monitoring Program schedule frequency is designed to record groundwater levels continuously with the use of automated pressure transducers, and to seasonally (quarterly) collect groundwater and surface water quality samples for laboratory analyses for the first year of monitoring in order to establish potential seasonal variations in groundwater levels and chemistry. Table 1 presents the program water quality sampling schedule.

Design with community in mind



Following the first year of quarterly (seasonal) monitoring, the schedule will change to semi-annual monitoring (spring and fall). Upon completion of construction, monitoring of groundwater, surface water, and private wells will continue semi-annually for two years.

For scheduling purposes, it is anticipated that quarterly seasonal monitoring will take place from Fall 2013 to Summer 2014; semi-annual (construction) monitoring will continue from Fall 2014 through to Fall 2017; and semi-annual post-construction monitoring will extend for 2 years following completion of construction. Presently, construction is anticipated to be completed in Fall 2017, with this monitoring program continuing until Fall 2019.

Table 1 - Monitoring Schedule

	Pre-Construction and Construction Monitoring Schedule												
	20	13		2014				2015					
Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall		
			Χ	Х	Х	Х	Χ		Х		Х		
	2016 2017												
Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall						
	Х		Χ		Х		Х						
	Post-Construction Monitoring Schedule												
	20	18		2019									
Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall						
	Х		Χ		Х		Х						

REPORTING

A Baseline Conditions Report will be prepared following the Fall 2014 monitoring event presenting the Site baseline groundwater and surface water data collected prior to construction of the transformer station (Fall 2013 through Fall 2014).

Subsequent annual monitoring program summary reports will be prepared following the annual Fall monitoring and sampling events. The reports will present continuous records of all on-Site groundwater and surface water monitoring data and a general summary of private well water level and water quality data. Private well owners will be provided with the data (water level and water quality) from their own individual well(s) only. In the event private water quality laboratory results indicate an exceedence of the ODWQS, the private well owner will be advised of the exceedence immediately upon receipt and review of the data.



IMPLEMENTATION

A Community Liaison Committee (CLC) was formed on May 29, 2014 and conducted its first meeting on June 5, 2014. The committee consists of representatives from HydroOne, local environmental organizations, local area residents and three First Nations. CLC meetings are also open to any other organizations and/or members of the public to observe, and observers are also given the opportunity to ask questions or to comment at the conclusion of each meeting. The CLC provides a forum for the exchange and dissemination of project information between Hydro One and the local community, as per Condition 5.1 of the Minister of the Environment's decision to deny the Part II Order Requests received for the Clarington TS Class Environmental Assessment.

CLC meetings will be the primary avenue for Hydro One to disseminate monitoring information and results to community members. A presentation was made at the initial CLC meeting on June 5, 2014 introducing the Monitoring Program, and questions and comments were received from CLC members and observers. The next CLC meeting is planned for late Fall 2014, in advance of the start of site grading and construction of the Clarington Transformer Station itself. The Baseline Conditions Report will be provided to the MOE, CLOCA, and CLC stakeholders in advance of the Fall 2014 meeting for review.

Hydro One will also actively disseminate information and engage in dialogue with members of the community through avenues other than the CLC. Hydro One will share information and interact with the community through newspaper ads, Project newsletters, personal communications with interested stakeholders, a dedicated project hotline and email inbox, and a project website: (http://www.hydroone.com/Projects/Clarington/Pages/default.aspx).

Hydro One will also be employing a dedicated Community Liaison Officer to be on-site during the construction phase of the project. All of the above-mentioned avenues for communication with the community will be used to share information about the Monitoring Program progress and results, where necessary.

The Monitoring Program will be adaptive. Changes to the monitoring program and/or laboratory analyses may be implemented, as determined by Hydro One and its environmental consultant, subject to approval of the MOE Central Region Director, with consideration of the monitoring results and professional interpretations derived from them. HydroOne will continue to encourage input from regulatory agencies, CLC stakeholders, and individual well owners as this project progresses from pre-construction through to completion and on to post-construction monitoring.



CLOSURE

This Groundwater and Surface Water Monitoring Program will fulfill the environmental monitoring commitments made by Hydro One in the Project's ESR by establishing background hydrogeological conditions and by providing a monitoring program that will identify and monitor the natural form and function of the shallow and intermediate depth groundwater system during and post construction.

Regards,

STANTEC CONSULTING LTD.

J. Brant Gill, H.B.Sc., P.Geo.

Senior Hydrogeologist Phone: (905) 415-6330 Fax: (905) 474-9889 brant.gill@stantec.com

Attachment: Figure 1 – Groundwater and Surface Water Monitoring Locations

Figure 2 – Private Well Monitoring Program Area

Table 1 – General Chemistry and Hydrocarbon Water Quality Parameters

Table 2 – Semi-VOC and VOC Water Quality Parameters

c. Dan Eusebi - Stantec

jbg let_MOE-GW-SW Monitoring Program_13Jun2014_FINAL.docx



Legend

Monitoring Well (Stantec, 2013)



Piezometer (Stantec, 2013)

Existing Power Feature

New Infrastructure

Topographic Contour (mAMSL)

- Watercourse

Project Area

Clarington TS Site

Notes

- 1. Coordinate System: NAD 1983 UTM Zone 17N
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2012.
- 3. Orthoimagery © First Base Solutions, 2012.



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Hydro One Networks Inc. Groundwater and Surface Water Monitoring Program Clarington, Ontario

Groundwater & Surface Water Monitoring Locations





LegendClarington Transformer Station

Private Well Monitoring Area MOE Water Well Record

Topographic Contour (mAMSL)



Waterbody

- 1. Coordinate System: NAD 1983 UTM Zone 17N
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.
- 3. Orthoimagery © First Base Solutions, 2012.
- MOE Water well locations are approximate and have been positioned based on published UTM coordinates © Queen's Printer for Ontario, 2012.

Hydro One Networks Inc. Hydrogeologic & Hydrologic Assessment Report Clarington, Ontario

Private Well Monitoring

Table 1 - General Chemistry and Hydrocarbon Groundwater Parameters

General Chemistry		Limit	Dissolved Metals		Limit
Acidity (as CaCO3)	mg/L	n/v	Dissolved Aluminum (AI)	mg/L	0.075
Alkalinity - Bicarbonate (as (CaCO3)	mg/L	n/v	Dissolved Mercury (Hg)	mg/L	0.0002
Alkalinity - Carbonate (as CaCO3)	mg/L	n/v	, (3 <i>)</i>	3	
Alkalinity - Total (as (CaCO3)	mg/L	25%	Total Metals		
Anion Sum	meg/L	n/v	Total Antimony (Sb)	mg/L	0.020
Cation Sum	meq/L	n/v	Total Arsenic (As)	mg/L	0.020
Chloride (Dissolved)	mg/L	n/v	Total Barium (Ba)	mg/L	0.210
Cyanide (Free)	mg/L	0.005	Total Beryllium (Be)	mg/L	0.011
Dissolved Organic Carbon (DOC)	mg/L	n/v	Total Boron (B)	mg/L	0.200
Electrical Conductivity	µmhos/cm	n/v	Total Cadmium (Cd)	mg/L	0.008
Fluoride	mg/L	n/v	Total Chromium VI	mg/L	0.08
Total Hardness (CaCO3)	mg/L	n/v	Total Cobalt (Co)	mg/L	0.0009
Ion Balance	%	n/v	Total Copper (Cu)	mg/L	0.05
Nitrate (as N)	mg/L	n/v	Total Iron (Fe)	mg/L	0.300
Nitrate + Nitrite (as N)	mg/L	n/v	Total Lead (Pb)	mg/L	0.12
Nitrite (as N)	mg/L	n/v	Total Molybdenum (Mo)	mg/L	0.040
Orthophosphate (as P)	mg/L	n/v	Total Nickel (Ni)	mg/L	0.15
рН	S.U.	6.5 - 8.5	Total Phosphorus (P)	mg/L	0.02
Phosphorus, Total	mg/L	0.02	Total Selenium (Se)	mg/L	0.020
Sulfate (Dissolved)	mg/L	n/v	Total Thallium (TI)	mg/L	0.0003
Total Dissolved Solids	mg/L	n/v	Total Vanadium (V)	mg/L	0.006
Total Dissolved Solids (Calculated)	mg/L	n/v	Total Zinc (Zn)	mg/L	0.040
Total Organic Carbon	mg/L	n/v	Total Zirconium (Zr)	mg/L	0.004
Total Suspended Sediment	mg/L	CCME*			
Turbidity, Lab	ntu	CCME*	BTEX & F1 Hydrocarbons		
			F1 (C6-C10)	mg/L	0.025
			F1 (C6-C10) - BTEX	mg/L	0.025
			F2-F4 Hydrocarbons		
			F2 (C10-C16 Hydrocarbons)	mg/L	0.010
			F3 (C16-C34 Hydrocarbons)	mg/L	0.240
			F4 (C34-C50 Hydrocarbons)	mg/L	0.120
			,	J. =	

Semivolatile Organics Impl. biologous Valaile Organics Impl. biologous Impl. biologous Cologous Cachon Indirectionide mg/L cologous Cologous Cachon Indirectionide mg/L cologous <	Table 2 - Semivolatile and Volatile Organics								
1-Methylnaphthalene mg/L 0.00002 Benzene mg/L 0.00005 2.4,5-Tirichlorophenol mg/L 0.0001 Bromodichloromethane mg/L 0.00005 2.4-Dichlorophenol mg/L 0.0001 Bromomethane mg/L 0.00005 2.4-Dinitryliphenol mg/L 0.0002 Carbon Tetrachloride mg/L 0.00005 2.4-Dinitryliphenol mg/L 0.0002 Chloroform mg/L 0.00005 2.4-Dinitryliphenol mg/L 0.0005 Chloroform mg/L 0.00005 2.4-Dinitrodiuene mg/L 0.0005 Chloroform mg/L 0.00005 2.4-Dinitrodiuene mg/L 0.0005 Dibromochloromethane mg/L 0.00005 2.4-Dinitrodiuene mg/L 0.00005 13.3-Dichlorobenzene mg/L 0.00005 2.4-Dinitrodiuene mg/L 0.00005 13.3-Dichlorobenzene mg/L 0.00005 2.4-Dinitrodiuene mg/L 0.00005 13.3-Dichlorobenzene mg/L 0.00005 2.A-Dinitrodiuene <th>Semivolatile Organics</th> <th></th> <th></th> <th>Volatile Organics</th> <th></th> <th>Limit</th>	Semivolatile Organics			Volatile Organics		Limit			
2.4.5-frichlorophenol mg/L 0.00001 Bromoform mg/L 0.00005 2.4.6-frichlorophenol mg/L 0.0001 Bromoform mg/L 0.00005 2.4-Dinchlorophenol mg/L 0.0002 Carbon Tetrachloride mg/L 0.00005 2.4-Dinitrololuene mg/L 0.0002 Chlorobenzene mg/L 0.00005 2.4-Dinitrololuene mg/L 0.0005 Chlorobenzene mg/L 0.00005 2.6-Dinitrololuene mg/L 0.0001 1.2-Dichlorobenzene mg/L 0.00005 2.4-Dinitrololuene mg/L 0.00005 1.3-Dichlorobenzene mg/L 0.00005 2Chlorophenol mg/L 0.00005 1.3-Dichlorobenzene mg/L 0.00005 Accepaphthylene <td>1,2,4-Trichlorobenzene</td> <td>mg/L</td> <td>0.00005</td> <td>Acetone (2-Propanone)</td> <td>mg/L</td> <td>0.00050</td>	1,2,4-Trichlorobenzene	mg/L	0.00005	Acetone (2-Propanone)	mg/L	0.00050			
2,4,6-Irichlorophenol mg/L 0.0001 Bromoform mg/L 0.00005 2,4-Dichlorophenol mg/L 0.00001 Bromomethane mg/L 0.00002 2,4-Dimithylphenol mg/L 0.0002 Carbon Tetrachloride mg/L 0.00005 2,4-Dimitropluene mg/L 0.0002 Chloroform mg/L 0.00005 2,6-Dinitrotoluene mg/L 0.0005 Dibromochloromethane mg/L 0.00005 2,6-Dinitrotoluene mg/L 0.00005 Dibromochlorobenzene mg/L 0.00005 2,6-Dinitrotoluene mg/L 0.00005 1,3-Dichlorobenzene mg/L 0.00005 2-Methylnaphthalene mg/L 0.00005 1,3-Dichlorobenzene mg/L 0.00005 Acenaphthene mg/L 0.00005 Dichlorodifluoromethane (FREON 12) mg/L 0.00005 Acenaphthylene mg/L 0.00005 1,2-Dichlorobenzene mg/L 0.00005 Acenaphthylene mg/L 0.00005 1,2-Dichlorobethylene mg/L 0.00005 <t< td=""><td>1-Methylnaphthalene</td><td>mg/L</td><td>0.00005</td><td>Benzene</td><td>mg/L</td><td>0.00002</td></t<>	1-Methylnaphthalene	mg/L	0.00005	Benzene	mg/L	0.00002			
2.4-Dichlorophenol mg/L 0.0001 Bromomethane mg/L 0.00005 2.4-Dinitrophenol mg/L 0.0002 Carbon Tetrachloride mg/L 0.00005 2.4-Dinitrophenol mg/L 0.0005 Chlorobenzene mg/L 0.00005 2.4-Dinitrotoluene mg/L 0.0005 Dibromochloromethane mg/L 0.00005 2.6-Dinitrotoluene mg/L 0.0005 Dibromochloromethane mg/L 0.00005 2-Methylnaphthalene mg/L 0.00005 13-Dichlorobenzene mg/L 0.00005 3.3-Dichlorobenzidine mg/L 0.00005 13-Dichlorobenzene mg/L 0.00005 Acenaphthene mg/L 0.00005 13-Dichlorobenzene mg/L 0.00005 Acenaphthylene mg/L 0.00005 11-Dichlorobenzene mg/L 0.00005 Acenaphthylene mg/L 0.00005 11-Dichlorobenzene mg/L 0.00005 Acenaphthylene mg/L 0.00005 12-Dichlorobenzene mg/L 0.00005 Anthracene <td>2,4,5-Trichlorophenol</td> <td>mg/L</td> <td>0.0001</td> <td>Bromodichloromethane</td> <td>mg/L</td> <td>0.00005</td>	2,4,5-Trichlorophenol	mg/L	0.0001	Bromodichloromethane	mg/L	0.00005			
2,4-Dimethylphenol mg/L 0.0002 Carbon Tetrachloride mg/L 0.0005 2,4-Dinitrophenol mg/L 0.002 Chlorobenzene mg/L 0.00005 2,4-Dinitrotoluene mg/L 0.0005 Chloroform mg/L 0.00005 2,6-Dinitrotoluene mg/L 0.0007 1.2-Dichlorobenzene mg/L 0.00005 2,6-Dinitrotoluene mg/L 0.00007 1.2-Dichlorobenzene mg/L 0.00005 2,6-Dinitrotoluene mg/L 0.00005 1.3-Dichlorobenzene mg/L 0.00005 2,6-Dinitrotoluene mg/L 0.00005 1.3-Dichlorobenzene mg/L 0.00005 Acenaphthene mg/L 0.00005 1.1-Dichloroethzene mg/L 0.00005 Acenaphthylene mg/L 0.00005 1,1-Dichloroethzene mg/L 0.00005 Acenaphtylylene mg/L 0.00005 1,1-Dichloroethylene mg/L 0.00005 Benzo(s)Pilluoranthene mg/L 0.00005 1,1-Dichloroethylene mg/L 0.00005 Benzo	2,4,6-Trichlorophenol	mg/L	0.0001	Bromoform	mg/L	0.00005			
2,4-Dinitrophenol mg/L 0.002 Chlorobenzene mg/L 0.00005 2,4-Dinitrotoluene mg/L 0.0005 Chloroform mg/L 0.00005 2,6-Dinitrotoluene mg/L 0.00005 Dibromochloromethane mg/L 0.00005 2-Chlorophenol mg/L 0.00005 1,3-Dichlorobenzene mg/L 0.00005 2-Methylnaphthalene mg/L 0.00005 1,3-Dichlorobenzene mg/L 0.00005 Acenaphthene mg/L 0.00005 Dichlorodifluoromethane (FREON 12) mg/L 0.00005 Acenaphthylene mg/L 0.00009 1,1-Dichloroethane mg/L 0.00005 Acenaphthylene mg/L 0.00009 1,1-Dichloroethane mg/L 0.00005 Anthracene mg/L 0.00009 1,1-Dichloroethane mg/L 0.00005 Benzo(a)anthracene mg/L 0.00005 cis-1,2-Dichloroethylene mg/L 0.00005 Benzo(a)(plikorathene mg/L 0.00005 cis-1,2-Dichloroethylene mg/L 0.00005	2,4-Dichlorophenol	mg/L	0.0001	Bromomethane	mg/L	0.00005			
2,4-Dinitrotoluene mg/L 0.0005 Chloroform mg/L 0.00005 2,6-Dinitrotoluene mg/L 0.0005 Dibromochloromethane mg/L 0.00005 2-Chlorophenol mg/L 0.00005 1,2-Dichlorobenzene mg/L 0.00005 3,3-Dichlorobenzidine mg/L 0.00005 1,3-Dichlorobenzene mg/L 0.00005 Acenaphthene mg/L 0.00005 Dichlorocidilluoromethane (FREON 12) mg/L 0.00005 Acenaphthylene mg/L 0.00005 Dichlorocidilluoromethane (FREON 12) mg/L 0.00005 Acenaphthylene mg/L 0.00005 1,1-Dichlorocithane mg/L 0.00005 Acenaphthylene mg/L 0.00005 1,1-Dichlorocethylene mg/L 0.00005 Benzo(a)pyrene mg/L 0.00005 cis-1,2-Dichlorocethylene mg/L 0.00005 Benzo(a)pyrene mg/L 0.00005 cis-1,3-Dichlorocethylene mg/L 0.00005 Benzo(a)pyrene mg/L 0.00002 trans-1,2-Dichlorocethylene mg/L 0.0000	2,4-Dimethylphenol	mg/L	0.0002	Carbon Tetrachloride	mg/L	0.00005			
2,6-Dinitrotoluene mg/L 0.0005 Dibromochloromethane mg/L 0.00005 2-Chlorophenol mg/L 0.00007 1,2-Dichlorobenzene mg/L 0.00005 2-Methylnaphthalene mg/L 0.00005 1,3-Dichlorobenzene mg/L 0.00005 3,3-Dichlorobenzidine mg/L 0.00005 1,3-Dichlorobenzene mg/L 0.00005 Acenaphthene mg/L 0.00003 1,1-Dichloroethane (FREON 12) mg/L 0.00005 Acenaphthylene mg/L 0.00003 1,1-Dichloroethane mg/L 0.00005 Anthracene mg/L 0.00005 1,2-Dichloroethylene mg/L 0.00005 Benzo(a)anthracene mg/L 0.00005 cis-1,2-Dichloroethylene mg/L 0.00005 Benzo(a)pyene mg/L 0.00005 cis-1,2-Dichloroethylene mg/L 0.00005 Benzo(b/fluoranthene mg/L 0.00005 cis-1,2-Dichloroethylene mg/L 0.00005 Benzo(b/fluoranthene mg/L 0.00005 cis-1,2-Dichloropropane mg/L 0.00005 <td>2,4-Dinitrophenol</td> <td>mg/L</td> <td>0.002</td> <td>Chlorobenzene</td> <td>mg/L</td> <td>0.00005</td>	2,4-Dinitrophenol	mg/L	0.002	Chlorobenzene	mg/L	0.00005			
2-Chlorophenol mg/L 0.0001 1,2-Dichlorobenzene mg/L 0.00005 2-Methylnaphthalene mg/L 0.00005 1,3-Dichlorobenzene mg/L 0.00005 3,3-Dichlorobenzidine mg/L 0.00005 Dichlorodifluoromethane (FREON 12) mg/L 0.00005 Acenaphthene mg/L 0.00005 Dichlorodifluoromethane (FREON 12) mg/L 0.00005 Anthracene mg/L 0.00005 1,1-Dichloroethane mg/L 0.00005 Benzo(a)anthracene mg/L 0.00005 1,2-Dichloroethylene mg/L 0.00005 Benzo(a)pyrene mg/L 0.00005 cis-1,2-Dichloroethylene mg/L 0.00005 Benzo(b/f)fluoranthene mg/L 0.00005 trans-1,2-Dichloroethylene mg/L 0.00005 Benzo(c)fluoranthene mg/L 0.00005 trans-1,3-Dichloropropane mg/L 0.00005 Benzo(c)fluoranthene mg/L 0.00005 trans-1,3-Dichloropropane mg/L 0.00005 Bis(2-chloroethyl)ether mg/L 0.00005 tethylochoropropane	2,4-Dinitrotoluene	mg/L	0.0005	Chloroform	mg/L	0.00005			
2-Methylnaphthalene mg/L 0.00005 1,3-Dichlorobenziene mg/L 0.00005 3,3-Dichlorobenzidine mg/L 0.0001 1,4-Dichlorobenzene mg/L 0.00005 Acenaphthene mg/L 0.00005 Dichlorodifluoromethane (FREON 12) mg/L 0.00005 Acenaphthylene mg/L 0.00005 1,2-Dichloroethane mg/L 0.00005 Antracene mg/L 0.00005 1,2-Dichloroethane mg/L 0.00005 Benzo(a) pyrene mg/L 0.00005 cis-1,2-Dichloroethylene mg/L 0.00005 Benzo(b/f)fluoranthene mg/L 0.00005 cis-1,2-Dichloroethylene mg/L 0.00005 Benzo(b/fluoranthene mg/L 0.0002 1,2-Dichloroethylene mg/L 0.00005 Benzo(b/fluoranthene mg/L 0.00005 cis-1,3-Dichloropropene mg/L 0.00005 Benzo(b/fluoranthene mg/L 0.00005 cis-1,3-Dichloropropene mg/L 0.00005 Bis(2-chloroethyl)ehen mg/L 0.00005 city-1,3-Dichloropropene mg/L	2,6-Dinitrotoluene	mg/L	0.0005	Dibromochloromethane	mg/L	0.00005			
3.3-Dichlorobenzidine mg/L 0.001 1,4-Dichlorobenzene mg/L 0.00005 Acenaphthene mg/L 0.00005 Dichlorodifluoromethane (FREON 12) mg/L 0.00005 Acenaphthylene mg/L 0.00005 1,1-Dichloroethane mg/L 0.00005 Anthracene mg/L 0.00005 1,2-Dichloroethylene mg/L 0.00005 Benzo(a)apyrene mg/L 0.00005 cis-1,2-Dichloroethylene mg/L 0.00005 Benzo(b/J)fluoranthene mg/L 0.00003 trans-1,2-Dichloroethylene mg/L 0.00005 Benzo(g,h,i)perylene mg/L 0.00002 1,2-Dichloropropane mg/L 0.00005 Benzo(k)fluoranthene mg/L 0.00005 cis-1,3-Dichloropropane mg/L 0.00005 Benzo(k)fluoranthene mg/L 0.00005 trans-1,2-Dichloropropane mg/L 0.00005 Benzo(k)fluoranthene mg/L 0.00005 trans-1,2-Dichloropropane mg/L 0.00005 Bis(2-chloroethyl)ether mg/L 0.00005 trans-1,2-Dichloropropane <	2-Chlorophenol	mg/L	0.0001	1,2-Dichlorobenzene	mg/L	0.00005			
Acenaphthene mg/L 0.00005 Dichlorodifluoromethane (FREON 12) mg/L 0.00005 Acenaphthylene mg/L 0.000093 1,1-Dichloroethane mg/L 0.00005 Anthracene mg/L 0.000095 1,2-Dichloroethylene mg/L 0.00005 Benzo(a)pyrene mg/L 0.000095 cls-1,2-Dichloroethylene mg/L 0.00005 Benzo(b/j)fluoranthene mg/L 0.00003 trans-1,2-Dichloroethylene mg/L 0.00005 Benzo(g),h.j)perylene mg/L 0.00003 trans-1,3-Dichloropropane mg/L 0.00005 Benzo(g),fliuoranthene mg/L 0.00005 trans-1,3-Dichloropropane mg/L 0.00005 Bis(2-chloroethyl)lether mg/L 0.00005 trans-1,3-Dichloropropane mg/L 0.00005 Bis(2-chloroethyl)lether mg/L 0.00005 trans-1,3-Dichloropropane mg/L 0.00005 Bis(2-chloroethyl)lether mg/L 0.0005 Ethylaenzene mg/L 0.00005 Bis(2-chloroethyl)lether mg/L 0.0005 Hexane <t< td=""><td>2-Methylnaphthalene</td><td>mg/L</td><td>0.00005</td><td>1,3-Dichlorobenzene</td><td>mg/L</td><td>0.00005</td></t<>	2-Methylnaphthalene	mg/L	0.00005	1,3-Dichlorobenzene	mg/L	0.00005			
Acenaphthylene mg/L 0.000093 1,1-Dichloroethane mg/L 0.00005 Anthracene mg/L 0.00005 1,2-Dichloroethane mg/L 0.00005 Benzo(a)anthracene mg/L 0.00005 1,1-Dichloroethylene mg/L 0.00005 Benzo(b/j)fluoranthene mg/L 0.00003 trans-1,2-Dichloroethylene mg/L 0.00005 Benzo(g/h,i)perylene mg/L 0.0002 1,2-Dichloropropane mg/L 0.00005 Benzo(k)fluoranthene mg/L 0.00005 cls-1,3-Dichloropropane mg/L 0.00005 Biphenyl mg/L 0.00005 trans-1,3-Dichloropropane mg/L 0.00005 Bis(2-chlorotehylether mg/L 0.00005 trans-1,3-Dichloropropane mg/L 0.00005 Bis(2-chlorotehylether mg/L 0.00005 tethylene Dibromide mg/L 0.00005 Bis(2-chlorospropyl)ether mg/L 0.0005 tethylene Dibromide mg/L 0.00005 Bis(2-chlorospropyl)ether mg/L 0.0005 Methylene Chloride(Dichloromethane) <td< td=""><td>3,3'-Dichlorobenzidine</td><td>mg/L</td><td>0.001</td><td>1,4-Dichlorobenzene</td><td>mg/L</td><td>0.00005</td></td<>	3,3'-Dichlorobenzidine	mg/L	0.001	1,4-Dichlorobenzene	mg/L	0.00005			
Anthracene mg/L 0.00005 1,2-Dichloroethane mg/L 0.00005 Benzo(a)anthracene mg/L 0.00005 1,1-Dichloroethylene mg/L 0.00005 Benzo(a)pyrene mg/L 0.00005 cis-1,2-Dichloroethylene mg/L 0.00005 Benzo(g,h,i)perylene mg/L 0.0002 1,2-Dichloropropane mg/L 0.00005 Benzo(k)fluoranthene mg/L 0.00005 cis-1,3-Dichloropropane mg/L 0.00005 Biphenyl mg/L 0.00005 tis-ns-1,3-Dichloropropene mg/L 0.00005 Bis(2-chloroethyl)ether mg/L 0.0005 tithylbenzene mg/L 0.00005 Bis(2-chloroisopropyl)ether mg/L 0.0005 tithylbenzene mg/L 0.00005 Bis(2-chloroisopropyl)ether mg/L 0.0005 tethylbenzene mg/L 0.00005 Bis(2-chloroisopropyl)ether mg/L 0.0005 tethylene Dibromide mg/L 0.00005 Bis(2-chloroisopropyl)ether mg/L 0.0005 Methylene Chloride(Dichloromethane) mg/L	Acenaphthene	mg/L	0.00005	Dichlorodifluoromethane (FREON 12)	mg/L	0.00005			
Anthracene mg/L 0.00005 1,2-Dichloroethane mg/L 0.00005 Benzo(a)anthracene mg/L 0.00005 1,1-Dichloroethylene mg/L 0.00005 Benzo(a)pyrene mg/L 0.00005 cis-1,2-Dichloroethylene mg/L 0.00005 Benzo(g,h,i)perylene mg/L 0.0002 1,2-Dichloropropane mg/L 0.00005 Benzo(k)fluoranthene mg/L 0.00005 cis-1,3-Dichloropropane mg/L 0.00005 Biphenyl mg/L 0.00005 tis-ns-1,3-Dichloropropene mg/L 0.00005 Bis(2-chloroethyl)ether mg/L 0.0005 tithylbenzene mg/L 0.00005 Bis(2-chloroisopropyl)ether mg/L 0.0005 tithylbenzene mg/L 0.00005 Bis(2-chloroisopropyl)ether mg/L 0.0005 tethylbenzene mg/L 0.00005 Bis(2-chloroisopropyl)ether mg/L 0.0005 tethylene Dibromide mg/L 0.00005 Bis(2-chloroisopropyl)ether mg/L 0.0005 Methylene Chloride(Dichloromethane) mg/L	Acenaphthylene	mg/L	0.000093	1,1-Dichloroethane	mg/L	0.00005			
Benzo(a)pyrene mg/L 0.00005 cis-1,2-Dichloroethylene mg/L 0.00005 Benzo(b/j)fluoranthene mg/L 0.00003 trans-1,2-Dichloroethylene mg/L 0.00005 Benzo(g,h,i)perylene mg/L 0.00002 1,2-Dichloropropane mg/L 0.00005 Benzo(k)fluoranthene mg/L 0.00005 cis-1,3-Dichloropropene mg/L 0.00005 Bis(2-chloroethyl)ether mg/L 0.0005 Ethylbenzene mg/L 0.00005 Bis(2-chloroisopropyl)ether mg/L 0.0005 Ethylbenzene mg/L 0.00005 Bis(2-chlylhexyl)phthalate mg/L 0.0005 Hexane mg/L 0.00005 Bis(2-chlylhexyl)phthalate mg/L 0.0005 Hexane mg/L 0.00005 Dibenz(a,h)anthracene mg/L 0.0001 Methylene Chloride(Dichloromethane) mg/L 0.00005 Dibenz(a,h)anthracene mg/L 0.0005 Methyl sobutyl Ketone mg/L 0.00005 Dibenz(a,h)anthracene mg/L 0.0005 Methyl Ethyl Ketone (2-Butanone)	Anthracene		0.00005	1,2-Dichloroethane	mg/L	0.00005			
Benzo(b/j)fluoranthene mg/L 0.0003 trans-1,2-Dichloroethylene mg/L 0.00005 Benzo(g,h,i)perylene mg/L 0.0002 1,2-Dichloropropane mg/L 0.00005 Benzo(k)fluoranthene mg/L 0.00005 cis-1,3-Dichloropropene mg/L 0.00005 Biphenyl mg/L 0.00005 trans-1,3-Dichloropropene mg/L 0.00005 Bis(2-chloroisopropyl)ether mg/L 0.0005 Ethylene Dibromide mg/L 0.00005 Bis(2-ethylhexyl)phthalate mg/L 0.0005 Hexane mg/L 0.00005 Bis(2-ethylhexyl)phthalate mg/L 0.0005 Hexane mg/L 0.00005 Chrysene mg/L 0.0001 Methylene Chloride(Dichloromethane) mg/L 0.00005 Dibenz(a,h)anthracene mg/L 0.0001 Methyl slobutyl Ketone mg/L 0.00005 Dibenz(a,h)aphthalate mg/L 0.0005 Methyl stoyl ether (Mitte) mg/L 0.00005 Dibenz(a,h) phthalate mg/L 0.0005 Methyl tehyl ketone (2-Butanone) m	Benzo(a)anthracene	mg/L	0.000095	1,1-Dichloroethylene	mg/L	0.00005			
Benzo(g,h,i)perylene mg/L 0.0002 1,2-Dichloropropane mg/L 0.00005 Benzo(k)fluoranthene mg/L 0.00005 cis-1,3-Dichloropropene mg/L 0.00005 Biphenyl mg/L 0.00005 trans-1,3-Dichloropropene mg/L 0.00005 Bis(2-chloroisopropyl)ether mg/L 0.0005 Ethylbenzene mg/L 0.00005 Bis(2-ethylhexyl)phthalate mg/L 0.0005 Ethylene Dibromide mg/L 0.00005 Bis(2-ethylhexyl)phthalate mg/L 0.0005 Hexane mg/L 0.00005 Chrysene mg/L 0.0001 Methylene Chloride(Dichloromethane) mg/L 0.00005 Dibenz(a, h)anthracene mg/L 0.0001 Methyl sobutyl Ketone mg/L 0.0005 Dibenz(a, h)anthracene mg/L 0.0005 Methyl sobutyl Ketone mg/L 0.0005 Dibenz(a, h)anthracene mg/L 0.0005 Methyl sobutyl Ketone (2-Butanone) mg/L 0.0005 Dibenz(a, h)anthracene mg/L 0.0005 Methyl sobutyl Ketone	Benzo(a)pyrene	mg/L	0.00005	cis-1,2-Dichloroethylene	mg/L	0.00005			
Benzo(k)fluoranthene mg/L 0.00005 cis-1,3-Dichloropropene mg/L 0.00005 Biphenyl mg/L 0.00005 trans-1,3-Dichloropropene mg/L 0.00005 Bis(2-chlorocethyl)ether mg/L 0.0005 Ethylbenzene mg/L 0.00005 Bis(2-chlorosiopropyl)ether mg/L 0.0005 Ethylene Dibromide mg/L 0.00005 Bis(2-ethylhexyl)phthalate mg/L 0.0005 Hexane mg/L 0.00005 Chrysene mg/L 0.00018 Methylene Chloride(Dichloromethane) mg/L 0.00005 Dibenz(a,h)anthracene mg/L 0.0001 Methyl Isobutyl Ketone mg/L 0.00005 Diethyl phthalate mg/L 0.0005 Methyl Ethyl Ketone (2-Butanone) mg/L 0.00005 Dimethyl phthalate mg/L 0.0005 Methyl Ethyl Ketone (2-Butanone) mg/L 0.00005 Fluoranthene mg/L 0.0005 Methyl Ethyl Ketone (2-Butanone) mg/L 0.00005 Fluorene mg/L 0.00005 1,1,1,2-Tetrachloroethane mg/L </td <td>Benzo(b/j)fluoranthene</td> <td>mg/L</td> <td>0.0003</td> <td>trans-1,2-Dichloroethylene</td> <td>mg/L</td> <td>0.00005</td>	Benzo(b/j)fluoranthene	mg/L	0.0003	trans-1,2-Dichloroethylene	mg/L	0.00005			
Biphenyl mg/L 0.00005 trans-1,3-Dichloropropene mg/L 0.00005 Bis(2-chloroethyl)ether mg/L 0.0005 Ethylbenzene mg/L 0.00005 Bis(2-chloroisopropyl)ether mg/L 0.0005 Ethylene Dibromide mg/L 0.00005 Bis(2-ethylhexyl)phthalate mg/L 0.0005 Hexane mg/L 0.00005 Chysene mg/L 0.0001 Methylene Chloride(Dichloromethane) mg/L 0.00005 Dibenz(a,h)anthracene mg/L 0.0001 Methyl slobutyl Ketone mg/L 0.0005 Diethyl phthalate mg/L 0.0005 Methyl Ethyl Ketone (2-Butanone) mg/L 0.0005 Dimethyl phthalate mg/L 0.0005 Methyl t-butyl ether (MTBE) mg/L 0.0005 Fluoranthene mg/L 0.00024 Styrene mg/L 0.00005 Fluorene mg/L 0.00005 1,1,1,2-Tetrachloroethane mg/L 0.00005 Indeno(1,2,3-cd)pyrene mg/L 0.00005 Tetrachloroethylene mg/L 0.00005 <td>Benzo(g,h,i)perylene</td> <td>mg/L</td> <td>0.0002</td> <td>1,2-Dichloropropane</td> <td>mg/L</td> <td>0.00005</td>	Benzo(g,h,i)perylene	mg/L	0.0002	1,2-Dichloropropane	mg/L	0.00005			
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	Total PCBs	mg/L	0.0003	Xylene (Total)	mg/L	0.00005			
				Trichlorofluoromethane (Freon 11)	mg/L	0.00005			



Stantec Consulting Ltd.

300 - 675 Cochrane Drive West Tower Markham ON L3R 0B8 Tel: (905) 944-7777

Fax: (905) 474-777

June 13, 2014 File: 160900764

Dear Property / Well Owner,

Reference: Private Well Monitoring Program

HydroOne Networks Inc. – Clarington Transformer Station

HydroOne Networks Inc. (Hydro One) is preparing to begin construction of the Clarington Transformer Station (Project). The Project includes the construction of a new transformer station, to be located north of Concession Rd. 7 and west of Langmaid Rd. within the Town of Clarington, Ontario in the Regional Municipality of Durham.

On behalf of HydroOne, Stantec Consulting Ltd. (Stantec) is conducting a door-to-door groundwater / well monitoring program in support of the proposed construction. The program is being completed to establish groundwater conditions prior to, during, and following Hydro One's construction activities. If interested, well owners within 1,200 metres of the transformer station may request to participate in the well monitoring program, which includes water quality sampling and water level monitoring of private water wells. Participation is not mandatory and is at the sole discretion of the well/property owner. Well owner's will be required to grant permission to HydroOne's environmental consultant Stantec to access individual wells in order to participate in the monitoring program.

As part of the monitoring program, Stantec will undertake the following activities at accessible wells prior to, during, and for two years following completion of the Clarington Transformer Station:

- Collect seasonal / semi-annual water quality samples from a raw water tap and submit them
 for laboratory analyses for metals, general chemistry, and bacteriological analyses (one
 sample prior to construction, one following site grading and installation of drainage, and semiannually for two years following completion of the Project);
- Measure the water level within your private well, if accessible, under static conditions and during operation of your residential pump; and,
- Administer a voluntary well questionnaire to collect any relevant information about your private well.

Stantec will be completing baseline sampling, including a door-to-door survey in June 2014, with the next rounds of sampling occurring in Summer and Fall 2014.



June 13, 2014

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Page 2 of 2

Reference: Private Well Monitoring Program

HydroOne Networks Inc. – Clarington Transformer Station

Contact Information

If you have any questions or concerns regarding the private well monitoring program, please feel free to contact me directly using the contact information below.

Should you have any questions or concerns regarding HydroOne's construction activity, please contact Paul Dalmazzi from HydroOne at (416) 345-6145, or email at Paul.Dalmazzi@HydroOne.com.

Regards,

STANTEC CONSULTING LTD.

J. Brant Gill, H.B.Sc., P.Geo.

Senior Hydrogeologist, Environmental Management

Phone: (905) 415-6330 Fax: (905) 474-9889 brant.gill@stantec.com

Attachment: Private Well Monitoring Area Figure

jbg let_Private Well Monitoring Program_CTS_13Jun2014_JBG.docx





LegendClarington Transformer Station

Private Well Monitoring Area MOE Water Well Record

Topographic Contour (mAMSL)

Watercourse

Waterbody

- 1. Coordinate System: NAD 1983 UTM Zone 17N
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.
- 3. Orthoimagery © First Base Solutions, 2012.
- MOE Water well locations are approximate and have been positioned based on published UTM coordinates © Queen's Printer for Ontario, 2012.

Hydro One Networks Inc. Hydrogeologic & Hydrologic Assessment Report Clarington, Ontario

Private Well Monitoring

CONSENT FORM for PRIVATE WELL MONITORING PROGRAM

Re: Clarington Transformer Station Project of Hydro One Networks Inc.

Hydro One Networks Inc. ("Hydro One") hereby offers to arrange for monitoring of private wells within 1,200 metres (m) of Hydro One's Clarington Transformer Station, as part of its Groundwater and Surface Water Monitoring Program.

The well monitoring, which will be conducted by a third party environmental consultant in conjunction with a licensed well contractor retained by Hydro One, will occur prior to, during, and for two years following completion of construction. The program will include monitoring well water levels and completing periodic sampling of well water quality, including laboratory analyses for selected metals, general chemistry, and bacteriological parameters.

The monitoring results will be analyzed and used to determine whether the transformer station and its development have adversely affected the well water levels and/or water quality.

Signing of this consent form will allow for this monitoring program to be undertaken on the signatory's well by licensed contractors retained by Hydro One. Hydro One or the contractor will inform the signatory when the monitoring program will be undertaken. All results will be provided to the signatory by the contractor, with a copy going to Hydro One. Private well data will not be released to the public by Hydro One or its contractors.

I,	. of			
Full Legal Name	,	Address		
agree to allow Hydro One's contractor described above.	to perform the a	activities (described above	on the terms
Signed and dated at	on		2014.	
Landowner:				
Signature				
Please submit the signed consent by mail	ing it to:			
Hydro One Networks Inc. Att'n: Paul Dalmazzi				

or by e-mailing the scanned signed consent to: Paul.Dalmazzi@HydroOne.com

483 Bay St., South Tower, 6th Floor

Toronto, Ontario M5G 2P5

Ministry of the Environment

Central Region

5775 Yonge Street 8th Floor Toronto, ON, M2M 4J1 Tel.: 416-325-6966 Fax: 416-325-6347 Ministère de l'Environnement

Région du Centre

5775, rue Yonge12° étage 8° ètage Toronto, ON, M2M 4J1 Tél.: 416-325-6966 Téléc: 41-325-6347



File: EA01-05

June 24, 2014

Brian J. McCormick Manager, Environmental Engineering and Project Support Hydro One 483 Bay Street, 6th Floor, South Tower Toronto, ON M5G 2P5

RE: Clarington Transformer Station

Groundwater and Surface Water Monitoring Program Version dated June 13, 2014

Condition 1 of Minister's Decision

Dear Mr. McCormick,

The revised Groundwater and Surface Water Monitoring Program (the program) for the Clarington Transformer Station, as prepared by Stantec Consulting Ltd. and dated June 13, 2014, has been received and reviewed. It is my understanding that the program was submitted to address Condition 1 contained within the decision of the Minister of the Environment ("the Minister") dated January 2, 2014, on the Part II Order requests for the proposed Clarington Transformer Station Class Environmental Assessment.

Condition 1 states:

Prior to construction the Proponent shall submit a Groundwater Monitoring Plan to the Regional Director in Central Region for review and approval. The Plan shall be in accordance with the Hydrogeological and Hydrologic Assessment Report prepared for the Project by Stantec (2013) and shall include water level and quality sampling from on-site wells and adjacent private wells in order to document pre and post construction conditions to confirm no impacts. Once approved, the final report shall be posted on the Proponent's website.

Based on discussions with Hydro One, the following points are noted:

- The Ministry of the Environment (ministry) will be notified in advance of groundwater sampling in order for the ministry to have the opportunity to observe sampling on the site.
- Hydro One has agreed that the program will be adaptive, and changes may be implemented at the advice of Hydro One's expert consultant hydrogeologist, subsequent to approval by the ministry's Central Region Director and technical staff.

- Hydro One has committed to providing funding to the Municipality of Clarington for the hiring of a third-party consultant for the purpose of supporting the residents in their review and interpretation of the data and results of the Monitoring Program.
- Hydro One will expand the private well monitoring program to include residential water wells within 1200 m of the Clarington Transformer Station.

Given the points above, I am writing to approve the revised Groundwater and Surface Water Monitoring Program dated June 13, 2014 as it has been submitted in accordance with Condition 1 of the Minister's decision on the Part II Order requests for this project.

Sincerely,

Dolly Goyette

Director, Central Region

South

c. Dorothy Moszynski, Project Evaluator, Environmental Approvals Branch, MOE Dan Delaquis, Supervisor (A), Air, Pesticides and Environmental Planning, MOE Dan Orr, Manager, Technical Support Section, MOE Dave Fumerton, Manager, York Durham District, MOE

Ministry of the Environment

Office of the Minister

77 Wellesley Street West 11th Floor, Ferguson Block Toronto ON M7A 2T5 Tel.: 416-314-6790

Tel.: 416-314-6790 Fax: 416-314-6748

Ministère de l'Environnement

Bureau du ministre

77, rue Wellesley Ouest 11^e étage, edifice Ferguson Toronto ON M7A 2T5 Tél.: 416-314-6790

Téléc: 416-314-6748



JAN 0 2 2014

ENV1283MC2013-2616

Mr. Doug Magee Environmental Planner Hydro One Networks Inc. 483 Bay Street, South Tower, 6th Floor Toronto ON M5G 2P5

Dear Mr. Magee:

Between November 15 and December 17, 2012, I received 56 Part II Order requests from local residents, local environmental groups, 18 school children from a local school and two Members of Provincial Parliament that Hydro one Network Incorporated (Proponent) be required to prepare an individual environmental assessment for the proposed Clarington Transformer Station Class Environment Assessment (Project), located in the Municipality of Clarington.

I am taking this opportunity to inform you that I have decided that an individual environmental assessment is not required. This decision was made after giving careful consideration to the issues raised in the request, the Project documentation, the provisions of the Class Environmental Assessment for Minor Transmission Facilities (Class Environmental Assessment), and other relevant matters required to be considered under subsection 16(4) of the Environmental Assessment Act. The reasons for my decision may be found in the attached letters to the requesters.

Despite my not requiring an individual EA be prepared, in reviewing the requests I noted that there are concerns with respect to this project which do warrant that further studies and consultation be undertaken as the Project proceeds into detail design and construction. Therefore, to ensure that the environment is protected, I am imposing the following conditions on the project:

 Prior to construction the Proponent shall submit a Groundwater Monitoring Plan to the Regional Director in Central Region for review and approval. The Plan shall be in accordance with the Hydrogeological & Hydrologic Assessment Report prepared for the Project by Stantec (2013) and shall include water level and quality sampling from on-site wells and adjacent private wells in order to document pre and post construction conditions to confirm no impacts. Once approved, the final report shall be posted on the Proponent's website.

Mr. Doug Magee Page 2.

- 2. As part of the Ontario Water Resources Act Application for Sewage Works, the Proponent must submit to the Director of the Environmental Approvals Branch a Contingency and Pollution Prevention Plan for the Project in accordance with the ministry's requirements.
- 3. As part of the Environmental Compliance Approval for noise, the Proponent shall prepare a detailed Acoustic Assessment Report and submit it to the Director of the Environmental Approvals Branch for review as part of the application. The Acoustic Assessment Report must document all sources of noise at the facility, as well as any proposed noise control measures, and demonstrate that the Project is capable of operating in compliance with the applicable sound level limits at all affected Points of Reception.
- 4. For information purposes, the final Acoustic Assessment Report and Contingency and Pollution Prevention Plan shall be posted on the Proponent's website upon submission of the Environmental Compliance Approval application.
- 5.1 The Proponent shall be responsible for the formation of a Community Liaison Committee, should members of the public or other parties be interested in participating. The CLC shall be established by the Proponent within 6 months of the Minister's decision on the Part II Order requests for the Project. The CLC shall be established for the purposes of disseminating and exchanging information and monitoring results relevant to the project during detailed design and construction, and discussing any issues or concerns raised by CLC members.
- 5.2 The Proponents shall invite representative(s) of the Enniskillen Environmental Association and members of the public that expressed interest in the Project. Meetings shall be held as may be required or on an annual basis until Project operation. A notice of the CLC meeting shall be posted on the Proponent's website two weeks prior to the meeting, and sent to all CLC members.
- 6. Once Conditions 1-5 have been satisfied, the Proponent shall notify the Director of the Environmental Approvals Branch.

With this decision having been made, the Proponent can now proceed with the Project, subject to the conditions I have imposed and any other permits or approvals required. The Proponent must ensure the Project is implemented in the manner it was developed and designed, as set out in the Project documentation, inclusive of all mitigating measures, and environmental and other provisions therein.

Lastly, I would like to ensure that the Proponent understands that failure to comply with the Act, the provisions of the Class Environmental Assessment, and failure to implement the Project in

Mr. Doug Magee Page 3.

the manner described in the planning documents, are contraventions of the Act and may result in prosecution under section 38 of the Act.

I am confident that the Proponent recognizes the importance and value of the Act and will ensure that its requirements and those of the Class Environmental Assessment are satisfied.

Yours sincerely,

Jim Bradley

Minister of the Environment

Attachment(s)

c: Requestors

MPP J. O'Toole (Durham)

MPP M. Harris (Kitchener-Conestoga)

EA File EA02-06

<u>;</u> Hydro One Networks Inc.

483 Bay Street South Tower, 6th Floor Toronto, ON M5G 2P5 www.HydroOne.com Tel: 416 345-6597

Email: Brian.Mccormick@HydroOne.com



Brian J. McCormick

Manager, Environmental Engineering and Project Support

October 16, 2014

Dolly Goyette Director, Central Region Ministry of the Environment and Climate Change 5775 Yonge St., 8th Floor Toronto, ON M2M 4]1

Re: Clarington TS – Municipality of Clarington Council Resolution D15.GE L04.HY

Dear Ms. Goyette,

On March 7, 2014, Hydro One submitted to the Director of the Ministry of Environment and Climate Change (MOECC) Central Region a Groundwater and Surface Water Monitoring Program ("the Monitoring Program") for the Clarington Transformer Station (TS) Project, as per the Minister of the Environment's decision dated January 2, 2014 to deny the Part II Order requests received for the Project. The Monitoring Program is meant to be adaptive in nature, such that data collected can be used to further refine the Monitoring Program if there is clear scientific rationale. On June 24, 2014, Hydro One received your written approval of the Monitoring Program, which agreed that the Program should be adaptive and that changes may be implemented at the advice of Hydro One's environmental consultant (Stantec) subsequent to approval by the Director, Central Region MOECC.

On October 2, 2014, the Municipality of Clarington issued a resolution (File No. D15.GE L04.HY) stating that a condition is being imposed on an easement to grant access via the Townline Road allowance (identified during the Class Environmental Assessment as the preferred access route by a number of stakeholders, including Central Lake Ontario Conservation Authority and the Municipality of Clarington Department of Planning) that requires installation of a monitoring well "drilled down to at least the Thorncliffe formation". Although neither Stantec nor Hydro One are of the opinion that there is scientific basis for a monitoring well to this depth given the planned use of the site as a transformer station, Hydro One intends to install this new well to the Thorncliffe formation in order to secure the preferred access route. Hydro One also intends to conduct groundwater quality and water level monitoring of this Thorncliffe depth well, and to include these data in subsequent Monitoring Program reports for the sole purpose of advancing public confidence that the construction and operation of the Clarington TS will not result in adverse effects on the Thorncliffe aquifer.

As per the resolution issued by the Clarington Council, Hydro One has reached out to Dr. Rick Gerber and Dr. John Cherry and has held an initial meeting to discuss the location of this new Thorncliffe depth well. When the well location has been chosen, Hydro One will inform the MOE Central Region and York/Durham District staff. Consistent with other potential amendments to the Monitoring Program, Hydro One will implement well monitoring on a forward-looking basis but without affecting the station construction schedule.

I trust that this letter provides sufficient information on Hydro One's position regarding the planned new borehole and monitoring well to the Thorncliffe aquifer. If you wish to further discuss this matter, please contact Paul Dalmazzi, Environmental Planner at (416) 345-6145 or Paul-Dalmazzi@HydroOne.com.

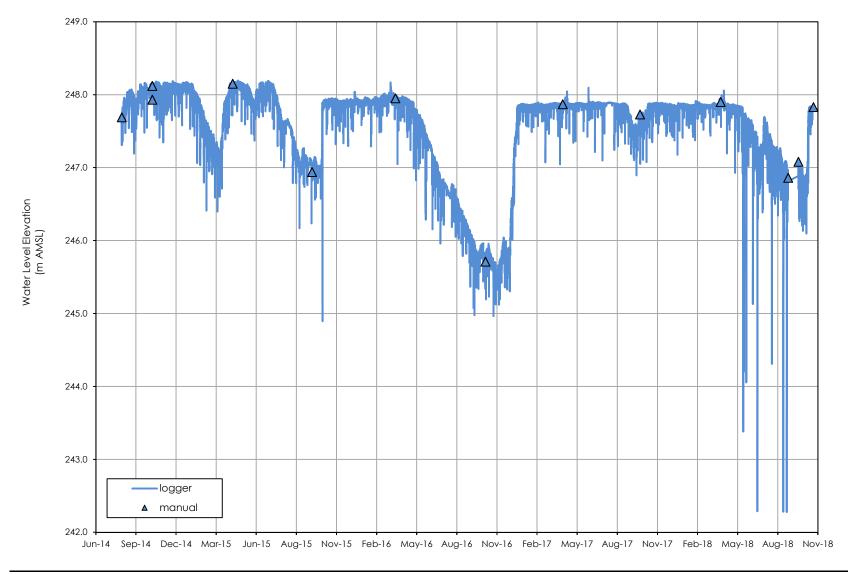
Sincerely,

Brian J. McCormick, Manager Environmental Engineering and Project Support Hydro One Networks

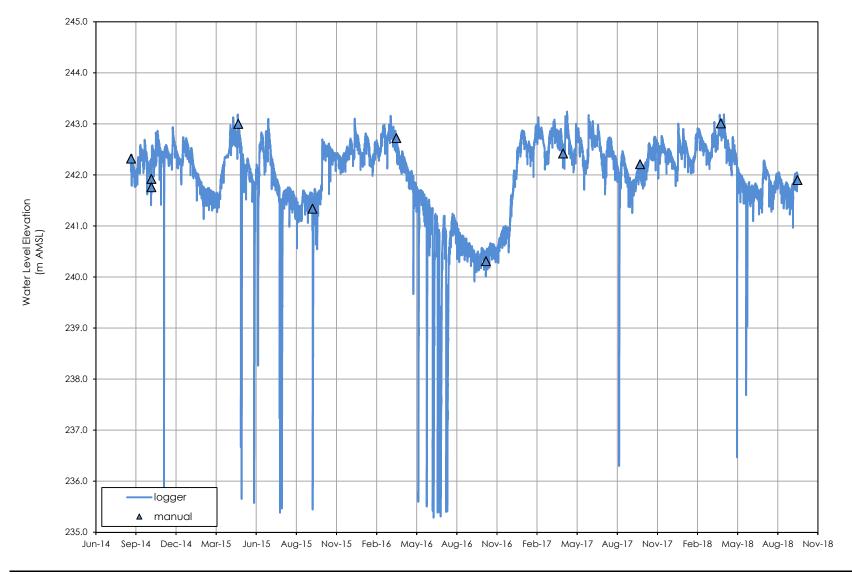
CC: Dan Orr, Manager, Technical Support Section, Central Region, MOECC
Dave Fumerton, Manager, York/Durham District, MOECC
Sandra Thomas, Issues Project Coordinator, York/Durham District, MOECC
Brad Bowness, Director, Project Management, Hydro One Networks
Denise Jamal, Manager, Public Affairs, Hydro One Networks
David Crome, Director, Department of Planning, Municipality of Clarington

APPENDIX D:

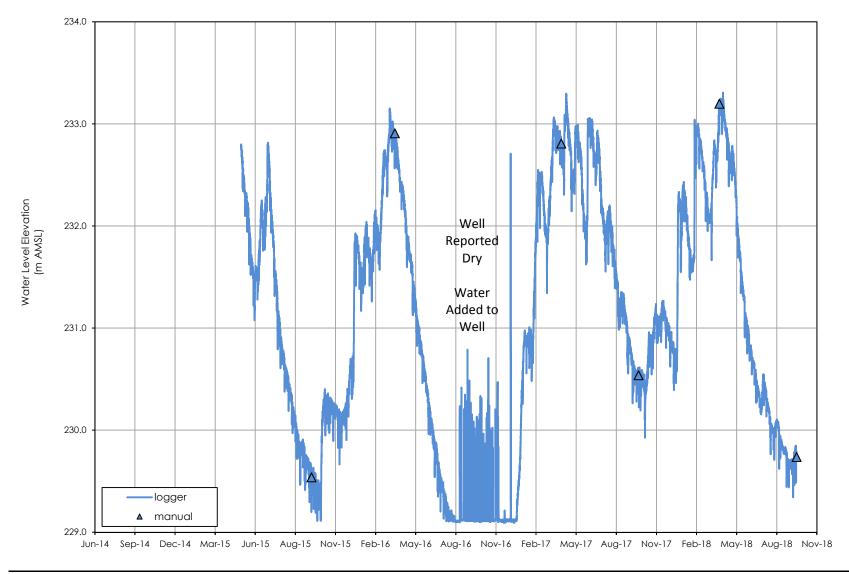
Private Well Data



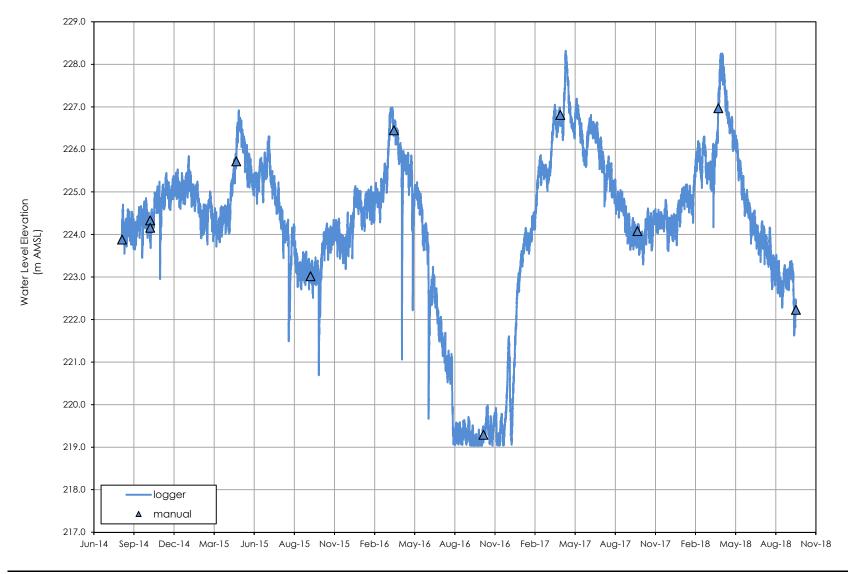




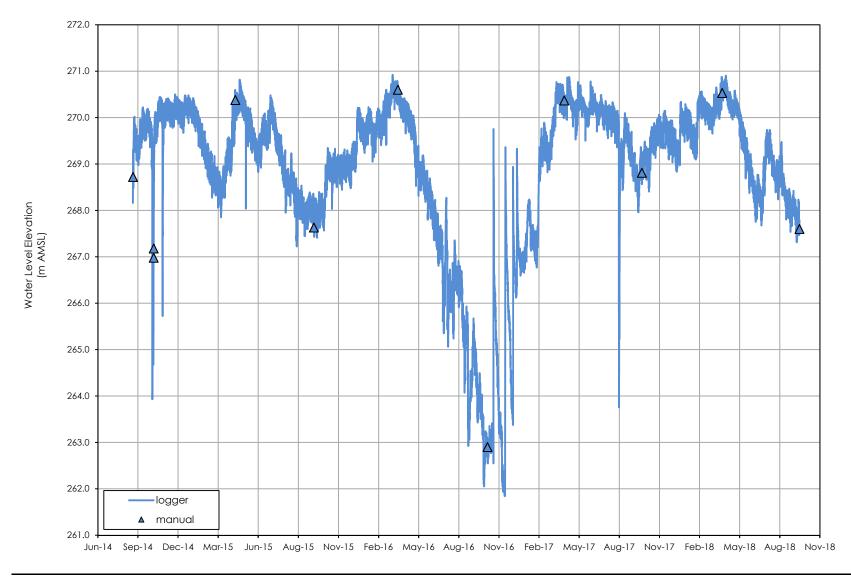




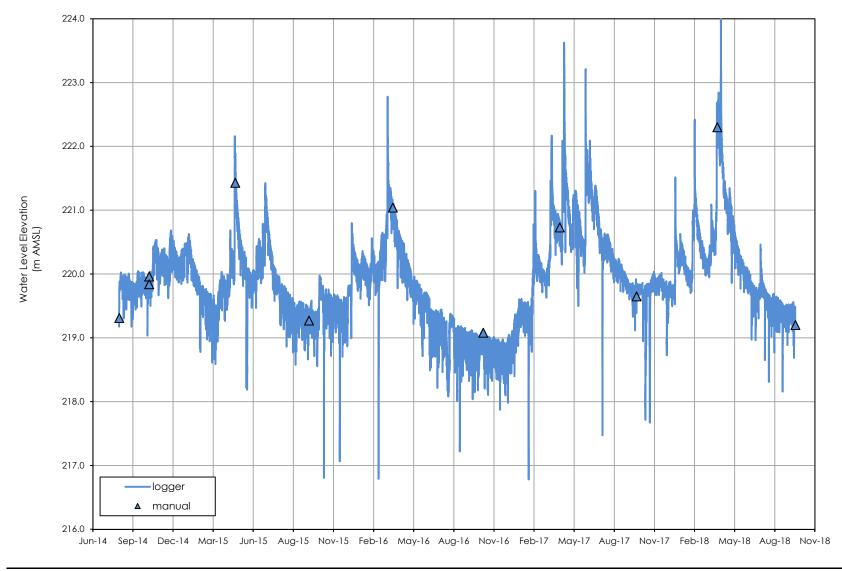




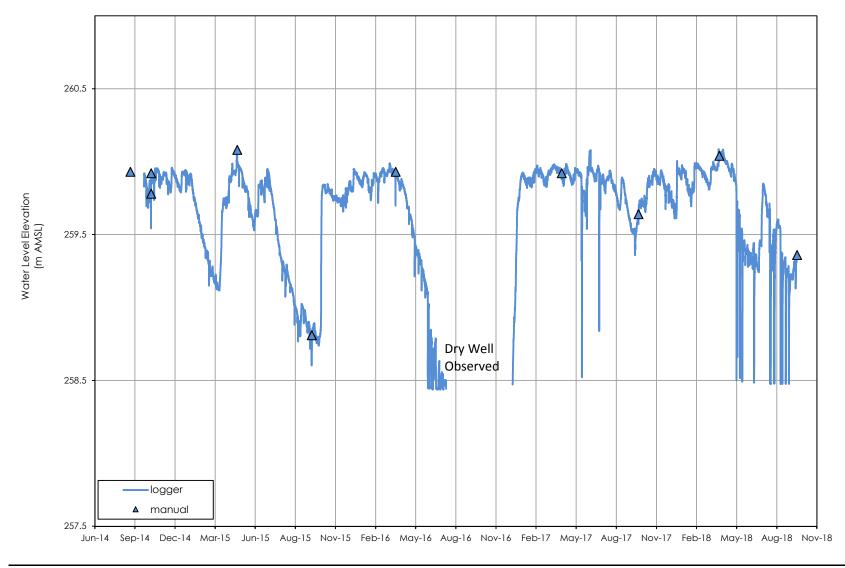




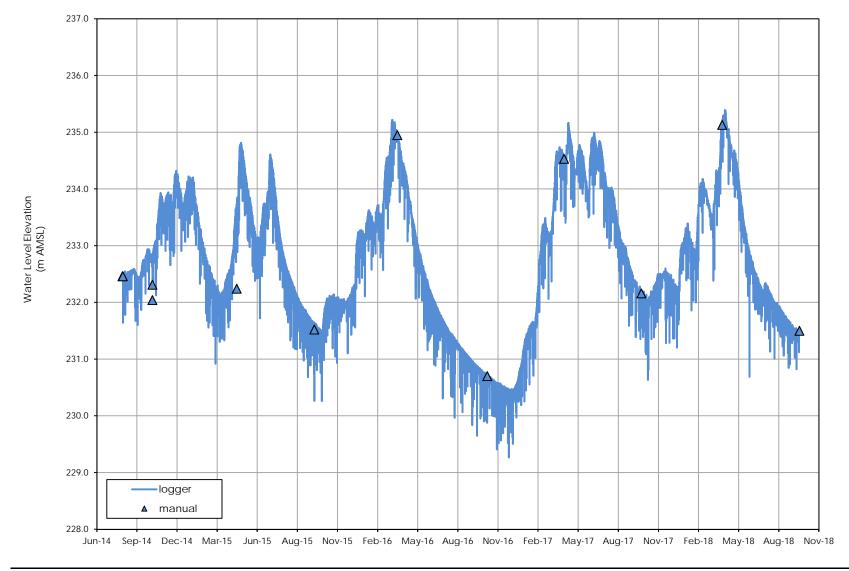




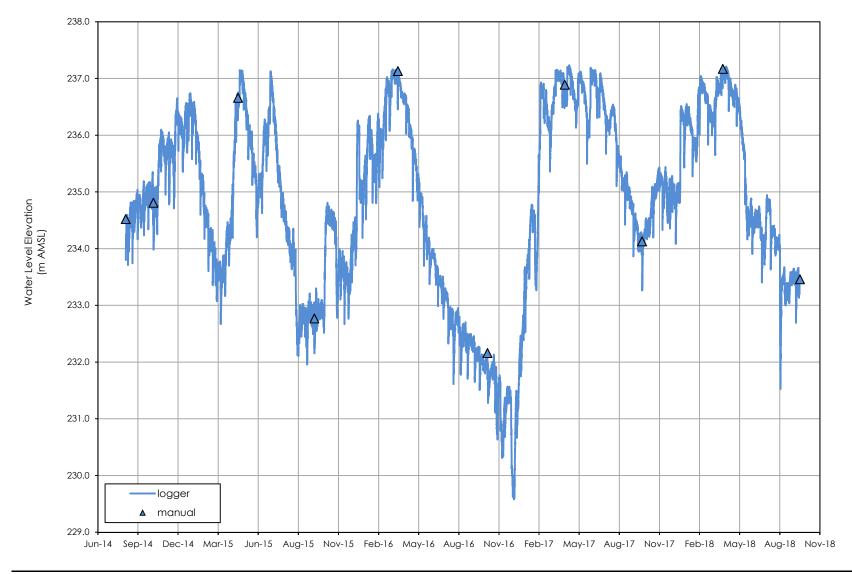




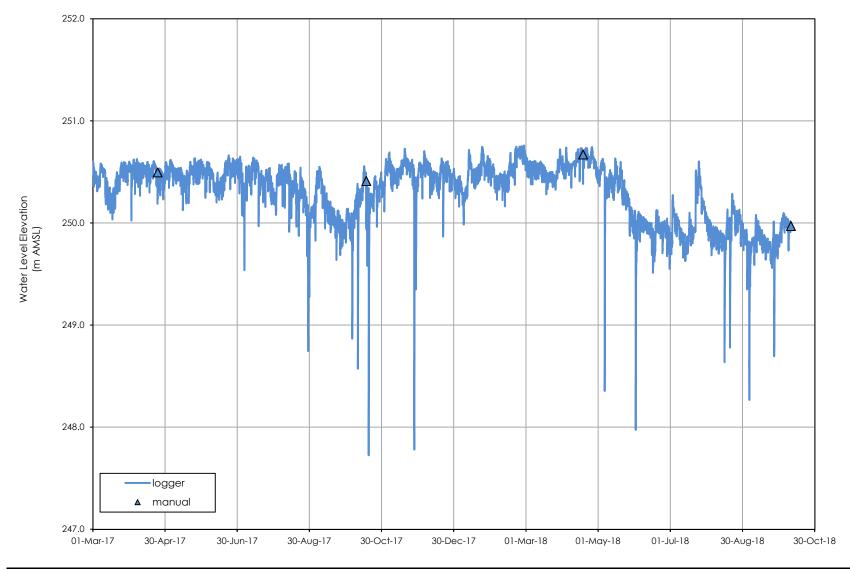




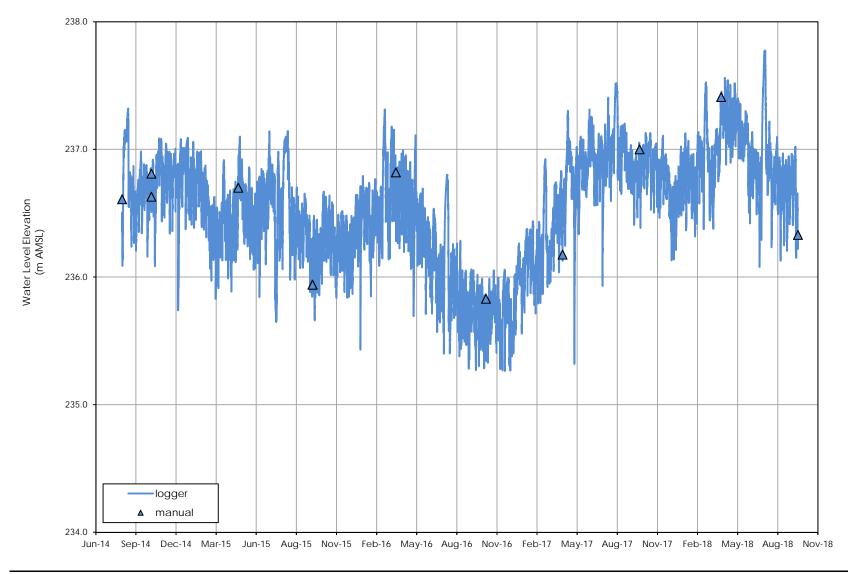




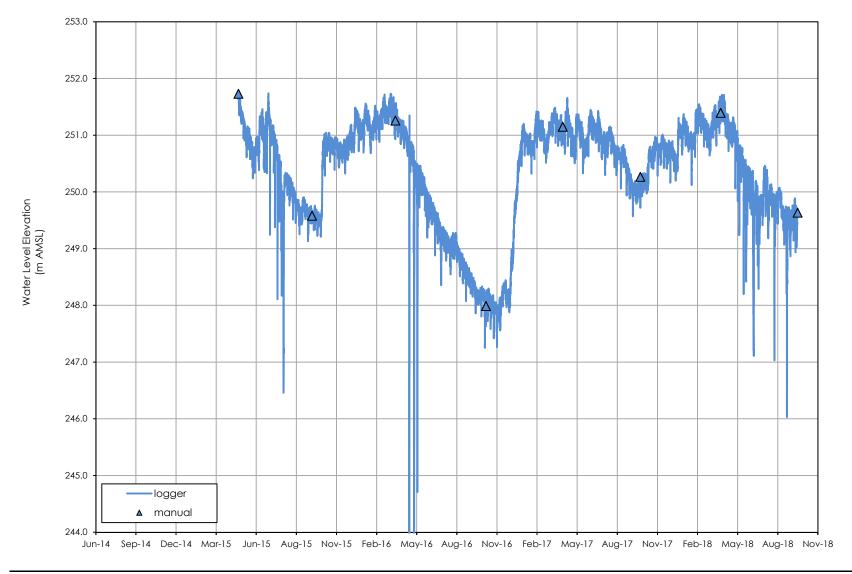




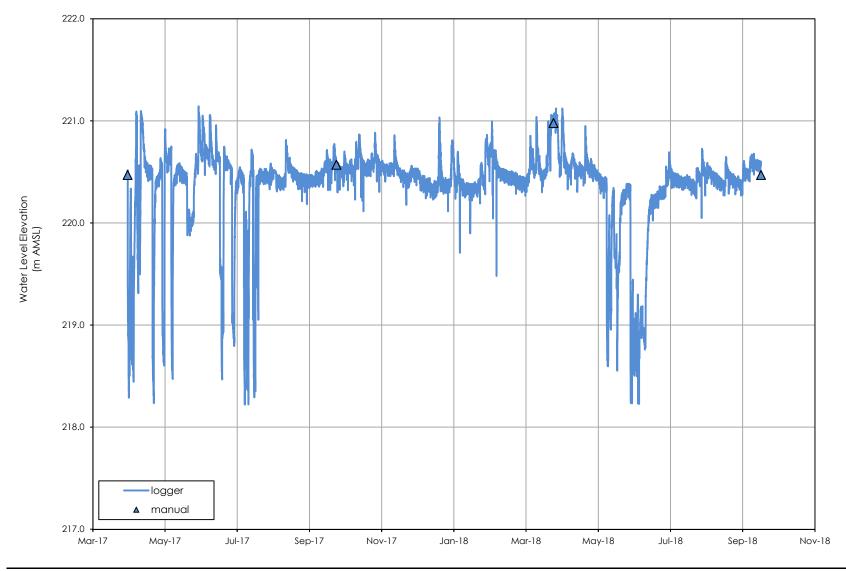




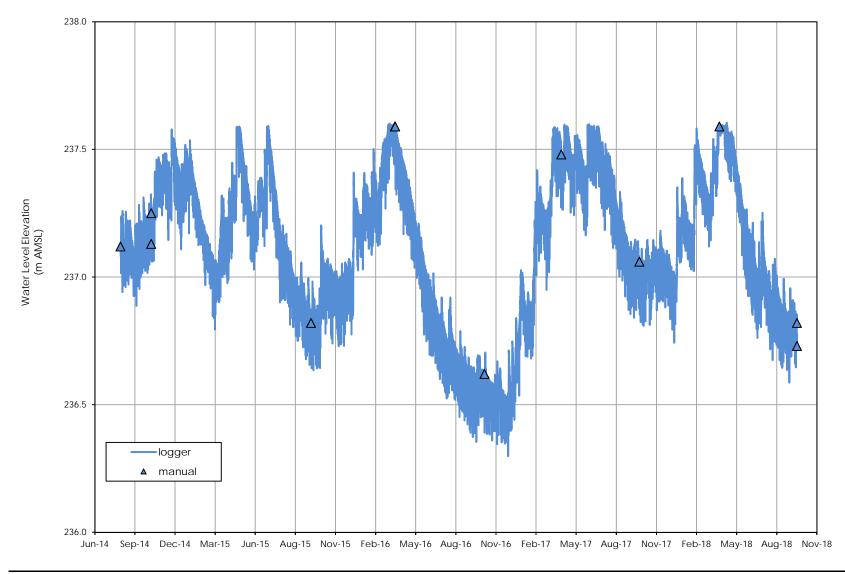




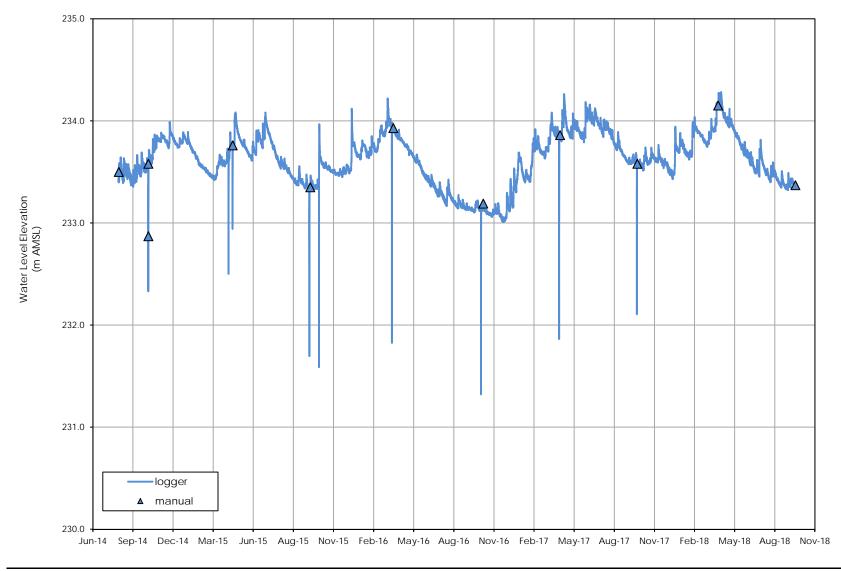




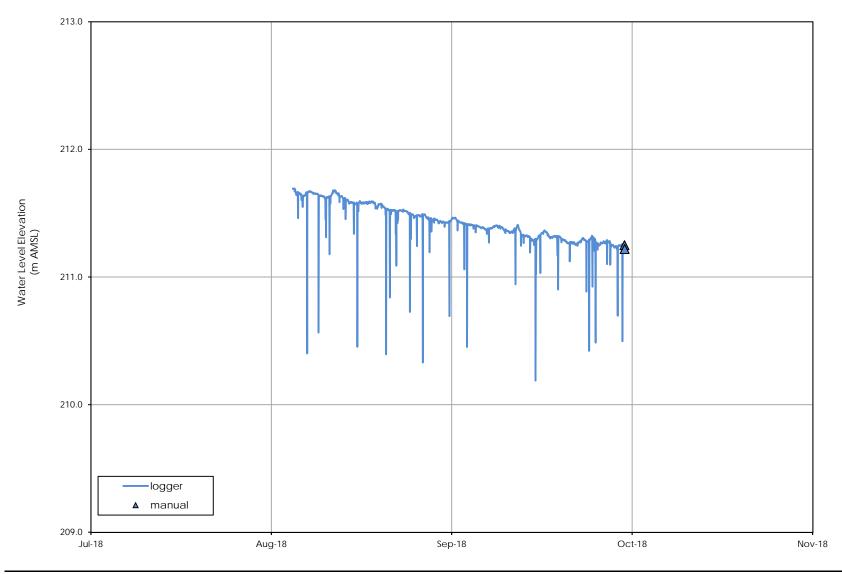










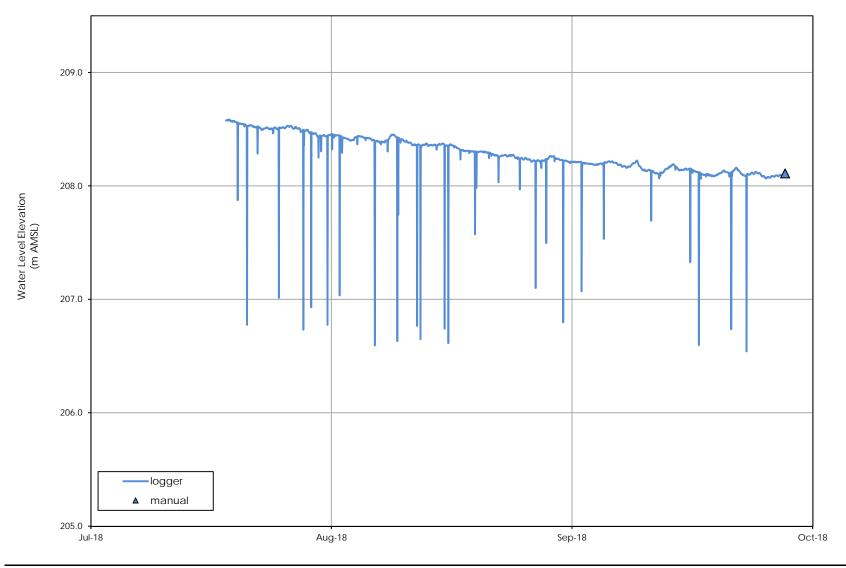


Hydro One Networks Inc.

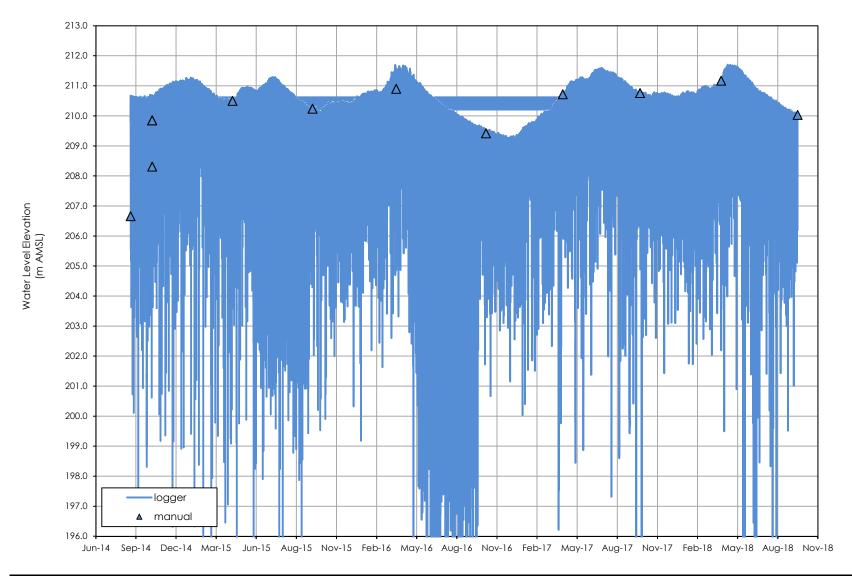


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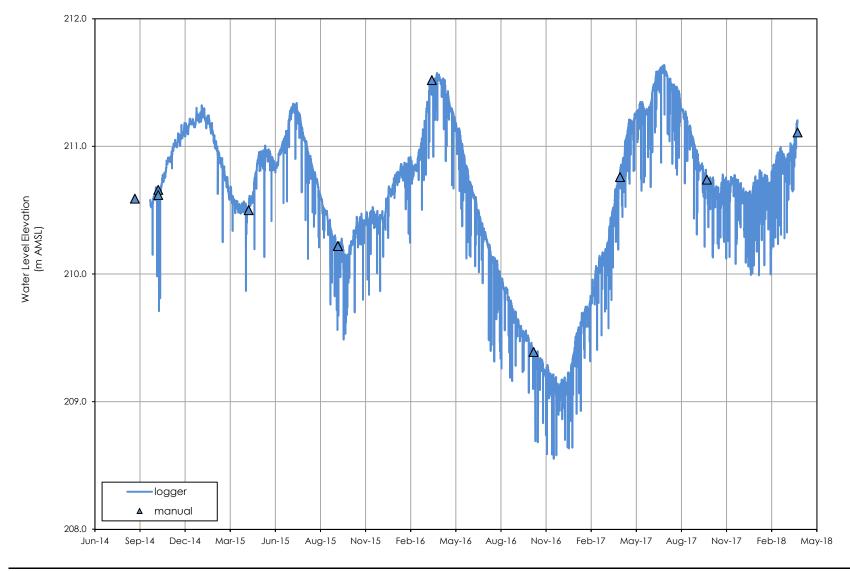
Hydrograph 16 - Deep Well



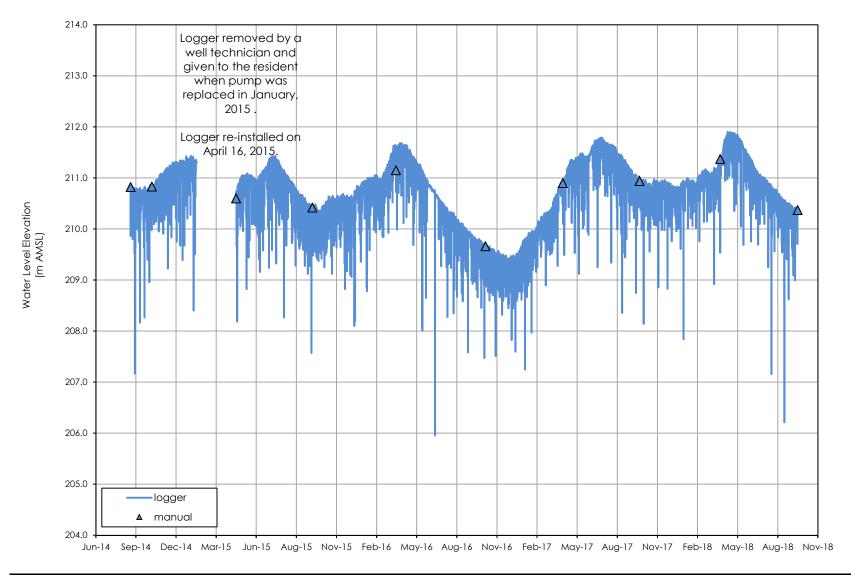




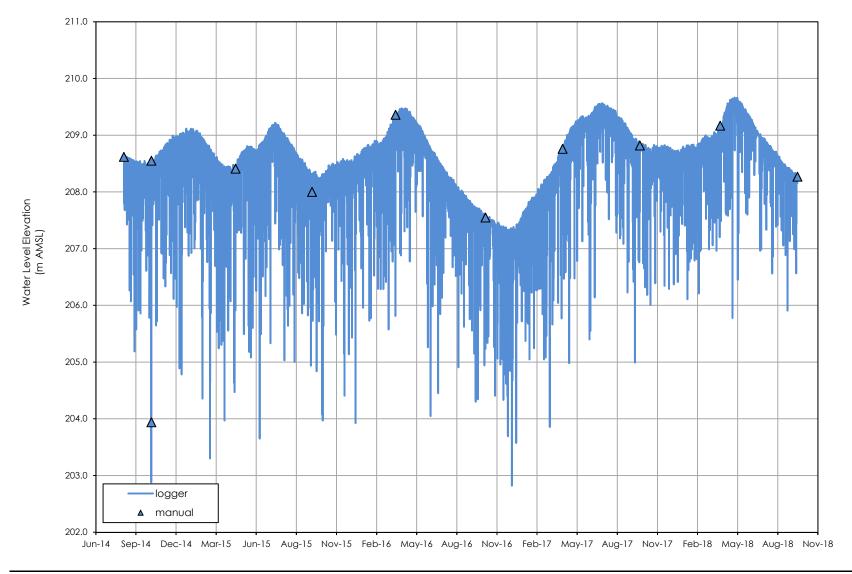




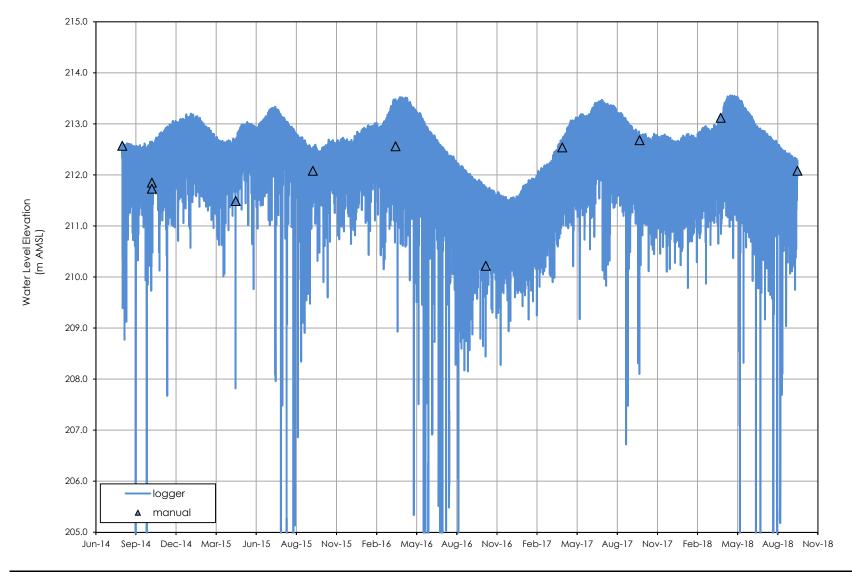














APPENDIX E:

Laboratory Certificates of Analysis (on CD)

APPENDIX F:

Historic Data Tables 2013 to 2018 (on CD)