APPENDIX D - HYDROGEOLOGICAL REPORT

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July 14, 2020

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Manager, Bridges and Structures
Associated Engineering (Ont.) Ltd.
Suite 300 – 509 Glendale Avenue East,
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L0S 1J0

Dear Christian Concolino:

Re: Preliminary Hydrogeological Investigation for the Niagara Street Bridge Project, Welland, Ontario

1. Introduction

Palmer was retained by Associated Engineering (AE) to conduct a desktop-based Preliminary Hydrogeological Investigation in support of the re-development and widening of the Niagara Street Bridge project in Welland, Ontario. The site is located approximately 200 m to the north of the intersection of East Main Street and Niagara Street (**Figure 1**).

This assessment is focused on characterizing hydrogeological conditions along the project alignment to estimate dewatering requirements and to identify potential hydrogeological impacts or design constraints. Dewatering rates exceeding 50,000 L/day require registration on the Environmental Activity and Sector Registry (EASR), and rates exceeding 400,000 L/day require a Permit to Take Water (PTTW) with the Ministry of Environment, Conservation and Parks (MECP). Additional information is required to confirm the site-specific conditions and to support an application for an EASR or PTTW, should one be required.

1.1 Scope of Work

Palmer has completed a preliminary hydrogeological investigation using secondary source data to provide an opinion on the expected hydrogeological conditions at the site. The preliminary assessment will focus on:

- Existing soil and groundwater conditions using Ontario Geological Survey (OGS) mapping and MECP water well records;
- Preliminary assessment of subsurface hydrogeological conditions to estimate the water table depth and expected hydrostratigraphic units to the depth of bedrock;
- Hydrogeological construction considerations for expected dewatering requirements and permitting requirements with the MECP;

- Preliminary assessment of Source Water Protection requirements; and,
- Hydrogeological impact assessment and design constraints.

2. Regional Conditions

2.1 Drainage

The Niagara Street Bridge crosses the Welland River within the Central Welland River watershed and is under the jurisdiction of the Niagara Peninsula Conservation Authority (NPCA). The Central Welland River watershed is a subwatershed of the Welland River Watershed and crosses several municipalities including the Township of West Lincoln, Town of Pelham, City of Welland, Township of Wainfleet and the City of Port Colborne (NPCA, 2010). The Welland River has its source at the Niagara Escarpment south of Hamilton and flows east to meet the Niagara River.

2.2 Physiography and Surficial Geology

The Site is located within the Haldimand Clay Plain physiographic region (Chapman and Putnam, 1984), deposited by the former glacial Lake Warren. This area is a relatively flat glaciolacustrine clay plain that extends across Niagara Region, Hamilton Region, Haldimand County, and Brant County (**Figure 2**). Although the dominant soil texture of the region is fine grained clay and silt, deposits of coarser grained sand and gravel can be found in isolated areas.

Available surficial geology mapping by the OGS indicates the centre portion of the site intersected by the Welland River is underlain by modern alluvial deposits of clay, silt, sand, and gravel. The remaining site area is underlain by fine-textured glaciolacustrine deposits of interbedded silt and clay with minor sand and gravel.

Bedrock underlying the site consists of the Upper Silurian Salina Formation (**Figure 3**), which is characterized as thin-bedded, argillaceous dolostone and shales, with beds and nodules of gypsum in the near-surface and thick salt beds in the deep subsurface (Armstrong and Dodge, 2007). The bedrock is expected to be located approximately 30 metres below ground surface (mbgs). Due to the presence of soft glaciolacustrine underlying the site, pile foundations may need to be installed to the depth of bedrock.

2.3 Hydrogeology

Hydrostratigraphic units can be subdivided into two distinct groups based on their ability to allow groundwater movement: an aquifer and an aquitard. An aquifer is defined as a layer of soil that is permeable enough to permit a usable supply of water to be extracted. An aquitard is a layer of soil that inhibits groundwater movement due to its low permeability. The major regional hydrostratigraphic units that control groundwater at the site are described below:

Fine-textured glaciolacustrine deposits composed of silt and clay are anticipated to be encountered at surface within the study area. This unit generally acts as a regional aquitard limiting groundwater flow and infiltration within the study area.

CLIENT: Associated Engineering	PROJECT: Niagara Street Bridge		LEGEND: Study Area
PREPARED BY: Palmer	PROJECT NO.: 1400353	REVISION: 1-1	DRAFT **Site Location**
	DATE: Jul 07, 2020	SCALE: 1:1200	
	DRAWN: CV	DATUM: NAD 1983	
	CHECKED: BG	PROJECTION: UTM zone 17	**Figure 1**

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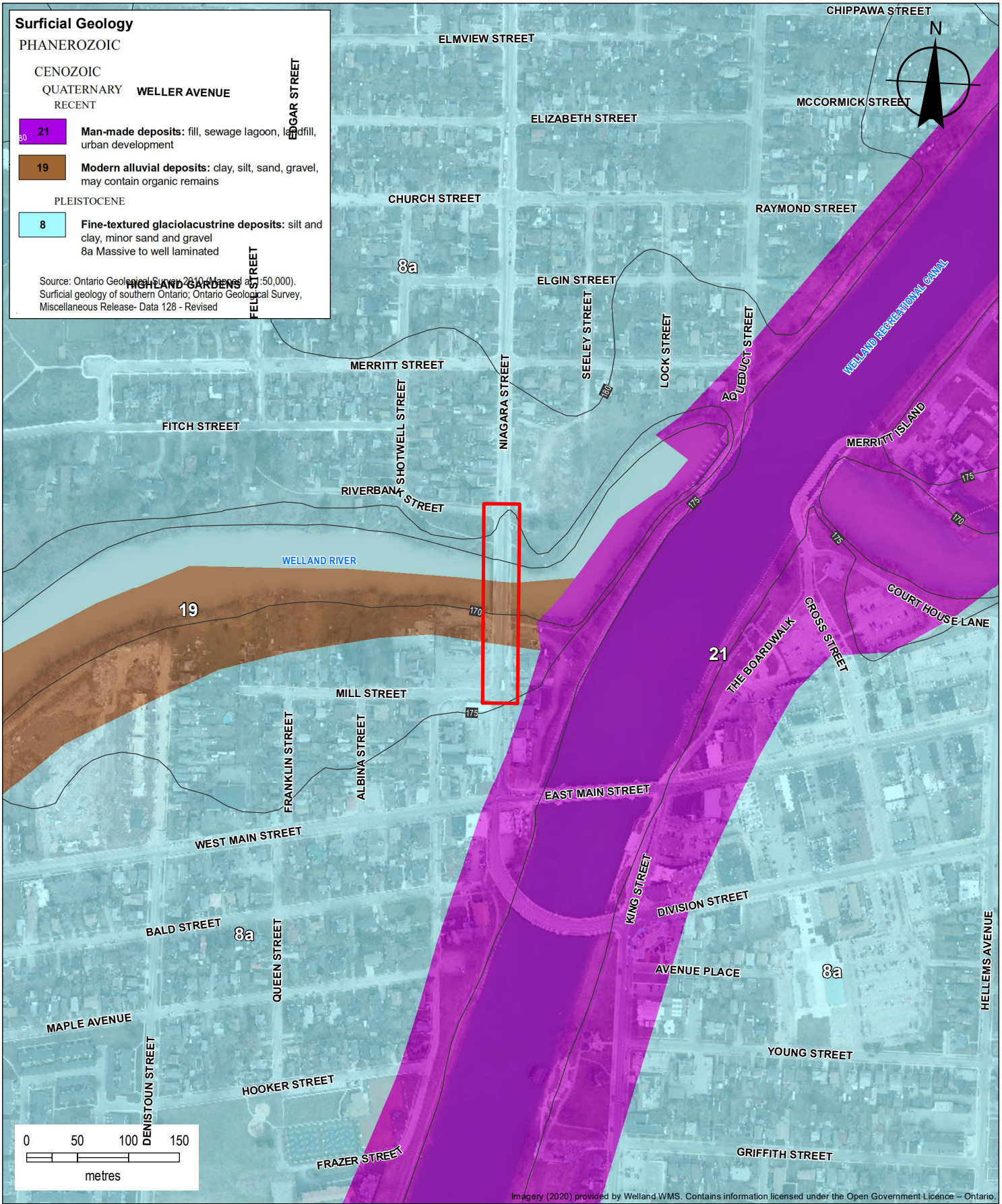

CLIENT: Associated Engineering	PROJECT: Niagara Street Bridge		LEGEND: Surface Elevation Contour (5m); Study Area
PREPARED BY: Palmer™	PROJECT NO.: 1400353	REVISION: 1-1	DRAFT
	DATE: Jul 07, 2020	SCALE: 1:5000	**Surficial Geology**
	DRAWN: CV	DATUM: NAD 1983	**Figure 2**
	CHECKED: BG	PROJECTION: UTM zone 17	

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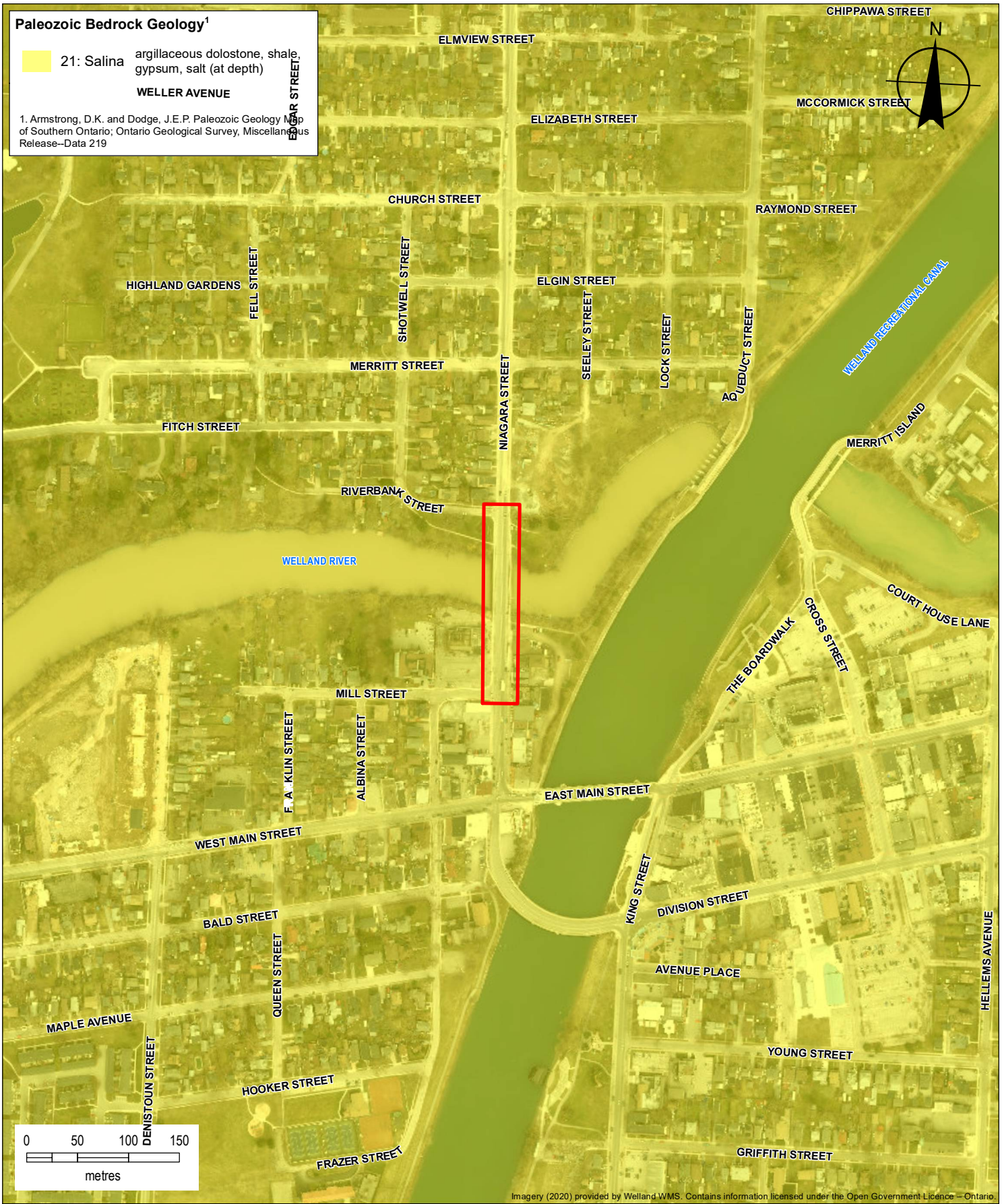

Imagery (2020) provided by Welland WMS. Contains information licensed under the Open Government Licence – Ontario.

CLIENT: Associated Engineering	PROJECT: Niagara Street Bridge		LEGEND: Study Area
PREPARED BY: Palmer	PROJECT NO.: 1400353	REVISION: 1-1	DRAFT
	DATE: Jul 20, 2020	SCALE: 1:5000	**Paleozoic Bedrock Geology**
	DRAWN: CV	DATUM: NAD 1983	
	CHECKED: BG	PROJECTION: UTM zone 17	**Figure 3**

Document Path: W:\Egnyte\Shared\Projects\Active\14003 - Associated Engineering\1400353 - Niagara Street Bridge\Mapping\Figures\5_ArcGIS\1400353_3-1_Paleozoic Bedrock Geology.mxd

Modern alluvial deposits composed of clay, silt, sand, and gravel are anticipated to be encountered along the Welland River within the study area. This unit generally acts as a regional aquitard limiting groundwater flow and infiltration within the study area.

Sand and gravel deposits may be encountered underlying the study area. This unit generally acts as a regional confined aquifer. The majority of wells constructed within this unit have specific capacities between 10 – 50 L/min/m (Singer et al., 2003).

The **Salina Formation** has been subdivided into eight (8) units, names A-2, A-2, and B through G. In general, these units consist of dolostones, evaporites, evaporitic carbonates and shales. The total maximum thickness of the Salina Formation is 330 m (Singer et al., 2003). In their study of the groundwater resources in the Grand River basin, Sibul et al. (1980) described the Salina Formation as a high-capacity water supply source north of Kitchener – Waterloo. The authors also reported on substantial fracturing within the formation that was encountered in two test holes located south of Kitchener. According to Sibul et al. (1980), the fracturing at both test holes is indicative of the high permeability of the Salina Formation. A sample of 2,994 wells was selected by Singer et al. (2003) to determine the specific capacity and transmissivity distributions for the wells constructed in the Salina Formation. The minimum and maximum specific capacity values for the sample are 0.1 and 3,729.0 L/min/m, respectively. The 10 and 90 percentile values are 1.7 and 82.9 L/min/m, respectively, and the geometric mean is 13.2 L/min/m. The minimum and maximum transmissivity values, derived from the samples' specific capacity data, are 0.1 and 10,197.0 m^2/day, respectively. The 10 and 90 percentile values are 3.2 and 189.0 m^2/day, respectively, and the geometric mean is 28.2 m^2/day (Singer et al., 2003). Given the large number of wells in the sample, it is possible to assume that its transmissivity distribution is representative of the water-yielding capability of the Salina hydrogeologic unit. The relatively high value of the distribution's geometric mean suggests that the unit has a very good water-yielding capability.

2.4 MECP Water Well Records

Based on a review of the MECP Water Well Records (WWR) database, fifty-five (55) well records are present within a 1000 m radius of the project alignment (**Figure 4**). Of these wells, one (1) is used for domestic water supply, one (1) is used for industrial water supply, one (1) is not used, nine (9) are test holes, twenty-six (26) are monitoring wells, three (3) wells have been abandoned and seventeen (17) wells of are unknown use. A summary of the records is provided in **Table 1** and records are given in **Appendix A**.

2.5 Source Water Protection

The site is located in the Niagara Peninsula Source Protection Area, which covers Niagara Region as well as portions of the City of Hamilton and Haldimand County (NPSPC, 2014). The Source Water Protection Plan (SPP) identifies three main regulatory factors under the *Clean Water Act (2006)* relating to local hydrogeology to consider for site development: Significant Groundwater Recharge Areas (SGRAs), Highly Vulnerable Aquifers (HVAs), and Wellhead Protection Areas (WHPAs).

Palmer

Table 1. Summary of MECP Water Well Records

Well ID Number	Location	Completion Date (MM/DD/YYYY)	Depth (m)	Water Level (mbgs)	Depth to Bedrock (m)	Screened Geology	Well Use
6604246	617 Moyer Road	05/29/1996	32.9	11.6	30.5	Grey Limestone	Domestic Water Supply
6604411	370 Netherby Road	12/08/1999	31.7	12.8	30.2	Grey Limestone	Industrial Water Supply
6604767	935 Niagara Street North	03/10/2004	6.7	-	-	Brown Silty Clay with - Some Sand and Gravel, Brown – Grey Clay	Not Used
7103725	200 Division Street	02/07/2008	6.1	4.6	-	Brown Clay and Silt	Test Hole
7112668	642526 m E 4760688 m N	08/15/2008	7.0	4.8	-	Brown – Grey Clay	Test Hole
7112669	643430 m E 4761753 m N	08/18/2008	6.1	-	-	Brown – Grey Clay	Test Hole
7112670	642535 m E 4766541 m N	08/14/2008	-	4.8	-	Brown – Grey Clay	Test Hole
7117934	642513 m E 4761115 m N	12/12/2008	6.1	-	-	Grey Clay and Silt	Test Hole
7122636	115 King Street Merrit Park	05/04/2009	-	-	-	-	Abandoned
7125572	643447 m E 4761460 m N	06/04/2009	6.1	-	-	Brown Clay	Test Hole
7125573	643392 m E 4761434 m N	06/04/2009	5.9	-	-	Red Clay	Test Hole
7125574	643404 m E 4761410 m N	06/04/2009	5.9	-	-	Red Clay	Test Hole
7140400	642160 m E 4760496 m N	01/12/2010	7.6	-	-	Brown Clay	Monitoring
7156391	641480 m E 4761686 m N	11/18/2010	5.2	-	-	Brown Clay and Silt	Test Hole
7183621	642586 m E 4760486 m N	06/12/2012	9.1	-	-	Brown Silt and Clay	Monitoring

Well ID Number	Location	Completion Date (MM/DD/YYYY)	Depth (m)	Water Level (mbgs)	Depth to Bedrock (m)	Screened Geology	Well Use
7183622	642586 m E 4760486 m N	06/13/2012	4.3	-	-	Brown Silt and Clay	Monitoring
7183627	642586 m E 4760486 m N	06/13/2012	9.0	-	-	Brown Silt and Clay	Monitoring
7183628	642586 m E 4760486 m N	06/11/2012	4.3	-	-	Brown Silt and Clay	Monitoring
7183629	642586 m E 4760486 m N	06/12/2012	8.4	-	-	Brown Silt and Clay	Monitoring
7183630	642586 m E 4760486 m N	06/11/2012	4.3	-	-	Brown Silt and Clay	Monitoring
7225434	642567 m E 4760493 m N	02/09/2014	-	-	-	-	-
7225435	642524 m E 4760511 m N	07/09/2014	-	-	-	-	-
7225436	642510 m E 4760513 m N	07/09/2014	-	-	-	-	-
7225437	642560 m E 4760512 m N	07/09/2014	-	-	-	-	-
7225438	642572 m E 4760478 m N	07/09/2014	-	-	-	-	-
7225439	642521 m E 4760485 m N	02/09/2014	-	-	-	-	-
7233988	3 Cross Street	11/28/2012	6.1	4.3	-	Brown – Grey Clay	Monitoring
7233989	4 Cross Street	11/28/2012	6.1	4.3	-	Brown – Grey Clay	Monitoring
7233990	4 Cross Street	11/28/2012	6.1	4.3	-	Brown – Grey Clay	Monitoring
7233991	4 Cross Street	11/28/2012	6.1	4.3	-	Brown – Grey Clay	Monitoring
7233992	4 Cross Street	11/28/2012	6.1	4.3	-	Brown – Grey Clay	Monitoring
7233993	4 Cross Street	11/28/2012	6.1	4.3	-	Brown - Grey Clay	Monitoring
7233994	642989 m E 4761821 m N	11/28/2012	6.1	-	-	Brown – Grey Clay	Monitoring
7233995	642971 m E 4761831 m N	11/28/2012	6.1	-	-	Brown – Grey Clay	Monitoring

Well ID Number	Location	Completion Date (MM/DD/YYYY)	Depth (m)	Water Level (mbgs)	Depth to Bedrock (m)	Screened Geology	Well Use
7233996	642941 m E 4761839 m N	11/28/2012	6.1	-	-	Brown – Grey Clay	Monitoring
7238334	4 Cross Street	11/13/2014	6.1	4.3	-	-	-
7238335	4 Cross Street	11/13/2014	6.1	4.3	-	-	Abandoned
7238336	4 Cross Street	11/13/2014	6.1	-	-	-	Abandoned
7243140	643282 m E 4761553 m N	03/13/2015	-	-	-	-	-
7258218	643018 m E 4761482 m N	11/06/2015	-	-	-	-	-
7261583	643416 m E 4761535 m N	03/03/2016	7.6	-	-	Brown Clay	Monitoring
7261584	643427 m E 4761537 m N	03/03/2016	7.6	-	-	Brown Clay	Monitoring
7261585	643426 m E 4761551 m N	03/03/2016	7.6	-	-	Brown Clay	Monitoring
7269972	228 Main Street	07/28/2016	4.6	-	-	Grey Clay	Monitoring
7269973	228 Main Street	07/29/2016	6.1	-	-	Grey Clay and Silt	Monitoring
7272859	642838 m E 4761564 m N	08/30/2016	4.6	2.1	-	Brown Silty Clay	Monitoring
7275143	642539 m E 4760502 m N	10/20/2016	-	-	-	-	-
7280200	228 Main Street	01/12/2017	6.1	-	-	Brown Clay	Monitoring
7280201	228 Main Street	01/12/2017	6.1	-	-	Brown Clay	Monitoring
7281792	22 King Street	01/24/2017	10.7	-	-	Brown Clay and Silt	Monitoring
7281908	22 King Street	01/27/2017	6.1	-	-	Brown Clay	Monitoring
7286276	642517 m E 4760681 m N	03/20/2017	-	-	-	-	-
7286277	642486 m E 4760738 m N	03/23/2017	-	-	-	-	-
7290434	642050 m E 4761351 m N	05/17/2017	-	-	-	-	-
7290435	Concession 05 Lot 025	07/07/2017	-	-	-	-	-

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CLIENT: Associated Engineering	PROJECT: Niagara Street Bridge		LEGEND:
	PROJECT NO.: 1400353	REVISION: 1-1	MECP Water Well Record within 1000m *(w/ Well ID)*
PREPARED BY: Palmer™	DATE: Jul 20, 2020	SCALE: 1:11000	Study Area Buffer (1000m)
	DRAWN: CV	DATUM: NAD 1983	Study Area
	CHECKED: BG	PROJECTION: UTM zone 17	

DRAFT

MECP Water Well Records

Figure 4

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Based on the MECP Source Protection Information Atlas online mapping tool, the site is not situated within any regulated source water protection area. An HVA lies to the west of the site. The Welland Canal lies to the east of the site and is a regulated Intake Protection Zone, Event Based Area, and HVA. Source Protection mapping is given in **Appendix B**.

3. Preliminary Site Conditions

3.1 Hydrogeology

While no existing boreholes or groundwater monitoring wells are present on site, MECP water well records for the area can be used to characterize the anticipated subsurface conditions. Based on our review of these records, the following wells from **Figure 3** are considered to be the most reliable to characterize subsurface site conditions:

- 6604246
- 6604411
- 7103725
- 7233988
- 7233989
- 7233990
- 7233991
- 7233992
- 7233993
- 7238334
- 7238335
- 7272859
- 7281792
- 1281908

The MECP water well records for these wells are included in **Appendix A**. Based on the soil descriptions from the above listed wells, the site-specific geology is expected to consist of the following sequence of soils provided in **Table 2** below:

Table 2. Anticipated Geology

Depth (m)	Soils	Hydrostratigraphic Unit
0 – 0.9	topsoil / gravel / asphalt / fill	fill
0.9 – 9.4	clay / silty clay	fine – textured glaciolacustrine
9.4 – 30.2	gravel / sand	sand and gravel deposits
30.2 – 32.9	limestone	bedrock

The groundwater level at the site is expected to range from approximately 2 to 4 m below ground surface (mbgs). A perched water table should be expected in the upper fill and weathered glaciolacustrine units. It is important to note that groundwater level can vary seasonally and in response to precipitation events.

4. Preliminary Hydrogeological Design and Permitting Considerations

4.1 Hydrogeological Conditions

The upper approximately 9.4 m of the site is expected to host a clay / silty clay aquitard unit that restricts groundwater flow. Based on the well record for well ID #6604246, a unit of coarse gravel and sand may be present from 9.4 – 30.2 mbgs which is expected to act as a confined aquifer. If encountered, this unit

will transmit groundwater and require active groundwater control measures to dewater during construction. Limestone bedrock of the Salina formation is expected to be encountered at a depth of approximately 30 mbgs. The Salina Formation is expected to act as a confined aquifer and is expected to require active dewatering if encountered.

4.2 Preliminary Dewatering Assessment

At the time of this report, it is not yet known the depth of excavation that will be required for construction. A detailed hydrogeological investigation will be required to determine subsurface conditions to provide site specific recommendations.

Based on our understanding from secondary source data and our characterization of aquifer, aquitards and groundwater levels, preliminary hydrogeological input can be made for the permitting of bridge supports. A detailed hydrogeological investigation is required to confirm dewatering rate estimates and hydrogeological design considerations.

Dewatering rates for the construction of bridge piers and abutments is expected to be low. Excavations will likely encounter groundwater below 4 m depth, however low dewatering rates are anticipated due to the low permeability of the clay / silty clay sediments. Under these conditions, dewatering rates are expected to be low and manageable with a sump pump. Dewatering rates are expected to be in the range of 50,000 L/day or less depending upon the site-specific conditions. Seepage of perched groundwater in the upper fill or native layers should be expected.

4.3 Permitting

Under the EASR system, water takings that are greater than 400,000 L/day require a PTTW. Water takings that are greater than 50,000 L/day and less than 400,000 L/day do not require a PTTW from the Ministry of the Environment, Conservation and Parks (MECP), however the project must be registered on the EASR system and meet a series of environmental protection criteria.

Due to the anticipated low rates of required dewatering during construction, it is expected that an EASR registration or PTTW will not be required.

4.4 Assessment of Impacts

4.4.1 Natural Environment

No adverse impacts to groundwater quantity or quality are expected from this project. This is due to the low permeability of the native silty clay soils. Natural environmental features in this area are expected to be primarily surface water supported and will not be adversely impacted by short term dewatering.

4.4.2 Private Water Wells and Municipal Water Supply

No private water wells will be impacted as a result of dewatering activities, as this area is municipally serviced. Two water supply well records were found within 1 km of site, however it is anticipated that

these wells are no longer used as the area is now municipally serviced. In addition, these two wells are outside of the expected radius of influence.

4.4.3 Ground Settlement and Geotechnical Considerations

The upper glaciolacustrine clay / silty clay aquitard unit is unconsolidated and is expected to be soft. Geotechnical investigations must be completed to assess foundation design requirements in the soft soils. The potential for deep foundations installed to bedrock should be expected for this project.

The potential exists for changes in porewater pressure to cause ground settlement in the unconsolidated clay and silt sediments which occur around the project alignment. A geotechnical engineer should be consulted on the need for a ground settlement monitoring program for this area before, during and following construction.

5. Conclusions

Based on the results of the desk-top based Preliminary Hydrogeological Investigation, the following summary of conclusions and recommendations is presented:

- OGS surficial geology of the region reveals the native surficial geology is comprised of fine-textured glaciolacustrine deposits of silt and clay with minor sand and gravel and modern alluvial deposits of clay, silt, sand and gravel.

- MECP water well records indicate the site is underlain by at least 9.4 m of clay or silty clay, and the water table is located at approximately 2 – 4 mbgs.

- Based on MECP water well records, the bedrock is expected to be located approximately 30 mbgs and consists of the Salina Formation.

- Based on the MECP Source Water Protection Information Atlas online mapping tool, the project site is not located within any regulated source protection areas.

- Construction dewatering values are expected in the range of 50,000 L/day or less, dependent on site specific conditions. An EASR is not expected to be required from the MECP.

6. Limitations of Report

This report was prepared by Palmer for Associated Engineering (Ontario) Ltd. (AE) in accordance with the scope of work described in the proposal. The conclusions and recommendations detailed in this report are based upon the information available at the time of preparation of the report. No investigative method eliminates the possibility of obtaining imprecise or incomplete information. Professional judgement was exercised in gathering and analysing the information obtained and in the formulation of our conclusions and recommendations. The nature of the sampling works makes it possible that contrary conditions may be identified in locations which were not sampled. However, it does suggest that the conditions will be localized and not extensive. The soil boundaries indicated on the borehole logs are inferred from non-continuous sampling and observations made during drilling and therefore should not be interpreted as exact planes of geological change.

The disclosure of any information contained in this report is the sole responsibility of the intended recipient. The material in it reflects Palmer's best judgement in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Palmer accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report. This limitations statement is considered part of this report.

Unless stated otherwise in this report, provided that the report is still reliable, and less than 18 months old, Palmer may issue a third-party reliance letter to parties client identifies in writing, upon payment of the then current fee for such letters. All third parties relying on Palmer's report, by such reliance agree to be bound by our proposal and Palmer's standard reliance letter. Palmer's standard reliance letter indicates that in no event shall Palmer be liable for any damages, howsoever arising, relating to third-party reliance on Palmer's report. No reliance by any party is permitted without such agreement. This report is not to be given over to any third party for any purpose whatsoever without the written permission of Palmer.

The original of this electronic document has been authenticated and will be retained by Palmer for a minimum of five years. Since the file transmitted is now out of Palmer's control and its integrity can no longer be ensured, no guarantee may be given with regards to any modifications made to this document.

7. Certification

This report was prepared and reviewed by the undersigned:

Prepared By: DRAFT
Bethany Gruber, B.Sc., G.I.T.
Environmental Scientist

Reviewed By: DRAFT
Jason Cole, M.Sc., P.Geo.
Principal, Senior Hydrogeologist

8. References

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Source Protection Plan for the Niagara Peninsula Source Protection Area

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Appendix A

MECP Water Well Records

Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

WELLAND

11 — 6604246

Municipality 66002 — Con.

County or District	Township/Borough/City/Town/Village	Con	block	tract	survey, etc.	Lot
[redacted]	WELLAND					
	Address: 617 MOYER RD	Date completed: 29 day 05 month 96 year				

Northing — RC — Elevation — RC — Basin Code — ii — iii — iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
BROWN	CLAY		PACKED	0	18
GREY	CLAY	FINE GRAVEL	PACKED	18	26
BROWN	CLAY		PACKED	26	31
GREY	COARSE GRAVEL		PACKED	31	37
GREY	FINE GRAVEL		PACKED	37	42
GREY	FINE GRAVEL	FINE SAND	PACKED	42	48
BROWN	CLAY	FINE SAND, FINE GRAVEL	PACKED	48	77
BROWN	SAND		LOOSE	77	82
BROWN	SAND	FINE GRAVEL	PACKED	82	86
GREY	FINE GRAVEL	BROWN SAND	PACKED	86	996
GREY	LIMESTONE		LAYERED	996	108

41 WATER RECORD

Water found at – feet	Kind of water
106	1 ☑ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 5/8	1 ☑ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	1.88	0	100
6	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☑ Open hole 5 ☐ Plastic		100	108
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet
Material and type	Depth at top of screen feet	

61 PLUGGING & SEALING RECORD

☐ Annular space ☐ Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)

71 PUMPING TEST

Pumping test method	Pumping rate	Duration of pumping
1 ☐ Pump 2 ☑ Bailer	14 GPM	1 Hours ..... Mins

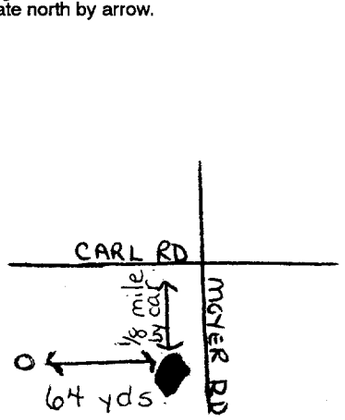
Static level	Water level end of pumping	Water levels during	15 minutes	30 minutes	45 minutes	60 minutes
38 feet	45 feet	1 ☐ Pumping 2 ☑ Recovery	38 feet	38 feet	38 feet	38 feet

If flowing give rate	Pump intake set at	Water at end of test
GPM	feet	☑ Clear ☐ Cloudy

Recommended pump type	Recommended pump setting	Recommended pump rate
☐ Shallow ☑ Deep	80 feet	GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



165668

FINAL STATUS OF WELL

1 ☑ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE

1 ☑ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not used 10 ☐ Other .....

METHOD OF CONSTRUCTION

1 ☑ Cable tool 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air) 5 ☐ Air percussion 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other .....

Name of Well Contractor	Well Contractor's Licence No.
KEN SCHOOLEY	4795
Address: RR#1 PORT COLBORNE	
Name of Well Technician	Well Technician's Licence No.
KEN SCHOOLEY	T-0351
Signature of Technician/Contractor	Submission date: 05 day 06 mo 96 yr

MINISTRY USE ONLY

Data source	Contractor	Date received
	4795	AUG 13 1996
Date of inspection	Inspector	
Remarks		

CSS.ES

0506 (07/94) Front Form 9

2 - MINISTRY OF ENVIRONMENT & ENERGY COPY

Ontario Ministry of the Environment

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 **6604411** Municipality 66002 Con.

WELLAND

County or District	Township/Borough/City/Town/Village	Con	block	tract	survey, etc.	Lot
Niagara Region	Welland					
Address: 370 Netherby Rd		Date completed: 08 (day) 12 (month) 99 (year)				

21 Northing RC Elevation RC Basin Code

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
BROWN	clay			0	3
Red	clay			3	80
Red	clay	boulders		80	99
Bedrock	limestone			99	104

31

32

WATER RECORD

Water found at - feet	Kind of water
101	1 ☒ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas

CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6"	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	188	99	104
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet
Material and type	Depth at top of screen feet	

PLUGGING & SEALING RECORD

☐ Annular space ☐ Abandonment

Depth set at - feet From	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)

PUMPING TEST

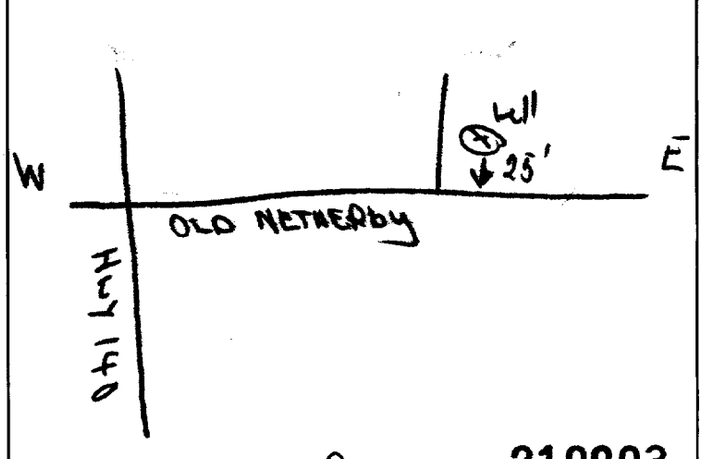
Pumping test method	Pumping rate	Duration of pumping
1 ☐ Pump 2 ☐ Bailer	10 GPM	1 Hours 0 Mins

Static level	Water level end of pumping	Water levels during 1 ☐ Pumping 2 ☐ Recovery: 15 minutes	30 minutes	45 minutes	60 minutes
42 feet	feet	feet	feet	feet	feet

If flowing give rate	Pump intake set at	Water at end of test
GPM	feet	☐ Clear ☒ Cloudy
Recommended pump type: ☐ Shallow ☒ Deep	Recommended pump setting: feet	Recommended pump rate: 05 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



210903

FINAL STATUS OF WELL

1 ☒ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE

1 ☐ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☒ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not use 10 ☐ Other

METHOD OF CONSTRUCTION

1 ☐ Cable tool 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☒ Rotary (air) 5 ☐ Air percussion 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other

Name of Well Contractor	Well Contractor's Licence No.
FIELD WELL DRILLING	2123
Address: RR#1 Vineland	
Name of Well Technician: Marshall R. FIELD	Well Technician's Licence No.: T0365
Signature of Technician/Contractor	Submission date: day mo yr

MINISTRY USE ONLY

Data source	Contractor	Date received
	2123	MAR 10 2000
Date of inspection	Inspector	
Remarks: CSS.ES0		

0506 (11/98) Front Form 9

2 - MINISTRY OF THE ENVIRONMENT COPY

Ontario Ministry of the Environment

Well Tag No. A007340 (place sticker and/or print number below)

A007340

Well Record

Regulation 903 Ontario Water Resources Act

page ___ of ___

Instructions for Completing Form

- For use in the **Province of Ontario** only. This document is a permanent **legal** document. Please retain for future reference.
- All Sections **must** be completed in full to avoid delays in processing. Further instructions and explanations are available on the back of this form.
- Questions regarding completing this application can be directed to the Water Well Management Coordinator at 416-235-6203.
- **All metre measurements shall be reported to 1/10th of a metre.**
- Please print clearly in blue or black ink only.

Ministry Use Only

[redacted]

Address of Well Location (County/District/Municipality)	Township	Lot	Concession

RR#/Street Number/Name	City/Town/Village	Site/Compartment/Block/Tract etc.
935 Niagara St. N.	WELLAND	

GPS Reading: NAD 83 Zone 17 Easting 642570 Northing 4764(7)5 Unit Make/Model Magellan SportTrack Mode of Operation: Undifferentiated / Averaged / Differentiated, specify

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth Metres From	Depth Metres To
BROWN	SILTY CLAY	SAND, GRAVEL	MOIST TO WET	0	4.5m
BROWN/GREY	CLAY	NONE	V. MOIST	4.5	6.7

Hole Diameter

Depth Metres From	To	Diameter Centimetres
0	6.7	20

Water Record

Water found at ___ Metres / Kind of Water

- ___ m: Fresh / Sulphur / Gas / Salty / Minerals / Other:
- ___ m: Fresh / Sulphur / Gas / Salty / Minerals / Other:
- ___ m: Fresh / Sulphur / Gas / Salty / Minerals / Other:

After test of well yield, water was: Clear and sediment free / Other, specify

Chlorinated: Yes / No

Construction Record

Inside diam centimetres	Material	Wall thickness centimetres	Depth Metres From	To
Casing				
5	[X] Plastic (Steel / Fibreglass / Concrete / Galvanized)	0.5	0	1.5
	Steel / Fibreglass / Plastic / Concrete / Galvanized			
	Steel / Fibreglass / Plastic / Concrete / Galvanized			
Screen — Outside diam		Slot No.		
6	[X] Plastic (Steel / Fibreglass / Concrete / Galvanized)	10	1.5	6.7
No Casing or Screen	Open hole			

Test of Well Yield

Pumping test method	Draw Down Time min	Water Level Metres	Recovery Time min	Water Level Metres
Pump intake set at - (metres)	Static Level			
Pumping rate - (litres/min)	1		1	
Duration of pumping ___hrs + ___ min	2		2	
Final water level end of pumping ___ metres	3		3	
Recommended pump type. Shallow / Deep	4		4	
Recommended pump depth. ___ metres	5		5	
Recommended pump rate. (litres/min)	10		10	
	15		15	
If flowing give rate - (litres/min)	20		20	
	25		25	
If pumping discontinued, give reason.	30		30	
	40		40	
	50		50	
	60		60	

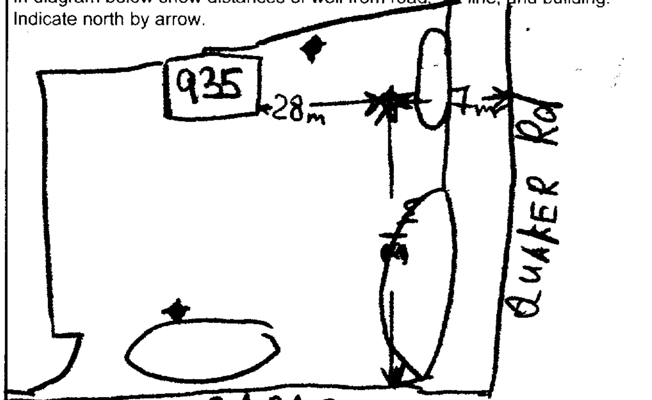
Plugging and Sealing Record

Annular space / Abandonment

Depth set at - Metres From	To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
0.2	1.3	BENTONITE CHIPS 3/8	
1.3	6.7	SAND 3M	

Location of Well

In diagram below show distances of well from road, lot line, and building. Indicate north by arrow.



Method of Construction

Cable Tool / [X] Rotary (conventional) / Rotary (reverse) / Rotary (air) / Air percussion / Boring / Diamond / Jetting / Driving / Digging / Other

Water Use

Domestic / Stock / Irrigation / Industrial / Commercial / Municipal / Public Supply / Not used / Cooling & air conditioning / [X] Other

Final Status of Well

Water Supply / [X] Observation well / Test Hole / Recharge well / Abandoned, insufficient supply / Abandoned, poor quality / Unfinished / Dewatering / Replacement well / Abandoned, (Other)

Audit No. Z 07433

Date Well Completed: 2004 03 10

Was the well owner's information package delivered? Yes / No

Date Delivered YYYY MM DD

Well Contractor/Technician Information

Name of Well Contractor: Elite Drilling	Well Contractor's Licence No.: 7003
Business Address (street name, number, city etc.): 73 Vale Ave St Catharines	L2R 1T5
Name of Well Technician (last name, first name): Gow, John	Well Technician's Licence No.: 2617
Signature of Technician/Contractor: X [signature]	Date Submitted: 2004 03 18

Ministry Use Only

Data Source / Contractor: 7003

Date Received: APR 16 2004

Date of Inspection YYYY MM DD

Remarks

Well Record Number: 6604767

0506E (09/03) Contractor's Copy / Ministry's Copy [X] / Well Owner's Copy

Cette formule est disponible en français

Ontario Ministry of the Environment

Well Tag No. for Master Well *(Place Sticker and/or Print Below)*

A 063494 A063494

Master Well Record for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Page 1 of 3

[redacted]

Address of Well Location (Street Number/Name, RR)	Township	Lot	Concession
200 DIVISION STREET	-	-	-

County/District/Municipality	City/Town/Village	Province	Postal Code
	WELLAND	Ontario	L3B 4A2

UTM Coordinates	Zone	Easting	Northing	GPS Unit Make	Model	Mode of Operation
NAD 8 3	17	643114	4764453	GARMIN	400	☐ Undifferentiated ☐ Averaged ☐ Differentiated, specify

Overburden and Bedrock Materials *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (Metres) From	Depth (Metres) To
BLACK	TOPSOIL	GRAVEL		0	0.9
BROWN	CLAY	SILT		0.9	6.1

Hole Details

Depth (Metres) From	Depth (Metres) To	Diameter (Centimetres)
0	6.1m	10cm

Water Use

☐ Public ☐ Industrial ☐ Not used ☐ Other, *specify*
☐ Domestic ☐ Commercial ☐ Dewatering
☐ Livestock ☐ Municipal ☐ Monitoring
☐ Irrigation ☑ Test Hole ☐ Cooling & Air Conditioning

Method of Construction

☐ Cable Tool ☐ Air Percussion ☐ Digging
☐ Rotary (Conventional) ☐ Diamond ☑ Boring
☐ Rotary (Reverse) ☐ Jetting ☐ Other, *specify*
☐ Rotary (Air) ☐ Driving DELTA FLUSH

Status of Well

☑ Test Hole ☐ Abandoned, Insufficient Supply
☐ Replacement Well ☐ Abandoned, Poor Water Quality
☐ Dewatering Well ☐ Other, *specify*
☐ Alteration (Construction) ☐ Abandoned, other, *specify*

Construction Details

Inside Diameter (Centimetres)	Material (steel, plastic, fibreglass, concrete, galvanized)	Wall Thickness	Depth (Metres) From	Depth (Metres) To
3.1cm	PLASTIC CASING	4.1cm	0	3.0
3.1cm	PLASTIC SCREEN	4.1cm	3.0	6.1

No Casing and Screen Used

Open Hole ☐ Yes ☐ No

Static Water Level Test

[ ][ ] Metres

Screen

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Concrete ☑ Plastic

Outside Diameter *(Centimetres)*: 4.1cm

Slot No.: 010

Annular Space/Abandonment Sealing Record

Depth Set at (Metres) From	To	Type of Sealant Used (Material and Type)	Volume Used (Cubic Metres)
0	0.3	CONCRETE	
0.3	2.4	~~BENTONITE 3/8" HYDRATED~~	BENTSEAL
2.4	6.1	SILICA SAND #2	

Water Details

Water found at Depth		Kind of Water
4.6	Metres ☐ Gas	☑ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
	Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
	Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals

Disinfected ☐ Yes ☐ No If no, provide reason:

Date Master Well Completed *(yyyy/mm/dd)*: 2008/02/07

Cluster Information *(Please also fill out the additional Cluster Well Information for Well Construction for each parcel of land and cluster.)*

Total Wells in Cluster: 3

Total Wells on this Property: 3

Please indicate Number of Cluster Well Information Log Sheets Submitted: 2

Location of Well Cluster

Detailed Map must be provided as an attachment no larger than legal size (8.5" x 14"). Sketches are not allowed.

☐ Check box to confirm detailed map is provided as per Section 11.1 (3)

Consent to release additional information concerning the cluster to the Director upon request

[redacted]

Well Contractor and Well Technician Information

Business Name of Well Contractor: DIRECT ENVIRONMENTAL DRILLING

Well Contractor's Licence No.: 7320

Business Address (Street No./Name, number, RR): 416 HIGHVIEW DRIVE

Municipality: ST. THOMAS

Province: ONT

Postal Code: N5R 6C4

Business E-mail Address: darmstrong@directenvironmentaldrilling.com

Bus. Telephone No. *(inc. area code)*: 5197864017

Name of Well Technician (Last Name, First Name): ARMSTRONG, ANDREW

Well Technician's Licence No.: 3446

Signature of Technician

Date Submitted *(yyyy/mm/dd)*: 2008/02/11

Ministry Use Only

Audit No.: M 00877

Well Contractor No.:

Date Received *(yyyy/mm/dd)*: APR 09 2008

Date of Inspection *(yyyy/mm/dd)*:

Remarks:

1992 (11/2006)

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Ontario

Ministry of the Environment

Well Tag No. for Master Well *(Print Well Tag No.)*

A 063494 A063494.

Cluster Well Information for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

[redacted]

Address of Well Location (Street Number/Name, RR)	Lot	Concession	Township	County/District/Municipality
200 DIVISION STREET	–	–	–	

City/Town/Village	Province	Postal Code	GPS Unit Make	Model	Unit Mode of Operation	
WELLAND	Ontario	L3B4A2	EARTHPROBE	400	☐ Undifferentiated ☐ Averaged ☐ Differentiated, specify:	

upon request

Signature of Technician/Contractor	Date *(yyyy/mm/dd)*
	2008/02/11

Well # on Sketch	UTM Coordinates Zone	Easting	Northing	Full Depth of Hole (metres)	Hole Diameter (cm)	Method of Construction	Casing Material	Casing Length (metres)	Screen Interval (metres) From	To	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	Date of Completion *(yyyy/mm/dd)*
MW2	17	643122	4761447	6.1M	10cm	DIRECT PUSH	PLASTIC	3.0M	3.0M	6.1M	BENTONITE BENTSEAL	4.6M	–		2008/02/07
MW3	17	643123	4761505	6.1M	10cm	DIRECT PUSH	PLASTIC	3.0M	3.0M	6.1M	BENTSEAL	4.6M	–		2008/02/07

Well Contractor and Well Technician Information

Business Name of Well Contractor	Business Address (Street Number/Name, RR)	Municipality	Province
DIRECT ENVIRONMENTAL DRILLING INC.	146 HIGHVIEW DRIVE	ST. THOMAS	ONT

Postal Code	Business Telephone No. *(inc. area code)*	Well Contractor's Licence No.	Business E-mail Address
N5R6C4	5194860175	7320	darmstrong@directenvironmentaldrilling.com

Name of Well Technician (First Name, Last Name)	Well Technician's Licence No.	Date Submitted *(yyyy/mm/dd)*	Signature of Technician
ANDREW ARMSTRONG	3446	2008/02/11	

Date 1st Well in Cluster Constructed *(yyyy/mm/dd)*	Date Last Well in Cluster Constructed *(yyyy/mm/dd)*
2008/02/07	2008/02/07

Ministry Use Only

Date Received *(yyyy/mm/dd)*	Date Inspected *(yyyy/mm/dd)*
APR 09 2008	
Audit No. C 02038	**Remarks** M00877

1991 (11/2006)

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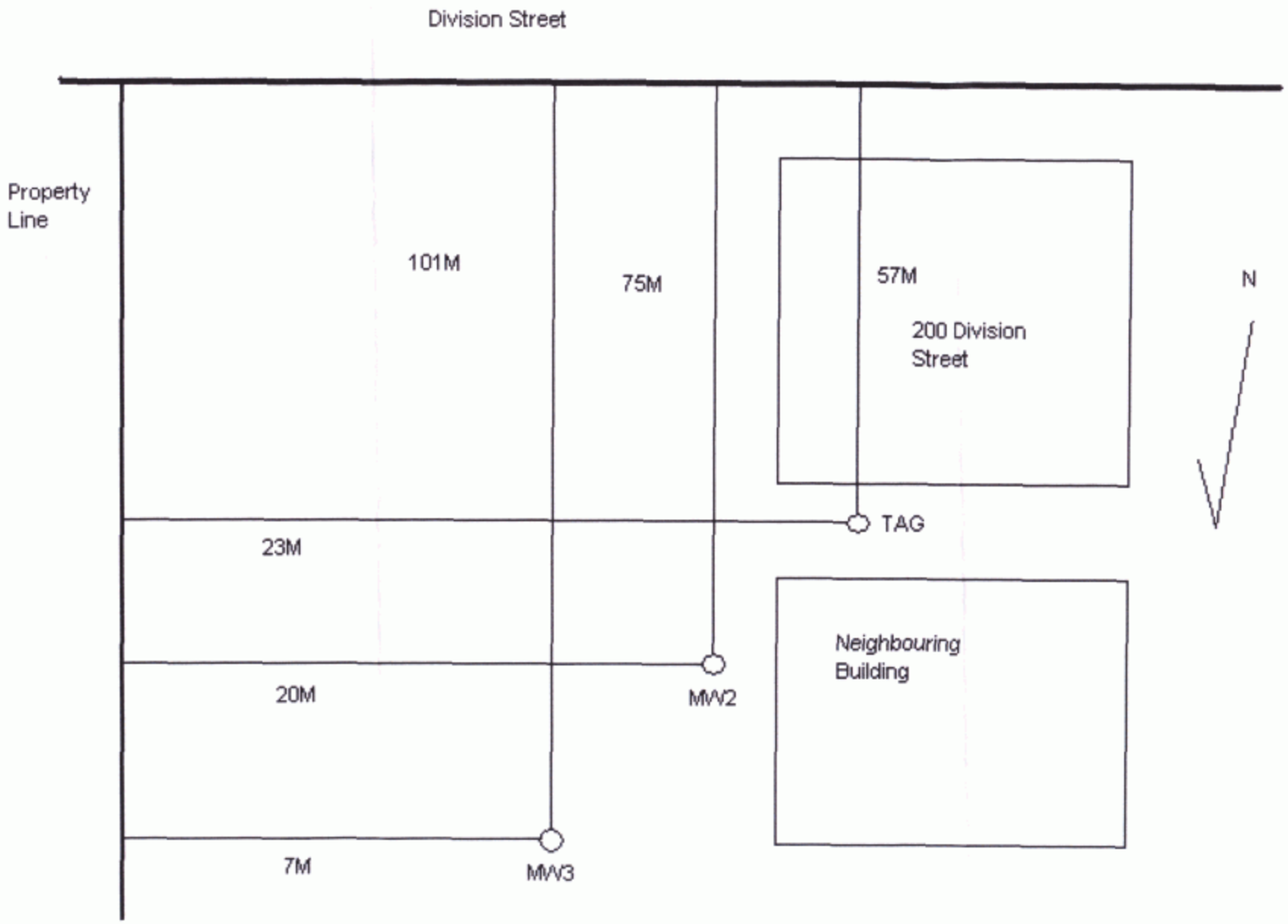

m00877 c02038 c-7320

APR 0 9 2008

Ontario Ministry of the Environment

Well Tag No. for Master Well (Place Sticker and/or Print Below)
A075753
A075753

Master Well Record for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Page 1 of 4

[redacted]

Address of Well Location (Street Number/Name, RR)	Township	Lot	Concession
317 KING ST	—	—	—

County/District/Municipality	City/Town/Village	Province	Postal Code
WELLAND	WELLAND	Ontario	L3B3K2

UTM Coordinates	Zone	Easting	Northing	GPS Unit Make	Model	Mode of Operation
NAD 83	17	644252	6 4760684	EXPLORIST	400	☐ Undifferentiated ☐ Averaged ☐ Differentiated, specify

Overburden and Bedrock Materials (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (Metres) From	To
BLACK	TOPSOIL			0	0.6
BROWN	CLAY	STONES	DRIER	0.6	4.4
GREY	CLAY		MOIST	4.4	7.0

Hole Details

Depth (Metres) From	To	Diameter (Centimetres)
0	7.0	10cm

Water Use

☐ Public ☐ Industrial ☐ Not used ☐ Other, specify
☐ Domestic ☐ Commercial ☐ Dewatering
☐ Livestock ☐ Municipal ☐ Monitoring
☐ Irrigation ☑ Test Hole ☐ Cooling & Air Conditioning

Method of Construction

☐ Cable Tool ☐ Air Percussion ☐ Digging
☐ Rotary (Conventional) ☐ Diamond ☑ Boring
☐ Rotary (Reverse) ☐ Jetting ☐ Other, specify
☐ Rotary (Air) ☐ Driving DIRECT PUSH

Status of Well

☑ Test Hole ☐ Abandoned, Insufficient Supply
☐ Replacement Well ☐ Abandoned, Poor Water Quality
☐ Dewatering Well ☐ Other, specify
☐ Alteration (Construction) ☐ Abandoned, other, specify

Construction Details

Inside Diameter (Centimetres)	Material (steel, plastic, fibreglass, concrete, galvanized)	Wall Thickness	Depth (Metres) From	To
~~3.8cm~~ 3.4cm	PLASTIC CASING	1cm	0	4.0

No Casing and Screen Used

Open Hole ☐ Yes ☐ No

Static Water Level Test

Metres

Screen

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Concrete ☑ Plastic

Outside Diameter (Centimetres): 4.8cm
Slot No.: .010

Water Details

Water found at Depth	Kind of Water
4.4 Metres ☐ Gas	☑ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals

Disinfected ☐ Yes ☐ No If no, provide reason:

Date Master Well Completed (yyyy/mm/dd): 2008/08/15

Annular Space/Abandonment Sealing Record

Depth Set at (Metres) From	To	Type of Sealant Used (Material and Type)	Volume Used (Cubic Metres)
0	0.3	CONCRETE	
0.3	3.6	BENSEAL	
3.6	7.0	SILICA SAND (PREPACKED)	

Cluster Information (Please also fill out the additional Cluster Well Information for Well Construction for each parcel of land and cluster.)

Total Wells in Cluster: 6
Please indicate Number of Cluster Well Information Log Sheets Submitted: 5
Total Wells on this Property: 6

Location of Well Cluster

Detailed Map must be provided as an attachment no larger than legal size (8.5" x 14"). Sketches are not allowed.
☑ Check box to confirm detailed map is provided as per Section 11.1 (3)

Consent to release additional information concerning the cluster to the Director upon request

[redacted]

Well Contractor and Well Technician Information

Business Name of Well Contractor: DIRECT ENVIRONMENTAL DRILLING
Well Contractor's Licence No.: 7320
Business Address (Street No./Name, number, RR): 416 HIGHVIEW DR.
Municipality: ST. THOMAS
Province: ONT
Postal Code: N5R6C4
Business E-mail Address: garmstrong@directenvironmentaldrilling.com
Bus. Telephone No. (inc. area code): 5196680175
Name of Well Technician (Last Name, First Name): ARMSTRONG ANDREW
Well Technician's Licence No.: 3446
Signature of Technician: [signature]
Date Submitted (yyyy/mm/dd): 2008/08/27

Ministry Use Only

Audit No.: M 03159
Well Contractor No.:
Date Received (yyyy/mm/dd): OCT 06 2008
Date of Inspection (yyyy/mm/dd):
Remarks: C03654

992 (11/2006)

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Ontario

Ministry of the Environment

Well Tag No. for Master Well *(Print Well Tag No.)*

A075753 A075753

Cluster Well Information for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

[redacted]

Cluster Well Information

Address of Well Location (Street Number/Name, RR)	Lot	Concession	Township	County/District/Municipality
317 KING ST.	–	–	–	WELLAND

City/Town/Village	Province	Postal Code	GPS Unit Make	Model	Unit Mode of Operation
WELLAND	Ontario	L3B3K2	EXPLORER	400	☐ Undifferentiated ☐ Averaged ☐ Differentiated, specify:

Consent to release additional information to the Director upon request

Signature of Technician/Contractor	Date *(yyyy/mm/dd)*
[signature]	2006/04/27

Well # on Sketch	UTM Coordinates Zone	Easting	Northing	Full Depth of Hole (metres)	Hole Diameter (cm)	Method of Construction	Casing Material	Casing Length (metres)	Screen Interval (metres) From	To	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	Date of Completion *(yyyy/mm/dd)*
MW2	17	642524	4760704	6.0	10cm	DIRECT PUSH	PLASTIC	2.9m	2.9m	6.0	BENSEAL	4.8			2006/04/15
MW3	17	642529	4760720	6.0	10cm	DIRECT PUSH	PLASTIC	2.9m	2.9m	6.0	BENSEAL	4.8			2006/04/15
MW4	17	642558	4760689	6.0	10cm	DIRECT PUSH	PLASTIC	2.9m	2.9	6.0	BENSEAL	4.8			2006/04/15
MW5	17	642545	4760700	6.0	10cm	DIRECT PUSH	PLASTIC	2.9m	2.9	6.0	BENSEAL	4.8			2006/04/15
MW6	17	642558	4760713	6.1	10cm	DIRECT PUSH	PLASTIC	3.0m	3.0	6.1	BENSEAL	4.8			2006/04/14

Well Contractor and Well Technician Information

Business Name of Well Contractor	Business Address (Street Number/Name, RR)	Municipality	Province
DIRECT ENVIRONMENTAL DRILLING INC	416 HIGHVIEW DRIVE	ST. THOMAS	ONT

Postal Code	Business Telephone No. *(inc. area code)*	Well Contractor's Licence No.	Business E-mail Address
N5R6C4	5199869017 5	7320	darmstrong@directenvironmental drilling.com

Name of Well Technician (First Name, Last Name)	Well Technician's Licence No.	Date Submitted *(yyyy/mm/dd)*	Signature of Technician
ARMSTRONG ANDREW	3446	2006/04/27	[signature]

Date 1st Well in Cluster Constructed *(yyyy/mm/dd)*	Date Last Well in Cluster Constructed *(yyyy/mm/dd)*
2006/04/15	2006/04/14

Ministry Use Only

Date Received *(yyyy/mm/dd)*	Date Inspected *(yyyy/mm/dd)*
OCT 6 2006	
Audit No. C 03654	**Remarks** M03159

1991 (11/2006)

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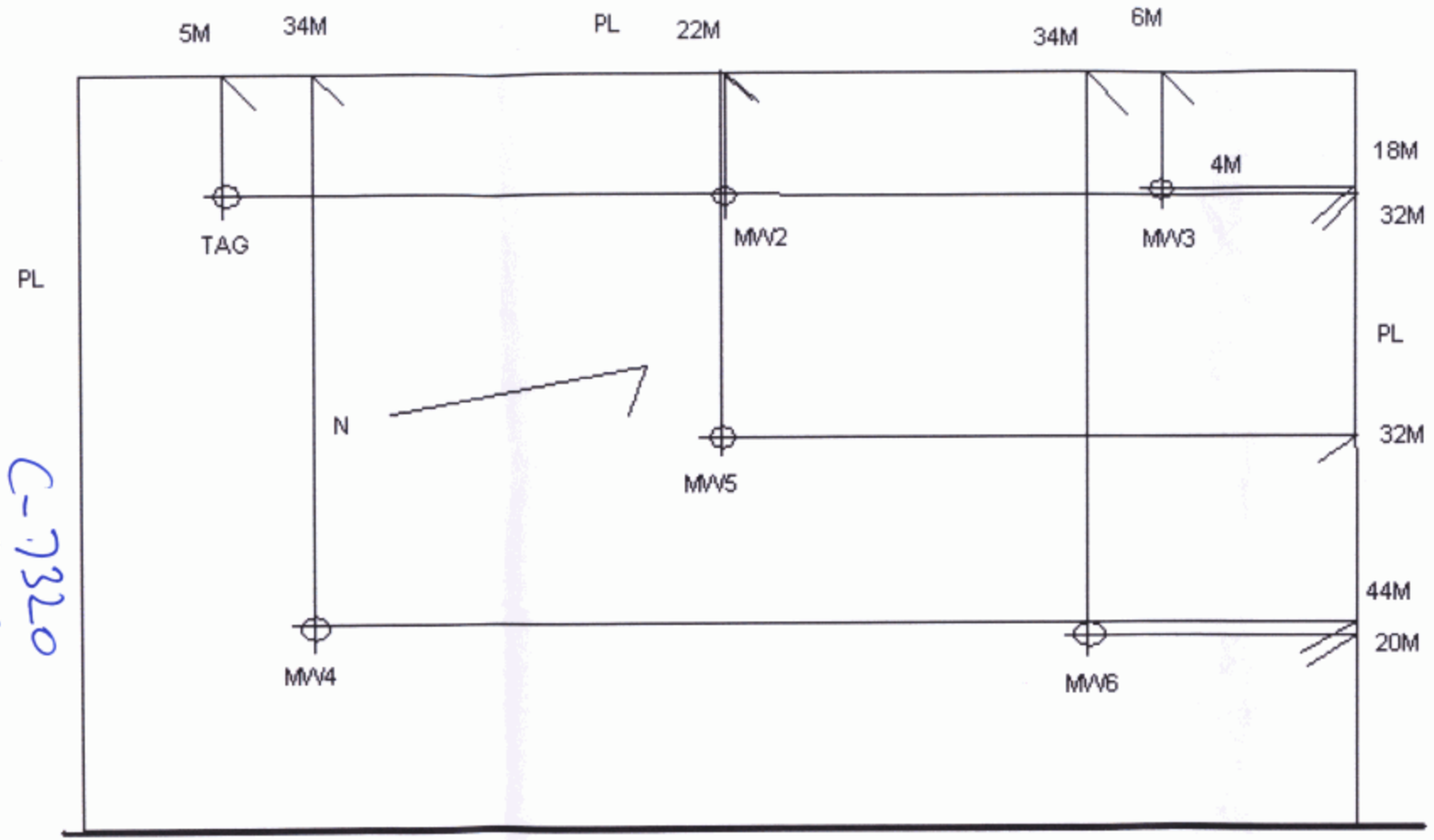

PL = Property Line

C-7320
MO3159
CO3654
#07553

Ontario Ministry of the Environment

Well Tag No. for Master Well (Place Sticker and/or Print Below)
A075778
A075778

Master Well Record for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Page 1 of 3

[redacted]

Address of Well Location (Street Number/Name, RR)	Township	Lot	Concession
ROSS STREET / MCMASTER	–	–	–

County/District/Municipality	City/Town/Village	Province	Postal Code
WELLAND	WELLAND	Ontario	

UTM Coordinates: Zone / Easting / Northing: NAD 8 3 | 17 | 643430 | 4761753 — GPS Unit Make: GARMIN — Model: 400

Mode of Operation: ☐ Undifferentiated ☐ Averaged ☐ Differentiated, specify

Overburden and Bedrock Materials (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (Metres) From	To
BLACK	TOPSOIL			0	0.6
BROWN	CLAY	STONES	DENSE	0.6	3.6
GREY	CLAY			3.6	4.3
GREY	CLAY		MOIST	4.3	6.1

Hole Details

Depth (Metres) From	To	Diameter (Centimetres)
0	6.1	10CM

Water Use

☐ Public ☐ Domestic ☐ Livestock ☐ Irrigation ☐ Industrial ☐ Commercial ☐ Municipal ☑ Test Hole ☐ Not used ☐ Dewatering ☐ Monitoring ☐ Cooling & Air Conditioning ☐ Other, specify

Method of Construction

☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Rotary (Air) ☐ Air Percussion ☐ Diamond ☐ Jetting ☐ Driving ☐ Digging ☐ Boring ☑ Other, specify DIRECT PUSH

Status of Well

☑ Test Hole ☐ Replacement Well ☐ Dewatering Well ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Other, specify ☐ Abandoned, other, specify

Construction Details

Inside Diameter (Centimetres)	Material (steel, plastic, fibreglass, concrete, galvanized)	Wall Thickness	Depth (Metres) From	To
3.4CM	PLASTIC CASING	1CM	0	3.0
3.4CM	PLASTIC SCREEN	1CM	3.0	6.1

No Casing and Screen Used

Open Hole ☐ Yes ☐ No

Static Water Level Test

Metres

Screen

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Concrete ☑ Plastic

Outside Diameter (Centimetres): 4.4CM — Slot No.: .010

Water Details

Water found at Depth	Kind of Water
4.3 Metres ☐ Gas	☑ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals

Disinfected ☐ Yes ☐ No If no, provide reason:

Date Master Well Completed (yyyy/mm/dd): 2008/08/18

Annular Space/Abandonment Sealing Record

Depth Set at (Metres) From	To	Type of Sealant Used (Material and Type)	Volume Used (Cubic Metres)
0	0.3	CONCRETE	
0.3	2.4	BENSEAL	
2.4	3.0	SILICASAND #2	
3.0	6.1	SILICA SAND (PRE-PACKED)	

Cluster Information (Please also fill out the additional Cluster Well Information for Well Construction for each parcel of land and cluster.)

Total Wells in Cluster: 3

Total Wells on this Property: 3

Please indicate Number of Cluster Well Information Log Sheets Submitted: 2

Location of Well Cluster

Detailed Map must be provided as an attachment no larger than legal size (8.5" x 14"). Sketches are not allowed.

☑ Check box to confirm detailed map is provided as per Section 11.1 (3)

Consent to release additional information concerning the cluster to the Director upon request

[redacted]

Well Contractor and Well Technician Information

Business Name of Well Contractor: Direct Environmental Drilling — Well Contractor's Licence No.: 7 3 2 1 0

Business Address (Street No./Name, number, RR): 416 Highview Dr. — Municipality: St. Thomas

Province: ON — Postal Code: N5R6C4 — Business E-mail Address: aarmstrong@directenvironmentaldrilling.com

Bus. Telephone No. (inc. area code): 5198680175 — Name of Well Technician (Last Name, First Name): ARMSTRONG ANDREW

Well Technician's Licence No.: 3446 — Signature of Technician — Date Submitted (yyyy/mm/dd): 2008/09/27

Audit No.: M 03163 — Well Contractor No.

Date Received (yyyy/mm/dd): OCT 06 2008 — Date of Inspection (yyyy/mm/dd)

Remarks: C03658

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Ontario

Ministry of the Environment

Well Tag No. for Master Well *(Print Well Tag No.)*

A075778 A075774

Cluster Well Information for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

[redacted]

Cluster Well Information

Address of Well Location (Street Number/Name, RR)	Lot	Concession	Township	County/District/Municipality
	–	–	–	

City/Town/Village	Province	Postal Code	GPS Unit Make	Model	Unit Mode of Operation
WELLAND	Ontario				☐ Undifferentiated ☐ Averaged ☐ Differentiated, specify:

Consent to release additional information to the Director upon request

Signature of Technician/Contractor	Date *(yyyy/mm/dd)*
	2008/08/27

Well # on Sketch	UTM Coordinates Zone	Easting	Northing	Full Depth of Hole (metres)	Hole Diameter (cm)	Method of Construction	Casing Material	Casing Length (metres)	Screen Interval (metres) From	To	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	Date of Completion *(yyyy/mm/dd)*
MW2	17	643444	4761792	6.1m	10cm	DIRECT PUSH	PLASTIC	3.0	3.0	6.1	BENSEAL	4ft			2008/08/14
MW3	17	643491	4761901	6.1	10cm	DIRECT PUSH	PLASTIC	3.0	3.0	6.1	BENSEAL	4.4			2008/08/14

Well Contractor and Well Technician Information

Business Name of Well Contractor	Business Address (Street Number/Name, RR)	Municipality	Province
Direct Environmental Drilling	416 Highview Dr	St. Thomas	ON

Postal Code	Business Telephone No. *(inc. area code)*	Well Contractor's Licence No.	Business E-mail Address
N5R6C4	5198680175	7320	agrmstrong@directenvironmentaldrilling.com

Name of Well Technician (First Name, Last Name)	Well Technician's Licence No.	Date Submitted *(yyyy/mm/dd)*	Signature of Technician
Andrew Armstrong	3446	2008/08/27	

Date 1st Well in Cluster Constructed *(yyyy/mm/dd)*	Date Last Well in Cluster Constructed *(yyyy/mm/dd)*
2008/08/14	2008/08/14

Ministry Use Only

Date Received *(yyyy/mm/dd)*	Date Inspected *(yyyy/mm/dd)*
OCT 0 2008	
Audit No. C 03658	**Remarks** MO3163

1991 (11/2006)

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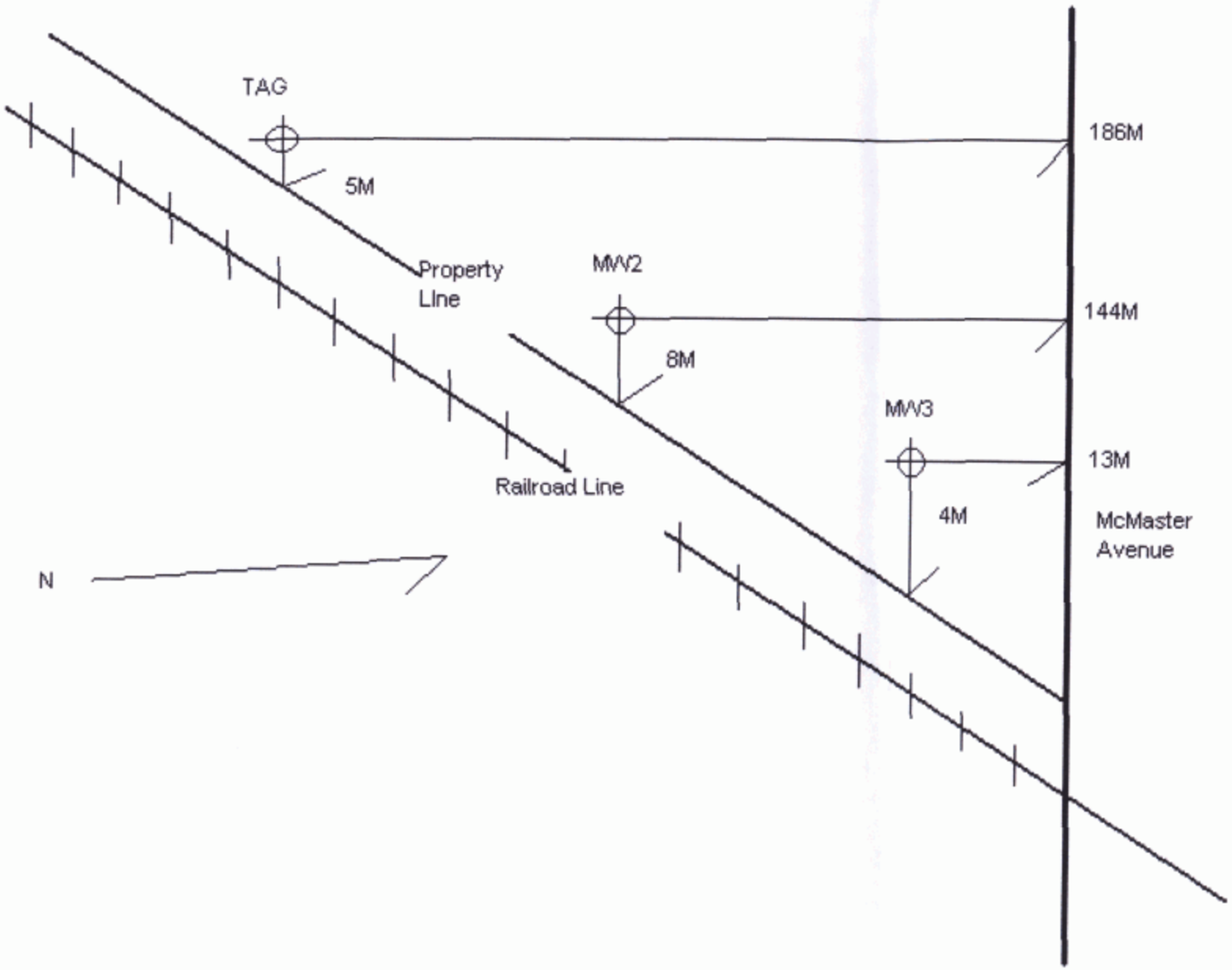

C-7320
M03163 c03658
A075778

Ontario Ministry of the Environment

Well Tag No. for Master Well *(Place Sticker and/or Print Below)*
A075759
A075759.

Master Well Record for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Page 1 of 4

Master Well Owner's and Land Owner's Information

[redacted]

335 RING ST

County/District/Municipality: WELLAND
City/Town/Village: WELLAND
Province: Ontario
Postal Code: L3B3K2

UTM Coordinates: NAD 83 Zone 17 Easting 642535 Northing 4766541
GPS Unit Make: EXPLORIST Model: 400
Mode of Operation: ☐ Undifferentiated ☐ Averaged ☐ Differentiated, specify

Overburden and Bedrock Materials *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (Metres) From	To
BLACK	TOPSOIL			0	0.6
BROWN	CLAY	STONE	DENSE	0.6	4.9
GREY	CLAY			4.9	5.5
GREY	CLAY		MOIST	5.5	7.0

Hole Details

Depth (Metres) From	To	Diameter (Centimetres)
0	7.0	10CM

Water Use

☐ Public ☐ Industrial ☐ Not used ☐ Other, specify
☐ Domestic ☐ Commercial ☐ Dewatering
☐ Livestock ☐ Municipal ☐ Monitoring
☐ Irrigation ☑ Test Hole ☐ Cooling & Air Conditioning

Method of Construction

☐ Cable Tool ☐ Air Percussion ☐ Digging
☐ Rotary (Conventional) ☐ Diamond ☐ Boring
☐ Rotary (Reverse) ☐ Jetting ☑ Other, specify DIRECT PUSH
☐ Rotary (Air) ☐ Driving

Status of Well

☑ Test Hole ☐ Abandoned, Insufficient Supply
☐ Replacement Well ☐ Abandoned, Poor Water Quality
☐ Dewatering Well ☐ Other, specify
☐ Alteration (Construction) ☐ Abandoned, other, specify

Construction Details

Inside Diameter (Centimetres)	Material (steel, plastic, fibreglass, concrete, galvanized)	Wall Thickness	Depth (Metres) From	To
3.9CM	PLASTIC CASING	1CM	0	3.9
3.9CM	PLASTIC SCREEN	1CM	3.9	7.0

No Casing and Screen Used

Open Hole ☐ Yes ☐ No

Static Water Level Test

Metres

Screen

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Concrete ☑ Plastic

Outside Diameter (Centimetres): 4.9CM
Slot No.: .010

Annular Space/Abandonment Sealing Record

Depth Set at (Metres) From	To	Type of Sealant Used (Material and Type)	Volume Used (Cubic Metres)
0	0.3	CONCRETE	
0.3	3.4	BENTEAL	
3.4	3.9	SILICA SAND #2	
3.9	7.0	SILICA SAND (PRE-PACKED)	

Water Details

Water found at Depth		Kind of Water
5.5	Metres ☐ Gas	☑ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
	Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
	Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals

Disinfected ☐ Yes ☐ No If no, provide reason:

Date Master Well Completed (yyyy/mm/dd): 2008/08/14

Cluster Information *(Please also fill out the additional Cluster Well Information for Well Construction for each parcel of land and cluster.)*

Total Wells in Cluster: 5
Total Wells on this Property: 5
Please indicate Number of Cluster Well Information Log Sheets Submitted: 4

Location of Well Cluster

Detailed Map must be provided as an attachment no larger than legal size (8.5" x 14"). Sketches are not allowed.
☐ Check box to confirm detailed map is provided as per Section 11.1 (3)

Consent to release additional information concerning the cluster to the Director upon request

[redacted]

Well Contractor and Well Technician Information

Business Name of Well Contractor: Direct Environmental Drilling
Well Contractor's Licence No.: 7320
Business Address (Street No./Name, number, RR): 416 Highview Dr.
Municipality: St. Thomas
Province: ON
Postal Code: N5R6C4
Business E-mail Address: aarmstrong@directenvironmental drilling.com
Bus. Telephone No. (inc. area code): 5198680175
Name of Well Technician (Last Name, First Name): ARMSTRONG, ANDREW
Well Technician's Licence No.: 3446
Signature of Technician:
Date Submitted (yyyy/mm/dd): 2008/08/27

Audit No.: M 03162
Well Contractor No.:
Date Received (yyyy/mm/dd): OCT 06 2008
Date of Inspection (yyyy/mm/dd):
Remarks: C03653

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Ministry of the Environment

Well Tag No. for Master Well *(Print Well Tag No.)*

A075759 A075759

Cluster Well Information for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Page 2 of 4

[redacted]

Cluster Well Information

Address of Well Location (Street Number/Name, RR)	Lot	Concession	Township	County/District/Municipality
335 KING ST.	–	–	–	WELLAND

City/Town/Village	Province	Postal Code	GPS Unit Make	Model	Unit Mode of Operation	
WELLAND	Ontario	L3B3K2	FARLOISS	460	☐ Differentiated, specify:	☐ Undifferentiated ☐ Averaged

upon request

Signature of Technician/Contractor	Date (yyyy/mm/dd)
	2006/09/27

Well # on Sketch	UTM Coordinates Zone	Easting	Northing	Full Depth of Hole (metres)	Hole Diameter (cm)	Method of Construction	Casing Material	Casing Length (metres)	Screen Interval (metres) From	To	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	Date of Completion (yyyy/mm/dd)
MW2	17	564254	4760589	6.1m	10cm	DIRECT PUSH	PLASTIC	3.0	3.0	6.1	BENSEAL	4.9			2006/09/14
MW3	17	564253	4760574	6.1	10cm	DIRECT PUSH	PLASTIC	3.0	3.0	6.1	BENSEAL	4.9			2006/09/14
MW4	17	564253	4760555	6.1	10cm	DIRECT PUSH	PLASTIC	3.0	3.0	6.1	BENSEAL	4.9			2006/09/14
MW5	17	564256	4760544	6.1	10cm	DIRECT PUSH	PLASTIC	3.0	3.0	6.1	BENSEAL	4.9			2006/09/14

Well Contractor and Well Technician Information

Business Name of Well Contractor	Business Address (Street Number/Name, RR)	Municipality	Province
Direct Environmental Drilling	416 Highview Dr	St. Thomas	ON

Postal Code	Business Telephone No. (inc. area code)	Well Contractor's Licence No.	Business E-mail Address
N5R6C4	5198680175	7320	aarmstrong@directenvironmentaldrilling.com

Name of Well Technician (First Name, Last Name)	Well Technician's Licence No.	Date Submitted (yyyy/mm/dd)	Signature of Technician
Andrew Armstrong	3446	2006/09/27	

Date 1st Well in Cluster Constructed (yyyy/mm/dd)	Date Last Well in Cluster Constructed (yyyy/mm/dd)
2006/09/14	2006/09/14

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Date Received (yyyy/mm/dd)	Date Inspected (yyyy/mm/dd)
OCT 3 2006	
Audit No. C 03653	**Remarks** M03162

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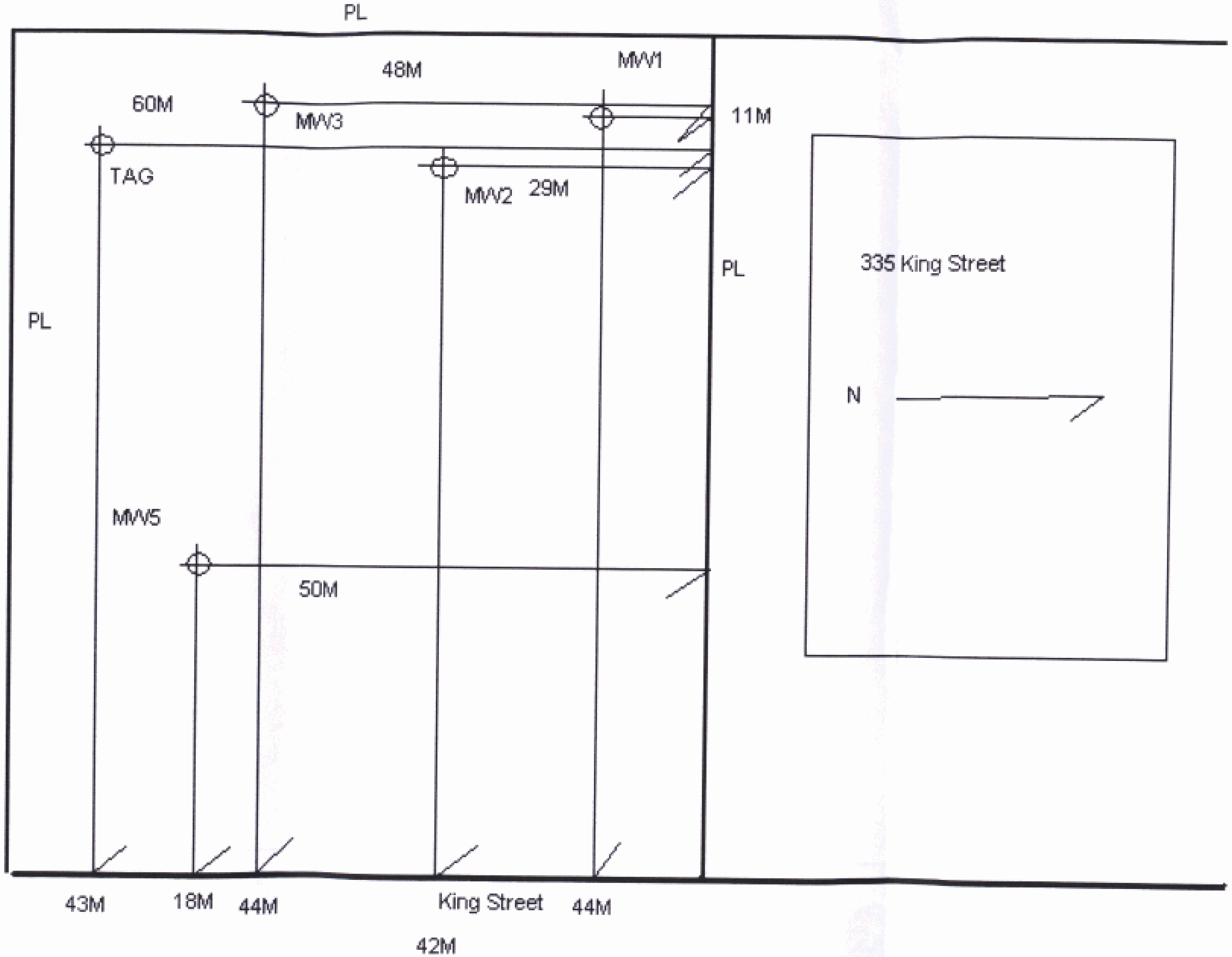


C-7320
M03162
C03653
A075759

OCT 06 2008

Ontario Ministry of the Environment

Measurements recorded in: ☐ Metric ☐ Imperial

Well 1 A 061957 (Print Below) A061957.

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
17 Welland St.	Welland.		

County/District/Municipality	City/Town/Village	Province	Postal Code
17 Welland St.	Welland.	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD	8	3	0643425	4761241.	

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Brn	Fill	Gravel	Loose	0	1-5
Brn	Clay	till	tight.	1-5	4-88
Grey	Clay	Silt	soft / moist.	4-88	6.1

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	0-3	Concrete/Casing.	
0-3	2.44	Grout	
2.44	6-1	Sand.	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☑ Driving ☐ Rotary (Reverse) ☐ Digging ☐ Boring ☐ Air percussion ☐ Other, specify

Well Use

☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☑ Test Hole ☐ Monitoring ☐ Livestock ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
1.25"	Plastic Sch 40		0	3.1

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
.25"	Plastic	10	3.1	6.1

Status of Well

☐ Water Supply ☐ Replacement Well ☑ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, specify ☐ Other, specify

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water: Fresh	Untested	Other, specify
Water found at Depth (m/ft)	Gas	Kind of Water: Fresh	Untested	Other, specify
ter found at Depth (m/ft)	Gas	Kind of Water: Fresh	Untested	Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	6.1	8"

Results of Well Yield Testing

After test of well yield, water was: ☐ Clear and sand free ☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

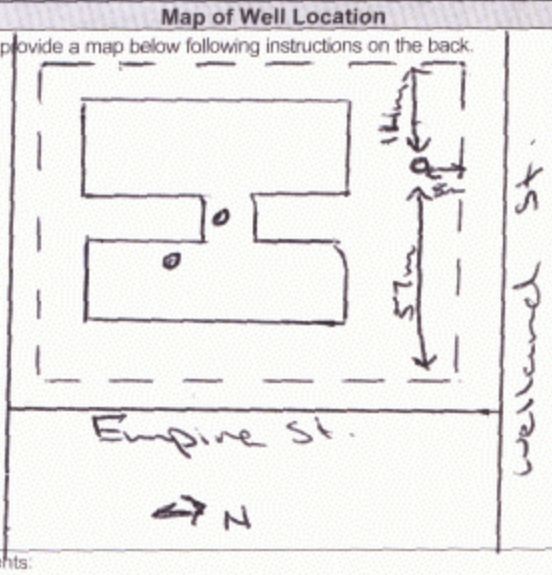
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Name of Well Contractor	Well Contractor's Licence No.
Profile Drilling	7215

Address (Street Number/Name)	Municipality	Postal Code	Business E-mail Address
Norfinch unit 5-8	Toronto	M3N 1Z2	Jason@Profile drilling-com

Name of Well Technician (Last Name, First Name)	Licence No.	Signature of Technician and/or Contractor	Date Submitted
Slacki, Jason.	7218		2008/12/12

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered

Date Work Completed 2008/12/12

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Audit No. Z 92253

JAN 15 2009 Received

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Well Tag Number (Place sticker and print number below) NO TAG

Well Record

Regulation 903 Ontario Water Resources Act

page ___ of ___

Instructions for Completing Form

- For use in the **Province of Ontario** only. This document is a permanent **legal** document. Please retain for future reference.
- All Sections **must** be completed in full to avoid delays in processing. Further instructions and explanations are available on the back of this form.
- Questions regarding completing this application can be directed to the Water Well Management Coordinator at 416-235-6203.
- **All metre measurements shall be reported to 1/10th of a metre.**
- Please print clearly in blue or black ink only.

Ministry Use Only

MUN | CON | LOT

Well Owner's Information and Location of Well Information

[redacted]

RR#/Street Number/Name: Merrit Park | City/Town/Village: Welland | Site/Compartment/Block/Tract etc.:

GPS Reading: NAD 83 | Zone: 17 | Easting: 642513 | Northing: 4761115 | Unit Make/Model: GARMIN. | Mode of Operation: ☐ Undifferentiated ☒ Averaged ☐ Differentiated, specify

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Depth To (Metres)
			ABANDONED.		

Hole Diameter

Depth From (Metres)	Depth To (Metres)	Diameter (Centimetres)
0	25'	6"

Water Record

Water found at Metres	Kind of Water
15'	☐ Fresh ☐ Salty ☐ Gas ☐ Other:
	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas ☐ Other:
	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas ☐ Other:

After test of well yield, water was ☐ Clear and sediment free ☐ Other, specify

Chlorinated ☐ Yes ☐ No

Construction Record

Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Depth To (Metres)
	Casing			
2"	☐ Steel ☐ Fibreglass ☒ Plastic ☐ Concrete ☐ Galvanized	1/4"	0	25'
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	Screen			
Outside diam	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	Slot No.		
	No Casing or Screen			
	☐ Open hole			

Test of Well Yield

Pumping test method	Draw Down Time min	Draw Down Water Level Metres	Recovery Time min	Recovery Water Level Metres
Pump intake set at - (metres)	Static Level			
Pumping rate - (litres/min)	1		1	
Duration of pumping ____hrs +____ min	2		2	
Final water level end of pumping ____metres	3		3	
Recommended pump type. ☐ Shallow ☐ Deep	4		4	
Recommended pump depth. ____ metres	5		5	
Recommended pump rate. (litres/min)	10		10	
	15		15	
If flowing give rate - (litres/min)	20		20	
	25		25	
If pumping discontinued, give reason.	30		30	
	40		40	
	50		50	
	60		60	

Plugging and Sealing Record ☐ Annular space ☒ Abandonment

Depth set at - Metres From	To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
0	3'	BENTONITE CHIPS.	100LB
3'	25'	BENTONITE/PORTLAND SLURRY	6 GALLONS

Method of Construction

☐ Cable Tool ☐ Rotary (air) ☐ Diamond ☐ Digging
☐ Rotary (conventional) ☐ Air percussion ☐ Jetting ☐ Other
☐ Rotary (reverse) ☐ Boring ☐ Driving

Water Use

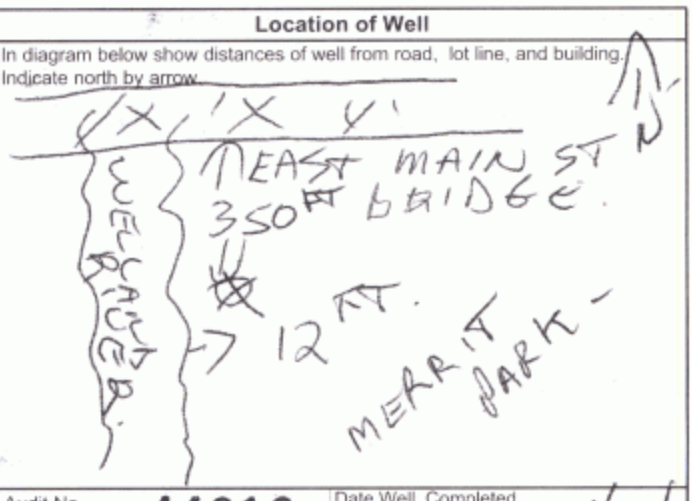
☐ Domestic ☐ Industrial ☐ Public Supply ☐ Other
☐ Stock ☐ Commercial ☐ Not used
☐ Irrigation ☐ Municipal ☐ Cooling & air conditioning

Final Status of Well

☐ Water Supply ☐ Recharge well ☐ Unfinished ☒ Abandoned, (Other)
☐ Observation well ☐ Abandoned, insufficient supply ☐ Dewatering
☐ Test Hole ☐ Abandoned, poor quality ☐ Replacement well

Location of Well

In diagram below show distances of well from road, lot line, and building. Indicate north by arrow.



Well Contractor/Technician Information

Name of Well Contractor: Elite Drilling | Well Contractor's Licence No.: 7003

Business Address (street name, number, city/etc.): 73 York Ave St Catharines On L2R 1T5

Name of Well Technician (last name, first name): Gallo, John | Well Technician's Licence No.: T-2617

Signature of Technician/Contractor: X | Date Submitted: 2009 04 06

Audit No. Z 44913 | Date Well Completed: 2009 04 04 | Was the well owner's information package delivered? ☐ Yes ☐ No | Date Delivered

Ministry Use Only

Data Source | Contractor

Date Received: MAY 0 4 2009 | Date of Inspection

Remarks | Well Record Number

Ontario Ministry of the Environment

A 086435

A086435

Measurements recorded in: ☑ Metric ☐ Imperial

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	CAISSE POPULAIRE WELLAND LIMITED ATTN: [redacted]		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
637 RUE NIAGARA UNITE 1	WELLAND	ONT	L3C1L9	9057353153

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
59 EMPIRE STREET	—	—	—

County/District/Municipality	City/Town/Village	Province	Postal Code
NIAGARA	WELLAND	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 8 3	17	643447	4761460		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	SAND	STONES		0	0.6
BROWN	CLAY	SILT		0.6	2.7
BROWN	CLAY			2.7	4.3
BROWN	CLAY		MOIST	4.3	6.1

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	0.3	CONCRETE	
0.3	2.7	BENTEAL	
2.7	6.1	~~SILICA SAND #2~~ MESH SAND (FILTER)	

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☑ Other, specify DIRECT PUSH

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☑ Municipal ☐ Dewatering
☐ Livestock ☑ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
3.9	PLASTIC	1cm	0.0	3.0

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.9	PLASTIC	.010	3.0	6.1

Status of Well

☐ Water Supply
☐ Replacement Well
☑ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify
☐ Other, specify

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas	Other, specify
N/A	☑ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	6.1	10cm

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

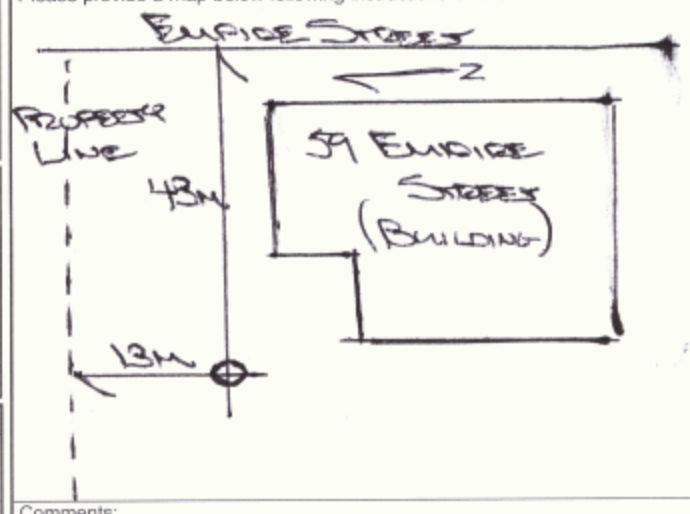
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Direct Environmental Drilling	7320

Business Address (Street Number/Name)	Municipality	Province	Postal Code	Business E-mail Address
37 Shaw Valley Drive	St. Thomas	Ontario	N5R6S9	aarmstrong@directenvironmentaldrilling

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)	Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
5198680175	Andrew Armstrong	3446		20090630

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☑ Yes ☐ No	20090630	20090804

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Audit No. Z099180

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Ontario — the Environment

A 086427

A086427

Measurements recorded in: ☑ Metric ☐ Imp

Regulation 903 Ontario Water Resources Act

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	CAISSE POPULAIRE WELLAND LIMITÉE	[redacted]	

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
637 RUE NIAGARA UNIT 1	WELLAND	ONT	L3C1L9	9057353453

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
59 EMPIRE STREET	—	—	—

County/District/Municipality	City/Town/Village	Province	Postal Code
NIAGARA.	WELLAND	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	643392	4761434		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BLACK	TOPSOIL			0	0.6
BROWN	CLAY	SILT		0.6	2.7
BROWN	CLAY			2.7	4.3
REDISH	CLAY		MOIST	4.3	5.9

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	0.3	CONCRETE	
0.3	2.7	BENSEAL	
2.7	5.9	MOIST SAND (PREPACK)	

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☑ Other, specify DIRECT PUSH

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☑ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
3.8	PLASTIC	1cm	0	2.9

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To
4.8	PLASTIC	.010	2.9	5.9

Status of Well

☐ Water Supply
☐ Replacement Well
☑ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify
☐ Other, specify

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas	Other, specify
N/A	☑ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	5.9	10cm

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

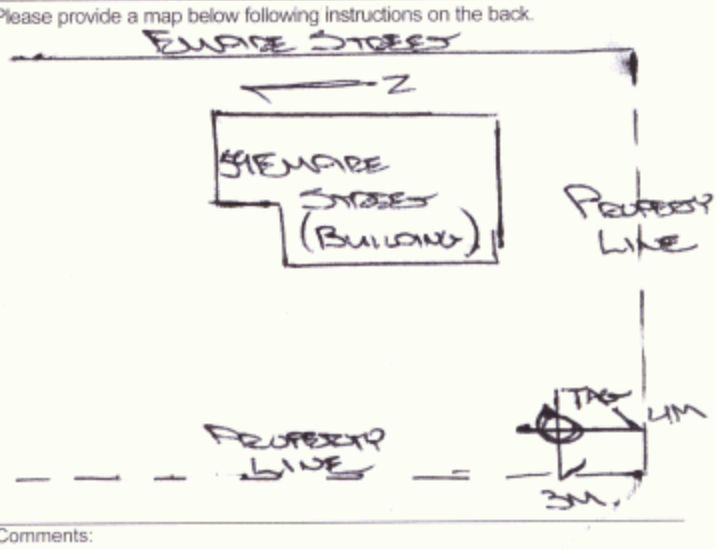
Well production (l/min / GPM)

Disinfected? ☑ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Direct Environmental Drilling	7320

Business Address (Street Number/Name)	Municipality
37 Shaw Valley Drive	St. Thomas

Province	Postal Code	Business E-mail Address
Ontario	N5R6S9	aarmstrong@directenvironmentaldrilling

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
5198680175	Andrew Armstrong

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3446		20090630

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☑ Yes ☐ No	20090630	20090604

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Audit No. Z099179

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Ontario the Environment

A 086463

A086463

Measurements recorded in: ☑ Metric ☐ Imperia

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

First Name: — Last Name / Organization: CAISSE POPULAIRE WELLAND LIMITÉE — [redacted] — ☐ Well Constructed by Well Owner

Mailing Address (Street Number/Name): 637 RUE NIAGARA — Municipality: WELLAND — Province: ONT — Postal Code: L3C1L9 — Telephone No. (inc. area code): 9057355453

Well Location

Address of Well Location (Street Number/Name): 59 EMPIRE STREET — Township: - — Lot: - — Concession: -

County/District/Municipality: NIAGARA — City/Town/Village: WELLAND — Province: Ontario — Postal Code:

UTM Coordinates: NAD 83 — Zone: 17 — Easting: 640344 — Northing: 4761410 — Municipal Plan and Sublot Number: — Other:

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BLACK	TOPSOIL			0	0.6
BROWN	CLAY	SILT		0.6	2.7
BROWN	CLAY			2.7	4.3
REDISH	CLAY		MOIST	4.3	5.9

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	0.3	CONCRETE	
0.3	2.7	BENTONAL	
2.7	5.9	MESH SAND (PRE-PACK)	

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☑ Other, specify DIRECT PUSH

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☑ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
3.0	PLASTIC	1cm	0	2.0

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.0	PLASTIC	.010	2.0	5.9

Status of Well

☐ Water Supply
☐ Replacement Well
☑ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify
☐ Other, specify

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water	Other, specify
N/A	☐	☑ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	5.9	10cm

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ___ hrs + ___ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

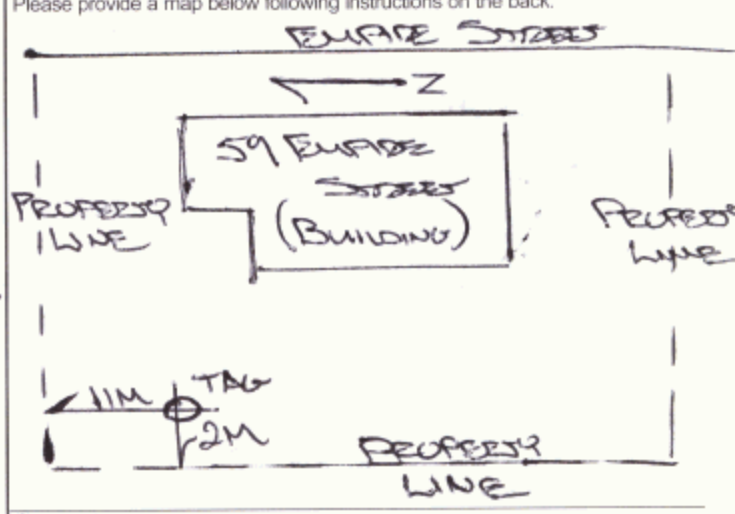
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor: Direct Environmental Drilling — Well Contractor's Licence No.: 7320

Business Address (Street Number/Name): 37 Shaw Valley Drive — Municipality: St. Thomas

Province: Ontario — Postal Code: N5R6S9 — Business E-mail Address: aarmstrong@directenvironmentaldrilling

Bus. Telephone No. (inc. area code): 5198680175 — Name of Well Technician (Last Name, First Name): Andrew Armstrong

Well Technician's Licence No.: 3446 — Signature of Technician and/or Contractor — Date Submitted: 20090630

Well owner's information package delivered: ☑ Yes ☐ No

Date Package Delivered: 20090630

Date Work Completed: 20090604

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Audit No. Z099178

JUL 14 2009 Received

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Barenco 100118 Jan 12/10 [redacted]

Ontario

Ministry of the Environment

Well Tag No. for Master Well *(Place Sticker and/or Print Below)*

A 088168

Master Well Record for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Master Well Owner's and Land Owner's Information

First Name	Last Name	E-mail Address
Imperial Oil		

Mailing Address (Street Number/Name, RR)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
90 Wynford Dr	Toronto	On	M3C1K5	4164417683

Location and Construction of the Master Well in the Cluster

Address of Well Location (Street Number/Name, RR)	Township	Lot	Concession
115 LINCOLN ~~AVE~~ St.	East		

County/District/Municipality	City/Town/Village	Province	Postal Code
	Welland	Ontario	

UTM Coordinates	Zone	Easting	Northing	GPS Unit Make	Model	Mode of Operation:
NAD 83	17	642160	4760496	Magellan	Explorist 100	☐ Undifferentiated ☑ Averaged ☐ Differentiated, specify

Overburden and Bedrock Materials *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (*Metres*) From	To
Brown	Sand	Gravel	loose	0	2.1
Brown	Clay	Grand	stiff	2.1	3.1
Brown	Clay		Plastic	3.1	7.6

Hole Details

Depth (*Metres*) From	To	Diameter (*Centimetres*)
0	7.60	21

Water Use

☐ Public ☐ Industrial ☐ Not used ☐ Other, *specify*
☐ Domestic ☐ Commercial ☐ Dewatering
☐ Livestock ☐ Municipal ☑ Monitoring
☐ Irrigation ☐ Test Hole ☐ Cooling & Air Conditioning

Method of Construction

☐ Cable Tool ☐ Air Percussion ☐ Digging
☐ Rotary (Conventional) ☐ Diamond ☑ Boring
☐ Rotary (Reverse) ☐ Jetting ☐ Other, *specify*
☐ Rotary (Air) ☐ Driving

Status of Well

☑ Test Hole ☐ Abandoned, Insufficient Supply
☐ Replacement Well ☐ Abandoned, Poor Water Quality
☐ Dewatering Well ☐ Other, *specify*
☐ Alteration (Construction) ☐ Abandoned, other, *specify*

Construction Details

Inside Diameter (*Centimetres*)	Material (*steel, plastic, fibreglass, concrete, galvanized*)	Wall Thickness	Depth (*Metres*) From	To
5.1	Plastic	.65	0	7.6

No Casing and Screen Used

Open Hole ☐ Yes ☑ No

Static Water Level Test

Metres

Screen

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Concrete ☐ Plastic

Outside Diameter (*Centimetres*)	Slot No.
6.4	20

Water Details

Water found at Depth	Kind of Water
1.80 Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals

Annular Space/Abandonment Sealing Record

Depth Set at (*Metres*) From	To	Type of Sealant Used (*Material and Type*)	Volume Used (*Cubic Metres*)
0	1.7	Bentonite	

Disinfected ☐ Yes ☐ No If no, provide reason:

Date Master Well Completed *(yyyy/mm/dd)*

Cluster Information *(Please also fill out the additional Cluster Well Information for Well Construction for each parcel of land and cluster.)*

Total Wells in Cluster	Please indicate Number of Cluster Well Information Log Sheets Submitted
2	1
Total Wells on this Property: 2	

Location of Well Cluster

Detailed Map must be provided as an attachment no larger than legal size (8.5" x 14"). Sketches are not allowed.

☑ Check box to confirm detailed map is provided as per Section 11.1 (3)

Consent to release additional information concerning the cluster to the Director upon request

Signature of Technician/Contractor	Date *(yyyy/mm/dd)*
J Ward	2010/01/12

Master Well Owner's/Land Owner's consent to use Cluster Form

Signature	Date *(yyyy/mm/dd)*

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Geo-Environmental	6607

Business Address (Street No./Name, number, RR)	Municipality
340 Market Dr.	Milton

Province	Postal Code	Business E-mail Address
Ont	L9T5Y4	

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
9058763588	Ward Jeremy

Well Technician's Licence No.	Signature of Technician	Date Submitted *(yyyy/mm/dd)*
3108	J Ward	2010/01/12

Ministry Use Only

Audit No.	Well Contractor No.
M 06459	
Date Received *(yyyy/mm/dd)* FEB 25 2010	Date of Inspection *(yyyy/mm/dd)*
Remarks	

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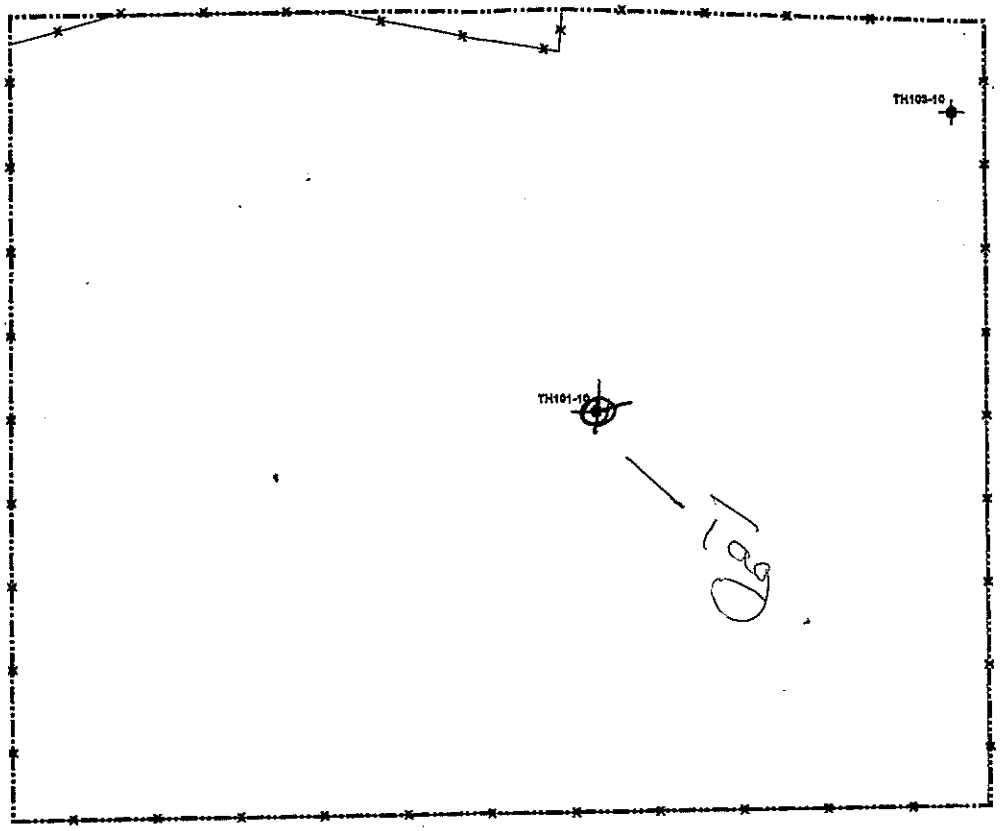

N

SCALE:

0 30m

(APPROXIMATE)

SOURCE:

BASED ON SURVEY PLAN BY P.D. REITSMA SURVEYING (2005) LTD SEPT. 17, 2007

LEGEND:

PROPERTY BOUNDARY

FENCE

TEST HOLE WITH MONITOR

Tagged Well

BARENCO	DRAWN BY	CHECKED BY
	C.D.	T.P.

92196-SITE PLAN-FEB10

SITE PLAN

FIGURE 2

IMPERIAL OIL
115 LINCOLN STREET
WELLAND, ONTARIO

BARENCO JOB NUMBER: 92196 | DATE: FEBRUARY 2010

FEB 25 2010

Ontario Ministry of the Environment

Well Tag No. for Master Well *(Print Well Tag No.)*
A 088168

Cluster Well Information for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Property Owner's Information

First Name	Last Name	Mailing Address (Street No./Name, RR)	Municipality
Imperial Oil		90 Winford Dr	Toronto

Province	Postal Code	E-mail Address	Telephone No. (inc. area code)
On	M3R1K5		4164417683

[redacted]

upon request

Cluster Well Information

Address of Well Location (Street Number/Name, RR)	Lot	Concession	Township	County/District/Municipality
115 Lincoln St. East				

City/Town/Village	Province	Postal Code	GPS Unit Make	Model	Unit Mode of Operation
Welland	Ontario		Magellan	Explorist 400	☐ Undifferentiated ☑ Averaged ☐ Differentiated, specify:

Signature of Technician/Contractor	Date *(yyyy/mm/dd)*
J.Ward	2010/01/12

Well # on Sketch	UTM Coordinates Zone	Easting	Northing	Full Depth of Hole (metres)	Hole Diameter (cm)	Method of Construction	Casing Material	Casing Length (metres)	Screen Interval (metres) From	Screen Interval (metres) To	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	Date of Completion *(yyyy/mm/dd)*
103-10	17	642114	7604158	7.6	21	Boring	Plastic	1.7	1.7	7.6					2010/01/12

Well Contractor and Well Technician Information

Business Name of Well Contractor	Business Address (Street Number/Name, RR)	Municipality	Province
Geo-Environmental	340 Market Dr	Milton	Ont

Postal Code	Business Telephone No. *(inc. area code)*	Well Contractor's Licence No.	Business E-mail Address
L9T5A4	9058763388	6607	

Name of Well Technician (First Name, Last Name)	Well Technician's Licence No.	Date Submitted *(yyyy/mm/dd)*	Signature of Technician
Jeremy Ward	3108	2010/01/12	J.Ward

Date 1st Well in Cluster Constructed *(yyyy/mm/dd)*	Date Last Well in Cluster Constructed *(yyyy/mm/dd)*
2010/01/12	2010/01/12

Ministry Use Only

Date Received *(yyyy/mm/dd)*	Date Inspected *(yyyy/mm/dd)*
FEB 2 R 2010	
Audit No. C07224	Remarks 006459

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Ontario — Ministry of the Environment

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. (Place Sticker and/or Print Below): A105611 (A 105611)

Well Record

Regulation 903 Ontario Water Resources Act

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
6605192 Canada Inc.	Attn: M [redacted]		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
#11 - 445 Edgeley Blvd.	Concord	Ontario	L4K4G1	9057388026

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
180 Fitch St			

County/District/Municipality	City/Town/Village	Province	Postal Code
R.M. of Niagara	Welland	Ontario	L3C4V8

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	641480	4761686		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Brown	Sand	silt, stones	Silty sand and gravel fill	0	2.5
Brown	clay	silt, stones	Silty clay till	2.5	5.18

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	1.83m	Bentonite	0.028 m^3

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☑ Driving ☐ Boring ☐ Digging ☐ Air percussion ☐ Other, *specify*

Well Use

☐ Public ☐ Commercial ☑ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☑ Test Hole ☐ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, *specify*

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
5	P.V.C.	sch 40	0	2.13

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6	P.V.C.	10	2.13	5.18

Status of Well

☐ Water Supply ☐ Replacement Well ☑ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, *specify* ☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas	Other, specify
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	5.18	15.24cm

Results of Well Yield Testing

After test of well yield, water was: ☐ Clear and sand free ☐ Other, *specify*

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.

Map of well location is attached, Page 2 of 2.

Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Itech Precision Drilling Inc.	7464

Business Address (Street Number/Name)	Municipality
60 Pearinery Rd Burford	Brant County

Province	Postal Code	Business E-mail Address
Ontario	N0E1A0	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
5197704402	Hall, Jim

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3405	J. Hall	2010/12/09

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered: YYYY MM DD

Date Work Completed: 2010 MM DD

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2 of 2

180 Fitch St.
Welland Ontario
Well Tag #
A 105611

C-7469
212628

DEC 15 2010

Ontario — Ministry of the Environment

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. (Place Sticker and/or Print Below): Tag#: A125601 A125601

S-12668

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
Suncor Energy	Products Partnership		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
3275 Rebecca St.	Oakville	On	L6L6N5	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
383 King St.			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Welland	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	642586	4760486		

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Black	Asphalt		Soft	0	.25'
Brown	Sand	Gravel	Soft, loose	.25	10'
Brown	Silt	Clay	Soft	10'	30'

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	1	Concrete	
1	19	Bentonite	
19	30	Silica Sand	

Method of Construction

☐ Cable Tool ☐ Diamond
☒ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, specify Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☒ Test Hole ☒ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
2"	PVC	.125	0	20'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
2.25	PVC	10	20'	30'

Status of Well

☐ Water Supply
☐ Replacement Well
☒ Test Hole
☐ Recharge Well
☐ Dewatering Well
☒ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify
☐ Other, specify

Water Details

Water found at Depth (m/ft)	Kind of Water	Hole Diameter Depth From	Depth To	Diameter (cm/in)
☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify	0	30	4.5"
☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify			
☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify			

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

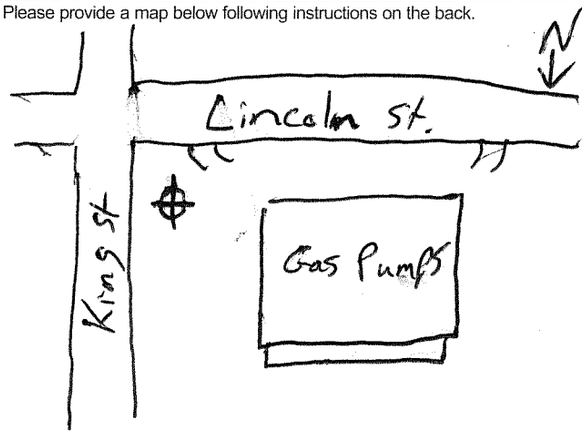
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments: 3m west of King St. 3m North of Lincoln St

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling Inc.	7241

Business Address (Street Number/Name)	Municipality
147-2 West Beaver Creek Road	Richmond Hill

Province	Postal Code	Business E-mail Address
Ontario	L4B 1C6	wrecords@stratasoil.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
905-764-9304	Eric Langdon

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3617	Eric Langdon	2012/06/29

Well owner's information package delivered: ☐ Yes ☐ No

Date Package Delivered: YYYY MM DD

Date Work Completed: 2012/06/10

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Well Tag No. *(Place Sticker and/or Print Below)*

Tag#: A125619 A125619

5-12668

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☑ Metric ☐ Imperial

Page _____ of _____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
Suncor Energy	Products Partnership		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
3275 Rebecca st.	Oakville	On	L6L4	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
383 King st.			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Welland	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	649586	4760486		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Black	Asphalt		Soft	0	.1
brown	sand	gravel	Soft	.1	3
brown	silt	clay	Soft	3	4.3

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used *(Material and Type)*	Volume Placed (m^3/ft^3)
0	.31	Concrete	
.31	1	Bentonite	
1	4.3	Silica Sand	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Boring ☐ Digging ☐ Air percussion ☒ Other, *specify* Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☒ Test Hole ☐ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter *(cm/in)*	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness *(cm/in)*	Depth (m/ft) From	Depth (m/ft) To
5.20	Puc	.45	0	1.3

Construction Record - Screen

Outside Diameter *(cm/in)*	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6.10	Puc	10	1.3	4.3

Status of Well

☐ Water Supply ☐ Replacement Well ☒ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, *specify* ☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter *(cm/in)*
0	4.3	20

Results of Well Yield Testing

After test of well yield, water was: ☐ Clear and sand free ☐ Other, *specify* _____

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping _____ hrs + _____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

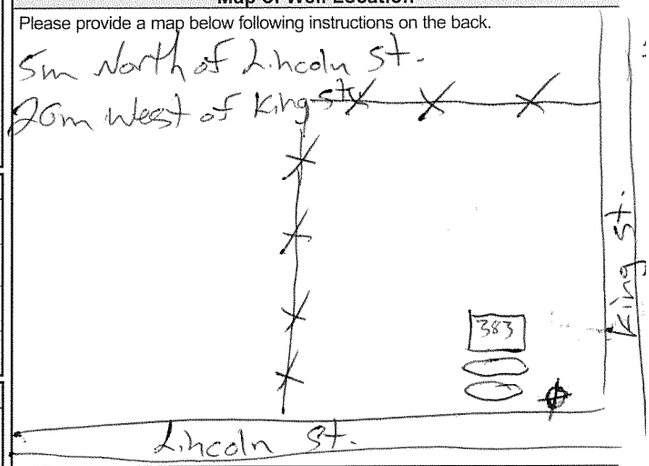
Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling Inc.	7241

Business Address (Street Number/Name)	Municipality
147-2 West Beaver Creek Road	Richmond Hill

Province	Postal Code	Business E-mail Address
Ontario	L4B 1C6	wrecords@stratasoil.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
905-764-9304	Eric Langdon

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
5617		2012/06/28

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☒ No		2012/06/13

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Audit No. Z151067

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Ontario Ministry of the Environment

Measurements recorded in: ☐ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)*
Tag#: A125618 A125618

S-12668

Well Record

Regulation 903 Ontario Water Resources Act

Page ______ of ______

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
Suncor Energy Products Partnership			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
3275 Rebecca st.	Oakville	On	L6L	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
383 King st.			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Welland	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	642596	4760486		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth *(m/ft)* From	To
black	Asphalt		soft	0	.1
brown	sand		soft	.1	1
brown	silt	clay	soft	1	9

Annular Space

Depth Set at *(m/ft)* From	To	Type of Sealant Used *(Material and Type)*	Volume Placed *(m³/ft³)*
0	.31	Concrete	
.31	5.7	Bentonite	
5.7	9	Silica Sand	

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify ______

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping
_____ hrs + _____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

Well production *(l/min / GPM)*

Disinfected?
☐ Yes ☐ No

Draw Down Time *(min)*	Water Level *(m/ft)*	Recovery Time *(min)*	Water Level *(m/ft)*
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☒ Other, *specify* Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☒ Test Hole ☒ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify* ______

Construction Record - Casing

Inside Diameter *(cm/in)*	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness *(cm/in)*	Depth *(m/ft)* From	To
5.20	PVC	.45	0	6

Construction Record - Screen

Outside Diameter *(cm/in)*	Material (Plastic, Galvanized, Steel)	Slot No.	Depth *(m/ft)* From	To
6.10	PVC	10	6	9

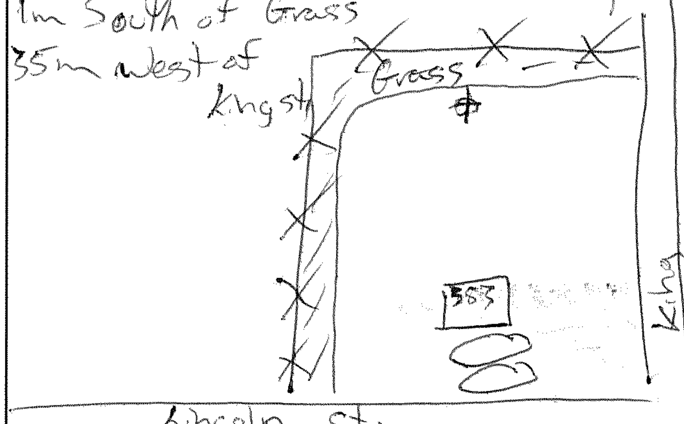
Status of Well

☐ Water Supply
☐ Replacement Well
☒ Test Hole
☐ Recharge Well
☐ Dewatering Well
☒ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Map of Well Location

Please provide a map below following instructions on the back.

1m South of Grass
35m West of King st.



Comments:

Water Details

Water found at Depth	Kind of Water
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*

Hole Diameter

Depth *(m/ft)* From	To	Diameter *(cm/in)*
0	9	~~8.3~~ 10.9

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling Inc.	7241

Business Address (Street Number/Name)	Municipality
147-2 West Beaver Creek Road	Richmond Hill

Province	Postal Code	Business E-mail Address
Ontario	L4B 1C6	wrecords@stratasoil.com

Bus.Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
905-764-9304	Eric Langdon

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3611	[signature]	2012 06 28

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☒ No	YYYY MM DD	2012 06 13

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Received JUL 06 2012

Ontario — Ministry of the Environment

Well Tag No. *(Place Sticker and/or Print Below)* **Tag#: A128293** A128293

S-12668

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☑ Metric ☐ Imperial

Page _____ of _____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
Suncor Energy	Products Partnership		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
3275 Rebecca St.	Oakville	On	L6L6N5	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
383 King st.			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Welland	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	642586	4760484		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
black	Asphalt		Soft	0	.1
brown	Sand	gravel	Soft, loose	.1	3.5
brown	Silt	clay	Soft	3.5	4.3

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	-.3	Concrete	
.3	1	Bentonite	
1	4.3	Silica Sand	

Method of Construction

☐ Cable Tool ☐ Diamond
☒ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify* Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☒ Test Hole ☒ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify*

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
5.70	PVC	.145	0	1.3

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6.10	PVC	10	1.3	4.3

Status of Well

☐ Water Supply
☐ Replacement Well
☒ Test Hole
☐ Recharge Well
☐ Dewatering Well
☒ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water: Fresh	Untested	Other, *specify*
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	4.3	20

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling Inc.	7241

Business Address (Street Number/Name)	Municipality
147-2 West Beaver Creek Road	Richmond Hill

Province	Postal Code	Business E-mail Address
Ontario	L4B 1C6	wrecords@stratasoil.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
905-764-9304	Eric Langdon

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
5617		2012/06/26

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify*

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping _____ hrs + _____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

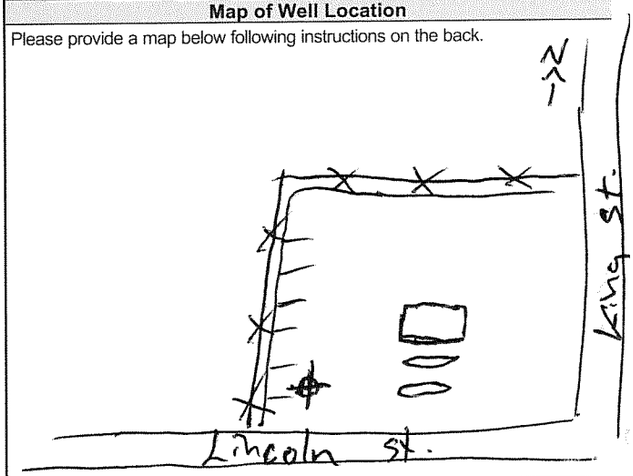
Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments: 7m North of Lincoln
5m East of fence.

Well owner's information package delivered ☐ Yes ☒ No

Date Package Delivered: Y Y Y Y M M D D

Date Work Completed: 2012 06 11

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Audit No. Z151063

Received JUL 06 2012

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Well Tag No. (Place Sticker and/or Print Below): A 063307 AC63307

S-12668

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☐ Metric ☑ Imperial

Page _____ of _____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
Suncor Energy	Products Partnership		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
3275 Rebecca St.	Oakville	On	L6LGN5	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
383 King St.			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Welland	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	642586	4760486		

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Black	Asphalt		Soft	0	.25'
Brown	Sand	Gravel	Soft, loose	.25'	10'
Brown	Silt	Clay	Soft	10'	27.5

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	1	Concrete	
1	16.5	Bentonite	
16.5	27.5	Silca Sand	

Method of Construction

☐ Cable Tool ☐ Diamond
☒ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, specify Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☒ Test Hole ☒ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
2"	PVC	.125	0	17.5'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
2.25	PVC	10	17.5'	27.5'

Status of Well

☐ Water Supply
☐ Replacement Well
☒ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify
☐ Other, specify

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas	Other, specify
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	27.5'	4.5"

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping _____ hrs + _____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

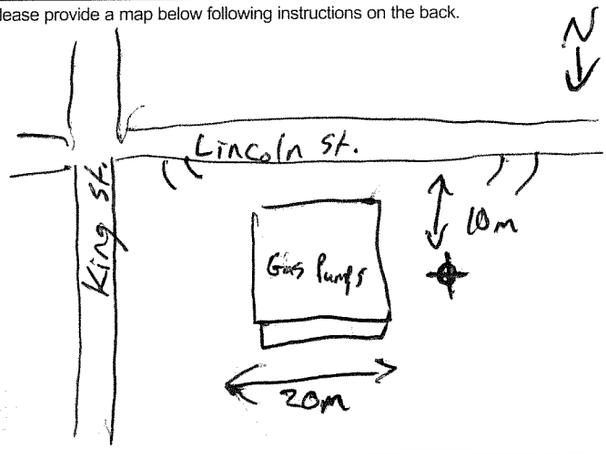
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling Inc.	7241

Business Address (Street Number/Name)	Municipality	Province	Postal Code	Business E-mail Address
147-2 West Beaver Creek Road	Richmond Hill	Ontario	L4B 1C6	wrecords@stratasoil.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)	Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
905-764-9304	Eric Langdon	3617	Eric Langdon	2012/06/25

Well owner's information package delivered: ☐ Yes ☒ No

Date Package Delivered: Y Y Y Y M M D D

Date Work Completed: 2012/06/12

Ministry Use Only

Audit No. Z 151065

Received JUL 06 2012

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Ministry's Copy

Ontario — Ministry of the Environment

Measurements recorded in: ☒ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* **A 097743** A097743

S-12668

Well Record

Regulation 903 Ontario Water Resources Act

Page _____ of _____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
Suncor Energy	Products Partnership		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
3275 Rebecca st.	Oakville	On	L6L6M5	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
383 King st.			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Welland	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	640358	4761948		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
black	Asphalt		soft	0	.1
grey	gravel		loose	.1	3
brown	silt	clay	soft	3	4.3

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used *(Material and Type)*	Volume Placed (m^3/ft^3)
0	.31	Concrete	
.31	1	Bentonite	
1	4.3	Silica Sand	

Method of Construction

☐ Cable Tool ☐ Diamond
☒ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify* _____

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☒ Test Hole ☒ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter *(cm/in)*	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness *(cm/in)*	Depth (m/ft) From	Depth (m/ft) To
5.20	PVC	.145	0	1.3

Construction Record - Screen

Outside Diameter *(cm/in)*	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6.10	PVC	10	1.3	4.3

Status of Well

☐ Water Supply
☐ Replacement Well
☒ Test Hole
☐ Recharge Well
☐ Dewatering Well
☒ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter *(cm/in)*
0	4.3	20

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling Inc	7241

Business Address (Street Number/Name)	Municipality	Province	Postal Code
472 West Beaver Creek Rd	Richmond Hill	On	L4B1C6

Business E-mail Address	Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
wrecords@stratasoil.com	9057649304	Eric Langdon

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
5617		2012/06/29

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify* _____

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping _____ hrs + _____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

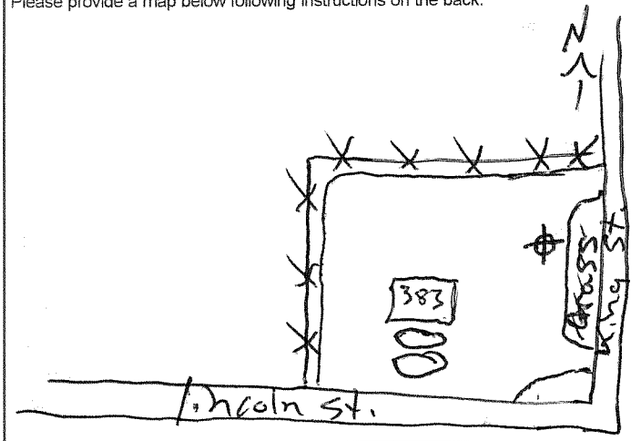
Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

	Draw Down Time *(min)*	Draw Down Water Level *(m/ft)*	Recovery Time *(min)*	Recovery Water Level *(m/ft)*
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments: 26m South of N&L
2m west of Grass

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No		2012/06/11

Ministry Use Only

Audit No. z133315

JUL 06 2012 Received

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7225435
Well Audit Number: *Z193130*
Well Tag Number:

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	383 KING STREET
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642524.00 Northing: 4760511.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	30 ft	GROUT	

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Abandoned-Other

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	20 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	20 ft	30 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production

Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	30 ft	2.25 inch

Audit Number: Z193130

Date Well Completed: July 09, 2014

Date Well Record Received by MOE: August 13, 2014

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7225436
Well Audit Number: *Z193133*
Well Tag Number:

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	383 KING STREET
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642510.00 Northing: 4760513.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	14 ft	GROUT	

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Abandoned-Other

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	4 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	4 ft	14 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production

Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	14 ft	2.25 inch

Audit Number: Z193133

Date Well Completed: July 09, 2014

Date Well Record Received by MOE: August 13, 2014

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7225437
Well Audit Number: *Z193129*
Well Tag Number:

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	383 KING STREET
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642560.00 Northing: 4760512.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	25 ft	GROUT	

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Abandoned-Other

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	15 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	15 ft	25 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production

Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	25 ft	2.25 inch

Audit Number: Z193129

Date Well Completed: July 09, 2014

Date Well Record Received by MOE: August 13, 2014

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7225438
Well Audit Number: *Z193128*
Well Tag Number:

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	383 KING STREET
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642572.00 Northing: 4760478.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	14 ft	GROUT	

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Abandoned-Other

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	4 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	4 ft	14 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production

Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	14 ft	2.25 inch

Audit Number: Z193128

Date Well Completed: July 09, 2014

Date Well Record Received by MOE: August 13, 2014

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7225439
Well Audit Number: *Z193132*
Well Tag Number:

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	383 KING STREET
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642521.00 Northing: 4760485.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	15 ft	GROUT	

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Abandoned-Other

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	5 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	5 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production

Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	15 ft	2.25 inch

Audit Number: Z193132

Date Well Completed: February 09, 2014

Date Well Record Received by MOE: August 13, 2014

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7233988
Well Audit Number: *Z193597*
Well Tag Number: *A169528*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	3 CROSS ST
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642861.00 Northing: 4761783.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	CLAY			0 ft	14 ft
GREY	CLAY			14 ft	20 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	3 ft	CONCRETE	
3 ft	8 ft	BENTONITE GROUT	

Method of Construction & Well Use

Method of Construction	Well Use
Boring	
	Monitoring

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	10 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.4 inch	PLASTIC	10 ft	20 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 6370

Results of Well Yield Testing

After test of well yield, water was	
If pumping discontinued, give reason	
Pump intake set at	
Pumping Rate	
Duration of Pumping	
Final water level	
If flowing give rate	
Recommended pump depth	
Recommended pump rate	
Well Production	
Disinfected?	N

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind
14 ft	Untested

Hole Diameter

Depth From	Depth To	Diameter
0 ft	20 ft	8 inch

Audit Number: Z193597

Date Well Completed: November 28, 2012

Date Well Record Received by MOE: December 16, 2014

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7233989
Well Audit Number: *Z193596*
Well Tag Number: *A169527*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	4 CROSS ST
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642869.00 Northing: 4761799.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	CLAY			0 ft	14 ft
GREY	CLAY			14 ft	20 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	3 ft	CONCRETE	
3 ft	8 ft	BENTONITE GROUT	

Method of Construction & Well Use

Method of Construction	Well Use
Boring	
	Monitoring

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	10 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.4 inch	PLASTIC	10 ft	20 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 6370

Results of Well Yield Testing

After test of well yield, water was	
If pumping discontinued, give reason	
Pump intake set at	
Pumping Rate	
Duration of Pumping	
Final water level	
If flowing give rate	
Recommended pump depth	
Recommended pump rate	
Well Production	
Disinfected?	N

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind
14 ft	Untested

Hole Diameter

Depth From	Depth To	Diameter
0 ft	20 ft	8 inch

Audit Number: Z193596

Date Well Completed: November 28, 2012

Date Well Record Received by MOE: December 16, 2014

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7233990
Well Audit Number: *Z193595*
Well Tag Number: *A169526*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	4 CROSS ST
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642873.00 Northing: 4761802.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	CLAY			0 ft	14 ft
GREY	CLAY			14 ft	20 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	3 ft	CONCRETE	
3 ft	8 ft	BENTONITE GROUT	

Method of Construction & Well Use

Method of Construction	Well Use
Boring	
	Monitoring

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	10 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.4 inch	PLASTIC	10 ft	20 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 6370

Results of Well Yield Testing

After test of well yield, water was	
If pumping discontinued, give reason	
Pump intake set at	
Pumping Rate	
Duration of Pumping	
Final water level	
If flowing give rate	
Recommended pump depth	
Recommended pump rate	
Well Production	
Disinfected?	N

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind
14 ft	Untested

Hole Diameter

Depth From	Depth To	Diameter

Audit Number: Z193595

Date Well Completed: November 28, 2012

Date Well Record Received by MOE: December 16, 2014

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7233991
Well Audit Number: *Z193594*
Well Tag Number: *A169525*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	4 CROSS ST
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642883.00 Northing: 4761811.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	CLAY			0 ft	14 ft
GREY	CLAY			14 ft	20 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	3 ft	CONCRETE	
3 ft	13 ft	BENTONITE GROUT	

Method of Construction & Well Use

Method of Construction	Well Use
Boring	
	Monitoring

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	15 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.4 inch	PLASTIC	15 ft	20 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 6370

Results of Well Yield Testing

After test of well yield, water was	
If pumping discontinued, give reason	
Pump intake set at	
Pumping Rate	
Duration of Pumping	
Final water level	
If flowing give rate	
Recommended pump depth	
Recommended pump rate	
Well Production	
Disinfected?	N

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind
14 ft	Untested

Hole Diameter

Depth From	Depth To	Diameter
0 ft	20 ft	8 inch

Audit Number: Z193594

Date Well Completed: November 28, 2012

Date Well Record Received by MOE: December 16, 2014

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7233992
Well Audit Number: *Z193593*
Well Tag Number: *A169524*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	4 CROSS ST
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642894.00 Northing: 4761817.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	CLAY			0 ft	14 ft
GREY	CLAY			14 ft	20 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	3 ft	CONCRETE	
3 ft	13 ft	BENTONITE GROUT	

Method of Construction & Well Use

Method of Construction	Well Use
Boring	
	Monitoring

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	15 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.4 inch	PLASTIC	15 ft	20 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 6370

Results of Well Yield Testing

After test of well yield, water was	
If pumping discontinued, give reason	
Pump intake set at	
Pumping Rate	
Duration of Pumping	
Final water level	
If flowing give rate	
Recommended pump depth	
Recommended pump rate	
Well Production	
Disinfected?	N

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind
14 ft	Untested

Hole Diameter

Depth From	Depth To	Diameter
0 ft	20 ft	8 inch

Audit Number: Z193593

Date Well Completed: November 28, 2012

Date Well Record Received by MOE: December 16, 2014

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7233993
Well Audit Number: *Z193592*
Well Tag Number: *A169523*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	4 CROSS ST
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642982.00 Northing: 4761828.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	CLAY			0 ft	14 ft
GREY	CLAY			14 ft	20 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	3 ft	CONCRETE	
3 ft	12 ft	BENTONITE GROUT	

Method of Construction & Well Use

Method of Construction	Well Use
Boring	
	Monitoring

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	15 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.4 inch	PLASTIC	15 ft	20 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 6370

Results of Well Yield Testing

After test of well yield, water was	
If pumping discontinued, give reason	
Pump intake set at	
Pumping Rate	
Duration of Pumping	
Final water level	
If flowing give rate	
Recommended pump depth	
Recommended pump rate	
Well Production	
Disinfected?	N

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind
14 ft	Untested

Hole Diameter

Depth From	Depth To	Diameter
0 ft	20 ft	8 inch

Audit Number: Z193592

Date Well Completed: November 28, 2012

Date Well Record Received by MOE: December 16, 2014

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7233994
Well Audit Number: *Z193591*
Well Tag Number: *A169522*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	4 CROSS ST
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642989.00 Northing: 4761821.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	CLAY			0 ft	14 ft
GREY	CLAY			14 ft	20 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	3 ft	CONCRETE	
3 ft	8 ft	BENTONITE GROUT	

Method of Construction & Well Use

Method of Construction	Well Use
Boring	
	Monitoring

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	10 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.4 inch	PLASTIC	10 ft	20 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 6370

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate

Well Production	
Disinfected?	N

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind
14 ft	Untested

Hole Diameter

Depth From	Depth To	Diameter
0 ft	20 ft	8 inch

Audit Number: Z193591

Date Well Completed: November 28, 2012

Date Well Record Received by MOE: December 16, 2014

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7233995
Well Audit Number: *Z193590*
Well Tag Number: *A169521*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	4 CROSS ST
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642971.00 Northing: 4761831.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	CLAY			0 ft	14 ft
GREY	CLAY			14 ft	20 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	3 ft	CONCRETE	
3 ft	8 ft	BENTONITE GROUT	

Method of Construction & Well Use

Method of Construction	Well Use
Boring	
	Monitoring

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	10 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.4 inch	PLASTIC	10 ft	20 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 6370

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate

Well Production	
Disinfected?	N

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind
14 ft	Untested

Hole Diameter

Depth From	Depth To	Diameter
0 ft	20 ft	8 inch

Audit Number: Z193590

Date Well Completed: November 28, 2012

Date Well Record Received by MOE: December 16, 2014

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7238334
Well Audit Number: *Z203419*
Well Tag Number: *A169521*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	4 CROSS ST
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	WELLAND
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642971.00 Northing: 4761831.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
20 ft	1 ft	BENTONITE	

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7215

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind
14 ft	Untested

Hole Diameter

Depth From	Depth To	Diameter
6 ft	0 ft	9 inch
20 ft	6 ft	2 inch

Audit Number: Z203419

Date Well Completed: November 13, 2014

Date Well Record Received by MOE: March 16, 2015

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7238335
Well Audit Number: *Z203418*
Well Tag Number: *A169522*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	4 CROSS ST
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	WELLAND
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642989.00 Northing: 4761821.00
Municipal Plan and Sublot Number	

Other

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
20 ft	1 ft	BENTONITE	

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Abandoned-Other

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7215

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	

40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind
14 ft	Untested

Hole Diameter

Depth From	Depth To	Diameter
6 ft	0 ft	9 inch
20 ft	6 ft	2 inch

Audit Number: Z203418

Date Well Completed: November 13, 2014

Date Well Record Received by MOE: March 16, 2015

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7238336
Well Audit Number: *Z203417*
Well Tag Number: *A169520*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	4 CROSS ST
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	WELLAND
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642941.00 Northing: 4761839.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
20 ft	1 ft	BENTONITE	

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Abandoned-Other

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7215

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind
14 ft	Untested

Hole Diameter

Depth From	Depth To	Diameter
6 ft	0 ft	9 inch
20 ft	6 ft	2 inch

Audit Number: Z203417

Date Well Completed: November 13, 2014

Date Well Record Received by MOE: March 16, 2015

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7243140
Well Audit Number: *C29185*
Well Tag Number: *A174542*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 643282.00 Northing: 4761553.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7464

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter

Audit Number: C29185

Date Well Completed: March 13, 2015

Date Well Record Received by MOE: June 16, 2015

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7258218
Well Audit Number: *C30414*
Well Tag Number: *A191997*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 643018.00 Northing: 4761482.00
Municipal Plan and Sublot Number	

Other

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7464

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	

60 60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter

Audit Number: C30414

Date Well Completed: November 06, 2015

Date Well Record Received by MOE: February 23, 2016

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7261583
Well Audit Number: *Z227289*
Well Tag Number: *A200300*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	15 EMPIRE ST.
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	WELLAND
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 643416.00 Northing: 4761535.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	FILL	----		0 ft	4 ft
BRWN	CLAY			4 ft	25 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
8 ft	0 ft	CEMENT/CASING	
14 ft	8 ft	BENTONITE	
25 ft	14 ft	SILICA SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.) BORING	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
1.25 inch	PLASTIC	15 ft	0 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
1.25 inch	PLASTIC	25 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7320

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth

Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind
	Untested

Hole Diameter

Depth From	Depth To	Diameter
25 ft	0 ft	3.25 inch

Audit Number: Z227289

Date Well Completed: March 03, 2016

Date Well Record Received by MOE: April 19, 2016

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7261584
Well Audit Number: *Z223739*
Well Tag Number: *A200301*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	15 EMPIRE ST.
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	WELLAND
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 643427.00 Northing: 4761537.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	FILL			0 ft	3 ft
BRWN	CLAY			3 ft	25 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
8 ft	0 ft	CEMENT/CASING	
14 ft	8 ft	BENTONITE	
25 ft	14 ft	SILICA SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.) BORING	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
1.25 inch	PLASTIC	15 ft	0 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
1.25 inch	PLASTIC	25 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7320

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth

Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind
	Untested

Hole Diameter

Depth From	Depth To	Diameter
25 ft	0 ft	3.25 inch

Audit Number: Z223739

Date Well Completed: March 03, 2016

Date Well Record Received by MOE: April 19, 2016

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7261585
Well Audit Number: *Z227197*
Well Tag Number: *A200302*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	15 EMPIRE ST.
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	WELLAND
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 643426.00 Northing: 4761551.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	FILL			0 ft	4 ft
BRWN	CLAY			4 ft	25 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
8 ft	0 ft	CEMENT/CASING	
14 ft	8 ft	BENTONITE	
25 ft	14 ft	SILICA SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.) BORING	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
1.25 inch	PLASTIC	15 ft	0 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
1.25 inch	PLASTIC	25 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7320

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth

Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind
	Untested

Hole Diameter

Depth From	Depth To	Diameter
25 ft	0 ft	3.25 inch

Audit Number: Z227197

Date Well Completed: March 03, 2016

Date Well Record Received by MOE: April 19, 2016

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7269972
Well Audit Number: *Z235321*
Well Tag Number: *A206047*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	228 MAIN STREET
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 643133.00 Northing: 4761538.00
Municipal Plan and Sublot Number	

Other

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
GREY	CLAY			0 ft	

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	4 ft	BENTONITE	
4 ft	15 ft	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Direct Push	
	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
1.25 inch	PLASTIC	0 ft	5 ft

Construction Record - Screen

Outside	Material	Depth	Depth

Diameter		From	To
1.5 inch	PLASTIC	5 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	

30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	15 ft	2.25 inch

Audit Number: Z235321

Date Well Completed: July 28, 2016

Date Well Record Received by MOE: August 24, 2016

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7269973
Well Audit Number: *Z235315*
Well Tag Number: *A205752*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	228 MAIN STREET
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 643107.00 Northing: 4761548.00
Municipal Plan and Sublot Number	

Other

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BLCK				0 ft	.5 ft
BRWN	SAND	GRVL	LOOS	.5 ft	1.5 ft
BRWN	CLAY	SILT	LOOS	1.5 ft	12 ft
GREY	CLAY	SILT	LOOS	12 ft	20 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	.5 ft	CONCRETE	
.5 ft	9 ft	BENTONITE	
9 ft	20 ft	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Direct Push	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	10 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	10 ft	20 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	

15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	20 ft	6 inch

Audit Number: Z235315

Date Well Completed: July 29, 2016

Date Well Record Received by MOE: August 24, 2016

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7272859
Well Audit Number: *Z220729*
Well Tag Number: *A136378*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642838.00 Northing: 4761564.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
GREY	GRVL			0 ft	2.5 ft
BRWN	CLAY	SLTY		2.5 ft	15 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	4 ft	BENTONITE CHIPS	
4 ft	15 ft	#3 WELL GRAVEL	

Method of Construction & Well Use

Method of Construction	Well Use
Auger	
	Monitoring

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	OTHER	0 ft	5 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.5 inch	OTHER	10 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7484

Results of Well Yield Testing

After test of well yield, water was	
If pumping discontinued, give reason	
Pump intake set at	
Pumping Rate	
Duration of Pumping	
Final water level	
If flowing give rate	
Recommended pump depth	
Recommended pump rate	
Well Production	
Disinfected?	N

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind
7 ft	

Hole Diameter

Depth From	Depth To	Diameter
0 ft	15 ft	6 inch

Audit Number: Z220729

Date Well Completed: August 30, 2016

Date Well Record Received by MOE: October 11, 2016

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7275143
Well Audit Number: *C33307*
Well Tag Number: *A180072*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642539.00 Northing: 4760502.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7324

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter

Audit Number: C33307

Date Well Completed: October 20, 2016

Date Well Record Received by MOE: November 22, 2016

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7280200
Well Audit Number: *Z250674*
Well Tag Number: *A184866*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	228 EAST MAIN ST
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 643120.00 Northing: 4761530.00
Municipal Plan and Sublot Number	

Other

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BLCK				0 ft	3 ft
BRWN	CLAY			3 ft	20 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
9 ft	0 ft	HOLEPLUG	
20 ft	9 ft	SAND	
		FLUSHMOUNT	

Method of Construction & Well Use

Method of Construction	Well Use
Other Method	
DIRECT PUSH	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	10 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	10 ft	20 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	

25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	20 ft	6 inch

Audit Number: Z250674

Date Well Completed: January 12, 2017

Date Well Record Received by MOE: February 02, 2017

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7280201
Well Audit Number: *Z250675*
Well Tag Number: *A185626*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	228 EAST MAIN ST
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 643116.00 Northing: 4761529.00
Municipal Plan and Sublot Number	

Other

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BLCK				0 ft	3 ft
BRWN	CLAY			3 ft	20 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
9 ft	0 ft	HOLEPLUG	
20 ft	9 ft	SAND	
		FLUSHMOUNT	

Method of Construction & Well Use

Method of Construction	Well Use
Other Method	
DIRECT PUSH	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	10 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	10 ft	20 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	

25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	20 ft	6 inch

Audit Number: Z250675

Date Well Completed: January 12, 2017

Date Well Record Received by MOE: February 02, 2017

Ontario — Ministry of the Environment and Climate Change

Well Tag No. *(Place Sticker and/or Print Below)* **Tag#: A181626** A181626

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☐ Metric ☒ Imperial

6-19724 Page _____ of _____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
~~Pinchin~~	CIBC Corporate Real Estate		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
55 Yonge Street	Toronto	ON	M5E 1J4	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
22 King st.			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Welland	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	642610	4761328		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Black	Asphalt		Soft	0	.5
Brown	Clay	Silt	Soft	.5	35

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	1	Concrete	
1	24	Bentonite	
24	35	Silica Sand	

Method of Construction

☐ Cable Tool ☐ Diamond
☒ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify* _____

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☒ Test Hole ☒ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
2	PVC	.125	0	25

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To
2.25	PVC	10	25	35

Status of Well

☐ Water Supply
☐ Replacement Well
☒ Test Hole
☐ Recharge Well
☐ Dewatering Well
☒ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, *specify*
Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, *specify*
Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	35	6

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify* _____

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping _____ hrs + _____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

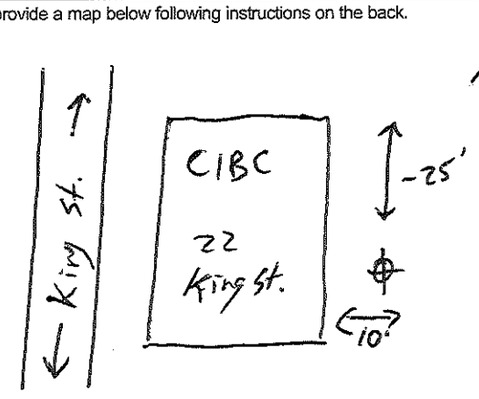
Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments: well is behind the CIBC in parking lot

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling Inc.	7241

Business Address (Street Number/Name)	Municipality
165 Shields Ct.	Markham

Province	Postal Code	Business E-mail Address
On	L3R8V2	wrecords@stratasoil.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
9059400791	Hellyer, Nathan

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3729		2017-02-17

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No		2017-01-24

Ministry Use Only

Audit No. Z247393

FEB 24 2017 Received

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7281908
Well Audit Number: *Z253358*
Well Tag Number: *A217261*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	22 KING STREET
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642625.00 Northing: 4761342.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
GREY				0 ft	.5 ft
BRWN	FILL		FILL	.5 ft	2 ft
BRWN	CLAY			2 ft	20 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	.5 ft	CONCRETE	
.5 ft	9 ft	BENSEAL	
9 ft	20 ft	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Other Method	Monitoring
DIRECT PUSH	Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
1.25 inch	PLASTIC	0 ft	10 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
1.5 inch	PLASTIC	10 ft	20 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	20 ft	2.25 inch

Audit Number: Z253358

Date Well Completed: January 27, 2017

Date Well Record Received by MOE: February 24, 2017

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7286276
Well Audit Number: *C37177*
Well Tag Number: *A224792*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642517.00 Northing: 4760681.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7464

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter

Audit Number: C37177

Date Well Completed: March 20, 2017

Date Well Record Received by MOE: May 11, 2017

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7286277
Well Audit Number: *C36235*
Well Tag Number: *A203977*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642486.00 Northing: 4760738.00
Municipal Plan and Sublot Number	

Other

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7464

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	

60 60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter

Audit Number: C36235

Date Well Completed: March 23, 2017

Date Well Record Received by MOE: May 11, 2017

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7290434
Well Audit Number: *C37193*
Well Tag Number: *A227089*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642050.00 Northing: 4761351.00
Municipal Plan and Sublot Number	

Other

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7464

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	

60 60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter

Audit Number: C37193

Date Well Completed: May 17, 2017

Date Well Record Received by MOE: July 12, 2017

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7290435
Well Audit Number: *C38287*
Well Tag Number: *A216304*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	
Township	WELLAND CITY (CROWLAND)
Lot	025
Concession	CON 05
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642770.00 Northing: 4761346.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7147

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter

Audit Number: C38287

Date Well Completed: July 07, 2017

Date Well Record Received by MOE: July 14, 2017

Updated: January 24, 2020

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7307438
Well Audit Number: *Z274236*
Well Tag Number: *A234128*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	163 LINCOLN ST
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642503.00 Northing: 4760755.00
Municipal Plan and Sublot Number	

Other

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	CLAY	TILL		0 ft	20 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
9 ft	0 ft	HOLEPLUG	
20 ft	9 ft	SAND	
		MONUMENT	

Method of Construction & Well Use

Method of Construction	Well Use
Other Method	Monitoring
DIRECT PUSH	Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	15 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	10 ft	20 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	

25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	20 ft	6 inch

Audit Number: Z274236

Date Well Completed: December 20, 2017

Date Well Record Received by MOE: March 12, 2018

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

Go Back to Map

Well ID

Well ID Number: 7313169
Well Audit Number: *Z290244*
Well Tag Number: *A246591*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	29 EAST MAIN ST
Township	WELLAND CITY (CROWLAND)
Lot	
Concession	
County/District/Municipality	NIAGARA (WELLAND)
City/Town/Village	Welland
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642691.00 Northing: 4761346.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
GREY	----			0 ft	.5 ft
BRWN	FILL			.5 ft	2 ft
BRWN	CLAY			2 ft	15 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	.5 ft	CONCRETE	
.5 ft	4 ft	BENSEAL	
4 ft	15 ft	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Direct Push	Monitoring Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
1.25 inch	PLASTIC	0 ft	5 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
1.5 inch	PLASTIC	5 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	15 ft	2.5 inch

Audit Number: Z290244

Date Well Completed: June 01, 2018

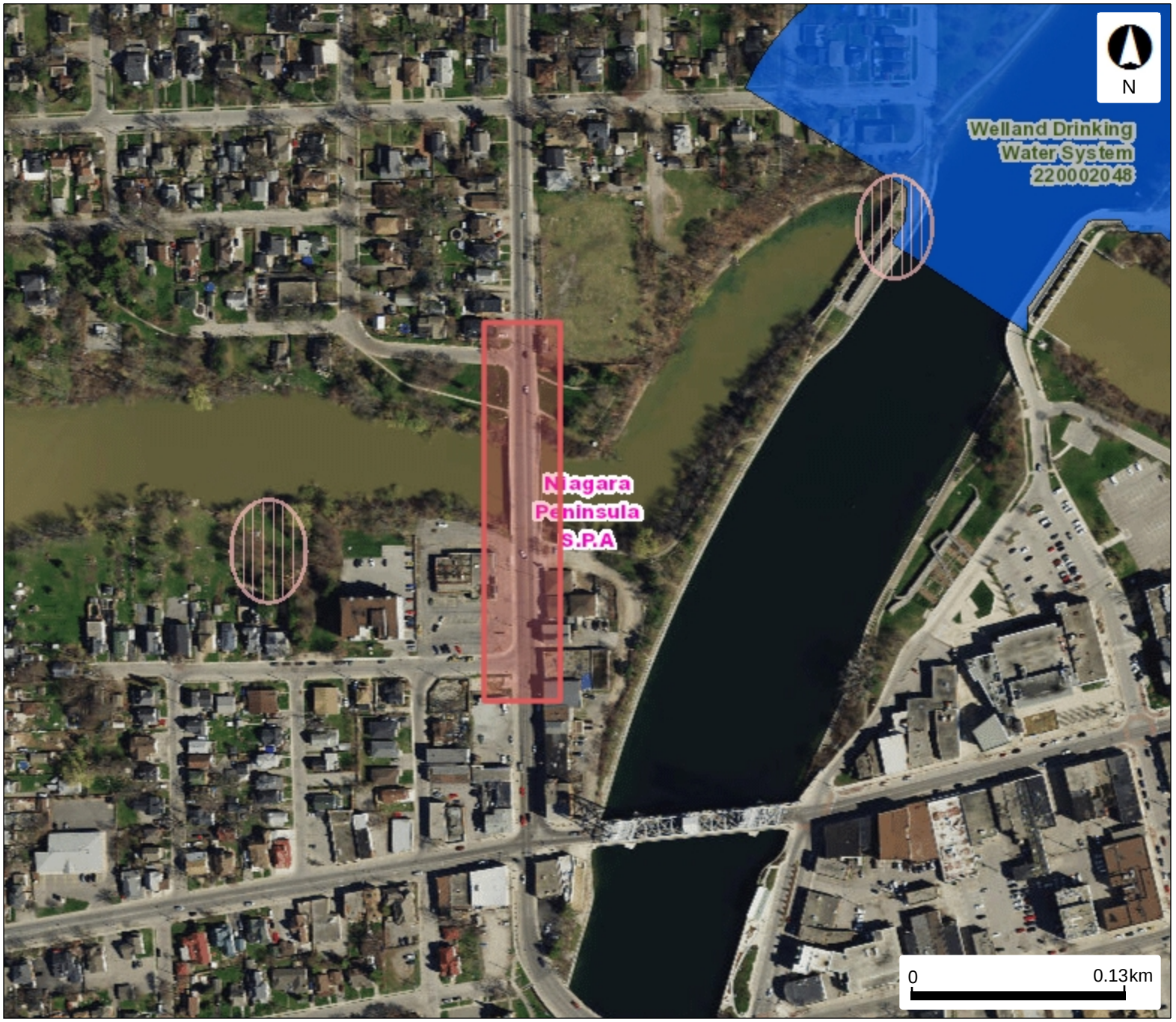
Date Well Record Received by MOE: June 19, 2018

Updated: January 24, 2020

Appendix B

Source Protection Mapping

Source Protection Mapping



Legend

- Source Protection Areas
- Intake Protection Zone Name
- Highly Vulnerable Aquifers
- Intake Protection Zone 1
- Event Based Areas

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Environment, Conservation and Parks (MECP) shall not be liable in any way for the use or any information on this map. of, or reliance upon, this map.

Ontario

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Map Created: 7/15/2020
Map Center: 42.99333 N, -79.25222 W