Appendix T Hydrogeological Assessment



HDR Corporation Final Report on Preliminary Hydrogeological Investigation

Regional Road Corridor Improvements, Winston Churchill Boulevard, Bush Street, Old Main Street, Mississauga Road, Olde Base Line Road GEOTETOB21649AA Issue Date: 11 March 2014



Trust is the cornerstone of all our projects



March 11, 2014

HDR Corporation 100 York Boulevard, Suite 300 Richmond Hill, ON L4B 1J8

Attention: Tyrone Gan, P.Eng., Senior Vice President Director of Transportation, Canada

RE: Preliminary Hydrogeological Investigation Proposed Regional Road Corridor Improvements Winston Churchill Boulevard, Bush Street, Old Main Street, Mississauga Road, and Olde Base Line Road Town of Caledon, Regional Municipality of Peel, Ontario

Dear Mr. Gan:

Coffey Geotechnics Inc. (Coffey) is pleased to provide HDR Corporation with a final report on our preliminary hydrogeological investigation for the above-noted project. The report presents Coffey's understanding of the geologic and hydrogeological setting of the study area based on investigative drilling, data collection, analysis, and review.

We trust that this information meets your present requirements. If we can be of additional assistance in this regard, please contact this office.

For and on behalf of Coffey,

W. Brad Benson, P.Eng. Senior Hydrogeologist

GEOTETOB21649AA

TABLE OF CONTENTS

1	INTRODUCTION	1
2	SCOPE OF WORK AND METHOD OF INVESTIGATION	2
2.1	General	2
2.2	Borehole Drilling and Monitoring Well Installation	2
2.3	Installation of Streambed Piezometers	4
2.4	Hydraulic Conductivity Testing and Groundwater Level Monitoring	4
3	SITE CONDITIONS	6
3.1	Site Description	6
3.2	Climate	6
3.3	Physiography and Drainage	7
3.4	Surficial Geology	8
4	SUBSURFACE SOIL CONDITIONS	10
5	GROUNDWATER CONDITIONS	12
5.1	Groundwater Level Measurements 5.1.1 Monitoring Wells 5.1.2 Streambed Piezometers	12 12 12
5.2	Hydraulic Conductivity Testing	16
5.3	Hydrostratigraphy	17
5.4	Regional Groundwater Recharge	17
5.5	Groundwater Use in the Study Area	18
5.6	Potential Contaminant Sources	20
6	EVALUATION OF POTENTIAL IMPACTS	21
7	MONITORING AND MITIGATION PLAN	23

i

7.1	General	23
7.2	Water Level Monitoring and Mitigation Plan 7.2.1 Pre-construction	24 24
	7.2.2 During Construction7.2.3 Post-construction	24 25
7.3	 Dewatering Discharge Monitoring and Mitigation Plan 7.3.1 Pre-construction 7.3.2 During Construction 7.3.3 Post-construction 	25 25 25 26
8	CONCLUSIONS AND RECOMMENDATIONS	27
9	STATEMENT OF LIMITATIONS	29
10	REFERENCES	30

Tables

Table 1:	Climate Data Summary (1971 – 2000) for Georgetown WWTP Station
Table 2:	Information on Groundwater Monitoring Wells
Table 3:	Information on Streambed Piezometers
Table 4:	Summary of Groundwater Level Measurements in the Monitoring Wells
Table 5:	Summary of Water Level Measurements for Groundwater/Surface Water Interaction
Table 6:	Summary of In-situ Hydraulic Conductivity (K) Test Results

Figures

Figure 1:	Site Location Plan
Figure 2:	Borehole and Monitoring Well Location Plan
Figure 3:	Surficial Geology Map
Figure 4A:	Water Well Use Map
Figure 4B:	Water Supply Well Risk Assessment Map

Appendices

Appendix A:	Borehole Logs and Grain Size Distribution Curves
Appendix B:	In-situ Hydraulic Conductivity Testing Results
Appendix C:	Summary Table for Water Well Records and MOE Water Well Record Sheets
Appendix D:	EcoLog ERIS Environmental Database Report

List of Acronyms and Definitions

Coffey	Coffey Geotechnics Inc.
HDR	HDR Corporation
BH	Borehole
К	Hydraulic conductivity
masl	Metres Above Sea Level
mbgs	Metres Below Ground Surface
MOE	Ontario Ministry of the Environment
O.Reg.903	Ontario's Wells Regulation
PTTW	Permit to Take Water
EcoLog ERIS	Environmental Risk Information Service
WWR	Water Well Record

1 INTRODUCTION

Coffey Geotechnics Inc. (Coffey) was retained by HDR Corporation (HDR) on behalf of The Regional Municipality of Peel (Region of Peel) to conduct a preliminary hydrogeological investigation as part of a Schedule C Class Environmental Assessment Study in support of proposed improvements to a regional road corridor which is bounded by Winston Churchill Boulevard, Bush Street, Old Main Street, Mississauga Road and Olde Base Line Road in the Town of Caledon in the Region of Peel, Ontario (hereafter referred to as the Site). The location of the Site is shown on **Figure 1**.

The roads that make up the Site are currently two-lane urban roads with gravel shoulders. Based on information provided at the outset of the study, it was understood that the proposed road improvement works will focus on pavement structure upgrades, improved adequacy for heavy truck usage, road geometry and traffic safety, road drainage deficiencies, and pedestrian and bicycle traffic. The total length of the roads to be improved is approximately 17 km. The roads cross several small streams with existing pipe culverts.

The services that Coffey provided to HDR Corporation included a preliminary geotechnical investigation and pavement design, a culvert condition survey, a contamination overview study, and a preliminary hydrogeological investigation. The reports for the geotechnical investigation, the culvert condition survey, and the contamination overview study are provided under separate cover.

The primary objectives of the preliminary hydrogeological investigation were to characterize the baseline subsurface hydrogeologic conditions before the start of the proposed road improvement works at the Site, to identify water supply wells and other groundwater features that may be at risk of being affected by the road improvement works, to evaluate potential impacts to groundwater resources resulting from the road works, and to develop appropriate measures or plans to monitor and mitigate the potential impacts.

2 SCOPE OF WORK AND METHOD OF INVESTIGATION

2.1 General

The preliminary hydrogeological investigation began with a review of previously completed geotechnical reports and published information for the Site, including previously published regional physiographic and geologic mapping and watershed planning reports. Many of these documents are referred to throughout various sections of this report and the relevant details are provided in the References section following the text of the report.

In particular, the work completed under the preliminary hydrogeological investigation consisted of the following tasks:

- Reviewing and interpreting available reports and published data;
- Drilling twelve (12) boreholes and installing ten (10) 50-millimetre (mm) diameter groundwater monitoring wells;
- Developing the groundwater monitoring wells and performing in-situ hydraulic conductivity testing (slug tests) for the encountered aquifer formations;
- Measuring groundwater levels manually in the monitoring wells located at the Site;
- Reviewing information on the presence of water wells within 500 m of the roads at the Site as obtained from the Ministry of the Environment (MOE) water well information system;
- Reviewing environmental records obtained from an EcoLog ERIS database search to identify potential contaminant sources;
- Assessing potential impacts resulting from the proposed road improvement works on groundwater wells and other groundwater resources in the vicinity of the Site;
- Developing reasonable monitoring and mitigation measures for potentially impacted water supply wells or watercourses; and
- Preparing this report.

2.2 Borehole Drilling and Monitoring Well Installation

Twelve (12) boreholes were drilled at the Site in December 2012 and January 2013 in conjunction with the hydrogeological investigation. Groundwater monitoring wells were installed in ten (10) of the boreholes. The borehole and monitoring well locations were distributed at selected locations near culverts or stream crossings along the road alignments for Winston Churchill Boulevard (BH 25-WC, BH H1-WC, BH 10-WC and BH 8-WC), Olde Base Line Road (BH H3-OBL, BH H2-OBL and BH H1-OBL), Mississauga Road (BH H1-MR, BH H2-MR, BH H3-MR and BH H4-MR) and Bush Street (BH H1-BS). The borehole locations were selected based on the presence of flowing streams and the associated potential for shallow groundwater to be encountered. The locations of the boreholes and monitoring wells are shown on **Figure 2**.

The boreholes were advanced using a truck-mounted power auger drill rig supplied and operated by HL Drilling and Construction of Mississauga, Ontario. The boreholes were advanced using 108-mm inside diameter hollow stem augers and the drilling was monitored on a full-time basis by Coffey staff. Standard penetration testing and soil sampling were carried out in the boreholes at regular intervals of depth using 50-mm diameter split-spoon sampling equipment. The boreholes were advanced to depths ranging from 2.1 to 6.7 m below ground surface. All but one of the boreholes (BH 25-WC) were terminated due to auger refusal on what was generally inferred to be bedrock at depths ranging from 2.1 to 5.0 m. During the field work, Coffey staff carried out soil sampling and field testing, recorded the geologic conditions, classified the soil samples by tactile and visual methods and measured the groundwater levels. Copies of the borehole logs are provided in **Appendix A**. Grain size analyses were carried out for selected soil samples and the resulting grain size distribution curves are included in **Appendix A**.

For the purpose of assessing groundwater conditions at the Site, monitoring wells were installed in all of the boreholes except BH 8-WC and BH H1-BS. The monitoring wells were constructed with 50-mm diameter PVC well screen and pipe, which were pre-packaged by the supplier and transported to the Site by the drilling contractor. The monitoring wells were constructed with machine-slotted well screens ranging in length from 0.9 to 3.0 m, depending on the depth of the borehole and the encountered water table. The borehole annulus was backfilled with commercial filter sand to approximately 0.3 to 0.9 m above the well screen. The remainder of the annulus was backfilled with granular bentonite. The monitoring wells were covered with flush-mounted steel protective covers.

Ground surface and top of pipe elevations at the borehole locations were surveyed by Coffey using GPS surveying equipment. The elevations were referenced to geodetic datum.

Information on the monitoring well depth and screened intervals is summarized in Table 1, below.

Wall ID	Well Location	Ground	Borehol	e Bottom	Well Scree Depth	en Interval (mbgs)	Well Screen Interval Elevation (m)	
Well ID		Elevation (m)	Depth (mbgs)	Elevation (m)	from	to	from	to
BH H1-WC	Winston	401.6	5.0	396.6	4.1	2.6	397.5	399.0
BH 10-WC	Churchill	395.0	3.9	391.1	3.4	1.8	391.6	393.2
BH 25-WC	Boulevard	412.1	6.7	405.4	5.8	2.7	406.3	409.4
BH H1-OBL	Olde Base Line Road	372.1	3.9	368.2	3.8	2.3	368.3	369.8
BH H2-OBL		371.2	3.1	368.1	3.0	1.5	368.2	369.7
BH H3-OBL		370.0	3.5	366.5	3.0	1.5	367.0	368.5
BH H1-MR		390.1	3.7	386.4	3.0	1.5	387.1	388.6
BH H2-MR	Mississauga	395.3	2.3	393.0	1.8	0.9	393.5	394.4
BH H3-MR	Road	400.5	2.4	398.1	2.0	1.1	398.5	399.4
BH H4-MR	1	405.2	4.9	400.3	4.3	2.7	400.9	402.5

Table 1:	Information	on	Groundwater	Monitoring	Wells

Notes: Elevations in metres relative to geodetic datum mbgs = metres below ground surface

Coffey Geotechnics Inc. GEOTETOB21649AA March 11, 2014

3

2.3 Installation of Streambed Piezometers

As part of the hydrogeological investigation, four (4) streambed monitoring stations were established in January 2013 at locations near stream crossings (where surface water was present) within the road allowances for the Site in order to obtain information on the interaction between groundwater and surface water. At each monitoring station, a pointed mini-piezometer (19 mm diameter) was driven into the streambed and a staff gauge was established in the stream adjacent to the piezometer. Water levels were subsequently monitored in the piezometer and in the adjacent stream and the head difference between the groundwater elevation inside the piezometer and the surface water elevation outside of the piezometer was recorded. The locations of the piezometers/streambed monitoring stations on Mississauga Road (PZ-1) and Olde Base Line Road (PZ-2, PZ-3, PZ-4) are shown on Figure 2. The installation details for the four (4) piezometers are summarized in Table 2, below.

Piezometer ID	Total Length of Piezometer (m)	Length of Piezometer below Streambed (m)	Length of Piezometer above Streambed (m)	Depth from Streambed to Middle of Piezometer Screen (m)
PZ-1	1.96	0.96	1.0	0.74
PZ-2	1.96	1.13	0.83	0.91
PZ-3	1.96	0.98	0.98	0.76
PZ-4	1.96	0.96	1.0	0.74

Table 2: Information on Streambed Piezometers

2.4 Hydraulic Conductivity Testing and Groundwater Level Monitoring

Coffey developed the groundwater monitoring wells at the Site by purging and surging the well water to remove mobile particulates. The purpose of the well development was to improve the hydraulic connection between the well and the geologic materials in the vicinity of the well. After development, rising head hydraulic conductivity tests (slug tests) were conducted on the groundwater monitoring wells to facilitate an assessment of the hydraulic conductivity of the soil strata adjacent to the well screens. From one to four separate tests were carried out in each of the eight tested wells.

A summary of the hydraulic conductivity test (slug test) methodology is as follows:

- The static groundwater level in each monitoring well was initially measured and recorded;
- Water was removed from each tested well using a bailer or an inertial pump and low density tubing to achieve a known drawdown;
- The rising water level in each well was then measured and recorded at regular time intervals until the water level had recovered to approximately 90% of the static water level;
- The water level data from the monitoring wells were analysed using AQTESOLV Professional V4.5 and the Bouwer-Rice method to estimate the hydraulic conductivity (K) of the soil adjacent to the screened portion of the well.

The hydraulic conductivity test data and analysis for each well is provided in Appendix B. Groundwater levels were measured manually in the monitoring wells on several occasions in the period between January 4 and April 4, 2013.

3 SITE CONDITIONS

3.1 Site Description

The Site is rectangular in shape and consists of portions of Mississauga Road (Peel Road 1, approximately 5 km length) and Winston Churchill Boulevard (Peel Road 19, approximately 6 km length) on the northeast and southwest sides, respectively. On the southeast side, the Site consists of a 2.6 km length of Olde Base Line Road (Peel Road 12) and on the northwest side by a similar length of Bush Road (Peel Road 11). The Site is located in the Town of Caledon in the Region of Peel, and encompasses Lots 1 to 9 and part of Lot 10, Concessions 5 and 6 West of Hurontario Street in the Geographic Township of Caledon. Winston Churchill Boulevard forms the border between the Town of Caledon and the Town of Erin in the County of Wellington to the west. The community of Belfountain is located at the intersection of Mississauga Road and Bush Street. Mississauga Road becomes Old Main Street in the community of Belfountain, south of Bush Street. The community of Erin is located approximately 3 km west of the Site.

Existing land use in the vicinity of the Site is shown in the aerial photographic images on **Figures 1 and 2**. In general, land use within the Site is predominantly agricultural and rural residential, with some natural areas that are bush-covered.

Moraine Atlas According to the Oak Ridges which is available online (at http://www.mah.gov.on.ca/page334.aspx), the Site is not located within an area where the Oak Ridges Moraine Conservation Plan is applicable. According to Niagara Escarpment Plan (NEP) maps available online at (http://www.escarpment.org/landplanning), portions of the Site are located within the Niagara Escarpment Plan Area. Near the southeast corner of the Site, the lands adjacent to Mississauga Road and Olde Base Line Road are mapped as Escarpment Protection Area or Escarpment Rural Area. Near the northeast corner of the Site, the community of Belfountain was shown on the NEP map as a minor urban centre and lands adjacent to Mississauga Road and Bush Street were shown as Escarpment Rural Area, Escarpment Protection Area, or Escarpment Natural Area.

3.2 Climate

An Environment Canada meteorological station, identified as Georgetown WWTP (Station ID 6152695), is located approximately 13.5 km southeast of the Site. The average monthly precipitation and temperature data (30-year normals) for this station for the period between 1971 and 2000 are provided in **Table 3**, below. The data indicate that the mean annual precipitation is 885 mm, with annual mean rainfall of 743.8 mm (84% of the total average annual precipitation). Total precipitation varies moderately by season with the highest average monthly precipitation of 84.9 mm recorded in August and the lowest monthly precipitation of 58.6 mm recorded in February.

The mean annual daily temperature is 6.8 °C. The coldest month is January with a mean daily temperature of -6.6°C and the warmest month is July with a mean daily temperature of 19.7°C

Month	Average Daily Temperature (°C)	Average Rainfall (mm)	Average Snowfall (cm)	Average Precipitation (mm)
January	-6.6	29.5	37.3	66.7
February	-5.5	27.2	31.4	58.6
March	-1	43.7	22.7	66.3
April	5.8	68.7	6.7	75.4
May	12.3	74.6	0.3	74.9
June	17	80.1	0	80.1
July	19.7	74.9	0	74.9
August	18.8	84.9	0	84.9
September	14.4	84.3	0	84.3
October	8.1	66.7	0.5	67.2
November	2.4	70.1	8.9	79.0
December	-3.4	39.1	33.8	72.7
Year	6.8	743.8	141.5	885

Table 3: Climate Data Summary (1971 – 2000) for Georgetown WWTP Station

NOTE: Data were obtained from Environment Canada website.

3.3 Physiography and Drainage

The majority of the Site is located in the physiographic region identified as the Horseshoe Moraines, with a small portion of the Site along Bush Street located in the physiographic region identified as the Guelph Drumlin Field (Chapman and Putnam, 1984). The northeast corner of the Site skirts the physiographic region identified as the Niagara Escarpment. The Horseshoe Moraines are characterized by hummocky terrain containing mostly till soils with numerous depressions often being filled with water. The soils of the Horseshoe Moraines are predominantly composed of sandy silt till (Wentworth Till). The area of the Guelph Drumlin Field is characterized by a gently sloping topography in a southeasterly direction towards the West Credit and Main Credit Rivers, which are located to the north and east of the Site. The soils in the Guelph Drumlin Field are primarily composed of sandy silt till (Port Stanley Till) and the valley areas within the Guelph Drumlin Field contain glaciofluvial outwash sands and gravels that appear to extend to bedrock at many locations (CVCA, 1998). The physiographic region identified as the Niagara Escarpment occurs east and south of the Site. The Niagara Escarpment is a major topographic break in the bedrock, formed as a result of differential erosion of softer underlying Queenston Formation shale to the east and the harder carbonate Amabel Formation dolostone to the west (Chapman and Putnam, 1984).

The Site is located within the Credit River watershed under the jurisdiction of the Credit Valley Conservation Authority (CVCA). The Credit River is almost 90 km long and meanders southeast from its headwaters in Orangeville, Erin and Mono through nine municipalities, eventually draining into Lake Ontario at Port Credit, Mississauga. The West Credit River (also referred to as the Erin Branch) flows from west to east and skirts the northeast corner of the Site at Belfountain. The West Credit River merges with the main branch approximately 1 km northeast of the Site (Forks of the Credit).

West Credit River merges with the main branch approximately 1 km northeast of the Site (Forks of the Credit).

Topographic relief at the Site is largely the result of glacial and glaciofluvial features that dominate the local landscape. Based on topographic mapping, the ground surface at the Site ranges from a maximum elevation of approximately 433 m near the north-central part to a minimum elevation of approximately 370 m southeast of the intersection of Olde Base Line Road and Mississauga Road. Mapping indicated the presence of several watercourses in the area contained by the Site. With the exception of a small watercourse crossing Bush Street and flowing north to the West Credit River, the watercourses generally flowed in a southerly direction, crossing Mississauga Road, Olde Base Line Road, and Winston Churchill Boulevard in the south half of the Site.

The northeast corner of the Site near the downstream reach of the West Credit River is part of an Environmentally Significant Area (ESA), Credit Forks-Devil's Pulpit, as well as part of a provincially significant Life Science ANSI (Area of Natural or Scientific Interest), the Credit Forks ANSI (CVCA, 1998). An ESA is an area where ecosystem functions or features warrant special protection. A Life Science ANSI is a significant representative segment of Ontario's biodiversity and natural landscapes including specific types of forests, valleys and wetlands, their native plants and animals, and their supporting environments. The portion of the Site north of The Grange Side Road is classified as Belfountain Wetland Class 7 (CVCA, 1998). In Ontario, Class 4 to 7 wetlands, while not being provincially significant, often play important regional roles in terms of hydrology or biology (CVCA, 1998).

3.4 Surficial Geology

The Niagara Escarpment is the most significant geological feature near the Site. The escarpment was formed through differential erosion of the bedrock units by marine intrusion and fluvial erosion prior to glaciation. The glaciation that occurred during the Pleistocene Epoch not only further eroded and scoured through repeated ice advance and retreat, but also resulted in the overburden deposits in the area near the Site (CVCA, 2007). West of (above) the escarpment, including the area of the Site, the overburden thickness is highly variable ranging from 0 m at the escarpment where bedrock outcrops to 50 m near Orangeville, approximately 15.5 km northwest of the Site.

A regional description of the surficial geology in the vicinity of the Site is provided in the Surficial Geology of Southern Ontario (GIS based geological map), Scale 1:50,000 (Ontario Geological Survey, 2010). A section of this map showing the surficial geology at the Site and surrounding areas is shown on Figure 3.

The surficial geology at the Site is mapped as predominantly Wentworth Till, a poorly sorted sandy silt to silty sand-textured till. The northern portion of the Site along Bush Street as well as the area to the north of the Site is shown to be covered by glaciofluvial outwash deposits consisting of gravel and gravelly sand, frequently overlain by sand or silt. Paleozoic bedrock exposures are mapped at the southeast corner of the Site, extending to the north and south, and close to the northeast corner of the Site. East of the Site, and east of the Niagara Escarpment, the mapping showed the presence of predominantly Halton Till, a clay to silt-textured till (derived from glaciolacustrine deposits or shale). Some patches of ice-contact deposits consisting of sand and gravel with minor silt, clay and till were shown near the northeast and southwest corners of

the Site and in the area west of the Site. Modern alluvial deposits (consisting of clay, silt, sand, gravel, and organic remains) associated with the West Credit River and the main branch of the Credit River exist north and east of the Site.

The underlying bedrock at the Site and generally in the area above (west of) the Niagara Escarpment is mapped as Middle Silurian aged Amabel Formation dolostone. The formation is typically massive, unbedded, light grey to brown weathering, finely crystalline dolostone. The porosity is reportedly variable and may be intergranular or vuggy (Ontario Geological Survey Map 2339, Paleozoic Geology, Orangeville Area, 1976). East of the Site and below (east of) the Niagara Escarpment, the surficial bedrock is mapped as Queenston Formation shale.

4 SUBSURFACE SOIL CONDITIONS

Eleven of the twelve boreholes advanced for the hydrogeological investigation were terminated due to auger refusal on what was generally inferred to be bedrock at depths ranging from 2.1 to 5.0 m below ground surface. BH 25-WC near the northwest corner of the Site was advanced to a depth of 6.7 m and was terminated in sand and gravel with some silt.

All of the boreholes encountered surficial fill material, which extended to depths ranging from approximately 0.7 to 3.8 m. With the exception of BH H1-BS on Bush Street, all of the boreholes encountered sand and gravel fill at surface, extending to depths ranging from approximately 0.7 to 2.3 m. Beneath the sand and gravel fill, the encountered fill material was variable in nature and included silty sand, sandy silt, clayey silt, and silty clay. Borehole BH H1-BS on Bush Street encountered sandy silt fill at surface and was terminated in what was inferred to be sandy silt fill due to auger refusal at a depth of approximately 2.7 m. A layer of clayey silt was encountered within the fill at that location. Borehole BH H2-OBL was terminated in possible fill material (organic silt, some clay) due to auger refusal at a depth of approximately 3.1 m below ground surface.

On Winston Churchill Boulevard, on the west side of the Site, the boreholes encountered predominantly granular soil beneath the upper fill. In the north portion of the Site, BH 25-WC encountered a relatively thin stratum of clayey silt from approximately 3.8 to 4.6 m depth, underlain by sand and gravel with some silt. BH 25-WC was terminated in the sand and gravel at a depth of 6.7 m. In the south portion of the Site, BH H1-WC and BH 8-WC encountered silty sand beneath the upper fill and were terminated in the silty sand due to auger refusal at depths of 5.0 and 2.4 m, respectively. BH10-WC encountered sandy silt beneath the fill, between approximately 1.1 and 3.0 m depth. The sandy silt was underlain by silty sand and BH10-WC was terminated in that material at a depth of 3.9 m.

On Mississauga Road, on the east side of the Site, the boreholes also encountered predominantly granular soil beneath the upper fill. BH H4-MR encountered sandy silt beneath the fill and was terminated in the sandy silt due to auger refusal at a depth of 4.9 m. South of BH H4-MR, BH H3-MR encountered gravelly sand with some silt beneath the fill and was terminated in the gravelly sand at a depth of 2.3 m. Further to the south, BH H2-MR and BH H1-MR encountered silty sand beneath the fill and were terminated in the silty sand at depths of 2.1 and 3.5 m, respectively.

On Olde Base Line Road, on the south side of the Site, the native soils encountered in the boreholes were typically finer grained. BH H3-OBL encountered silty clay between approximately 1.5 and 3.0 m depth, underlain by sandy silt with some clay. The borehole was terminated in that material due to auger refusal at a depth of 3.5 m. Further to the east, BH H1-OBL encountered silt with some sand and some clay at approximately 2.3 m depth and was terminated in that material at a depth of 3.8 m. As previously noted, BH H2-OBL was terminated in organic silt with some clay that was inferred to be fill at a depth of 3.1 m.

5 GROUNDWATER CONDITIONS

5.1 Groundwater Level Measurements

5.1.1 Monitoring Wells

The groundwater level data for the monitoring wells are summarized in **Table 4**, below. The screen elevations of these monitoring wells are shown in **Table 2** and on the borehole logs provided in **Appendix A**. A number of groundwater level monitoring events were carried out in the period from January to April 2013, although not all of the monitoring wells were access for each event. Groundwater levels in the monitoring wells were measured at depths ranging from 0.5 m to 2.9 m below existing ground surface. The corresponding groundwater elevations ranged from a high of 411.2 m at BH 25-WC, located on Winston Churchill Boulevard near the northwest corner of the Site, to a low of 367.2 m measured at BH H3-OBL on Olde Base Line Road near the southwest corner of the Site. The recorded groundwater elevations generally followed the ground surface topographic elevations, which ranged from approximately 412 to 368 m across the Site. The shallow groundwater flow direction was indicated to be generally towards the south.

The highest groundwater levels at the monitoring locations were typically measured on April 4, 2013 and the lowest levels were measured on January 4, 2013. At individual monitoring locations, the measured groundwater levels in the period from January 14 to April 4, 2013 generally varied by approximately 0.1 to 0.6 m. On April 4, 2013, the measured groundwater levels ranged from approximately 0.3 to 1.5 m below ground surface at the monitoring locations.

5.1.2 Streambed Piezometers

The interaction between groundwater and surface water was monitored at the four streambed monitoring stations (shown on **Figure 2**) and the results are summarized in **Table 5**, below. The results show the groundwater elevation measured in the streambed piezometer and the surface water elevation in the adjacent watercourse for each monitoring event, together with the inferred vertical hydraulic gradient. The hydraulic gradient is a function of the head difference between the groundwater and surface water elevations and the depth from the streambed to the mid-point of the piezometer screen. A positive vertical hydraulic gradient (i.e., upward gradient) indicates that there is local groundwater discharge to surface water and a negative vertical hydraulic gradient (i.e., downward gradient) indicates that there is local recharge from surface water to groundwater.

Water level measurements in the streambed piezometers were carried out on January 14, January 21, February 13, and April 4, 2013. At PZ-1 on Winston Churchill Boulevard, the monitoring results indicated that there was a negative hydraulic gradient on January 14, indicating that surface water was recharging groundwater, and a relatively small positive gradient (ranging from 0.04 to 0.15) on the other monitoring occasions indicating that there was local groundwater discharge to surface water.

PZ-2, PZ-3, and PZ-4 were located in relatively close proximity on Olde Base Line Road, with PZ-2 and PZ-3 located on upstream and downstream ends of a culvert on the same watercourse. PZ-4 was located approximately 400 m west of PZ-2 and PZ-3. At PZ-2 on the upstream (north) end of the culvert, the monitoring indicated there was generally neither groundwater recharge nor discharge (i.e., gradient near zero). On the downstream (south) end of the culvert, the monitoring

at PZ-3 indicated a negative gradient on January 14 (groundwater recharge) and a slight positive gradient of 0.03 to 0.09 (groundwater discharge) at the time of the other monitoring events. At PZ-4, the monitoring indicated that there was a slight negative gradient (-0.04 to -0.07) during three of the four monitoring events, indicating groundwater recharge, and slight positive gradient (0.03) on January 21, indicating groundwater discharge.

In summary, the water level monitoring carried out in the streambed piezometers on Winston Churchill Boulevard and Olde Base Line Road indicated that conditions were variable, with both groundwater recharge and discharge conditions recorded at each piezometer location during different monitoring events. In general, slight discharge conditions predominated at PZ-1 and PZ-3 and slight recharge conditions predominated at PZ-4.

It should be noted that groundwater and surface water conditions vary depending on factors such as temperature, season, precipitation, construction activity and other situations, which may be different from those encountered at the time of the monitoring. The potential for groundwater level fluctuations at the Site should be considered when designing and developing the construction plans for the project.

							Groundwa	iter Level					
Well	Ground Surface	04-Jan	1-2013	14-Jan	1-2013	15-Jar	1-2013	21-Jan	-2013	13-Feb	-2013	04-Api	2013
Location	Elevation (ml)	Depth (mbgs)	Elevation (m)	Depth (mbgs)	Elevation (m)	Depth (mbgs)	Elevation (ml)	Depth (mbgs)	Elevation (m)	Depth (mbgs)	Elevation (m)	Depth (mbgs)	Elevation (m)
	401.60		ði	1.30	400.30	n	â	1.34	400.26	1.30	400.30	1.29	400.31
Winston Churchill	395.04	×	ř.	2.21	392.83	۲	ï	2.55	392.49	Snow Cover	ŝ	Frozen	R
boulevard	412.10	N∎D	i.		ä	0.96	411.14	0.97	411.13	0.99	411.11	0.91	411.19
	372.14	1.28	370.86	1.28	370.86	r	×	1.23	370.91	1.23	370.91	1.17	370.97
Olde Baseline	371.22	2.31	368.91	1.49	369,73	ы	9	1.79	369.43	1.78	369.44	1.46	369.76
Хоад	370.02	2.86	367.16	1.46	368.56	ĸ	,	1.15	368.87	1.10	368.92	0.84	369.18
	390.06	2003	3	а	ĝ	0.63	389.43	0.62	389.44	Frozen	()	0.60	389.46
Mississauga	395.29	к	ĸ	к	ň	1.05	394.24	1.06	394,23	1.00	394.29	1.04	394.25
Road	400.50		ä	(n	i i	0.33	400.17	0.46	400.04	Frozen	a	0.31	400.19
	405.20		ŝ.	ĸ		0.75	404.45	0.76	404.44	0.71	404.49	0.70	404.50

Table 4: Summary of Groundwater Level Measurements

Notes:

-: not measured Elevations in metres relative to geodetic datum mbgs = metres below ground surface

Coffey Geotechnics Inc. GEOTETOB21649AA March 11, 2014

14

Winston Churchill Boulevard, Bush Street, Old Main Street, Mississauga Road, Olde Base Line Road, Region of Peel Preliminary Hydrogeological Investigation for Proposed Regional Road Corridor Improvements

	Vertical Hydraulic Gradient			0.03	0.08		0.09		0.03	
21-Jan-2013	Water Level Elevation	(m)	400.28	400.21	370.86	370.79	370.81	370.74	369.71	369.69
	Measurement from Reference Point	(m)	- 0.81	+ 0.18	- 0.44	+ 0.36	- 0.76	+ 0.16	- 0.81	+ 0.24
	Vertical Hydraulic Gradient			- 0.24	c	0.0	- 0.14		- 0.07	
14-Jan-2013	Water Level Elevation	(m)	400.08	400.26	370.90	370.90	370.73	370.84	369.78	368.83
	Measurement from Reference Point	(m)	- 1.00	+ 0.23	- 0.40	+ 0.47	- 0.83	+ 0.26	- 0.74	+ 0.38
Depth from Streambed to Middle of Piezometer Screen		(m)	0.74		0.91		0.76		0.74	
	Reference Elevation	(m)	401.08	400.23	371.30	370.43	371.56	370.58	370.52	369.45
	Streambed Elevation	(m)	400.08	400.03	370.47	370.43	370.58	370.58	369.52	369.45
	Streambed Monitoring Station		PZ-1	SG-1	PZ-2	SG-2	PZ-3	SG-3	PZ-4	SG-4

-	L
0	L
·	L
77	L
ž	ł
1	l
e	l
-	l
5	l
-	L
1	ł
<u>ه</u>	l
ja	L
>	L
>	L
-	L
~	l
×	L
5	L
L.	L
_	L
S	L
	L
0	l
5	L
3	1
-	L
0	L
+	L
in the second	1
2	L
-	L
ž	L
1	l
2	l
0	L
10	L
C	L
-	L
ō	L
¥	L
10	l
3	L
C	L
d)	L
č	l
5	L
Ð	l
1	L
-	L
ŝ	l
g	l
e	L
5	L
-	l
(D)	l
2	L
1	1
۳ 4	l
-	l
-	l
e	l
1	l
-	l
S	l
-	L
6	L
~	L
~	1
1	L
12	l
E	L
Ē	L
5	l
3	l
S	L
	L
10	L
	L
<u> </u>	ſ
0	ſ
-	L
Ë	L
_	1

	Vertical Hydraulic Gradient		0.04		I		0.03		- 0.04	
04-Apr-2013	Water Level Elevation	(m)	400.31	400.28	1	370.84	370.79	370.77	369.76	369.79
	Measurement from Reference Point	(m)	- 0.77	+ 0.25	ı	+ 0.41	- 0.77	+ 0.19	- 0.76	+ 0.34
	Vertical Hydraulic Gradient		0.15		0.00	- 0.04				
13-Feb-2013	Water Level Elevation	(m)	400.39	400.28	370.78	370.78	370.76	370.73	369.67	369.71
	Measurement from Reference Point	(m)	- 0.69	+ 0.25	- 0.52	+ 0.36	- 0.80	+ 0.15	- 0.85	+ 0.26
Depth from	Streambed to Middle of Piezometer Screen	(m)	0.74		0.91		0.76		0.74	
	Reference Elevation	(m)	401.08	400.03	371.30	370.43	371.56	370.58	370.52	369.45
	Streambed Elevation	(m)	400.08	400.03	370.47	370.43	370.58	370.58	369.52	369.45
	Streambed Monitoring Station		PZ-1	SG-1	PZ-2	SG-2	PZ-3	SG-3	PZ-4	SG-4

Notes: 1. PZ indicates piezometer in stream and associated measurements are for depth to groundwater level below top of piezometer.
 SG indicates staff gauge and associated measurements are for depth of surface water in stream above streambed.
 Elevations in metres relative to geodetic datum.
 A positive vertical gradient indicates local groundwater discharge to surface water. A negative vertical gradient indicates water recharge to groundwater.

5.2 Hydraulic Conductivity Testing

The results of the hydraulic conductivity testing in the monitoring wells are summarized in **Table 6**, below. Included in **Table 6** is a description of the soils (stratigraphic unit) encountered in the associated borehole adjacent to the screened portion of the monitoring well and the sand pack, below the groundwater table. Also included in **Table 6** is an estimate of the hydraulic conductivity for the soil adjacent to the well screen that was based on the grain size distribution curves shown in **Appendix A** and the empirical method derived by Hazen for estimating hydraulic conductivity based on the effective grain size (D₁₀).

Monitoring		Slug Tes	t Results	Estimated from Grain Size Distribution	Stratigraphic Unit	
Well ID	Estimated K Trial 1 (cm/sec)	Estimated K Trial 2 (cm/sec)	Estimated K Trial 3 (cm/sec)	Estimated K Trial 4 (cm/sec)	Estimated K (cm/sec)	
BH H1-WC	1.0 x10 ⁻⁵	~	-	-	(-)	Silty Sand/Sandy Silt Fill Silty Sand
BH H10- WC	Ē).		3	4.9 x 10 ⁻⁵	Sandy Silt/Silty Sand
BH 25-WC	9.1 x 10 ⁻⁵	-	-	-	8.1 x 10 ⁻⁵	Silty Sand Fill Clayey Silt Sand/Gravel, some silt
BH H1-MR	1.4 x 10 ⁻⁴	÷	-	-	4.4 x 10 ⁻⁶	Silty Sand, some clay
BH H2-MR	2.9 x 10 ⁻⁴	3.7 x 10 ⁻⁴	3.2 x 10 ⁻⁴	3.0 x 10 ⁻⁴	-	Silty Clay Fill Silty Sand
BH H3-MR	3.3 x 10 ⁻⁴	3.5 x 10 ⁻⁴	-	-	5.5 x 10 ⁻⁵	Silty Sand Fill Gravelly Sand, some silt
BH H4-MR	9.9 x 10 ⁻⁵	1.1 x 10 ⁻⁴	2	-	7.3 x 10 ⁻⁶	Sandy Silt
BH H1- OBL	2.7 x 10 ⁻⁴	2.8 x 10 ⁻⁴	-	-	2.6 x 10 ⁻⁶	Silt, some sand
BH H3- OBL	2.8 x 10 ⁻⁴		2	<u>11</u>	-	Silty Clay, some sand Sandy Silt, some clay

Table 6: Summary of In-situ Hydraulic Conductivity (K) Test Results

In general, there was relatively little variation in the hydraulic conductivity values estimated from the slug tests between monitoring locations. The estimated hydraulic conductivity values from the slug tests ranged from a high of approximately 4×10^{-4} centimetres per second (cm/sec) at BH H2-MR and BH H3-MR on Mississauga Road to a low of approximately 1×10^{-5} cm/sec at BH H1-WC on Winston Churchill Boulevard. The monitoring well in BH H1-WC was screened within variable fill material described as silty sand with some gravel and sandy silt, underlain by native silty sand. The estimated hydraulic conductivity from the slug test for that location was slightly lower than would have been anticipated for soils of that nature. Elsewhere, the estimated hydraulic values varied over a relatively narrow range of 9×10^{-5} to 4×10^{-4} cm/sec and were considered to be generally consistent with the soil types.

For BH 25-WC, the hydraulic conductivity estimated from the grain size distribution curve for a borehole soil sample was relatively close to the hydraulic conductivity value estimated from the slug test. Elsewhere, the hydraulic conductivity values estimated from the grain size distribution curves were approximately 1 to 2 orders of magnitude lower than the values estimated from the slug tests. In general, the hydraulic conductivity values from the slug tests appeared to be more consistent with the soil types than the values estimated from the grain size distribution curves.

5.3 Hydrostratigraphy

In general, it was considered that the sands and silts encountered below the upper fill and below the water table at the borehole locations would constitute a shallow unconfined aquifer for the purpose of assessment. At some borehole locations, the overlying fill was also saturated and would constitute part of the surficial aquifer. The results of the slug tests indicated that the surficial aquifer at the borehole locations was slightly permeable, with a typical hydraulic conductivity on the order of 9 x 10^{-5} to 1 x 10^{-4} cm/sec.

The upper bedrock underlying the overburden would potentially constitute a separate aquifer. In approximately the southern half of the Site, what was inferred to be bedrock was encountered in the boreholes at depths ranging from 2.1 to 5.0 m below ground surface. Fracturing is present in the bedrock units and is most pervasive in the upper few metres of bedrock and areas close to the escarpment face (CVCA, 2012). The characteristics of the bedrock aquifer were not investigated, which was consistent with the relatively shallow nature of the proposed works at the Site.

5.4 Regional Groundwater Recharge

Recharge is the process by which groundwater is replenished and involves the vertical infiltration of water through the subsoil deposits and geologic materials to the saturated zone. The amount of groundwater recharge in a particular area depends on surficial geology, topography, and the land development nature and extent in the area.

The Site is located within a rural area that is largely undeveloped and contains area of natural vegetation. The major sources of recharge in the area near the Site are precipitation and freshet. The lower reach of the West Credit River is located approximately 300 m north of Bush Street. The north potion of the Site along Bush Street is part of the valley area of the West Credit River. According to the West Credit Subwatershed Study Characterization Report (CVCA, 1998), the valley areas within the Guelph Drumlin Field contain glacio-fluvial outwash sands and gravels that appear to extend to bedrock at many locations. The valley areas are therefore generally considered as recharge areas that provide base flow to the West Credit River and its tributaries.

Most of the remaining portion of the Site is located within the Horseshoe Moraine physiographic region, which is characterized by hummocky terrain containing mostly till soils with numerous depressions that may seasonally contain standing water. The area typically has a moderately low infiltration rate because of the relatively low permeability near surface soils, but the hummocky nature of the ground surface may result in greater recharge as water is trapped in depressions and infiltrates into the groundwater table (CVCA, 1998). Calibrated mapping of groundwater recharge contained within the Assessment Report: Credit Valley Source Protection Area (CVCA, 2012) indicated that the northwestern portion of the Site, generally corresponding with the area mapped within the Guelph Drumlin Field, had a relatively high recharge rate on the order of 400 mm/year. The remainder of the Site was generally shown to have a moderate to high groundwater recharge rate.

5.5 Groundwater Use in the Study Area

Review of mapping of municipal residential drinking water systems on the MOE website indicated that some communities in the vicinity of the Site are currently serviced by municipal residential drinking water systems. These included the community of Inglewood to the northeast of the Site, the community of Cheltenham to the east of the Site, and the community of Terra Cotta to the southeast of the Site, which are currently serviced by the Peel Region Municipal Groundwater Drinking System, and the community of Erin to the west of the Site which is currently serviced by the Town of Erin Municipal Groundwater Drinking System. The community of Belfountain, located at the northeast corner of the Site at the intersection of Bush Street and Old Main Street (Mississauga Road), is not supplied by a municipal residential drinking water system. Mapping contained in the Assessment Report: Credit Valley Source Protection Area (CVCA, 2012) indicated that estimated groundwater capture zones associated with surrounding municipal water supply systems did not extend to within 500 m of the Site, although a portion of the West Credit River north of the Site was shown as a vulnerable surface water zone. The results of the water well survey summarized below indicated that there are a considerable number of private water supply wells within 500 m of the Site.

As part of the hydrogeological investigation, Coffey requested a search of the MOE water well information system (WWIS) database to identify potentially active water supply wells near the Site. A request was submitted to the MOE for a summary of provincial water well records from the WWIS database for the area located within 500 m on both sides of the road alignments within the Site. A tabularized summary of the water well record information provided by the MOE is included in **Appendix C**.

The WWIS database search identified 261 well records for wells that were shown to be located within approximately 500 m of the Site. The locations of those wells, based on the coordinates recorded in the WWIS database, are shown on **Figure 4A**. The wells were categorized based on the information regarding final status and well use recorded on the water well records. That information is shown on **Figure 4A** and is summarized below.

Reported Well Use	Number of Associated Well Records
Domestic	209
Domestic/Livestock	15
Livestock	2
Public	4
Irrigation	2
Test Hole/Monitoring Wells	6
Not Used	6
Abandoned	12
Not Stated	5

Of the 261 well records identified, 232 of the associated wells were shown to have been installed for water supply, with recorded uses as indicated above. The majority of the wells (224) were reportedly installed for domestic or domestic/livestock use. Four wells were reportedly installed for public use and the remaining four water supply wells were reportedly installed for irrigation or livestock use.

For the five (5) well records (Well IDs 4906949, 4908526, 4908527, 7121555 and 7190296) with no recorded information on final status or groundwater use, copies of the associated water well record sheets were obtained from the MOE and are included in **Appendix C**. Review of the well record sheets indicated that three (3) wells (Well IDs 4906949, 4908526 and 4908527) were relatively deep (deeper than 30 m) bedrock wells with no information on final status and water use. Two of the wells (Well IDs 7121555 and 7190296) were shown to have been abandoned.

Twenty-one (21) of the wells that were drilled for water supply were reportedly completed in the overburden and the remainder were completed in the bedrock. Where it was recorded on the water well records, the groundwater quality was generally reported as being fresh. On four records, three for wells completed in the bedrock and one for a well completed in the overburden, the water quality was reported as being "mineral", "sulphur", or "salty".

Coffey understands that the proposed road improvement works at the Site will focus on pavement structure upgrades, improved adequacy for heavy truck usage, road geometry and traffic safety, road drainage deficiencies, and pedestrian and bicycle traffic. The proposed road improvement work may involve shallow excavation (to an estimated maximum depth of 3 m) for culvert replacements or extensions, which would have the potential to impact local shallow groundwater supply wells, if present. For all but five (5) of the 232 wells that were reportedly installed for water supply, the reported depth was greater than 10 m. Based on the depth of the proposed works, it was considered that wells that were greater than 10 m in depth were unlikely to be impacted by interference effects from dewatering activities associated with the proposed works.

Five shallow wells were identified with a reported depth of less than 10 m (Well IDs 4901025, 4904879, 4900994, 4904489 and 6700805). Coffey requested copies of the water well record sheets for the five shallow wells and those are included in **Appendix C**. In general, shallow groundwater supply wells would be considered to be potentially susceptible to interference effects from dewatering activities associated with the proposed works. The recorded locations of both shallow and deep water supply wells within 500 m of the road alignments of the Site are shown on **Figure 4B**. For the five identified shallow wells, the records indicated that two were drilled wells

Y

(Well IDs 4900994 and 4904489) completed in the limestone bedrock at a depth of 9.1 m. It is considered unlikely that those wells would be significantly impacted by groundwater interference effects from the proposed works. The records indicated that the other three wells were bored wells completed in the overburden at depths ranging from 4.9 to 7.6 m. The overburden at the well locations was variously described as red clay and gravel, shale clay and shale, and gravel with sand. There is a potential that other shallow water supply wells are present at the Site for which there are no corresponding provincial water well records.

5.6 Potential Contaminant Sources

Coffey assembled information regarding potential contaminant sources within a 250 m search radius around the Site by requesting an environmental database review report from Environmental Risk Information Services Ltd. (EcoLog ERIS report). A copy of the report is provided in **Appendix D**. The EcoLog ERIS report included search results of various federal, provincial and private environmental database sources. Two mappable records were identified for the Site, which were shown on the site diagram in Section ii of the EcoLog ERIS report in **Appendix D**. One record (SPL-1) was identified from the Ontario Spills database and was related to the release of approximately 18 litres of oil from a transformer in 2000 at a location at 5262 Winston Churchill Boulevard. The second record (CA-1) was related to an application for a Certificate of Approval for the installation of a small emergency diesel-powered generator at a site at 15801 Mississauga Road.

The EcoLog ERIS report also indicated potential soil or groundwater contaminant sources that were identified in the database search put could not be plotted on the map because of insufficient address information. These included the following:

- 2 locations within a 250 m radius of the Site were recorded as gas stations;
- 2 locations within a 250 m radius of the Site were registered in the Ontario Regulation 347 Waste Generators database;
- 6 spills were recorded within a 250 m radius of the Site.

Additional information on potential contaminant sources in the vicinity of the Site is provided in the separate contamination overview study prepared by Coffey.

Regional scale groundwater vulnerability mapping contained in the the Assessment Report: Credit Valley Source Protection Area (CVCA, 2012) indicated that approximately the southeastern third of the Site was a high groundwater vulnerability area, presumably because of the relatively thin overburden indicated by geological mapping for that area. The northwestern margin of the Site was also mapped as a high groundwater vulnerability area, presumably because of high permeability soils indicated by mapping for that area.

6 EVALUATION OF POTENTIAL IMPACTS

Coffey understands that the proposed regional road corridor Improvements will address the current road pavement structure deficiencies, road safety issues and stormwater management and drainage deficiencies to accommodate current and future road traffic operations. As a result, the following aspects will be included in the road improvements:

- Pavement design, rehabilitation and upgrade strategy;
- Road embankment construction, pavement subgrade preparation; and
- Culvert re-construction and/or extension, where necessary;

From a hydrogeological perspective, the construction of pavement upgrades is considered unlikely to impact groundwater levels and construction dewatering is not anticipated. A culvert condition survey is being conducted and reported separately. The survey results will provide additional information for road improvement design, including culvert replacement or extension. It is anticipated that the construction of replacement culverts and/or culvert extensions may involve excavation extending to or below the water table. As a result, there is a potential that localized construction dewatering will be necessary. Accordingly, construction dewatering rates and the associated zone of groundwater influence should be estimated. Generally, dewatering requirements may be variable depending on the size of the excavation (length, width and depth), aquifer properties and construction methods. Site specific dewatering estimates can be made based on the aquifer properties (hydraulic conductivity values, groundwater levels) as indicated in Section 5.1 and 5.2 of this report and when the design information is available.

In addition to localized groundwater dewatering, culvert reconstruction would potentially require diversion of surface water in the affected watercourse, which was not addressed in this report. Monitoring of streambed piezometers at selected locations as described in Section 5.1 indicated that conditions were variable, with both groundwater recharge and discharge conditions recorded at each monitoring location during different monitoring events. Based on the relatively localized nature and anticipated short term duration of potential culvert reconstruction, related impacts to the associated watercourses from a temporary interruption of groundwater discharge are not anticipated; however, those conditions should be assessed further when the design for the upgrades has been completed.

As indicated in Section 5.5, a search of the MOE water well records identified records for 232 water supply wells in the area located within 500 m of the road alignments within the Site. The majority of the wells (224) were reportedly installed for domestic or domestic/livestock use. The records indicated that all but five (5) of the water supply wells were installed at depths of 10 m or greater, predominantly in the bedrock. Shallow water wells may be present for which there is no associated water well record. Coffey considers that shallow water supply wells with a depth of less than 10 m are vulnerable to interference effects from construction dewatering, depending on the location of the well relative to the estimated zone of influence. Based on the shallow nature of the proposed works and the moderate permeability of the soils encountered in the boreholes at the Site, it is anticipated that the associated zone of groundwater influence for locations of excavation below the encountered water table will be relatively small.

Specific potential contaminant sources identified from the review of environmental databases in Section 5.6 were limited, and were considered unlikely to impact groundwater quality in association with groundwater dewatering for culvert upgrades, if necessary. Once the locations of culvert

upgrades have been confirmed and the potential for associated construction dewatering has been assessed, reference should be made to information contained in the separate contamination overview study to further assess the potential for impacts to groundwater quality from potential contaminant sources to be present in the vicinity of any excavations extending to the water table.

7 MONITORING AND MITIGATION PLAN

7.1 General

The potential dewatering rate and associated zone of influence should be estimated prior to construction for those construction activities where excavation extending below the water table is anticipated. The dewatering requirements may be variable depending on the size of the excavation (length, width and depth), aquifer properties and construction methods. A Permit to Take Water in support of the construction dewatering should be obtained from the MOE if the estimated dewatering rate is above 50,000 L/day, to ensure compliance with Ontario Regulation 387/04 and the Ontario Water Resources Act (OWRA). A well-described monitoring, mitigation, and contingency plan should be developed in conjunction with the PTTW application.

Where construction dewatering is anticipated, a monitoring program for groundwater levels and water quality should be undertaken to confirm that the dewatering impacts are within the predicted range. The following are general measures that should be undertaken for the monitoring and mitigation plans:

- 1. Planning and administration of the monitoring plan should be performed under the supervision of a qualified person.
- 2. A door-to-door survey of properties located within 150 m of the proposed dewatering locations should be carried out to document the presence and use of water supply wells. If shallow wells (less than 10 m depth) are identified, then the wells should be monitored for water level and water quality prior to, during, and after completion of the construction works, subject to the owner's permission.
- 3. Sufficient monitoring wells should be provided to document the effect of the dewatering on the local groundwater level. Depending on the location of the dewatering activities, the monitoring wells installed in conjunction with this investigation may or may not be suitable. It is anticipated that one or more of the monitoring wells installed for this investigation would be suitable for monitoring variations in the groundwater level that are unrelated to the proposed works (i.e., background conditions). Groundwater level monitoring should be carried out prior to, during, and after completion of the construction works. In addition, for culvert reconstruction the water level and flow rate in the affected watercourse should be routinely monitored.
- 4. Monitoring of groundwater quality and quantity should be documented and frequently assessed.
- 5. Water removed from the excavations should be treated as necessary prior to disposal so as not to result in environmental impacts to the receiving watercourse. Treatment could include the use of filtration, settlement tanks, or other approved devices. Approval for discharge should be obtained from the appropriate regulatory agencies.
- 6. Records of daily water quantity pumped, treatment method used, water quality parameters tested, and the method of discharge should be maintained and updated regularly by the construction contractor.

7. In conformance with O. Reg. 903 under the Ontario Water Resources Act, the installation and eventual decommissioning of the wells and pumping system should be carried out by a licensed contractor and under the supervision of a licensed water well technician.

7.2 Water Level Monitoring and Mitigation Plan

The following groundwater monitoring and mitigation plans are proposed. The monitoring plan can be adjusted based on the construction method(s).

7.2.1 Pre-construction

It is recommended that, at a minimum, a door-to-door survey be carried out for properties located within 150 m of the proposed dewatering location to document the presence and use of water supply wells and to determine if shallow water wells are in use for water supply. If a shallow water well (less than 10 m depth) is identified, then the potential for related interference effects should be assessed and a suitable program of groundwater level monitoring should be incorporated into the construction dewatering plan to document the effects of the dewatering activities on the well(s). In addition, it is recommended that, with the property owner's permission, a sample of water be obtained from any identified shallow water wells to document the groundwater quality. At a minimum, the water quality monitoring should include microbiological parameters (E. coli, total coliform), nitrate, chloride, sodium, hardness, and electrical conductivity.

It is recommended that baseline conditions be assessed by monitoring water levels in existing monitoring wells at quarterly intervals for up to one year prior to the commencement of construction activities. In addition, water level measurements for groundwater monitoring should be undertaken on a weekly basis for a minimum of two weeks prior to the start of construction.

7.2.2 During Construction

To observe the effects of the construction activities on the aquifer(s), regular water level monitoring should be conducted on available monitoring wells and in any accessible shallow wells identified within 150 m of the proposed dewatering activities, subject to the property owner's permission and provided that the well can be accessed safely. Water level monitoring in monitoring wells and in the affected watercourse should be carried out at a minimum of weekly intervals during construction dewatering. Water level and water quality monitoring in private wells should be carried out at a minimum of monthly intervals during construction dewatering. If the potential for interference with private water supplies is indicated, then the frequency of water level monitoring should be increased.

7.2.3 Post-construction

To identify the effect of the construction activities on the aquifer(s) within the vicinity of the Site after completion of the construction work, groundwater level monitoring should continue at weekly intervals in available monitoring wells and monthly intervals in nearby shallow wells for a period of at least one month after construction is completed. If an impact attributable to the dewatering is detected during the post-construction period, then monitoring should continue until there is no longer an effect on the water levels in the vicinity of the Site.

7.3 Dewatering Discharge Monitoring and Mitigation Plan

As there is unlikely to be a municipal sewer system in the vicinity of the proposed dewatering activities, it is anticipated that the dewatering discharge would have to be conveyed to a nearby watercourse. Prior to construction, the quality of the shallow groundwater and the nearby watercourse in areas of anticipated construction dewatering should be assessed for compatibility and to identify baseline conditions. At a minimum, water samples should be analysed for the inorganic parameters identified in the provincial water quality objectives (PWQO). Discharge to a watercourse should be carried out in consultation with, and based on approval from, appropriate regulatory agencies, including the MOE and CVCA. Depending on the sensitivity of the affected watercourse, additional biological assessment may be necessary.

7.3.1 Pre-construction

Suitable dewatering method(s) and volume of discharge need to be identified by the contractor using technical evaluation reports and proposed dewatering plan(s). Prior to construction, and where required, appropriate approvals should be in place for discharging water into a local watercourse, assuming that a municipal sewer system is not available. The location(s) of the point of discharge with respect to the dewatering systems need to be confirmed by the contractor and appropriate erosion and sedimentation control (ESC) measures such as filter bags, straw bales, and silt fences should be implemented.

7.3.2 During Construction

Discharge locations should be monitored on a daily basis. Discharge volume should be measured manually or by using a digital totalizing flow meter (on-line flow meter). In case of pumping at higher than expected dewatering rates, the pump capacity should be controlled and set at the rate specified in the PTTW obtained from MOE.

To document discharge quality, a sample should be collected upon commencement of discharge for analysis of the inorganic parameters identified in the PWQOs. During discharge, field parameters including temperature, pH, conductivity, and turbidity should be monitored at least once each working day for the first week and weekly thereafter. Sufficient chemical analysis of representative samples should be carried out so that field turbidity measurements can be used to estimate the corresponding suspended solids concentration.

If any impacts attributable to the dewatering are noted, then appropriate mitigation measures should be initiated. In the event of excessive sediment, these measures could potentially include use of additional straw bales, splash pads, and/or rock check dams to be installed downstream of the point of discharge.

7.3.3 Post-construction

Removal of the ESC features should be conducted at all discharge locations at the end of the dewatering activities. Approximately one week after the dewatering ends or mitigation measures have ended, the discharge point should be re-inspected to confirm that there are no disturbances.

8 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the subsurface investigation and hydrogeological assessment, the following summary of conclusions and recommendations is provided:

- Eleven of the twelve boreholes advanced for the hydrogeological investigation were terminated due to auger refusal on what was inferred to be bedrock at depths ranging from 2.1 to 5.0 m below ground surface. BH 25-WC near the northwest corner of the Site was advanced to a depth of 6.7 m and was terminated in sand and gravel with some silt. On Winston Churchill Boulevard and Mississauga Road, the boreholes encountered primarily granular soils beneath the upper fill. On Olde Base Line Road, the native soils encountered below the upper fill were typically finer grained.
- Groundwater levels were measured in the monitoring wells at depths ranging from 0.5 to 2.9 m below existing ground surface. The recorded groundwater elevations generally followed the ground surface topographic elevations, and ranged from approximately 411 to 369 m across the Site. The shallow groundwater flow direction was indicated to be generally towards the south.
- Water level monitoring carried out in the streambed piezometers on Winston Churchill Boulevard and Olde Base Line Road indicated that conditions were variable, with both groundwater recharge and discharge conditions recorded at each piezometer location during different monitoring events.
- In general, it was considered that the sands and silts encountered below the upper fill and below the water table at the borehole locations would constitute a shallow unconfined aquifer for the purpose of assessment. At some borehole locations, the overlying fill was also saturated and would constitute part of the surficial aquifer. The results of the slug tests indicated that the surficial aquifer at the borehole locations was slightly permeable, with a typical hydraulic conductivity on the order of 9 x 10⁻⁵ to 1 x 10⁻⁴ cm/sec. The upper bedrock underlying the overburden would potentially constitute a separate aquifer.
- A search of the MOE water well information system identified 261 well records for the area located within approximately 500 m of the road alignments within the Site. Of those records, 232 of the associated wells were shown to have been installed for water supply, most (224) for domestic or domestic/livestock use. All but five (5) of those wells were reportedly drilled to depths greater than 10 m, with most completed in the bedrock.
- From a hydrogeological perspective, the construction of pavement upgrades is considered unlikely to impact groundwater levels and construction dewatering is not anticipated. It is anticipated that the construction of replacement culverts and/or culvert extensions may involve excavation extending below the water table. As a result, there is a potential that localized construction dewatering will be necessary. Construction dewatering rates and the associated zone of groundwater influence should be estimated after the extent of the culvert works has been determined. Based on the relatively localized nature and anticipated short term duration of potential culvert reconstruction, related impacts to the associated; however, those conditions should be assessed further when the design for the upgrades has been completed.

- Coffey considers that shallow water supply wells with a depth less than 10 m are vulnerable to interference effects from construction dewatering, depending on the location of the well relative to the estimated zone of influence. The review of water well records indicated that five (5) wells were completed to depths less than 10 m, although shallow wells may be present for which there is no associated well record. Based on the shallow nature of the proposed works and the moderate permeability of the soils encountered in the boreholes at the Site, it is anticipated that the associated zone of groundwater influence for locations of excavation below the encountered water table will be relatively small.
- The potential dewatering rate and zone of influence should be estimated on a site specific basis prior to construction for those construction activities where excavation below the water table is anticipated. A Permit to Take Water in support of the construction dewatering should be obtained from the MOE if the estimated dewatering rate is above 50,000 L/day, to ensure compliance with Ontario Regulation 387/04 and the Ontario Water Resources Act (OWRA).
- As there is unlikely to be a municipal storm sewer system in the vicinity of dewatering activities for culvert replacement, it is anticipated that discharge from dewatering would have to be conveyed to a nearby watercourse. Discharge to a watercourse should be carried out in consultation with, and based on approval from, appropriate regulatory agencies. A program of water quality monitoring should be carried out in conjunction with the discharge.
- In addition to the potential requirement for groundwater dewatering in association with proposed culvert upgrades, there is a potential that diversion of surface water in the affected watercourse would also be necessary. Diversion of surface water would potentially be subject to the requirement for a PTTW.
- Coffey recommends that a monitoring program be implemented before, during, and after any construction dewatering in association with the proposed culvert upgrades. A door-todoor survey should be carried out for properties located within 150 m of proposed dewatering activities to document the presence and use of water supply wells. If shallow water supply wells are identified, then they should be included in the monitoring program, subject to the owner's permission.
- Coffey recommends the decommissioning of existing groundwater monitoring wells from this investigation after completion of the construction of the project. If the monitoring wells would be damaged or destroyed by the proposed works, then they should be properly decommissioned in advance of the proposed construction. In conformance with Ontario's Wells Regulation (O.Reg. 903) of the Ontario Water Resources Act, the decommissioning of groundwater wells must be carried out by a licensed well contractor.

9 STATEMENT OF LIMITATIONS

The contents of this hydrogeological report are subject to the attached 'Important information about your Coffey Report' sheet. The reader's attention is specifically drawn to these conditions as it is considered essential that they be followed for proper use and interpretation of this report.

For and on behalf of Coffey,

Prepared by:

W. Brad Benson, P.Eng. Senior Hydrogeologist

Reviewed by:

Vasantha Wijeyakulasuriya, P.Eng. Senior Principal

CY/WBB/IL/VW/bb





10 **REFERENCES**

- Chapman, L.J., and Putnam, D.F., (1984) The Physiography of Southern Ontario, Third Edition, Ontario Geological Survey, Special Volume 2.
- Credit Valley Conservation Authority (CVCA), 1998, West Credit Subwatershed Study Characterization Report.
- Credit Valley Conservation Authority (CVCA), 2007, Interim Watershed Characterization Report for the Credit River Watershed.
- Credit Valley Conservation Authority (CVCA), 2012, Updated Approved Assessment Report: Credit Valley Source Protection Area.
- Environment Canada (2013) Canadian National Climate Archive, Canadian Climate Norms and Averages (1971 – 2000), Georgetown WWTP – Station ID 6152695 – Website: <u>http://www.climate.weatheroffice.gc.ca/climate normals/results e.html?stnID=4923&prov=</u> <u>&lang=e&dCode=4&dispBack=1&StationName=georgetown wwtp&SearchType=Contains</u> <u>&province=ALL&provBut=&month1=0&month2=12</u>
- MOE municipal residential drinking water systems website http://www.ene.gov.on.ca/environment/dwo/en/mapping/report/index.htm


Important information about your Coffey Report

As a client of Coffey you should know that site subsurface conditions cause more construction problems than any other factor. These notes have been prepared by Coffey to help you interpret and understand the limitations of your report.

Your report is based on project specific criteria

Your report has been developed on the basis of your unique project specific requirements as understood by Coffey and applies only to the site investigated. Project criteria typically include the general nature of the project; its size and configuration; the location of any structures on the site; other site improvements; the presence of underground utilities; and the additional risk imposed by scope-of-service limitations imposed by the client. Your report should not be used if there are any changes to the project without first asking Coffey to assess how factors that changed subsequent to the date of the report affect the report's recommendations. Coffey cannot accept responsibility for problems that may occur due to changed factors if they are not consulted.

Subsurface conditions can change

Subsurface conditions are created by natural processes and the activity of man. For example, water levels can vary with time, fill may be placed on a site and pollutants may migrate with time. Because a report is based on conditions which existed at the time of subsurface exploration, decisions should not be based on a report whose adequacy may have been affected by time. Consult Coffey to be advised how time may have impacted on the project.

Interpretation of factual data

Site assessment identifies actual subsurface conditions only at those points where samples are taken and when they are taken. Data derived from literature and external data source review, sampling and subsequent laboratory testing are interpreted by geologists, engineers or scientists to provide an opinion about overall site conditions, their likely impact on the proposed development and recommended actions. Actual conditions may differ from those inferred to exist, because no professional, no matter how qualified, can reveal what is hidden by earth, rock and time. The actual interface between materials may be far more gradual or abrupt than assumed based on the facts obtained. Nothing can be done to change the actual site conditions which exist, but steps can be taken to reduce the impact of unexpected conditions. For this reason, owners should retain the services of Coffey through the development stage, to identify variances, conduct additional tests if required, and recommend solutions to problems encountered on site.

Your report will only give

preliminary recommendations

Your report is based on the assumption that the site conditions as revealed through selective point sampling are indicative of actual conditions throughout an area. This assumption cannot be substantiated until project implementation has commenced and therefore your report recommendations can only be regarded as preliminary. Only Coffey, who prepared the report, is fully familiar with the background information needed to assess whether or not the report's recommendations are valid and whether or not changes should be considered as the project develops. If another party undertakes the implementation of the recommendations of this report there is a risk that the report will be misinterpreted and Coffey cannot be held responsible for such misinterpretation.

Your report is prepared for

specific purposes and persons

To avoid misuse of the information contained in your report it is recommended that you confer with Coffey before passing your report on to another party who may not be familiar with the background and the purpose of the report. Your report should not be applied to any project other than that originally specified at the time the report was issued.



Important information about your Coffey Report

Interpretation by other design professionals

Costly problems can occur when other design professionals develop their plans based on misinterpretations of a report. To help avoid misinterpretations, retain Coffey to work with other project design professionals who are affected by the report. Have Coffey explain the report implications to design professionals affected by them and then review plans and specifications produced to see how they incorporate the report findings.

Data should not be separated from the report*

The report as a whole presents the findings of the site assessment and the report should not be copied in part or altered in any way.

Logs, figures, drawings, etc. are customarily included in our reports and are developed by scientists, engineers or geologists based on their interpretation of field logs (assembled by field personnel) and laboratory evaluation of field samples. These logs etc. should not under any circumstances be redrawn for inclusion in other documents or separated from the report in any way.

Geoenvironmental concerns are not at issue

Your report is not likely to relate any findings, conclusions, or recommendations about the potential for hazardous materials existing at the site unless specifically required to do so by the client. Specialist equipment, techniques, and personnel are used to perform a geoenvironmental assessment.

Contamination can create major health, safety and environmental risks. If you have no information about the potential for your site to be contaminated or create an environmental hazard, you are advised to contact Coffey for information relating to geoenvironmental issues.

Rely on Coffey for additional assistance

Coffey is familiar with a variety of techniques and approaches that can be used to help reduce risks for all parties to a project, from design to construction. It is common that not all approaches will be necessarily dealt with in your site assessment report due to concepts proposed at that time. As the project progresses through design towards construction, speak with Coffey to develop alternative approaches to problems that may be of genuine benefit both in time and cost.

Responsibility

Reporting relies on interpretation of factual information based on judgement and opinion and has a level of uncertainty attached to it, which is far less exact than the design disciplines. This has often resulted in claims being lodged against consultants, which are unfounded. To help prevent this problem, a number of clauses have been developed for use in contracts, reports and other documents. Responsibility clauses do not transfer appropriate liabilities from Coffey to other parties but are included to identify where Coffey's responsibilities begin and end. Their use is intended to help all parties involved to recognise their individual responsibilities. Read all documents from Coffey closely and do not hesitate to ask any questions you may have.

* For further information on this aspect reference should be made to "Guidelines for the Provision of Geotechnical information in Construction Contracts" published by the Institution of Engineers Australia, National headquarters, Canberra, 1987.

Figures

Coffey Geotechnics Inc. GEOTETOB21649AA March 11, 2014



GEOTETOB21649AA 1





F:\GEOT\ENVIRO\0 Projects\GEOTETOB 10000AA to --\21649AA -Regional Road Corridor Improvement - Peel\HydroG Investigation\Figures\21649AA Fiig1-Fig3 Caledon_July_2013.dwg



LEGEND

Study Roads (Bush St, Mississauga Rd, Olde Base Line, & Winston Churchill Blvd)

500 m Study Area

MOE Water Well Record Use Abandoned Wells Not Stated Observation Wells/Test Holes

(Reference: MOE Water Well Information System)

HDR Corporation for Region of Peel

HYDROGEOLOGICAL INVESTIGATION WINSTON CHURCHILL BLVD, MISSISSAUGA RD, BUSH ST & OLDE BASE LINE RD TOWN OF CALEDON, REGION OF PEEL

WATER WELL USE MAP

GEOTETOB21649AA

figure no:

4A



LEGEND

Study Roads (Bush St, Mississauga Rd, Olde Base Line, & Winston Churchill Blvd)

500 m Study Area

MOE Water Well Record Use



Water Supply Wells <10m Depth Water Supply Wells >10m Depth (Reference: MOE Water Well Information System)

HDR Corporation for Region of Peel

HYDROGEOLOGICAL INVESTIGATION WINSTON CHURCHILL BLVD, MISSISSAUGA RD, **BUSH ST & OLDE BASE LINE RD** TOWN OF CALEDON, REGION OF PEEL

WATER SUPPLY WELL RISK ASSESSMENT MAP

|--|

figure no:

4B

Appendix A

Borehole Logs And Grain Size Distribution Curves

Coffey Geotechnics Inc. GEOTETOB21649AA March 11, 2014

0.	GLOTETOBZIO4SAA		_			_				Drav	ving No.		1			
	Hydrogeological Inv Re	egional	Ro	oad C	orrid	or im	prov	emen	ts	Sheet No1			۶f			
	Mississauga Road (St. 1	+ 050),	Ca	aledo	n, Ol	T		_								
		-	-	Auger Sa SPT (N)	ample Value			3	Organi	c Vapour I	Reading					
ed:	January 8, 2013		2	Dynamic Shelby T	Cone Te	est	_		Natural Plastic	Moisture and Liquid	l Limit 🛛 📙	× —0				
:	CME-55 (Hollow Stem Au	igers)	-	Field Va	ne Test		- 7		Undrain % Stra	ned Triaxia in at Failur	alat re	\oplus				
	Geodetic		-	Sensitivi Piezome	iy tric Wate	er Level	S	<u> </u>	Penetro	ometer						
		FLEV	D	r		N Value			Organ	nic Vapour	Reading (ppm)	SA	N			
	Soil Description	DEPTI	Ē	2 Shear	0 4 Strength	10 1	60 E	MPa	Nati Atterb	ural Moistu erg Limits	re Content % (% Dry Weight)	- M L	W			
browr	n, moist, SAND AND GRAVEL;	390.06	0		0	1	0	2	1	0 20	30	S	ĸ			
FILL												N				
						þ			×			N				
		389.46	5									N				
		_	1													
				0				- 1	×			N				
												N				
												H				
browr	n, moist, fine grained, SILTY	<u></u>														
SANC rootle) , some clay, trace gravel, trace ts							-								
				0						×						
			2													
				÷	-		-	: ::	3 =2		: 1 -					
				12												
wet b	elow 2,3 m															
		-			-							-1				
											1.1	N				
												N				
		_	3					-				H				
						-	о —	a si	a 1 ə		1.1.1.1					
							1					N				
					0											
dolos	tone/shale fragments at 3.5 m	386.50														
END	OF BOREHOLE	3.56														
Notes	i: ger refusal at 3.7 m		1													
2. 50 upon	mm dia. monitoring well installed completion of drilling.															
	\$		- 4													
fe	geotechnic		E	рти					Time		Water Level	Cave	9 (r			
	JEUIALISIS MANA	SING ITE	C.P	1111					_		(m)		×*			

λ. 2

Borehole H1 (Mississauaga Road)

roject No.	GEUTETUDZ 1049AA								Dra	wing No.		2
Project:	Hydrogeological Inv Re	gional F	Road	Corrid	or Im	prove	men	ts	S	heet No.	1	of
ocation:	Mississauga Road (St. 1	+ 350), (Caled	on, Ol	NT							
			Auger	Sample				Organio	c Vapour	Reading		
ate Drilled:	January 8, 2013		Dynam	ic Cone T	est			Natural Plastic	Moisture and Liqu	ə icllimit ⊢	×	
orill Type:	CME-55 (Hollow Stem Aug	gers)	Shelby Field V	Tube ane Test		- 7		Undrain % Strai	ned Triax	ial at	•	
atum:	Geodetic		Sensiti Piezon	vity letric Wate	er Level	s T		Penetro	ometer			
ş			D		N Value			Organ	nic Vapou	r Reading (ppm)	SA	Natur
	Soil Description	DEPTH	E T Shea	20 Strength	40 6	80 80	MPa	2 Nate Atterb	5 5 ural Moist erg Limits	i0 75 ure Content % i (% Dry Weight)	PL	Unif Weig
E brow	n, moist, SAND AND GRAVEL;	395.29	0		0.1	0.2	<u> </u>	1	0 2	30	- S	KN/n
FILL FILL	SUSS all the										N	
1888								. 5			N	
				0				~		- X	N	
								Â			N	
											N	
				1.1							Н	
		394.53			1	0.51		1-1-1				
brow	n/black, moist, organic SILT, a clay, trace gravel, trace rootlets;	0.76		1			- 18	-		1	1	
poss	ible FILL			1.1		~ 1						
	-		1									
		394,25	0		-					×	N	
					1.1						N	
				1.			-				N	
							ST.				N	
			tin a	1 - 1							П	
hrow	n moist SILTY SAND trace	393.77										
clay,	trace gravel	1.52	1 : ::	-					-			
			(in t			.77./254 r	nm				N	
E I						0		х		1	N	
											N	
dolo	stone fragments below 2.0 m		2									
-11					50/102 m	'n				-		
		393.06			Ō			X				_
END Note	S:	2.23										
1. Ai 2. 50 upor	iger refusal at 2.1 m. mm dia. monitoring well installed completion of drilling.											
coff	av ় ∳ geotechnic	S					(Time		Water	Cav	e De
								- i ii ii e		- IEVEL	11	1

Borehole H2 (Mississauaga Road)

20

Upon Completion January 21, 2013 February 13, 2013 April 4, 2013

1.01 1.04

		alass! P		·				4	DIA		
roject:	Hydrogeological Inv Re		oad C	orrid		prov	emer	its	S	heet No.	1 of 1
ocation:	MISSISSauga Road (St. 1	+ 950), C									
ata Deilladi	January 9, 2012		Auger S SPT (N)	ample Value		0	3	Organi	c Vapour	Reading	
	CME 55 (Hollow Stom Au		Dynamic Shelby 1	: Cone Te Tube	est			Plastic	and Liqui	d Limit	× 0
nii rype.	Geodetic	gersj	Field Va Sensitiv	ne Test tv			•	Undrai % Stra	ned Triaxi in at Failu	al at Ire	\oplus
			Piezome	etric Wate	r Level		<u>.</u>	Penetr	ometer		•
S Y M	Sall Departmen			20 4	N Value	80 6	30	Orgai 2	nic Vapour 5 5	Reading (ppm) 0 75	A Natura
Ö L	Soli Description	400 50	Shear	Strength 0	.u	0	MPa	Nat Attert	oral Moiste berg Limits 0 2	(% Dry Weight) 0 30	E kN/m
brov FILL	vn, moist, SAND AND GRAVEL;										Ň
											N
		400 10									N
		400,19						×			N
											N
brov	n moist SILTY SAND trace	<u>399.74</u> 0.76									5
clay	, trace gravel; FILL										N
			0						×		N
											N
										5	N
		208.08									
brov	n, moist to wet, GRAVELLY	1,52	-								
SAN	D, some sin, trace clay										N
С				T.							N
• (þ					×		N
) O.											N
0 0			2								N
o. ()								- E			
D.											
dolo	stone fragments at 2,3 m	398.11		E	0/102 m O	m		×			
END Note 1. A 2. 50 upor	OF BOREHOLE uger refusal at 2.3 m. mm dia. monitoring well installed n completion of drilling.	2,39									
off	ev ় geotechnic	S						Time		Water	Cave Dep
- - - 11	SPECIALISTS MANAG	SING THE E	ARTH				Upd	on Comp	oletion	(m) 1.63	(m)
							Jan	uary 21,	2013	0 46	1

Borehole H3 (Mississauaga Road)

ject: Hydrogeological Inv Regional Road Corridor Improvements Sheet No. 1 of Mississauga Road (St. 2 + 300), Caledon, ONT ation: Mississauga Road (St. 2 + 300), Caledon, ONT age Sarpia gray Nue O CME-55 (Hollow Stem Augers) Geodetic O Sal Description Sal Description Sal Description Geodetic O Sal Description Sal Description Sal Description Sal Description Sal Description Sal Description Sal Description Hydroge Care Tast Mater Materia Sal Description Sal	ject No.	GEOTETOB21649AA									Dra	wing No.	4
ation: Mississauga Road (St. 2 + 300), Caledon, ONT a Drilled: January 9, 2013 Type: CME-55 (Hollow Stem Augers) Geodetic Secondetic Soil Description Soil Description Fired Varia Total Soil Description Fired State Law Life Life Life Life Life Life Life Life	ject:	Hydrogeological Inv Re	gional F	Ro	ad C	orrid	or Im	prov	emen	ts	s	heet No.	1 of
e Drike: January 9, 2013 <u>CME-55 (Hollow Stem Augers)</u> <u>Geodetic</u> <u>Soli Description</u> <u>Soli Descriptio</u>	ation:	Mississauga Road (St. 2	+ 300),	Ca	ledo	n, ON	IT						
e Drilled: January 9, 2013 IT Type: CME-55 (Hollow Stem Augers) urr: Geodetic Plate and Lead Unit Loop Geodetic Plate and Lead Unit Loop Soil Description Constraint Stem Augers) Soil Description Constraint Constrain					Auger Sa	mple			٥	0'		D	
IT Type: CME-55 (Hollow Stem Augers) Geodetic Sensethy Sol Description	e Drilled:	January 9, 2013			SPT (N) Dynamic	Value Cone Te	st		3	Natura	Moisture	Reading	×
Image: construction Image: construct	Туре:	CME-55 (Hollow Stem Aug	gers)		Shelby T	ube No Tost				Plastic Undrai	and Liqui ned Triaxi	diLimit I— alat	O
Bit Description ELE Provide Law Number of Comparison of the second o	um:	Geodetic			Sensitivity S					% Strain at Failure Penetrometer			
Soil Description ELC DEFT Proving the second se	0		1		Piezome	Inc Wate	N Value			Oroa	ic Vapour	Reading (ppm)	IS
0 10 2 10 <td>Š M</td> <td>Soil Description</td> <td>ELEV. DEPTH</td> <td></td> <td>2</td> <td>0 4</td> <td>0 6</td> <td>50 8</td> <td>30</td> <td>2 Nat</td> <td>5 5 ural Moiste</td> <td>0 75 are Content %</td> <td></td>	Š M	Soil Description	ELEV. DEPTH		2	0 4	0 6	50 8	30	2 Nat	5 5 ural Moiste	0 75 are Content %	
brownish grey, moist, SANDY SILT, trace clay, trace gravel; FiLL	Č XX hrow	- CAND AND CRAVEL - EU I	405.20	н о	Shear t	Strength O.	1	0	MPa 0.2	Attero	o 2	(% Dry Weight) 0 30	Es kN
grey, moist, SANDY SILT, trace clay, trace gravel; FILL		n, SAND AND GRAVEL; FILL						- 1	а —		-	1.1.1	N
grey, moist, SANDY SILT, trace clay, trace gravel; FILL	*						(P	- 1	>	<		N
grey, moist, SANDY SILT, trace clay, trace gravel; FILL 0.76 brownish grey, moist, SANDY SILT, trace clay, trace gravel 403.88 wet below 2.3 m 1.52 wet below 2.3 m 0 Source gravel 0 44 0 Auger refusal at 4.9 m. 4.88 2 0 Auger refusal at 4.9 m. 4.88 2 0	```				_							-	N
trace gravel; FILL 403.68 brownish grey, moist, SANDY SILT, trace gravel 1.52 wet below 2.3 m 0 wet below 2.3 m 0 0 × 0 × 0 × 1 0 2 0 2 0 2 0 2 0 2 0 3 0 4 0 4 0 50/152 min × 4 0 50/152 min ×	arev.	moist, SANDY SILT, trace clay,	404.44 ⁵⁰ 0.76								2	-	
brownish grey, moist, SANDY SILT, trace gravel 1.52 wet below 2.3 m 0 wet below 2.3 m 0 0 × 0 × 0 × 1 0 </td <td>trace</td> <td>gravel; FILL</td> <td>_</td> <td>1</td> <td>~</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>N</td>	trace	gravel; FILL	_	1	~								N
brownish grey, moist, SANDY SILT, trace gravel 403.68 wet below 2.3 m 0 wet below 2.3 m 0 0 ×	8		6		0			1.1			,	<	N
brownish grey, moist, SANDY SILT, trace clay, trace gravel 1.52 wet below 2.3 m 0 wet below 2.3 m 0 0 × <	*												N
trace clay, trace gravel - - - × wet below 2.3 m - - - - - 0 × - - - - - 0 × - - - - - - 0 × - <t< td=""><td>brow</td><td>nish grey, moist, SANDY SILT</td><td>= <u>403.68</u> 1.52</td><td></td><td></td><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td><td>N</td></t<>	brow	nish grey, moist, SANDY SILT	= <u>403.68</u> 1.52						-				N
wet below 2.3 m	trace	clay, trace gravel			0						×		N
wet below 2.3 m				2	Ŭ			-	1.0	:			N
wet below 2.3 m wet below 2.3 m 400.32 END OF BOREHOLE Notes: 1. Auger refusal at 4.9 m. 2. 50 m dia. monitoring well installed upon completion of drilling.	- 8 - 8												
END OF BOREHOLE A00.32 END OF BOREHOLE Notes: 1. Auger refusal at 4.9 m. 2. 50 mm dia. monitoring well installed upon completion of drilling.	wet b	pelow 2.3 m											
a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a b a a a a a b a a a a a b a a b a a a a a b a a a a a b a a a a a b a a a a a b a a a a a b a a a a a b a a b a a b a a b a a b a a b a b <td></td> <td></td> <td>-</td> <td></td> <td>0</td> <td></td> <td></td> <td>1</td> <td></td> <td>></td> <td><</td> <td></td> <td>N</td>			-		0			1		>	<		N
Image: second	2 8 1 8												
END OF BOREHOLE 4.88 Notes: 1. Auger refusal at 4.9 m. 2. 50 mm dia. monitoring well installed upon completion of drilling.	_		_	3						_			-1
END OF BOREHOLE 4.88 Notes: 1. Auger refusal at 4.9 m. 2. 50 mm dia. monitoring well installed upon completion of drilling.													N
4 0 × 4 0 × 400.32 50/152 mm × 400.32 50/152 mm × 400.32 50/152 mm × 400.32 50/152 mm ×							0			2	<		2
4 O X 4 O X 50/152 mm X 50/152 mm X 50/152 mm X 400.32 50/152 mm 400.32 X 50/152 mm X 50/152 mm X 1. Auger refusal at 4.9 m. 4.88 5 2. 50 mm dia. monitoring well installed upon completion of drilling. Image: State of the state o	4 8 70 4 8					1.5			1		-		N
END OF BOREHOLE 400.32 400.32 50/152 mm 400.32 X 1. Auger refusal at 4.9 m. 4.88 2. 50 mm dia. monitoring well installed upon completion of drilling. 4.88					5								-
END OF BOREHOLE 400.32 400.32 50/152 mm 400.32 × 1. Auger refusal at 4.9 m. 4.88 2. 50 mm dia. monitoring well installed upon completion of drilling. 5	* 1: * * ***	,	78.	4						-	-	in the second	-0
END OF BOREHOLE A00.32 400.32 400.32 400.32 4.88 5 4.9 4.88 5 4.9 4.9 4.88 5 4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9								0	1	×			N
END OF BOREHOLE 400.32 Notes: 4.88 1. Auger refusal at 4.9 m. 4.88 2. 50 mm dia. monitoring well installed upon completion of drilling. 4	* * * *:							- 1	1 5	-			
END OF BOREHOLE 400.32 O X Notes: 1. Auger refusal at 4.9 m. 4.88 5 2. 50 mm dia. monitoring well installed upon completion of drilling. 5	•	,) C	5	0/15 <u>2</u> m	m		- 1 -			K
END OF BOREHOLE 4.88 Notes: 1. Auger refusal at 4.9 m. 2. 50 mm dia. monitoring well installed upon completion of drilling. 5	•		400.32		-	- 41	0	17/	<u>.</u>	953	×	2.24	N
1. Auger retusal at 4.9 m. 2. 50 mm dia. monitoring well installed upon completion of drilling.	END Note	OF BOREHOLE	4,88	5						1.12			
	1. Au 2. 50 upon	Iger refusal at 4.9 m. Imm dia. monitoring well installed completion of drilling.											

Time	Water Level (m)	Cave Depth (m)
Upon Completion	4.10	
January 21, 2013	0,76	
February 13, 2013	0.72	
April 4, 2013	0.70	

oject No.	GEOTETOB21649AA									Dra	wing No.		5
oject:	Hydrogeological Inv Re	egional	Ro	ad C	orrid	or Im	prov	emer	ts	S	heet No.	1	of _1
cation:	Olde Base Line Road (Si	t. 1 + 40	0),	Cale	don,	ONT							
)		-	Auger Sa	Imple			3	Organi	c Vapour	Reading		
te Drilled:	December 17, 2012	_	_	Dynamic	Cone Te	st		-	Natura Plastic	Moisture	ditimit ⊩	×	<
ill Type:	CME-55 (Hollow Stem Au	igers)	÷	Shelby Ti Field Var	ube ie Test				Undrai % Stra	ned Triaxi in at Failu	alat	€	÷
itum:	Geodetic		÷	Sensitivit Piezomel	isitivity zometric Water Level		s		Penetr	ometer			
ş		ELEV	Ы			N Value			Orga	nic Vapour	Reading (ppm) 5	Natur
M B O	Soil Description	DEPTH	IMP.T.	2 Shear S	0 4	0 60	3 0	MPa	2 Nat Attert	5 5 ural Moistu erg Limits	0 75 ire Content % (% Dry Weigh		Unit Weigh
E Brow	n, moist, SAND AND GRAVEL;	372.14	0	An es	0.	1	0	.2		0 2	0 30	LS S	kN/m
FILL FILL													
XX				O						×		N	
₩-													
×							5						
×						- :			a (4			1	
∭-		-	1	0					;	×		_[
×		370.97											
×											See 1		
፟∭				_	_			-		- 12 - L			
			0					>	×]	
×-		_	2									_	
×													
∭ │ brow	n/red, moist, SILT , some sand,	369.85								- 11		K	1
some	e clay, trace gravel	_		~						~	-		
						- ^ 1				^			
		_	3		-			_					
				-	1				a (1-1-	-			
					Q	_1!				×	-2.13		
					31				- 1	- 11			
						Ξ.1	2.2						1
M And Spaces						0/7 <u>6</u> mm	-	3 14 20				2	
END	OF BOREHOLE	368.25			-	0				×			
Note 1. Au 2. 50 upon	s: Iger refusal at 3.8 m. Imm dia. monitoring well installed completion of drilling.		4										
1													

Time	Water Level (m)	Cave Depth (m)
Upon Completion	1.14	
January 21, 2013	1,23	
February 13, 2013	1.23	
April 4, 2013	1.17	

Borehole H1 (Olde Base Line Road)

Common Diack/rad, moist, organic SLT, 1992 Common Diack/rad, mo	roject:	Hydrogeological Inv - Re	gional	Rr	ad C	orrid	or Im	Drov	emer	its	SIGN	neet No	1 .	
te Drilled: December 17, 2012 Auger Sterple Organic Vapus Reading If Type: CME-55 (Hollow Stem Augers) Development Constant Performance Geodetic Benultive Performance Performance Performance Soil Description DEPrint Description Deprint	ocation:	Olde Base Line Road (St.	0 + 95	0),	Cale	don,	ONT	prov	onici		U.	-	-	
te Drilled: Three CME-55 (Hollow Stem Augers) turn: Geodettic Soil Description					Auger S	ample		Þ	3					
In Type: CME-55 (Hollow Stem Augers) turn: Geodetic Sol Description	ate Drilled:	December 17, 2012			SPT (N) Dynamic	Value Cone Tr	est		3	Organi Natural	c Vapour I Moisture	Reading	×	
turn: Geodetic Severativy Percentice: Vitar Lovel Vita	rill Type:	CME-55 (Hollow Stem Aug	gers)	-	Shelby T Field Va	ube ne Test				Plastic Undrair	and Liquid ned Triaxia	d'Limit — alat	——) Ф	
Bit Description Bit Provide View (Breading Grow) Comment View (Breading View (Breading View (Breading Grow) Comment View (Breading Vi	atum:	Geodetic		÷	Sensitivi	ty tric Wate	arlovel	s	г 3	% Strai Penetro	in at Failui ometer	re		
No. Soil Description DEPTH DEPTH (b) 6 0 0 Minimum Districture Districtur	S			Г			N Value		<u>+</u>	Orgar	nic Vapour	Reading (ppm)	S	Natur
L Drown, moist, SAND AND GRAVEL; 01 0.2 10 20 30 5 MV FILL -	M B O	Soil Description	ELEV. DEPTH	JUP T	Shear	trength	40 6	06	30 MPa	2 Nati Atterb	5 50 ural Moistu erg Limits) 75 re Content % (% Dry Weight)	- Â	Unit
FILL	E brow	n, moist, SAND AND GRAVEL;	371.22	-0			0.1		2	1	0 20	30	LO N	kN/m
Josephilie Josephilie <td>FILL FILL</td> <td></td> <td>N</td> <td></td>	FILL FILL												N	
Jerown/black/red, moist, organic SILT, some clay, trace sand, trace gravel, trace sand, trace gravel, trace sand, trace gravel, trace rootlets; possible FIL. 199 29 grey limestone fragments at 3.0 m 581.5 Image: Simple classes of trace fragments at 3.0 m 581.5 Some clay, trace sand, trace gravel, trace fragments at 3.0 m 581.5 Image: Simple classes of trace fragments at 3.0 m 581.5 Some clay, trace sand, trace gravel, trace fragments at 3.0 m 581.5 Some clay, trace sand, trace gravel, trace sand, trace gravel, trace noties; possible Fill. 1.93 grey limestone fragments at 3.0 m 581.5 Some clay, trace sand, trace gravel, trace sa	**				- 13	0				×			N	
Jowwr/black/red, moist, organic SiLT, some clay, trace sand, trace gravel, trace rootlets; possible FILL 199.29 Jowwr/black/red, moist, organic SiLT, some clay, trace sand, trace gravel, trace rootlets; possible FILL 199.29 grey limestone fragments at 3.0 m 198.15 Josef BOREHOLE 3.07 Notes: 1.93 1.2.50 mm dia, monitoring well installed upon completion of drilling. 3.07 Offer V geotechnics Special LISTS MANAGING THE FARTH	*					124								
brown/black/red, moist, organic SILT, some clay, trace sand, trace gravel, trace rootlets; possible FILL 369.76 0 × 0 grey limestone fragments at 3.0 m 389.15 3 000000000000000000000000000000000000	∭												N	
brown/black/red, moist, organic SILT, 366.76 0 x association some clay, trace sand, trace gravel, trace rootlets; possible FILL grey limestone fragments at 3.0 m get y limestone fragments at 3.0 m bes.15	*													
brown/black/red, moist, organic SILT, some clay, trace gravel, trace rootlets; possible FILL 369.76 brown/black/red, moist, organic SILT, trace rootlets; possible FILL 369.76 grey limestone fragments at 3.0 m 389.15 grey limestone fragments at 3.0 m 389.15 BB.15 3007 Auger refusal at 3.1 m. 2: 50 mm dia. monitoring well installed upon completion of drilling. 3007 Offee: 1.307 Description 3007 Description 3007	×													
Jorown/black/red, moist, organic SILT, some claustra erased, trace gravel, trace sand, trace gravel, trace sand, trace gravel, trace rootlets; possible FILL Jos 29 grey limestone fragments at 3.0 m Jos 26 grey limestone fragments at 3.0 m Jos 26 Box of BOREHOLE Jos 20 Notes: 1.93 1.4uger refusal at 3.1 m. Jos 26 2.50 mm dia, monitoring well installed upon completion of drilling. Jos 20 Offeey Geotechnics Specialists MANAGING THE EARTH Time	×		_	1										
369.76 369.76 brown/black/red, moist, organic SILT, some clay, trace sand, trace gravel, trace rootlets; possible FILL 1.93 grey limestone fragments at 3.0 m 368.15 grey limestone fragments at 3.0 m 368.15 Some clay, trace sand, trace gravel, trace rootlets; possible FILL 1.93 grey limestone fragments at 3.0 m 368.15 Some clay, trace sand, trace gravel, trace rootlets; possible FILL 1.93 grey limestone fragments at 3.0 m 368.15 Some clay, trace sand, trace gravel, trace rootlets; possible FILL 1.93 grey limestone fragments at 3.0 m 368.15 Some dia, monitoring well installed upon completion of drilling. 3.07 Offeev Sected class managing the Farth Time	8				0					×			N	
369.76 369.76 brown/black/red, moist, organic SILT, some clay, trace sand, trace gravel, trace costlets; possible FILL 193.2 grey limestone fragments at 3.0 m 569.29 grey limestone fragments at 3.0 m 569.15 END OF BOREHOLE Notes: 3.07 1. Auger refusal at 3.1 m. 3.07 2. Softes: 3.07 0. Softes: 1.9.3 2. Softes: 3.07 2. Softes: 3.07 2. Softes: 3.07 3.07 Softes: 1. Auger refusal at 3.1 m. 3.07 2. Softes: Softes: 2. Softes: Softes: 3.07 Softes: 1. Auger refusal at 3.1 m. 3.07 2. Softes: Softes: 3.07 Softes: 3.07 Softes: 1. Auger refusal at 3.1 m. 3.07 2. Softes: Softes: 3. Softes: Time Yuater Cave De (m) Time Yuater Cave De	×												N	
Jorown/black/red, moist, organic SILT, some clay, trace sand, trace gravel, trace rootlets; possible FILL 369.29 Jorown/black/red, moist, organic SILT, trace gravel, trace gravel, trace rootlets; possible FILL 1.93 grey linestone fragments at 3.0 m 369.15 BB.15 307 END OF BOREHOLE 3.07 Notes: 1.4uger refusal at 3.1 m. 1. Auger refusal at 3.1 m. 3.07 Dom dia. monitoring well installed upon completion of drilling. 3.07 Offeey Spectechnics Spectal Lists MANAGING THE FARTH Time	*									×			N	
brown/black/red, moist, organic SILT, organic SILT, trace rootlets; possible FILL 1.93 2 0 ×	്~-	1	- 369.76											
brown/black/red, moist, organic SILT, some clay, trace sand, trace gravel, trace rootlets; possible FILL 389.29 grey limestone fragments at 3.0 m 389.15 grey limestone fragments at 3.0 m 389.15 BND OF BOREHOLE Notes: 3.07 1.93 3.07 2.50 mm dia. monitoring well installed upon completion of drilling. 3.07 Coffeev SepeciaLists managing the partition	*								122 -	2011	- 1	4 - 44	Ŋ	
Beschlasts managing the part is the part in the part is the p	*				0						×		N	
brown/black/red, moist, organic SLL 1, some clay, trace gravel, trace rootlets; possible FILL grey limestone fragments at 3.0 m grey limestone fragments at 3.0 m Be8.15 Notes: 1. Auger refusal at 3.1 m. 2. 50 mm dia. monitoring well installed upon completion of drilling. See technics Special STS MANAGING THE FARTH Time Water Level Cave De (m)	×		369.29		-	- 11	-	- 0			-		N	
erev limestone fragments at 3.0 m -grey limestone fragments at 3.	som	e clay, trace sand, trace gravel,	- 1.93	2	1.121		1.1.1.1	h		-				
grey limestone fragments at 3.0 m Generation of BoreHoLe Notes: 1. Auger refusal at 3.1 m. 2. 50 mm dia. monitoring well installed upon completion of drilling. Offey Sectechnics Special ISTS MANAGING THE FARTH														
erey limestone fragments at 3.0 m grey limestone fragments at 3.0 m END OF BOREHOLE Notes: 1. Auger refusal at 3.1 m. 2. 50 mm dia. monitoring well installed upon completion of drilling. Offey Sectechnics Special ISTS MANAGING THE FARTH						- 1	11		-	-				
grey limestone fragments at 3.0 m Generation of BOREHOLE Notes: 1. Auger refusal at 3.1 m. 2. 50 mm dia. monitoring well installed upon completion of drilling. Offey Sectechnics SPECIALISTS MANAGING THE FARTH Time Water Level Cave De (m)							1						N	
grey limestone fragments at 3.0 m - grey linestone fragments at 3.0 m - grey linest		~			0				3	-		×	N	
grey limestone fragments at 3.0 m grey limestone fragments at 3.0 m BEND OF BOREHOLE Notes: 1. Auger refusal at 3.1 m. 2. 50 mm dia. monitoring well installed upon completion of drilling. Coffeey Sectechnics SPECIALISTS MANAGING THE FARTH Time Vater Level Cave De (m)										ic i				
erey limestone fragments at 3.0 m Geb.15 Sur25 mm Sur25 mm Sur														
END OF BOREHOLE Notes: 1. Auger refusal at 3.1 m. 2. 50 mm dia. monitoring well installed upon completion of drilling. SectaLists Managing THE FARTH Time	grey	limestone fragments at 3.0 m	368 15	3	_		50/25 mm		_	L_		_	_	
1. Auger refusal at 3.1 m. 2. 50 mm dia. monitoring well installed upon completion of drilling. offey e geotechnics Specialists Managing THE FARTH Time Cave De (m)	END	OF BOREHOLE	3.07	T			0				_X			
offey Sectechnics SPECIALISTS MANAGING THE FARTH	1. Au 2. 50	uger refusal at 3.1 m.) mm dia. monitoring well installed				1								
offey ectechnics Specialists Managing THE FARTH Time Cave De (m)	upor	completion of drilling.												
Offey geotechnics				l										
- SPECIALISIS MANAGING THE FARTH	offe	ev ♥ geotechnic	S	-	D					Time		Water Level	Cave	e Dej
									Feb	ruary 13	, 2013	1.81		

Borehole H2 (Olde Base Line Road)

AND A REAL PROPERTY AND A REAL

	CENTETODOLOGICA		_	10	Iut		ust		1110		ouuj		_
roject No.	GEOTETOB21649AA		_							Dra	wing No		7
roject:	Hydrogeological Inv Re	gional	Ro	bad C	orrid	or im	prov	emer	its	S	heet No.	1	of 1
ocation:	Olde Base Line Road (St	. 0 + 75	U),	Cale	don,	ONI				_			_
			-	Auger Sa SPT (N)	ampie Value			3	Organi	c Vapour	Reading		
ate Drilled:	December 18, 2012		-	Dynamic Shelby T	Cone Te	st			Natura Plastic	and Liqui	id Limit	× ⊸0	
orill Type:	CME-55 (Hollow Stem Au	gers)	-	Field Var	ne Test				Undrai % Stra	ned Triaxi in at Failu	al at Ire	\oplus	
atum:	Geodetic		-	Piezome	iy tric Wate	r Level	2 1	> <u>_</u>	Penetr	ometer			
S Y B O	Soil Description	ELEV. DEPTH	DWQ.TH	2 Shear S	0 4 Strength	N Value 0 6	0 1	10 MPa	Orga 2 Nat Attert	nic Vapour 15 5 ural Moistu berg Limits	Reading (ppm) 0 75 are Content % (% Dry Weight)	SAMP-LE	Natura Unit Weigh kN/m ³
brow	n, moist, SAND AND GRAVEL;	370.02	0		0	1	0	2		0 2	0 30	S	
								Ι.,				N	
				0						×			
8	,						_		_			-	
												H	
dark	brown, moist, SILTY CLAY ,	<u>369.26</u> 369.76				-						1	
	sand, trace gravel; FILL			_	14	24		1		×			
			ľ	0		- 5-				>	<	N	
										1.1			
												P	
brow	n. moist. SILTY CLAY, some	<u>368.50</u>							-			-	
sand	, trace gravel	0.00										N	
				0					-	-	×	N	
			2				-	1.1	с. с.		6 II I	N	
					1	= -		: ····	2				
				0				< r.		-			
	,	-			0					×		N	
				>1<1								N	
												N	
		-366.97	3										
brow	n, moist to wet, SANDY SILT , e clay, trace gravel, fragments of	3.05				1		a 1	а <u>а</u>				
limes	stone					0					×		
		000 54				1			-				
END	OF BOREHOLE	3.51	t										
1. Au 2. 50 upon	s. Iger refusal at 3.5 m. Imm dia. monitoring well installed I completion of drilling.												

coffey geotechnics

(m) (^(m)
3.02
1.15
1.11
0.84

Borehole H3 (Olde Base Line Road)

Log	of Borehole	BH8	(Winston	Churchill Blvd.)	
Project No.	GEOTETOB21649AA			Drawing No.	8

Project No.

Drawing No. 8

Project:	Hydrogeological Inv Regional Road Corridor Improvements	S

Location:

Winston Churchill Blvd. (St. 1 + 450), Caledon, ONT

Sheet No.	1	of	_ 1
			-

Date Drilled:

Drill Type: Datum:

January 7, 2013
CME-55 (Hollow Stem Augers)
Geodetic

Auger Sample SPT (N) Value Dynamic Cone Test Shelby Tube Field Vane Test Sensitivity		Organic Vapour Reading Natural Moisture Plastic and Liquid Limit Undrained Triaxial at % Strain at Failure Penetrometer	⊢	□ × ⊕
Sensitivity Piezometric Water Level	s T	Penetrometer		

G	S Y M B	Soil Description	ELEV. DEPTH	Dup	2	0 4	N Value	60	80	Orga Nat	nic Vapou 25 6 ural Moist	r Reading (ppm) 50 75 ture Content %	Multiple
-	Õ			H	Shear S	Strength C	1		MPa 0.2	Atter	berg Limits	s (% Dry Weight) 20 30	E kN/m ³
		FILL	_						c) X	51	1	
		-		1									111
2020		brown, moist, SILTY SAND , trace gravel	1.1		0				· · ·		×	· · · ·	1111
			_	2	0						×		111111
		limestone fragments at 2.3 m	2.36				55/76	nin .			×		
		Notes: 1. Auger refusal at 2.4 m. 2. Borehole backfilled with bentonite upon completion.											

coffey Sectechnics

Time	Water Level (m)	Cave Depth (m)
Upon Completion	Dry	

Borehole BH8 (Winston Churchill Blvd.)

Log	of Borehole	BH10 (Winston C	<u>Churc</u>	hill Bl	vd	.)
Project No.	GEOTETOB21649AA			Drawing No.		9
Project:	Hydrogeological Inv.	- Regional Road Corridor Improve	ements	Sheet No.	1	of

Location:	Winston Churchill Blvd, (St. 1 + 850), Caledon, ONT	
Looution.		

		Auger Sample	\boxtimes	Organia Vanaur Baading		
Data Dallada	January 7, 2012	SPT (N) Value	$O \boxtimes$	Natural Moisture		
Date Drilled.		Dynamic Cone Test		Plastic and Liquid Limit	—	-ô
Drill Type:	CME-55 (Hollow Stem Augers)	Field Vane Test	- I -	Undrained Triaxial at		Ð
Datum:	Geodetic	Sensitivity	S	% Strain at Failure Repetrometer		
Datam.		Piezometric Water Level		Fallationiata		-

Ģ	S Y M		Soil Description	ELEV.	B	2	0 4	N Value	ю в	0	Orga	25 5	50 75	opm)	- MA	Natural Unit
ľ	P		Con Description	205.04	ΙŤ	Shear S	Strength	1	0	MPa 2	Atter	berg Limits	i (% Dry We	right)	E	Weight kN/m ³
11/1/1/1			grey, moist, SAND AND GRAVEL; FILL	395.04	0					0	. 1	×			000	
			brown, moist, SANDY SILT , trace clay, trace gravel	_ <u>394.28</u> 0.76					22		3				1	
		*				0						×	~		111	
				_	2	(0					×		- 1	1111	
				- 392.49			0	-				×			111	
			-	<u>-391.99</u>	3		0								111	
			brown, wet, SILTY SAND, trace clay, trace gravel	3.05		(>					×			111	
		1	END OF BOREHOLE	<u>391.15</u> 3.89				50/7 <u>6</u> :mr	n	2		×			1	
			Notes: 1. Auger refusal at 3.9 m. 2. 50 mm dia. monitoring well installed upon completion of drilling.		•											

coffey geotechnics SPECIALISTS MANAGING THE EARTH

Time	Water Level (m)	Cave Depth (m)
Upon Completion January 21, 2013	3.25 2.55	

1

Borehole BH10 (Winston Churchill Blvd.)

Project No.	GEOTETOB21649AA									Dra	wing No.		10
Project:	Hydrogeological Inv Re	gional I	Roa	ıd C	orrid	or Im	prov	emen	its	S	Sheet No	1	of 1
ocation	Winston Churchill Blvd. (St. 2 +	210)). C	aledo	n O	NT						
Location.	Thiston endreinin birding					in, e	5	л					
ato Drillod:	December 19, 2012		- si	PT (N)	Value		0	3	Organi	c Vapour	Reading		
	CME 55 (Hollow Stom Au		_ D; SI	ynamic helby T	Cone Te ube	st	_	-	Plastic	and Liqu	o id Limit ∙		Ð
	Geodetia	Jersj	Fi S	eld Va	ne Test		•		Undrain % Stra	ned Triax in at Fail	tial at ure		⊕
Jatum:	Geodetic		- Pi	iezome	tric Wate	r Level			Penetr	ometer			A
ş		FLEV	D			N Value			Organ	nic Vapou	r Reading (ppm)	Natura
	Soil Description	DEPTH	1	2 Shear S	to 4 Strength	0 6	30	80 MPa	Nat Atterb	ural Moist lerg Limits	ure Content % s (% Dry Weigh	i)	Unit Weigh
NXXX brov	vn, moist, SAND AND GRAVEL;	401.60	-0		0.	1	- (0.2	1	0 :	20 30	-	KN/m
FILL FILL	Control and Articles (1997) (1997) And Charles								-			- Þ	1
					0	- 1			×			- N	
	-	-								~			
grey	, moist, CLAYEY SILT , trace	400.84 0.76										4	
grav grav	el, trace sand, trace rootlets; FILL	_	1	0								_]
				0					×				
		400.31	11					5.5	111				
I I I I I I I I I I I I I I I I I I I 	-	-							_				
				-1]
			11	0				1.0			×	1]
	-		2		_								
		399.24										4	
brov	vn, wet, SILTY SAND , some	2.36			1.2	-		1	_			_]
				0	3		1.00	in de T	×		1.]
			11.		1					i t	- 21 -		
-	-	398.55	3	-								-	
clay	, trace gravel; probable FILL	3.05											
				C						×]
	-	-]
		397.79								÷			
trace	e clay, trace gravel	- 3,81	4					1					
a.					0				×				
- Hill								a =: i		SI 5]
11-	-	-										_	
								92/305 m	m	-			
11					-			0	×		-a) 3		
END	OF BOREHOLE	- <u>396.57</u> 5.03	5	_								=	
Note 1. A	es: uger refusal at 5.0 m.												
2.50) mm dia. monitoring well installed												

coffey Sectechnics

Time	Water Level (m)	Cave Depth (m)
Upon Completion	3.20	
January 21, 2013	1.34	
February 13, 2013	1.32	
April 4, 2013	1.29	

Borehole H1 (Winston Churchill Blvd.)

Log of Borehole	BH25	(Winston	Churchill	Blvd.)
0				

Project No.

GEOTETOB21649AA

CME-55 (Hollow Stem Augers)

Drawing No. 11

Project:	Hydrogeological Inv Regional Road Corridor Improvements	Sheet No.	1	of	1
Location:	Winston Churchill Blvd. (St. 4 + 790), Caledon, ONT			_	

Date Drilled:	January	4,	2013	
---------------	---------	----	------	--

Drill Type: Datum:

Geodetic

Auger Sample	\bowtie	
SPT (N) Value	$O \square$	Organic Vapour Rea
Dynamic Cone Test		Natural Moisture
Obelbu Tube	-	Plastic and Liquid Li
Sneiby Tube		Undrained Triexial a
Field Vane Test	•	% Strain at Failure
Sensitivity	S	Penetrometer
Piezometric Water Level	×	- ensuentieler
	_	

ganic Vapour Reading			
atural Moisture		X	
astic and Liquid Limit	\vdash	Ð	
ndrained Triexial at Strain at Failure		\oplus	
anetrometer			

s Y		ELEV.	Þ			N Value			Orga	nic Vapou 25	r Reading (ppm)	A N	at
м В О	Soil Description	DEPTH	IP TH	Shear	20 4 Strength	10 E	i <u>o i</u>	30 MPa	Natural Moisture Content % Atterberg Limits (% Dry Weight)				Ve
×	brown, moist, SAND AND GRAVEL,	412.10	0		0	1		2			20 30	Ś	
*	trace silt; FILL						0		×	-			
*	grey below 0.8 m	411 10							× 4				
8		-	1	-	0				×			N	
*	brown moist SILTY SAND trace	<u>410.58</u>							-				
8	clay, trace gravel; FILL			0					×			N	
8	nath decomposed wood below 2.3 m												
8		-			0				4	×		N	
8	-	_	3		-	1				_			
*				0				-				×	
×	converted AVEV SILT know and	408.29		1								P	
1	trace gravel	- 3.81	4	0			-			×		N	
1		-407.53											
	grey, wet, SAND AND GRAVEL, some silt, trace clay	4.57		0						×			
0			5										
	-	-		-		0			, ×.				
	-	_	6										
						0		2.1	>				
		405.39								-		N	
	END OF BOREHOLE Notes: 1. 50 mm dia. monitoring well installed upon completion of drilling.	6.71	7										

coffey geotechnics

Time	Water Level (m)	Cave Depth (m)
Upon Completion	3.46	
January 21, 2013	0.97	
February 13, 2013	1.00	
April 4, 2013	0.91	

Project: Hydrogeological Inv Regional F				_							Dra			د	
				gional	Ro	ad C	orrid	or In	prov	emer	nts	S	heet No.	<u>1</u> c	of
Loc	atio	n:	Bush Street (St. 1 + 400)	, Caledo	on,	ONT				_	_				
					÷	Auger Sa SPT (N)	ample Value			3	Organ	ic Vapour	Reading		
Dat	e Dr	illed:	January 7, 2013		ŧ	Dynamic Shelby T	Cone Te	st	-		Natura Plastic	l Moisture and Liqu	ə idiLimit ⊫	× —0	
Dril	Тур	be:	CME-55 (Hollow Stem Au	gers)	÷	Field Va	ne Test				Undra % Stra	ned Triax iin at Faili	ial at Jre	\oplus	
Dat	um:		Geodetic		2	Sensitivi Piezome	ty tric Water	Level	s		Peneti	ometer			
	ş			ELEV.	þ			N Value	,		Orga	nic Vapou	r Reading (ppm)	SA	Natural
Ň	M B O		Soil Description	DEPT	FP T H	2 Shear 8	0 4 Strength	0	60 E	IO MPa	Na Atter	tural Moist	ure Content % (% Dry Weight)	MP LE	Unit Weight kN/m ³
		brow	n, moist, SANDY SILT , some	-	0		0.	1	0	2			30	S	KINI
	*	ciay,	trace gravel, FILL											N	
K	8													N	
	*									4	а я				
	*	-		_										N	
	\otimes													N	
	\otimes										-	-		-	
	\otimes											-	11251		
×	8														
	\otimes	-		-	1		d)						1	
	\otimes													N	
	*													N	
XXX	\otimes									+ >			3 11		
	*	-		=											
	\otimes	sand	, trace gravel, limestone	1.52					1.1		-		110		
	\otimes	iragn							1.0		1 A			N	
	*					0					1			N	
	\otimes												a i tere	N	
XX	\otimes				2									N	
	8														
XXXX	*	brow	n moist SANDY SILT trace	- 2.20											
XXX	8	clay,	trace gravel; probable FILL	2.23						4		1	1.5	N	
XXX	8	-		_				65	/305 mm		1			-N	
XXX	\otimes													N	
X	\otimes	END		0.74						52		_		N	
		Notes		2.74											
		1. Au 2. Bo	ger rerusar at 2.7 m. rehole backfilled with bentonite									1.1.1			

coffey geotechnics SPECIALISTS MANAGING THE EARTH

Time	Water Level (m)	Cave Depth (m)
Upon Completion	Dry	

Borehole H1 (Bush Street)













Appendix B

In-situ Hydraulic Conductivity Testing Results

Coffey Geotechnics Inc. GEOTETOB21649AA March 11, 2014






























Appendix C

Summary Table for Water Well Records and MOE Water Well Record Sheets

Coffey Geotechnics Inc. GEOTETOB21649AA March 11, 2014

Project: GEOTETOB21649AA PRELIMINARY HYDROGEOLOGICAL INVESTIGATION PROPOSED REGIONAL ROAD CORRIDOR IMPROVEMENTS Client: HDR Corporation for Region of Peel Elevation Depth Thickness Water Depth Static lev WELL_ID Easting Northing MaterialColor Material Material2 Material3 Water_kind Date Complete Final_Status Use Well Type ft m ft m ft m ft m ft m TOPSOIL 0.3 0.3 18 55 17 52 FINE SAND 32 9.8 14 4.3 BROWN MEDIUM SAND CLAY 4900885 581604 4848143 1310 429.4 Bedrock 87 26.5 50 15.2 FRESH 23/05/1962 Water Supply Domestic 78 23.8 46 14.0 BROWN GRAVEL CLAY 83 25.3 COARSE SAND GRAVEL 5 1.5 BLUE LIMESTONE 87 26.5 1.2 GREY LIMESTONE 58 Water Supply 4900917 583010 4846685 1201 393.9 17.7 58 17.7 Bedrock 40 12.2 23 7.0 FRESH 31/10/1957 Domestic 2.7 2.7 BROWN CLAY STONES 9 9 Domestic/ 4900918 582464 4847423 1236 405.4 11 3.4 0.6 GREY LIMESTON Bedrock 49 14.9 7 2.1 FRESH 15/06/1961 Water Supply Livestock 69 21.0 58 17.7 SANDSTONE 10 BROWN 3.0 10 31 CLAY 35 10.7 25 7.6 CLAY MEDIUM SAND 4900924 581533 4848154 1310 429.4 Overburden 60 18.3 42 12.8 FRESH 08/08/1967 Water Supply Domestic STONES 60 18.3 25 7.6 CLAY MEDIUM SAND 62 18.9 2 0.6 GRAVEL PREVIOUSLY DI 40 12.2 40 12.2 4900925 580938 4848742 1314 431.0 GRAVEL Bedrock 85 25.9 50 15.2 FRESH 22/11/1961 Water Supply 72 21.9 32 9.8 CLAY Domestic 93 28.3 21 6.4 WHITE LIMESTON 0.3 0.3 TOPSOIL 1 1 15 14 BROWN CLAY STONES 4.6 4.3 18 55 3 0.9 GRAVEL MEDIUM SAND 383.1 4900935 580130 4849589 1168 Bedrock 37 11.3 30 9.1 FRESH 25/05/1967 Abandoned-Supply Not Used 37 19 5.8 LIMESTONE 11 3 39 11.9 2 0.6 BLUE SHALE 40 0.3 RED SHALE 12.2 1 TOPSOIL 0.3 0.3 BROWN CLAY STONES 18 5.5 17 5.2 4900936 580155 4849605 1144 375.0 Bedrock 43 13.1 28 8.5 FRESH 05/06/1967 Water Supply Domestic 43 13.1 25 7.6 BROWN LIMESTONE 45 13.7 0.6 BLUE 2 SHALE 0.3 0.3 TOPSOIL 1 BROWN STONES 2.1 CLAY 8 2.4 4900937 580329 4849762 1129 370.1 53 16.2 45 13.7 BROWN LIMESTON Bedrock 53 16.2 20 6.1 FRESH 09/06/1967 Water Supply Domestic 56 17.1 3 0.9 BLUE SHALE 57 17.4 0.3 RED SHALE TOPSOIL 0.3 0.3 1 4900938 580347 4849883 1013 332.2 10 3.0 2.7 BROWN CLAY STONES Bedrock 60 18.3 30 9.1 FRESH 30/06/1967 Water Supply a Domestic 60 18.3 50 15.3 BROWN LIMESTONE 22 6.7 22 6.7 CLAY GRAVEL 4846171 1175 385.2 55 16.8 20 6.1 FRESH 4900987 583428 Bedrock 01/12/1957 Water Supply Domestic 63 GREY LIMESTON 19.2 41 12.5 MEDIUM SAND BOULDERS 14 43 14 43 CLAY 4900989 582754 4844990 1145 375.3 Bedrock 33 10.1 18 5.5 FRESH 16/08/1967 Water Supply Domestic GREY 43 13.1 29 8.8 LIMESTON 0.9 0.9 FILL 3 4846473 1192 42 12.8 20 FRESH 4900990 583164 390.9 Bedrock 6.1 14/09/1956 Water Supply Domestic 68 20.7 65 19.8 GREY LIMESTONE 42 12.8 42 12.8 LIMESTONE 30 37 FRESH 4900991 582703 4846848 1213 397.8 Bedrock Domestic Q 1 12 18/08/1955 Water Supply 12 3.7 12 3.7 PREVIOUSLY DUG Domestic/ 4900992 582590 4846537 1200 393.3 Bedrock 50 15.2 15 4.6 FRESH 12/11/1957 Water Supply 60 48 18.3 14.6 GREY LIMESTONE Livestock RED 3.7 3.7 BOULDERS 12 12 CLAY 4847077 1217 399.0 45 13.7 2.4 4900993 582501 29 8.8 17 5.2 CLAY GRAVEL Bedrock 8 FRESH 22/10/1965 Water Supply Domestic 52 15.8 23 7.0 LIMESTONE 4 1.2 4 1.2 CLAY STONES 1233 404.4 8.5 4900994 582284 4847307 Bedrock 28 10 3.0 FRESH 18/11/1957 Water Supply Domestic 30 9.1 26 7.9 GREY LIMESTONE 21 6.4 21 6.4 PREVIOUSLY DUG 4900995 581982 4847580 1281 419.9 49 14.9 28 8.5 BROWN CLAY GRAVEL STONES Bedrock 55 16.8 14 4.3 FRESH 01/08/1961 Water Supply Domestic 65 19.8 16 4.9 GREY LIMESTONE 40 12.2 40 12.2 BOULDERS CLAY 55 15 CLAY 16.8 4.6 MEDIUM SAND 4900996 581435 4847773 1322 433.3 Bedrock 95 29.0 43 13.1 FRESH 22/10/1963 Water Supply Domestic 88 26.8 33 10.1 BLACK CLAY LIMESTONE 99 30.2 11 3.4 BLACK LIMESTON 1.8 1.8 FILL 6 6 30 7.3 GRAVE BOULDERS 9.1 24 GRAVEL 62 18.9 32 9.8 CLAY 4900997 581405 4847707 1317 431.7 Bedrock 110 33.5 45 13.7 FRESH 17/04/1964 Water Supply Domestic 70 21.3 8 2.4 GRAVEL 7.0 GRAVEL 93 23 28.3 112 34.1 19 5.8 BROWN LIMESTONE GRAVEL MEDIUM SAND 30 30 92 91 88 26.8 58 17.7 CLAY BOULDERS 4900998 581380 4847692 1316 431.6 Bedrock 105 32.0 4 1.2 FRESH 27/01/1966 Domestic Water Supply 95 29.0 7 2.1 BLUE SHALE LIMESTONE 127 38.7 32 9.8 GREY 15.2 50 15.3 GRAVEL MEDIUM SAND 50 4900999 581440 4847743 1318 432.2 84 25.6 34 10.4 CLAY BOUI DERS Bedrock 98 29.9 40 122 FRESH 02/02/1966 Water Supply Domestic 100 30.5 16 4.9 LIMESTON SHALE 38 38 CLAY MEDIUM SAND 11.6 11.6 FINE SAND GRAVEL 41 12.5 3 0.9 4901000 581367 4848178 1312 430.2 70 21.3 29 8.8 BROWN FINE SAND CLAY Overburden 73 22.3 40 12.2 FRESH 22/03/1967 Water Supply Domestic

GRAVE

GRAVEL

MEDIUM SAND

COARSE SAND

73 22.3

80 24.4

3 0.9

7 2.1

WELL ID	Easting	Northing	Eleva	ation	De	epth	Thic	kness	MatarialColor	Motorial	Motorial2	Matorial2		Water	_Depth	Stati	ic_lev	Water kind	Data Complete	Final Status	lise
WELL_ID	Easting	Northing	ft	m	ft	m	ft	m	WaterialColor	Material	waterialz	Waterials	Well Type	ft	m	ft	m	water_kind	Date Complete	Final_Status	Use
					24	7.3	24	7.3		PREVIOUSLY DUC	5										
4901001	580935	4848496	1308	429.0	80	24.4	56	17.1		CLAY	GRAVEL	BOULDERS	Bedrock	80	24.4	34	10.4	FRESH	04/07/1959	Water Supply	Domestic
-					91	27.7	11	3.4		GRAVEL	LIMESTONE										
4001002	590979	4949671	1200	420.1	40	12.2	40	12.2		PREVIOUSLY DUG	STONES		Podrook	95	25.0	25	10.7	EDECH	02/11/1050	Water Supply	Domostio
4901002	360678	4040071	1309	429.1	93	28.3	13	4.0		LIMESTONE	STONES		Beulock	65	20.9	35	10.7	FRESH	03/11/1939	water Suppry	Domestic
					1	0.3	1	0.3		TOPSOIL											
					20	6.1	19	5.8		GRAVEL											
4901004	580783	4848666	1312	430.3	45	13.7	25	7.6		CLAY	STONES		Bedrock	75	22.9	51	15.5	FRESH	07/09/1967	Water Supply	Domestic
4301004	000/00	4040000	1012	400.0	55	16.8	10	3.1		HARDPAN	0701/50		Dedrook	10	22.0	01	10.0	TREOT	01/03/1301	Water Ouppiy	Domestic
					74	22.6	19	5.8			STONES										
					8	24.4	8	2.4													
					35	10.7	27	8.2	BROWN	CLAY	STONES										
4901005	580366	4849130	1246	408.5	54	16.5	19	5.8	BROWN	CLAY	GRAVEL		Bedrock	115	35.1	55	16.8	FRESH	30/12/1966	Water Supply	Domestic
					81	24.7	27	8.2	BROWN	CLAY	STONES	GRAVEL									
					122	37.2	41	12.5	BROWN	LIMESTONE											
					27	8.2	27	8.2		GRAVEL	STONES										
4901006	579779	4849344	1195	391 7	32	9.0	5 13	1.5		GRAVEL	MEDIUM SAND		Bedrock	50	15.2	45	13.7	FRESH	09/03/1959	Water Supply	Domestic/
4301000	515115	4043344	1135	331.7	49	14.9	4	1.2		MEDIUM SAND	MEDIOW SAND		Dedrock	50	10.2	45	13.7	TRESH	03/03/1333	water Suppry	Livestock
					50	15.2	1	0.3	WHITE	LIMESTONE											
					2	0.6	2	0.6		TOPSOIL											
4901007	579352	4849464	1158	379.5	15	4.6	13	4.0		CLAY	BOULDERS		Bedrock	45	13.7	30	9.1	FRESH	04/04/1962	Water Supply	Domestic
					38	11.6	23	7.0	BROWN	CLAY				-							
					13	22.3	35	0.3	RED												
					18	5.5	17	5.2		STONES	GRAVEL										
4901008	579460	4849367	1172	384.4	42	12.8	24	7.3	BROWN	CLAY	GRAVEL		Bedrock	60	18.3	17	5.2	FRESH	09/04/1962	Water Supply	Domestic
					54	16.5	12	3.7	RED	SHALE											
					60	18.3	6	1.8	BLUE	SHALE											
					3	0.9	3	0.9	BLACK	TOPSOIL	MEDIUM SAND										
4901009	578984	4848882	1217	398.9	62	18.9	24	7.3	WHITE	CLAY	STONES		Bedrock	68	20.7	50	15.2	FRESH	16/07/1962	Water Supply	Public
1001000	0.0001	1010002		000.0	68	20.7	6	1.8	WHITE	CLAY	MEDIUM SAND		Bodrook	00	20.1	00	10.2		10/01/1002	mator ouppiy	1 dbilo
					72	21.9	4	1.2		SANDSTONE											
					25	7.6	25	7.6		HARDPAN	BOULDERS										
4901010	579304	4849391	1174	384.8	36	11.0	11	3.4	050	GRAVEL			Bedrock	90	27.4	20	6.1	FRESH	29/03/1965	Water Supply	Domestic
-					120	36.6	84	25.6	RED	SHALE											
4901011	579622	4849394	1174	385.0	48	14.6	36	11.0	GREY	LIMESTONE			Bedrock	40	12.2	38	11.6	FRESH	21/06/1965	Water Supply	Domestic
4901012	579011	4849211	1176	385.7	39	11.9	39	11.9		CLAY	STONES		Overburden	39	11.9	24	7.3	FRESH	10/07/1954	Water Supply	Domestic
4001014	570240	4940729	1160	290 E	35	10.7	35	10.7		PREVIOUSLY DUC	3		Podrook	140	42.7	20	6.1	EDECU	20/01/1056	Wotor Supply	Domostio
4901014	579240	4049720	1100	360.5	147	44.8	112	34.2	BLUE	SHALE			Beulock	140	42.7	20	0.1	FRESH	30/01/1930	water Supply	Domestic
4901016	579285	4849524	1159	380.1	73	22.3	73	22.3		PREV. DRILLED			Bedrock	47	14.3	30	9.1	FRESH	24/04/1962	Water Supply	Domestic
					83	25.3	10	3.1	RED	SHALE				-	-		-	_			
					1	0.3	14	0.3		BOULDERS	GRAVE										
4901017	579561	4849643	1138	373.1	22	6.7	7	2.1	GREY	CLAY	GRAVEL		Bedrock						10/05/1962	Abandoned-Supply	
					62	18.9	40	12.2	GREY	LIMESTONE											
					100	30.5	38	11.6	RED	SHALE											
				_	5	1.5	5	1.5	00551	GRAVEL	STONES			1	1						
4901018	579581	4849479	1091	357.7	19	5.8	14	4.3	GREY	GRAVEL	CLAY			75	22.9	50	15.2	FRESH	16/05/1962	Water Supply	Domestic
1					- 50 75	22.9	39	52	RED	SHALE					1						
	1				10	3.0	10	3.1		CLAY	BOULDERS		Bedrock	<u> </u>	1	1	1			1	
4004020	570070	4040000	1170	200.2	50	15.2	40	12.2		CLAY	GRAVEL			64	10.0	24	7.0	EDECU	24/04/4004	Water Cumplu	Demestie
4901020	5/90/6	4049203	11/0	300.3	58	17.7	8	2.4		GRAVEL	BOULDERS			01	10.0	24	7.3	FRESH	24/04/1964	water Supply	Domestic
					62	18.9	4	1.2		SHALE	LIMESTONE										
					30	9.1	30	9.2		PREVIOUSLY DUG	6										
4901021	578822	4848994	1183	387.9	110	33.5	60	18.3	1	HARDPAN	BOULDERS		Bedrock	170	51.8	20	61	FRESH	06/08/1964	Water Supply	Domestic
1001021	0.0022	.0.0004		007.0	120	36.6	10	3.1	BLUE	CLAY	DOOLDEINO		2001001		01.0		0.1		00,00,1004	Trate: Ouppiy	20110000
					170	51.8	50	15.3	GREY	LIMESTONE											
					10	3.0	10	3.1		HARDPAN	BOULDERS										_
4901022	579329	4849559	1149	376.6	20	6.1	10	3.1	DED	GRAVEL			Bedrock	80	24.4	44	13.4	FRESH	02/04/1965	Water Supply	Domestic
H					110	33.5	90	27.5	RED	GRAVE				──							
4901023	578871	4849235	1149	376.8	66	20.1	21	6.4	GREY	CLAY			Overburden	68	20.7	3	0.9	FRESH	18/11/1965	Water Supply	Domestic
	2. 50. 1				70	21.3	4	1.2		BOULDERS			2.2.54.46.1			Ĭ	2.0	0.1		Composition of the second seco	
4901024	570422	4840000	1206	305.3	133	40.5	133	40.6		CLAY	GRAVEL	STONES	Bedrock	150	45.7	80	24.4	FREQU	01/11/1067	Water Supply	Domestic
4901024	019423	4049909	1200	390.3	270	82.3	137	41.8	RED	SHALE			Deulock	150	40.7	00	24.4	FRESH	01/11/1907	water Suppry	Domesuc

-	1	1	Elov	ation	D/	onth	Thio	knoce					1	Wator	Donth	Stat		1			
WELL_ID	Easting	Northing	Liev	auon		epin	11110	KIIESS	MaterialColor	Material	Material2	Material3	M/- II T	water	_Deptil	31d1		Water_kind	Date Complete	Final_Status	Use
	-		ft	m	ft	m	ft	m					Well Type	ft	m	ft	m		-		
					3	0.9	3	0.9		TOPSOIL											
4901025	579347	4849667	1112	364.6	8	2.4	5	1.5		CLAY	STONES		Bedrock	15	4.6	8	2.4	FRESH	22/07/1967	Water Supply	Domestic
					16	4.9	8	2.4		CLAY	SHALE										
4901035	582642	4844488	1146	375.7	2	0.6	2	0.6	BROWN	CLAY			Bedrock	45	13.7	8	24	FRESH	06/06/1959	Water Supply	Domestic
4001000	002042	4044400	1140	010.1	45	13.7	43	13.1		LIMESTONE			Dearook	40	10.7	0	2.7	TREON	00/00/1000	Water Oupply	Domestic
4901036	582457	4844427	1147	376.2	57	17.4	57	17.4	WHITE	LIMESTONE			Bedrock	50	15.2	24	7.3	FRESH	03/11/1962	Water Supply	Domestic
4001037	581806	4844212	1172	38/11	11	3.4	11	3.4		GRAVEL	CLAY		Bedrock	48	14.6	15	4.6	EDECH	04/03/1067	Water Supply	Domestic
4301037	301000	4044212	1172	304.1	80	24.4	69	21.0	GREY	LIMESTONE			Deutock	40	14.0	15	4.0	TRESH	04/03/1907	water Supply	Domestic
4001040	E01106	4944005	1206	205.4	4	1.2	4	1.2		TOPSOIL	MEDIUM SAND		Podroak	40	12.0	10	2.0	EDECU	25/09/1059	Wotor Supply	Irrigation
4301040	301100	4044303	1200	333.4	58	17.7	54	16.5		LIMESTONE			Deutock	42	12.0	10	3.0	TRESH	23/00/1930	water Supply	Ingation
4001042	591017	4944790	1201	202.6	17	5.2	17	5.2		CLAY	GRAVEL		Podroak	25	10.7	26	7.0	EDECU	10/11/1065	Wotor Supply	Domostia
4901042	561217	4044700	1201	393.0	66	20.1	49	14.9	GREY	LIMESTONE			Beulock	35	10.7	20	1.9	FRESH	19/11/1905	water Supply	Domestic
1001010		10.10.100			40	12.2	40	12.2		CLAY	GRAVEL	STONES						555011	07/10/1000		
4901043	561470	4646139	1207	415.4	67	20.4	27	8.2	BLACK	LIMESTONE			Dedrock	54	16.5	20	0.1	FRESH	27/12/1903	water Supply	ingation
		1			1	0.3	1	0.3		TOPSOIL											
					24	7.3	23	7.0	BROWN	CLAY	GRAVEL										
					95	29.0	71	21.7	GREY	HARDPAN			1								
4901044	579728	4846181	1324	434.0	104	31.7	9	2.7		COARSE SAND			Bedrock	160	48.8	20	6.1	FRESH	27/06/1960	Water Supply	Domestic/
					155	47.2	51	15.6	GREY	CLAY			1								LIVESLOCK
					158	48.2	3	0.9		COARSE SAND			1								
					165	50.3	7	2.1	GREY	LIMESTONE			1								
					70	21.3	70	21.4	BROWN	STONES	CLAY										
4001045	E7002E	4947500	1204	421.0	102	31.1	32	9.8		HARDPAN	STONES		Podroak	126	20 /	42	12.0	EDECU	21/04/1060	Wotor Supply	Domostio
4901045	579035	4647523	1204	421.0	124	37.8	22	6.7	GREY	LIMESTONE			Dedrock	120	36.4	42	12.0	FRESH	21/04/1960	water Supply	Domestic
					128	39.0	4	1.2	BROWN	CLAY	LIMESTONE										
					10	3.0	10	3.1		CLAY											
4901046	579877	4847609	1295	424.7	95	29.0	85	25.9		GRAVEL			Bedrock	104	31.7	35	10.7	FRESH	05/12/1967	Water Supply	Domestic
					104	31.7	9	2.7		SANDSTONE											
					20	6.1	20	6.1		CLAY	MEDIUM SAND	STONES									
4901047	578280	4847781	1236	405.2	25	7.6	5	1.5		MEDIUM SAND			Bedrock	25	7.6	33	10.1	EDESH	27/05/1950	Water Supply	Domestic/
4301047	570203	4047701	1230	403.2	60	18.3	35	10.7		CLAY	MEDIUM SAND	STONES	Deutock	20	7.0	55	10.1	TRESH	21/03/1930	water Supply	Livestock
					102	31.1	42	12.8		LIMESTONE											
					1	0.3	1	0.3		TOPSOIL											
					55	16.8	54	16.5	BROWN	CLAY	STONES										
					58	17.7	3	0.9	BROWN	MEDIUM SAND											
4901048	578747	4848905	1192	390.8	70	21.3	12	3.7	BROWN	CLAY	GRAVEL		Bedrock	82	25.0	43	13.1	FRESH	14/10/1967	Water Supply	Domestic
					87	26.5	17	5.2	BROWN	MEDIUM SAND	0041/5/										
					105	32.0	18	5.5	BROWN	CLAY	GRAVEL										
					107	32.6	2	0.6	RED	SHALE	STONES										
					3	0.9	3	0.9	BROWN	TOPSOIL	MEDIUM SAND										
4902063	583130	4844862	1145	375.4	12	3.7	9	2.7	BROWN	CLAY	CLAY		Bedrock	34	10.4	24	7.3	FRESH	24/08/1967	Water Supply	Domestic
					32	9.0	20	0.1	WUITE		CLAT		4								
					40	12.2	0	2.4	DROWN	CLAY	STONES										
					53	16.2	18	14.6	BROWN	LIMESTONE	STUNES		-								
4902928	580334	4849763	1133	371.5	58	17.7	40	14.0	RED	SHALE			Bedrock						12/02/1968	Abandoned-Supply	
					60	18.3	2	0.6	BLUE	SHALE			1								
		1			6	1.8	6	1.8	BROWN	CLAY	STONES										
					53	16.2	47	14.3	BROWN	LIMESTONE	OTONEO										
4902929	580334	4849753	1142	374.3	56	17.1	3	0.9	GREY	CLAY			Bedrock	55	16.8	20	6.1	FRESH	14/02/1968	Water Supply	Domestic
					61	18.6	5	1.5	RED	CLAY											
					1	0.3	1	0.3		TOPSOIL											
					5	1.5	4	1.2	BROWN	CLAY	STONES										
4902947	580364	4849723	1179	386.7	44	13.4	39	11.9	BROWN	LIMESTONE			Bedrock	25	7.6	8	2.4	FRESH	25/06/1968	Water Supply	Domestic
					49	14.9	5	1.5	GREY	LIMESTONE										,	
					57	17.4	8	2.4	BLUE	SHALE			1								
					1	0.3	1	0.3		TOPSOIL				Î.				1			
					15	4.6	14	4.3	BROWN	CLAY	STONES										
4902948	580234	4849683	1081	354.5	45	13.7	30	9.2	BROWN	LIMESTONE			Bedrock	50	15.2	30	9.1	FRESH	22/01/1968	Water Supply	Domestic
					51	15.5	6	1.8	GREY	LIMESTONE											
					53	16.2	2	0.6	RED	SHALE											
					12	3.7	12	3.7		CLAY	BOULDERS										
4903134	581629	4848153	1312	430.1	37	11.3	25	7.6		CLAY	MEDIUM SAND	STONES	Bedrock						23/07/1968	Water Supply	Domestic
4000104	001020	4040100	1012	400.1	67	20.4	30	9.2		MEDIUM SAND			Dearook						20/01/1000	Water Oupply	Domestic
	I	I	<u> </u>		69	21.0	2	0.6	I	LIMESTONE					1	I	1	Į			
1	1	1	I		1	0.3	1	0.3		TOPSOIL			1		1	I	1				
4903135	581539	4848223	1313	430,5	73	22.3	72	22.0	0.5.5.1/	CLAY	GRAVEL	BOULDERS	Bedrock		1	I	1		15/05/1968	Water Supply	Domestic
					85	25.9	12	3.7	GREY	BOULDERS					1	I	1	1			
					103	31.4	18	5.5	GREY	LINESTONE	DOLU SERA					I		ļ			
4000407	504054	4040500	1000	405.0	30	9.1	30	9.2	+	MEDIUM SAND	BOULDERS	OTONEO	Destruction		1	I	1	1	20/40/4000	Water Original	Dem t'-
4903137	201224	4048523	1328	435.3	0U	24.4	50	15.3	BROW/M		WEDIUM SAND	SIUNES	Dedlock		1	I	1	1	29/10/1968	vvaler Supply	Domestic
			I		CO	20.9	5 4.4	1.5	DRUWIN							<u> </u>					1
4002142	570090	4840222	1174	395 4	14	4.3	14	4.3		CLAY		STONES	Bodrook		1	I	1	1	06/05/1069	Water Supply	Domostio
4903143	579069	4049323	11/4	300.1	69	20.7	40	14.0 1 Q	1	SHALE		STUNES	Deulock		1	1			00/03/1908	water Suppry	Domestic
L	1	1	1		00	20.1	U	1.0	1	STIALE	1			1			1	1			

	1	T			-													1			1
WELL ID	Easting	Northing	Elev	ation	De	eptn	Inic	Kness	MaterialColor	Material	Material2	Material3		water	r_Depth	Stat	ic_iev	Water kind	Date Complete	Final Status	Use
_			ft	m	ft	m	ft	m					Well Type	ft	m	ft	m				
					12	3.7	12	3.7		FILL											
1000111	570400	40.40500	4400	000.0	63	19.2	51	15.6		BOULDERS			Destruct	110	00.0	70	01.0	FREQU	40/07/4000	Maria O marka	Description
4903144	579139	4649555	1123	300.3	105	32.0	42	12.8		LIMESTONE			Bedrock	119	30.3	70	21.3	FRESH	10/07/1900	water Supply	Domestic
					120	36.6	15	4.6	RED	SHALE			1								
					44	13.4	44	13.4		CLAY	GRAVEL										
4903148	580814	4845373	1246	408.6	92	28.0	48	14.6	GREY	LIMESTONE			Bedrock	85	25.9	15	4.6	FRESH	12/01/1968	Water Supply	Domestic
					60	18.3	60	18.3		CLAY	GRAVEL										
					110	33.5	50	15.3		CLAY											Domestic/
4903149	580394	4845883	1293	423.8	125	38.1	15	4.6	BROWN	LIMESTONE			Bedrock	175	53.3	20	6.1	FRESH	23/07/1968	Water Supply	Livestock
					195	59.4	70	21.4	GREY	LIMESTONE											
					50	15.2	50	15.3		GRAVEL	BOUILDERS										Domestic/
4903340	581854	4847913	1286	421.7	128	39.0	78	23.8	GREY	LIMESTONE	DOOLDLING		Bedrock	127	38.7	20	6.1	FRESH	04/11/1969	Water Supply	Livestock
					32	0.0	32	0.8	BROWN	CLAY	STONES										Domostic/
4903342	582764	4844043	1144	375.2	63	10.2	31	9.0	GREV		STONES		Bedrock	62	18.9	30	9.1	FRESH	26/07/1969	Water Supply	Domestic/
					1	0.2	1	0.0	ORET	TOPSOIL											LIVESIOCK
4903373	582794	4845073	1147	376.2	1	12.2	20	0.3	PROWN	LIMESTONE			Bedrock	40	12.2	14	4.3	FRESH	03/12/1969	Water Supply	Domestic
					40	12.2	39	11.9	BROWN		004/51										
					56	17.1	56	17.1		BOULDERS	GRAVEL										
					64	19.5	8	2.4	B B G M M I	GRAVEL	0.5.11/5/										
					92	28.0	28	8.5	BROWN	CLAY	GRAVEL										
					98	29.9	6	1.8		GRAVEL											Domestic/
4903414	578144	4848573	1182	387.5	127	38.7	29	8.8		CLAY	GRAVEL		Bedrock	177	53.9	45	13.7	FRESH	03/12/1969	Water Supply	Livestock
					155	47.2	28	8.5	GREY	HARDPAN											
					158	48.2	3	0.9	BLUE	SHALE											
					1//	53.9	19	5.8	GREY	LIMESTONE											
					180	54.9	3	0.9	BLUE	SHALE											
4903502	582714	4844483	1134	371.6	2	0.6	2	0.6	BROWN	TOPSOIL			Bedrock	47	14.3	23	7.0	FRESH	23/09/1970	Water Supply	Domestic
					50	15.2	48	14.6	BROWN	LIMESTONE										······	
					2	0.6	2	0.6	BLACK	TOPSOIL											
4903599	581844	4848463	1324	434.0	18	5.5	16	4.9	BLUE	BOULDERS	CLAY		Bedrock	90	27.4	52	15.9	FRESH	01/06/1971	Water Supply	Domestic
					60	18.3	42	12.8	BROWN	CLAY	GRAVEL										
					105	32.0	45	13.7	GREY	ROCK											
					3	0.9	3	0.9	BLACK	TOPSOIL											
4903608	582564	4845003	1153	378.1	6	1.8	3	0.9	BROWN	CLAY	GRAVEL		Bedrock	60	18.3	10	3.0	FRESH	03/06/1971	Water Supply	Domestic
400000	002004	4040000	1100	070.1	18	5.5	12	3.7	BROWN	ROCK			Dearook	00	10.0	10	0.0	TREON	00/00/13/1	Water Oupply	Domestic
					75	22.9	57	17.4	GREY	ROCK											
					1	0.3	1	0.3		TOPSOIL											
					25	7.6	24	7.3	BROWN	CLAY	STONES										
					35	10.7	10	3.1	BROWN	CLAY	GRAVEL										
					75	22.9	40	12.2	BROWN	CLAY	STONES										
					83	25.3	8	2.4	BLUE	CLAY											
4903703	579614	4849823	1183	388.0	115	35.1	32	9.8	BLUE	CLAY	ROCK		Bedrock	160	48.8	110	33.5	FRESH	04/11/1971	Water Supply	Domestic
					160	48.8	45	13.7	BROWN	ROCK											
					175	53.3	15	4.6	BLUE	CLAY	ROCK										
					215	65.5	40	12.2	RED	CLAY	ROCK										
					220	67.1	5	1.5	BLUE	CLAY	ROCK										
					255	77.7	35	10.7	RED	CLAY	ROCK										
					9	2.7	9	2.7	BROWN	CLAY	STONES										
4903764	583204	4844943	1147	376.2	58	17.7	49	14.9	GREY	LIMESTONE	CLAY		Bedrock	85	25.9	36	11.0	FRESH	15/11/1971	Water Supply	Domestic
					90	27.4	32	9.8	GREY	LIMESTONE											
					28	8.5	28	8.5	BROWN	GRAVEL	CLAY										
4003832	570314	4840472	1163	381 F	35	10.7	7	2.1	GREY	LIMESTONE	SHALE		Bedrock	112	3/1 1	50	15.2	FRECH	24/05/1072	Water Supply	Domestic
+303032	010014	4040473	1103	001.0	90	27.4	55	16.8	BLUE	SHALE	LIMESTONE		Deditook	112	04.1	50	10.2	TREON	2-100/1012	Water Ouppry	Domeauo
					118	36.0	28	8.5	GREY	LIMESTONE											
			T	I	1	0.3	1	0.3		TOPSOIL				ľ	Τ	T	1				
1	1	1	1	1	20	6.1	19	5.8	BROWN	CLAY	STONES]	I	1	1	1				
1	1	1	1	1	25	7.6	5	1.5	BROWN	CLAY	GRAVEL]	I	1	1	1				
					40	12.2	15	4.6	BROWN	CLAY	STONES		1								
					58	17.7	18	5.5	GREY	CLAY	GRAVEL										
4903893	579564	4849763	1175	385.2	65	19.8	7	2.1	RED	CLAY	GRAVEL		Bedrock	195	59.4	100	30.5	FRESH	09/12/1972	Water Supply	Domestic
					80	24.4	15	4.6	GREY	CLAY	GRAVEL										
					100	30.5	20	6.1	GREY	CLAY	ROCK										
					130	39.6	30	9.2	BROWN	CLAY	ROCK										
		1			180	54.9	50	15.3	RED	CLAY	ROCK]	1		1	1				
					265	80.8	85	25.9	RED	CLAY											
4003064	582660	4844519	1144	375.4	7	2.1	7	2.1	BROWN	BOULDERS	CLAY		Bedrock	50	15.2	38	11.6	EDESH	14/00/1072	Water Supply	Domestic
4903904	002009	4044316	1144	315.1	60	18.3	53	16.2	BROWN	LIMESTONE			DECIOCK	50	10.2	30	11.0	FREOR	14/03/19/2	water Suppry	Domestic
			I	I	2	0.6	2	0.6	BROWN	TOPSOIL				ľ	Τ	T	1				
1	1	1	1	1	16	4.9	14	4.3	WHITE	GRAVEL	CLAY		1	I	1	1	1				
1	1	1	1	1	25	7.6	9	2.7	WHITE	FINE SAND	CLAY		1	I	1	1	1				
4004044	570274	4940610	1107	260 5	32	9.8	7	2.1	WHITE	MEDIUM SAND	SHALE		Podrock	105	22.0	40	12.2	EDECU	16/11/1072	Wotor Supply	Domostic
4904041	519314	4049013	1127	309.5	47	14.3	15	4.6	GREY	CLAY	SAND		DECITOCK	105	32.0	40	12.2	FREOR	10/11/19/2	water Suppry	Domestic
1	1	1	1	1	57	17.4	10	3.1	GREY	CLAY	LIMESTONE		J	I	1	1	1				
1	1	1	1	1	92	28.0	35	10.7	GREY	LIMESTONE	CLAY		J	I	1	1	1				
		1	1		180	54.9	88	26.8	RED	SHALE					1	1	1				

			Elev	ation	De	pth	Thic	kness						Water	Depth	Stati	ic_lev			-	
WELL_ID	Easting	Northing	ft	m	ft	m	ft	m	MaterialColor	Material	Material2	Material3	Well Type	ft	m	ft	m	Water_kind	Date Complete	Final_Status	Use
			1		25	7.6	25	7.6	BROWN	CLAY	STONES										
					35	10.7	10	3.1	BROWN	CLAY	STONES	SAND	1								
					60	18.3	25	7.6	BROWN	CLAY	GRAVEL										Domestic/
4904255	579712	4849856	1187	389.3	65	19.8	5	1.5	RED	CLAY	STONES		Bedrock	120	36.6	75	22.9	FRESH	16/05/1973	Water Supply	Livestock
					90	27.4	25	7.6	BLUE	SHALE											
					125	38.1	35	10.7	BROWN	RUCK			-								
					180	04.9	1	10.8	RED	TOPSOIL											
					40	12.2	39	11.9	BROWN	CLAY	SAND	STONES									
					75	22.9	35	10.7	BROWN	CLAY	SAND	GRAVEL									
4904256	579882	4849907	1113	365.0	80	24.4	5	1.5	GREY	CLAY	SAND	GRAVEL	Bedrock	150	45.7	105	32.0	FRESH	07/04/1973	Water Supply	Domestic
					95	29.0	15	4.6	GREY	ROCK]								
					150	45.7	55	16.8	BROWN	ROCK											
					228	69.5	78	23.8	RED	SHALE											
					1	0.3	1	0.3	DDOW/N	TOPSOIL	CTONES										
					20	0.1	75	22.0	BROWN	CLAY	SAND	GRAV/EI	-								
4904405	579572	4846935	1308	429.0	145	44.2	50	15.3	BROWN	CLAY	SAND	GRAVEL	Bedrock	156	47.5	45	13.7	FRESH	26/08/1974	Water Supply	Domestic
					149	45.4	4	1.2	BROWN	CLAY	GRAVEL										
					207	63.1	58	17.7	GREY	ROCK			1								
			1		1	0.3	1	0.3	BROWN	TOPSOIL											
					30	9.1	29	8.8	BROWN	GRAVEL	SAND	BOULDERS									
4904407	578846	4848676	1207	395.7	32	9.8	2	0.6	GREY	GRAVEL			Overburden	55	16.8	40	12.2	FRESH	23/07/1974	Water Supply	Domestic
					52	15.8	20	6.1	BROWN	GRAVEL	SAND	BOULDERS									
					55	16.8	3	0.9	GREY	GRAVEL	SAND										
4904488	580349	4849567	1213	397.8	38	9.1	30	9.2	BROWN	LIMESTONE	SAND		Bedrock	38	11.6	28	8.5	FRESH	29/09/1974	Water Supply	Domestic
					22	6.7	22	6.7	BROWN	SAND	BOULDERS	GRAVEL									
4904489	580624	4849458	1249	409.6	25	7.6	3	0.9	BROWN	SANDSTONE			Bedrock	29	8.8	15	4.6	FRESH	05/09/1974	Water Supply	Domestic
					30	9.1	5	1.5	BROWN	LIMESTONE											
					3	0.9	3	0.9	BROWN	TOPSOIL											
4904555	579438	4849307	1180	386.8	28	8.5	25	7.6	BROWN	CLAY	BOULDERS		Bedrock	43	13.1	9	2.7	FRESH	09/04/1974	Water Supply	Domestic
					43	13.1	15	4.6	WHITE	GRAVEL	SAND		4								
					40	6.4	21	6.4	BROWN												
					53	16.2	32	9.8	BROWN	GRAVEL	CLAY										
4904573	581351	4848411	1322	433.5	72	21.9	19	5.8	GREY	SAND			Bedrock	77	23.5	53	16.2	FRESH	17/09/1974	Water Supply	Domestic
					80	24.4	8	2.4	GREY	LIMESTONE											
					18	5.5	18	5.5	BROWN	CLAY	BOULDERS										
4904661	580509	4849246	1251	410.0	41	12.5	23	7.0	BROWN	SAND			Bedrock	44	13.4	39	11.9	FRESH	07/05/1975	Water Supply	Domestic
					62	18.9	21	6.4	GREY	LIMESTONE											
					27	8.2	26	7.9	BROWN	SAND	BOULDERS		-								
4904662	580648	4849216	1261	413.3	89	27.1	62	18.9	GREY	SAND	BOOLDERG		Bedrock	120	36.6	60	18.3	FRESH	15/05/1975	Water Supply	Domestic
					136	41.5	47	14.3	BROWN	LIMESTONE			1								
4904689	580618	4849631	1239	406.3	32	9.8	32	9.8		PREV. DRILLED			Bedrock	35	10.7	24	7.3	FRESH	20/03/1975	Water Supply	Domestic
					45	13.7	13	4.0	WHITE	LIMESTONE											
4904724	580682	4849561	1254	411.3	45	13.7	45	13.7		LIMESTONE			Bedrock	40	12.2	32	9.8	FRESH	12/07/1975	Water Supply	Domestic
					58	17.7	58	17.7	BROWN	SAND	BOULDERS										
4904725	580580	4849183	1251	410.2	81	24.7	23	7.0	BROWN	LIMESTONE			Bedrock	62	18.9	50	15.2	FRESH	28/07/1975	Water Supply	Domestic
4904726	580541	4840306	1240	400.4	39	11.9	39	11.9	BROWN	BOULDERS	SAND		Bedrock	44	13.4	35	10.7	EDESH	17/08/1075	Water Supply	Domestic
4304720	000041	4040000	1245	403.4	60	18.3	21	6.4	YELLOW	LIMESTONE			Dearook		10.4	00	10.7	TREON	11/00/13/0	Water Ouppiy	Domestic
4904727	580640	4849222	1260	413.0	61	18.6	61	18.6	BROWN	SAND	STONES	BOULDERS	Bedrock	78	23.8	59	18.0	FRESH	22/08/1975	Water Supply	Domestic
					20	6.1	30	9.2	BROWN	SAND	STONES	BOULDERS									
4904728	580555	4849441	1250	409.7	60	18.3	40	12.2	WHITE	LIMESTONE	OTONEO	DOOLDEINO	Bedrock	29	8.8	12	3.7	FRESH	27/08/1975	Water Supply	Domestic
					2	0.6	2	0.6	BROWN	TOPSOIL											
4904750	579384	4849547	1139	373.5	34	10.4	32	9.8	GREY	CLAY	STONES	CLAY	Bedrock	59	18.0	30	9.1	FRESH	02/09/1975	Water Supply	Domestic
					65	19.8	31	9.5	GREY	LIMESTONE											
					20	6.1	20	6.1	BROWN	BOULDERS	SAND	GRAVEL									
4004772	580617	4840208	1254	411.1	42	12.0	22	0.7	WHITE		GRAVEL		Bedrock	50	15.2	46	14.0	EDESH	08/10/1075	Water Supply	Domestic
4304772	500017	4043230	12.54	411.1	44	14.3	3	0.9	BROWN	SAND	GRAVEL		Deutock	50	10.2	40	14.0	TREON	00/10/19/5	Water Suppry	Domestic
1					84	25.6	37	11.3	WHITE	LIMESTONE			1	1							
					35	10.7	35	10.7	BROWN	SAND	GRAVEL	BOULDERS									
4904798	580670	4849458	1250	409.7	63	19.2	28	8.5	BROWN	SAND	GRAVEL		Bedrock	1		58	17.7	FRESH	23/10/1975	Water Supply	Domestic
					91	27.7	28	8.5		LIMESTONE	B010			ļ							
400 1010	500511	40.400000	10.15	400.4	21	6.4	21	6.4	BROWN	SAND	BOULDERS		Destruction	~~	6.1	~~~	67	EDEOU	07/40/4075	Weter Original	Derrical
4904812	580541	4849360	1245	408.1	29	8.8 10.2	8	2.4	YELLOW				Bedrock	30	9.1	22	6.7	FRESH	27/10/1975	vvater Supply	Domestic
H			 		24	7.3	24	7.3	BROWN	SAND	BOULDERS										
4904813	578861	4849089	1172	384.2	78	23.8	54	16.5	GREY	SAND	GRAVEL	CLAY	Overburden	98	29.9	33	10.1	FRESH	28/11/1975	Water Supply	Domestic
					98	29.9	20	6.1	GREY	GRAVEL	SAND		1								

			Elev	ation	De	pth	Thic	kness						Water	Depth	Stat	c lev				
WELL_ID	Easting	Northing	ft	m	ft	m	ft	m	MaterialColor	Material	Material2	Material3	Well Type	ft	m	ft		Water_kind	Date Complete	Final_Status	Use
					25	7.6	25	7.6	BROWN	SAND	BOULDERS		Wen Type								
					23	8.5	2.5	0.0	PED	SAND	CLAY										
					30	9.1	2	0.5	GREY	SAND	CLAY										
4904816	579434	4849486	1131	370.7	33	10.1	3	0.0	RED	SAND	CLAY		Bedrock	76	23.2	38	11.6	FRESH	23/12/1975	Water Supply	Domestic
1001010	0.0101	1010100		0.0	47	14.3	14	4.3	GREY	SAND	CLAY		Dourook		20.2	00			20/12/10/0	mator euppry	Domodilo
					58	17.7	11	3.4	GREY	STONES	ROCK										
					78	23.8	20	6.1	GREY	ROCK											
1001051		1010507		074.0	20	6.1	20	6.1	BROWN	SAND	BOULDERS			=0					00/10/1075		
4904854	579373	4849527	1142	374.3	54	16.5	34	10.4	RED	SHALE			Bedrock	53	16.2	18	5.5	Not stated	23/12/19/5	Water Supply	Domestic
100 1070	570044	1010100	4470	0045	15	4.6	15	4.6	BROWN	STONES	SAND	BOULDERS	Quarterative	40	5.0	-	4.5	EDEOU	05/05/4070	Marian Originali	Demonster
4904679	576914	4649123	1173	364.5	19	5.8	4	1.2		GRAVEL	SAND		Overburden	19	0.0	э	1.5	FRESH	25/05/1976	water Supply	Domestic
					118	36.0	118	36.0	BROWN	CLAY	GRAVEL										
4904913	578714	4849123	1160	380.2	163	49.7	45	13.7	GREY	LIMESTONE	SHALE		Bedrock	182	55.5	41	12.5	FRESH	21/05/1976	Water Supply	Public
					182	55.5	19	5.8	RED	SHALE											
4004071	580464	4840323	12/2	407.4	22	6.7	22	6.7	BROWN	SAND	BOULDERS	CLAY	Bedrock	41	12.5			ERESH	27/08/1076	Water Supply	Domestic
4904971	560404	4049323	1242	407.4	60	18.3	38	11.6	WHITE	LIMESTONE			Deutock	41	12.0			FRESH	21/06/19/0	water Supply	Domestic
4904973	580664	4849573	1255	411.4	32	9.8	32	9.8	BROWN	SAND	BOULDERS		Bedrock	54	16.5	34	10.4	FRESH	23/09/1976	Water Supply	Domestic
4304310	500004	4043010	1200	411.4	60	18.3	28	8.5	WHITE	LIMESTONE			Dearook	04	10.0	04	10.4	TREON	20/03/1310	Water Ouppiy	Domestic
4905014	580549	4849543	1242	407.2	35	10.7	35	10.7	BROWN	SAND	GRAVEL	BOULDERS	Bedrock	78	23.8	31	9.5	FRESH	13/04/1976	Water Supply	Domestic
4303014	000040	4040040	1242	407.2	84	25.6	49	14.9	WHITE	LIMESTONE			Dearook	10	20.0	01	5.0	TREON	10/04/1010	Water Ouppiy	Domestic
					4	1.2	4	1.2	BROWN	CLAY	SAND	SOFT									
4905024	583064	4845323	1142	374.3	18	5.5	14	4.3	RED	CLAY	SAND	BOULDERS	Bedrock	64	19.5	28	8.5	FRESH	11/12/1976	Water Supply	Domestic
					72	21.9	54	16.5	BROWN	LIMESTONE	HARD										
					19	5.8	19	5.8		PREV. DRILLED											
					30	9.1	11	3.4	BROWN	SAND	BOULDERS										
4905033	579164	4849523	1115	365.4	33	10.1	3	0.9	GREY	CLAY	0701/50	0.11/	Bedrock	97	29.6	28	8.5	FRESH	20/12/1976	Water Supply	Domestic
					96	29.3	63	19.2	GREY	SAND	STONES	CLAY				-		-			
					130	39.6	34	10.4	GREY	SHALE	HARD										
					140	42.7	10	3.1	RED	SHALE	SUFI										
					1	0.3	1	0.3	BROWN	TUPSUL											
4905053	581064	4848723	1329	435.6	40	12.2	39	11.9		GRAVEL	BOULDERS		Overburden	85	25.9	60	18.3	FRESH	23/07/1975	Water Supply	Domestic
					04	25.0	44	13.4		GRAVEL	PACKED		-								
					60	20.9	E E	1.0	PPOW/N	CLAY			1								
4905075	582264	4847623	1240	406.6	65	10.8	59	18.0	GREY	LIMESTONE			Bedrock	65	19.8	10	3.0	FRESH	24/09/1976	Water Supply	Domestic
			-		14	13.0	14	10.0	BROWN		CLAY	STONES									
					30	9.1	16	4.5	BROWN	SAND	CLAY	STONES									
					82	25.0	52	15.9	BROWN	CLAY	ODAT										
4905085	578914	4849273	1157	379.2	115	35.1	33	10.1	GREY	CLAY	STONES		Bedrock	150	45.7	46	14.0	MINERIAL	27/09/1976	Water Supply	Domestic
					145	44.2	30	9.2	GREY	SHALE	LAYERED										
					195	59.4	50	15.3	RED	SHALE											
4005474	500444	10.10.100	4000	405.0	24	7.3	24	7.3	BROWN	SAND	BOULDERS		Destruction	00	44.0			EDEOU	00/00/4077	Marian Originalia	Demonth
4905174	580414	4849423	1236	405.2	63	19.2	39	11.9	WHITE	LIMESTONE	HARD		Bedrock	39	11.9	21	6.4	FRESH	23/06/1977	vvater Supply	Domestic
					6	1.8	6	1.8	BROWN	SAND											
					30	9.1	24	7.3	BROWN	SAND	BOULDERS	CLAY									
4905176	580784	4840462	1252	412 F	32	9.8	2	0.6	BROWN	SAND	CLAY		Bedrock	43	13.1	30	11.0	EDESH	27/07/1077	Water Supply	Domestic
4303170	5007.04	4049403	1200	412.0	35	10.7	3	0.9	BROWN	SANDSTONE			DEGIOCK	+3	13.1	39	11.9	псоп	21/01/13/1	water Suppry	Domestic
1					42	12.8	7	2.1	BROWN	LIMESTONE	LIGHT-COLOURED		1	1	1		I				
L		L	L		71	21.6	29	8.8	WHITE	LIMESTONE				1							
1					57	17.4	57	17.4		GRAVEL	BOULDERS		4	1	1		I				
					92	28.0	35	10.7		CLAY	STONES										
4905259	579114	4849323	1177	385.9	99	30.2	7	2.1		SHALE	0.1415		Bedrock	135	41.1	59	18.0	FRESH	29/10/1977	Water Supply	Domestic
					131	39.9	32	9.8		DOLOMITE	SHALE							-			
					145	44.2	14	4.3	DED	SANDSTONE											
					200	61.0	55	16.8	RED	SHALE	OAND										
1					53	0.7	22	0.7	GREV		SAIND	I AVERED	1	1	1		l				
4905271	579364	4849623	1125	368.9	02	28.0	30	3.0	GREV	SHALE	SOADSTONE	LATERED	Bedrock	77	23.5	45	13.7	FRESH	13/10/1977	Water Supply	Domestic
1					92	20.0	39	0.9	RED	SHALE SHALE	JUAFSTUNE	LATERED	1	1	1		l				
 					13	4.0	13	4.0	BROWN	CLAY	STONES		ł								
1					27	8.2	14	4.0	BROWN	COARSE GRAVEL	COARSE SAND	STONES	1	1	1		l				
1					30	9.1	3	0.9	BROWN	MEDIUM SAND	CONTOL ONIND	OTOMED	1	1	1		l				
4905293	579464	4846623	1312	430.2	97	29.6	67	20.4	BROWN	COARSE GRAVEL	CLAY	STONES	Bedrock	140	42.7	24	7.3	FRESH	01/10/1977	Water Supply	Domestic
1					115	35.1	18	5.5	GREY	HARDPAN	ROCK	LAYERED	1	1	1		l				
1			1		150	45.7	35	10.7	GREY	ROCK	1		1	I	1						
100501-	======	10.10.17-	1016	000 -	16	4.9	16	4.9	BROWN	SAND	CLAY	BOULDERS						55500	10/05/1076		
4905347	580364	4849473	1218	399.3	61	18.6	45	13.7	BROWN	LIMESTONE			Bedrock	58	17.7	22	6.7	FRESH	10/05/1978	Water Supply	Domestic

WELLID	Fasting	Northing	Eleva	ation	De	pth	Thic	kness	MatarialCalar	Meterial	Meterial2	Metavial2		Water	_Depth	Stati	c_lev	Water kind	Data Comulata	Final Status	llee
WELL_ID	Easting	Northing	ft	m	ft	m	ft	m	MaterialColor	Material	Material2	Material3	Well Type	ft	m	ft	m	water_kind	Date Complete	Final_Status	Use
					3	0.9	3	0.9	GREY	CLAY	STONES	SOFT									
					10	3.0	7	2.1	BROWN	STONES	SAND	CLAY									
					21	6.4	11	3.4	BROWN	SAND	CLAY	BOULDERS									
					75	22.9	54	16.5	GREY	CLAY	SAND	BOULDERS									
					77	23.5	2	0.6	RED	CLAY	SAND	STONES									
4905356	579064	4849123	1192	390.8	98	29.9	21	6.4	BLUE	CLAY	SAND	HARD	Bedrock	170	51.8	55	16.8	FRESH	05/05/1978	Water Supply	Domestic
					105	32.0	7	2.1	GREY	SHALE	CLAY	SAND									
					135	41.1	30	9.2	GREY	LIMESTONE	SHALE	LAYERED									
					138	42.1	3	0.9	RED	SANDSTONE	SOFT										
					140	42.7	2	0.6	GREY	SANDSTONE	HAKD	COLL									
					173	52.7	33	10.1	RED		SANDSTONE	SUFT									
4905467	581264	4844773	1202	394.1	20	0.0	20	0.0	CREV	DVERBURDEN		STUNES	Bedrock	75	22.9	34	10.4	FRESH	31/07/1978	Water Supply	Domestic
					40	24.4	32	10.9	BROWN	RUCK	CTONES				-		-				
					40 80	24.4	32	0.8	GREV	CLAY	STONES										
					95	29.0	15	4.6	GREY	CLAY	SOFT										
4905490	579514	4849523	1103	361.7	112	34.1	17	5.2	GREY	CLAY	ROCK		Bedrock	155	47.2	57	17.4	Not stated	18/10/1977	Water Supply	Domestic
					143	43.6	31	9.5	GREY	ROCK	CLAY										
					180	54.9	37	11.3	RED	SHALE											
					4	1.2	4	1.2	BROWN	CLAY											
4905494	581764	4844523	1175	385.2	24	7.3	20	6.1	GREY	DOLOMITE	FRACTURED		Bedrock	128	39.0	20	6.1	FRESH	22/06/1978	Water Supply	Livestock
					138	42.1	114	34.8	GREY	DOLOMITE				-		-	-	-			
4005570	504004	40.40000	4004	40.4.4	85	25.9	85	25.9		CLAY	BOULDERS	SAND	De des els	404	00.0	40	44.0	FREQU	40/05/4070	Mater Originali	Demonster
4905579	581064	4848623	1324	434.1	131	39.9	46	14.0		LIMESTONE			Bedrock	121	36.9	49	14.9	FRESH	18/05/1979	water Supply	Domestic
					26	7.9	26	7.9	BROWN	CLAY	HARD										
4005610	579014	4940272	1157	270.2	95	29.0	69	21.0	GREY	CLAY	STONES		Podrook	150	45 7	E2	15.0	EDECU	02/11/1070	Wotor Supply	Domostio
4905619	576914	4049273	1157	379.2	134	40.8	39	11.9	GREY	SHALE	STONES		Bedrock	150	45.7	52	15.9	FRESH	02/11/19/9	water Supply	Domestic
					180	54.9	46	14.0	RED	SHALE											
4905690	582814	4844723	1137	372.0	18	5.5	18	5.5	BROWN	SAND	GRAVEL		Bedrock	35	10.7	15	4.6	EDECH	20/11/1077	Water Supply	Domestic
4303030	302014	4044723	1137	572.3	42	12.8	24	7.3	BROWN	LIMESTONE			Dedrock	55	10.7	15	4.0	TRESH	20/11/13/1	water Supply	Domestic
					55	16.8	55	16.8	BROWN	GRAVEL	STONES	CLAY									
4905766	579514 4846673	1307	428.6	120	36.6	65	19.8	BROWN	FINE GRAVEL	COARSE SAND	CLAY	Bedrock	175	53.3	39	11.9	FRESH	20/04/1980	Water Supply	Domestic	
1000100	0.0011	1010010		120.0	145	44.2	25	7.6	GREY	CLAY	STONES		Dogroon		00.0	00			20/0 1/1000	mator ouppiy	Domodilo
					180	54.9	35	10.7	GREY	STONES	LIMESTONE										
					79	24.1	79	24.1	BROWN	CLAY	STONES										
4905817	580814	4848973	1325	434.3	87	26.5	8	2.4	BROWN	STONES			Bedrock	114	34.7	75	22.9	FRESH	24/09/1981	Water Supply	Domestic
					115	35.1	28	8.5	GREY	STUNES											
4905861	583464	4846273	1181	387.1	5	1.5	5	1.5	BROWN		STONES		Bedrock	60	18.3	19	5.8	FRESH	02/07/1981	Water Supply	Domestic
					10	23.2	10	21.7	GRET						-		-				
					12	3.7	12	3.7		GRAVEL	STONES										
					50	15.2	14	43		GRAVEL	BOULDERS										
					85	25.9	35	10.7		CLAY	STONES										
4905863	578864	4849023	1174	384.9	98	29.9	13	4.0	GREY	CLAY	SAND	SILTY	Bedrock	140	42 7	60	18.3	FRESH	19/06/1981	Water Supply	Domestic
					114	34.7	16	4.9	GREY	CLAY	STONES										
					126	38.4	12	3.7	BLUE	SHALE											
					155	47.2	29	8.8	GREY	DOLOMITE	SHALE										
					172	52.4	17	5.2		SANDSTONE											
					20	6.1	20	6.1		BOULDERS	GRAVEL	CLAY									
4005867	578814	4848873	1203	304.3	67	20.4	47	14.3		FINE SAND			Overburden	82	25.0	30	0.1	EDECH	20/08/1081	Water Supply	Domestic
4303007	570014	4040073	1205	334.3	79	24.1	12	3.7		CLAY	BOULDERS		Overbuiden	02	20.0	50	3.1	TREOT	20/00/1301	water Supply	Domestic
L					83	25.3	4	1.2		STONES				L	<u> </u>						
					61	18.6	61	18.6	WHITE	BOULDERS	SAND										
100				10	67	20.4	6	1.8	BROWN	LIMESTONE					a	<i>a</i> -					
4905906	581514	4847623	1302	426.8	73	22.3	6	1.8	BROWN	CLAY	BOULDERS		Bedrock	110	33.5	35	10.7	SULPHUR	06/08/1981	Water Supply	Domestic
1			1	1	89	27.1	16	4.9	RED	ULAY STONES	SIUNES	VEDV		1	1						
L					112	34.1	23	7.0	BLACK	STUNES		VERT		<u> </u>	-						
1					17	5.2	1/ F	5.2	BROWN		BOULDERS			1	1						
1				1	22	0.7	3	0.0	WHITE	GRAVEI	100%			1	1						
4906055	583514	4845523	1146	375.6	20	0.4	6	1.8	WHITE	LIMESTONE	LOOSL		Bedrock	26	7.9	18	5.5	Not stated	25/11/1982	Water Supply	Domestic
					36	11.0	5	1.0	WHITE	GRAVEL											
					44	13.4	8	2.4	WHITE	LIMESTONE											
					50	15.2	50	15.3	BROWN	SAND	STONES	BOULDERS			1						
1				1	55	16.8	5	1.5	BROWN	SANDSTONE	SOFT			1	1						
4906296	581842	4848299	1312	430.3	59	18.0	4	1.2	BROWN	SAND	GRAVEL	BOULDERS	Bedrock	75	22.9	44	13.4	FRESH	02/05/1985	Water Supply	Domestic
					73	22.3	14	4.3	BROWN	SANDSTONE	HARD	LAYERED		1			L				
1					91	27.7	18	5.5	GREY	LIMESTONE		HARD		1	1						
1					35	10.7	35	10.7	BROWN	CLAY	STONES										
4906310	579338	4849346	1176	385.5	38	11.6	3	0.9	RED	CLAY	GRAVEL		Overburden	40	12.2	20	6.1	FRESH	31/05/1985	Water Supply	Public
					40	12.2	2	0.6		GRAVEL	SAND										
					40	12.2	40	12.2		PREV. DRILLED											
l					45	13.7	5	1.5	GREY	CLAY		LOOSE			Ι.						
4906377	579397	4849397	1173	384.5	51	15.5	6	1.8	RED	SHALE		HARD	Bedrock	121	36.9	56	17.1	Not stated	10/10/1991	Water Supply	Domestic
1					130	39.6	79	24.1	GREY	LIMESTONE				1	1		I				
					140	42.7	10	3.1	RED	SHALE				1							

	Factions	Manthland	Eleva	ation	De	pth	Thic	kness	MarialOalaa	Markanial	Marialo	Marianialo		Water	_Depth	Stati	c_lev	Mater Ideal	Data Originalista	First Oration	
WELL_ID	Easting	Northing	ft	m	ft	m	ft	m	MaterialColor	Material	Material2	Material3	Well Type	ft	m	ft	m	Water_kind	Date Complete	Final_Status	Use
					13	4.0	13	4.0	BROWN	SAND	GRAVEL	LOOSE									
					27	8.2	14	4.3	BROWN	GRAVEL	SAND	LOOSE									
4906378	579513	4849315	1191	390.4	30	9.1	3	0.9	BLUE	CLAY		LOOSE	Bedrock	47	14.3	12	3.7	FRESH	18/01/1986	Water Supply	Domestic
					55	16.8	25	7.6	GREY	LIMESTONE		HARD									
					00	10.0	EE I	10.9	BLUE	CRAVEL											
					77	23.5	12	3.7	GREY	CLAY	STONES	CLAT									
4000005	570700	40 4005 4	4405	000.0	104	31.7	27	8.2	GREY	SHALE			Destructo	105	00.4	405	00.0	FREQU	00/07/4005	Martin Original	Demonstra
4906385	579728	4849854	1185	388.6	125	38.1	21	6.4		SANDSTONE			Bedrock	125	38.1	105	32.0	FRESH	22/07/1985	vvater Supply	Domestic
					128	39.0	3	0.9	BLUE	SHALE											
					172	52.4	44	13.4	RED	SHALE	0041/51	01.437									
					8	2.4	8	2.4	BROWN	SAND	GRAVEL	CLAY	-								
4906462	581455	4847775	1320	432.9	23	4.9	7	2.4	BROWN	GRAVEL	SAND		Bedrock	105	32.0	34	10.4	FRESH	25/04/1985	Water Supply	Domestic
1000102	001100	1011110	.020	102.0	91	27.7	68	20.7	BROWN	CLAY	GRAVEL		Boarook		02.0	0.			20/01/1000	mator euppry	Domodilo
					110	33.5	19	5.8	GREY	LIMESTONE											
					7	2.1	7	2.1	BROWN	CLAY	STONES										
					25	7.6	18	5.5	RED	CLAY											
4906488	579324	4849607	1137	372.7	45	13.7	20	6.1	GREY	CLAY			Bedrock	132	40.2	55	16.8	FRESH	08/07/1986	Water Supply	Domestic
					84	25.0	2	0.6	BLUE	SHALE			-								
					132	40.2	48	14.6	RED	SHALE											
					15	4.6	15	4.6	BROWN	CLAY	STONES	BOULDERS									
					87	26.5	72	22.0	GREY	LIMESTONE		HARD									
4906526	582685	4844589	1142	374.5	95	29.0	8	2.4	BLUE	SHALE		HARD	Bedrock	115	35.1	10	3.0	FRESH	05/09/1986	Water Supply	Domestic
					115	35.1	20	6.1	RED	SHALE	WATER-BEARING	HARD									
					140	42.7	25	7.6	BLUE	SHALE	WATER-BEARING	HARD									
					25	0.6	23	7.0	BROWN		STONES		-								
4906548	583716	4846128	1175	385.4	43	13.1	18	5.5	BROWN	LIMESTONE				60	18.3	30	9.1	FRESH	23/09/1986	Water Supply	Domestic
					80	24.4	37	11.3	GREY	LIMESTONE											
					12	3.7	12	3.7	RED	CLAY	GRAVEL	LOOSE									
					14	4.3	2	0.6	RED	CLAY	GRAVEL	BOULDERS	Bedrock								
4000000	570005	1010010		070.0	20	6.1	6	1.8	GREY	CLAY	0041/51				7.0	-	4.5	FREQU	00/00/4007	Martin Original	Demonstra
4906608	579325	4849619	1131	370.9	22	b./ 73	2	0.6	GREY	CLAY	GRAVEL	BOULDERS	-	24	7.3	5	1.5	FRESH	26/03/1987	vvater Supply	Domestic
					29	8.8	5	1.5	GREY	LIMESTONE	ORWEL	HARD									
					33	10.1	4	1.2	BLUE	CLAY		LOOSE									
4906649	583229	4844768	1150	377.0	12	3.7	12	3.7	BROWN	CLAY	BOULDERS		Bedrock	95	29.0	48	14.6	FRESH	12/06/1987	Water Supply	Domestic
					95	29.0	83	25.3	GREY	LIMESTONE	OAND	OTONEO									
					35	10.7	35	10.7	BROWN	CLAY	GRAVEL	STONES	-								
					60	18.3	15	4.6	GREY	CLAY	GRAVEL										
4906673	579338	4849346	1176	385.5	85	25.9	25	7.6	BLUE	SHALE			Bedrock	90	27.4	57	17.4	FRESH	19/08/1987	Water Supply	Domestic
					105	32.0	20	6.1	GREY	ROCK											
					120	36.6	15	4.6	BLUE	SHALE											
					130	39.6	10	3.1	RED	SHALE											
					24 42	12.8	24	7.3	BROWN	COARSE GRAVEL	BOULDERS		-								
4906792	579549	4849813	1169	383.3	105	32.0	63	19.2	Ditowit	SHALE	CLAY	LAYERED	Bedrock	180	54.9	125	38.1	FRESH	08/10/1987	Water Supply	Domestic
					112	34.1	7	2.1	BROWN	SANDSTONE											
					180	54.9	68	20.7	RED	SHALE											
					21	6.4	21	6.4	BROWN	CLAY	STONES	BOULDERS									
4906802	579320	4849612	1134	372.0	28	8.5	/	2.1	GREY	CLAY SHALE			Bedrock	117	35.7	62	18.9	FRESH	26/01/1988	water Supply	Domestic
					121	55	18	20.4	BROWN	CLAY	BOULDERS	GRAVE			1						
4906824	578318	4847713	1236	405.3	38	11.6	20	6.1	BROWN	GRAVEL	SAND	CIUNEL	Bedrock	66	20.1	19	5.8	FRESH	20/11/1987	Water Supply	Domestic
					70	21.3	32	9.8	WHITE	LIMESTONE								_			
					6	1.8	6	1.8	BROWN	TOPSOIL											
4906843	581246	4848377	1327	435.1	97	29.6	91	27.8	BROWN	SAND	SILT	CLAY	Bedrock	33	10.1			FRESH	04/04/1988	Observation Wells	Not Used
					106	32.9	6	3.4	BROWN	TOPSOIL	FRACTURED										
4906844	581247	4848376	1327	435.1	57	17.4	51	15.6	BROWN	SAND	GRAVEL	SAND	Overburden	33	10.1			FRESH	01/05/1988	Observation Wells	Not Used
4000040	670400	40.40200	4474	204.0	7	2.1	7	2.1	BROWN	TILL	SAND	GRAVEL	Dedeed	7	2.4		-	EDECU	24/04/4086	Observation W-II-	Net Les 1
4906846	579180	4849396	11/1	384.0	17	5.2	10	3.1	GREY	LIMESTONE			Bedrock		2.1	<u> </u>	L	FRESH	24/04/1988	Observation Wells	NOT USED
1					5	1.5	5	1.5	BROWN	TOPSOIL				1							
4006019	E7002E	4940100	1100	206.0	10	3.0	5	1.5		GRAVEL			Podrock	1		20	0.1	SAL TV	22/00/1088	Wotor Supply	Domostic
4900910	019030	4049190	1160	0.000	30 45	9.1 13.7	20	4.6		GRAVEL		1	Dedruck	1		30	9.1	SALIT	22/03/1900	water Supply	Domestic
1					65	19.8	20	6.1	RED	SHALE	WATER-BEARING		1	1							
		1			1	0.3	1	0.3		TOPSOIL				İ			İ				
1		1			5	1.5	4	1.2		BOULDERS	GRAVEL]	1							
4906949	580728	4848798	1315	431.0	17	5.2	12	3.7		SAND	GRAVEL	BOULDERS	Bedrock	1		48	14.6		15/06/1988		
1		1			22	6.7 8.5	5	1.5	BROWN	BOULDERS	CLAY	SAND	1	1							
1					103	31.4	75	22.9	BICOWIN	LIMESTONE	OLAT		1								
L											1										

			Elev	ation	De	epth	Thic	kness						Water	Depth	Stati	ic_lev				
WELL_ID	Easting	Northing	ft	m	ft	m	ft	m	MaterialColor	Material	Material2	Material3	Well Type	ft	m	ft	m	Water_kind	Date Complete	Final_Status	Use
					15	4.6	15	4.6	BROWN	CLAY	STONES							-			
1000005	504707	40.40000	1001	100 7	63	19.2	48	14.6	BROWN	CLAY	SAND	GRAVEL	Budevil		00.7	50	40.0	FREQU	10/00/1000	Water Oreach	Domestic/
4906965	581797	4848082	1301	426.7	85	25.9	22	6.7	BROWN	ROCK			Bedrock	68	20.7	53	16.2	FRESH	12/06/1988	water Supply	Livestock
					145	44.2	60	18.3	GREY	ROCK											
					60	18.3	60	18.3	BROWN	CLAY	SAND										
4906977	582701	4845051	1146	375.7	147	44.8	87	26.5	BLUE	CLAY			Overburden	165	50.3	54	16.5	FRESH	06/07/1988	Water Supply	Domestic
1000011	002701	1010001		0.0	165	50.3	18	5.5	BLUE	CLAY	SILT	SAND	ovoibaraon	100	00.0	0.	10.0	1112011	00/01/1000	Trator Ouppry	Domoduo
					170	51.8	5	1.5	DROUGH	COARSE SAND	0.0.1.1.51	001110500									
					32	9.8	32	9.8	BROWN	CLAY	GRAVEL	BOULDERS		=0							
4906978	578351	4847696	1238	405.9	58	17.7	26	7.9	BROWN	GRAVEL	SAND		Bedrock	70	21.3	20	6.1	FRESH	20/09/1988	water Supply	Domestic
			-		75	1.5	5	1.5	BROWN	TOPSOIL											
					10	3.0	5	1.5	DICOVIN	GRAVEL			-								
4906996	579033	4849190	1180	386.7	30	9.1	20	6.1		GRAVEL			Bedrock			30	9.1		22/09/1988	Water Supply	Domestic
					45	13.7	15	4.6		GRAVEL											
					65	19.8	20	6.1	RED	SHALE	WATER-BEARING		1								
					1	0.3	1	0.3	BROWN	TOPSOIL											
					49	14.9	48	14.6	BROWN	CLAY	SILT	GRAVEL									
					60	18.3	11	3.4	BLUE	CLAY											
4907142	579458	4849367	1172	384.3	65	19.8	5	1.5	RED	SHALE			Bedrock	86	26.2	37	11.3	FRESH	04/07/1989	Water Supply	Domestic
					70	21.3	5	1.5	BLUE	SHALE			4								
					75	22.9	5	1.5	RED	SHALE			-								
			-		20	20.2	20	0.2	BLUE	CLAY											
4907259	583107	4844611	1149	376.9	30	9.1	- 30 - 6	9.2	BROWN	SAND	GRAVEL		Bedrock	60	18.3	33	10.1	FRESH	16/01/1990	Water Supply	Domestic
1007200	000101	1011011		0.0.0	70	21.3	34	10.4	BROWN	LIMESTONE	ONWEL		Bodrook	00	10.0	00		1112011	10/01/1000	Trator Ouppry	Domoduo
					1	0.3	1	0.3	BROWN	TOPSOIL											
4907269	582743	4843952	1144	375.0	30	9.1	29	8.8	BROWN	CLAY	GRAVEL	STONES	Bedrock	50	15.2	30	9.1	FRESH	06/11/1989	Water Supply	Domestic
					60	18.3	30	9.2	BROWN	LIMESTONE			1								
					33	10.1	33	10.1		PREV. DRILLED											
					45	13.7	12	3.7	GREY	LIMESTONE	CLAY										
4907305	579325	4849619	1131	370.9	49	14.9	4	1.2	RED	SHALE	01.41/	HARD	Bedrock	105	32.0	50	15.2	FRESH	09/05/1987	Water Supply	Domestic
					90	27.4	41	12.5	GREY	LIMESTONE	CLAY	LAYERED	-								
			-		55	16.8	20	16.8	BROWN	SAND	CLAY	GRAVEL									
4907405	578374	4847658	1240	406.4	73	22.3	18	5.5	WHITE	LIMESTONE	0011	GIUWEE	Bedrock	66	20.1	22	6.7	FRESH	17/07/1990	Water Supply	Domestic
					1	0.3	1	0.3	BLACK	TOPSOIL											
					28	8.5	27	8.2	BROWN	COARSE GRAVEL	CLAY		1								
4907470	578410	4848108	1233	404.1	33	10.1	5	1.5	WHITE	SOAPSTONE			Bedrock	105	32.0	33	10.1	FRESH	18/05/1990	Water Supply	Domestic
					78	23.8	45	13.7	WHITE	LIMESTONE											
					105	32.0	27	8.2	GREY	ROCK											
					1	0.3	1	0.3	BLACK	TOPSOIL			4								
4007527	570424	4940421	1147	276.2	21	6.4	20	6.1	BROWN	CRAVEL	STUNES		Bodrook	44	12.4	16	10	EDECU	21/08/1000	Water Supply	Domostio
4907527	579451	4049421	1147	370.2	43	13.1	10	1.2	BROWN	LIMESTONE	BOULDERS		Deulock	44	13.4	10	4.9	FRESH	31/06/1990	water Suppry	Domestic
					44	13.4	1	0.3	GREY	GRAVEL	DOOLDEIKO		-								
					1	0.3	1	0.3	-	TOPSOIL											
					11	3.4	10	3.1	BROWN	STONES	GRAVEL		1								
					42	12.8	31	9.5	GREY	GRAVEL	CLAY										
4907566	579432	4849369	1170	383.7	55	16.8	13	4.0	GREY	LIMESTONE	FRACTURED		Bedrock	57	17.4	21	6.4	Not stated	07/10/1991	Water Supply	Domestic
					60	18.3	5	1.5	BLUE	SHALE			_								
					69	21.0	9	2.7	BLUE	SHALE			-								
					96	29.3	21	0.2	BLUE	TOPCON											
					20	0.3	10	0.3	BROWN	SAND	GRAVE!	STONES	-								
4907667	579467	4849324	1184	388.1	61	18.6	41	12.5	BROWN	CLAY	SAND	GRAVEL	Bedrock	90	27.4	54	16.5	Not stated	22/07/1992	Water Supply	Domestic
1007007	0.0.01	1010021		000.1	66	20.1	5	1.5	RED	SHALE	0, 110	ONWEL	Bodrook	00	2	0.	10.0	norolalou	22/01/1002	Trator Ouppry	Domoduo
					103	31.4	37	11.3	BLUE	SHALE			1								
					1	0.3	1	0.3		TOPSOIL											
					18	5.5	17	5.2	BROWN	SILT	STONES										
1					29	8.8	11	3.4	BROWN	SILT			4								
4907835	580054	4849565	1196	392.1	33	10.1	4	1.2	GREY	SILT	GRAVEL	0.0.0./51	Bedrock	59	18.0	34	10.4	FRESH	10/05/1994	Water Supply	Domestic
			1	1	42	12.8	9	2.7	BROWN	SILT	CLAY	GRAVEL	-				1	-			
1					62	18.9	20	0.1	RED	SHALE			4								
1					106	32.3	_∠o 16	0.0 4 9	BLUE		HARD		4								
4907867	578567	4840237	1179	386.7	62	18.9	62	18.9	DLUL	GRAVEI	BOULDERS		Overburden	58	17.7	48	14.6	FRESH	12/07/1994	Water Supply	Domestic
4307007	010001	7078201	1113	550.7	29	8.8	29	8.8	BROWN	CLAY	BOULDERS	PACKED	Creibuluell	50		-+0	14.0	TREON	12/01/1004	TTAICI Ouppiy	Domeauc
1	1		I	1	45	13.7	16	4.9	BLUE	CLAY	STONES	SAND	1				1				
4907914	579020	4849145	1181	387.3	80	24.4	35	10.7	BLUE	CLAY	STONES	SAND	Overburden						04/11/1994	Water Supply	Domestic
1					97	29.6	17	5.2	BLUE	CLAY	STONES	SAND]								
		1	1		99	30.2	2	0.6	BLUE	CLAY	SAND	DENSE	1				1				

	Factor	Mandalana	Elev	ation	De	epth	Thic	kness	Martalala	Martanlal	Marialo	Mariala		Water	r_Depth	Stat	ic_lev	Martan Island	Dete Ormulate	First Otation	
WELL_ID	Easting	Northing	ft	m	ft	m	ft	m	MaterialColor	Material	Material2	Material3	Well Type	ft	m	ft	m	Water_kind	Date Complete	Final_Status	Use
					15	4.6	15	4.6		GRAVEL	BOULDERS										
					30	9.1	15	4.6		SAND											
4907937	578605	4848620	1205	395.0	76	23.2	46	14.0	BROWN	CLAY			Bedrock	84	25.6	49	14.9	FRESH	24/10/1994	Water Supply	Domestic
					80	24.4	4	1.2		ROCK	FRACTURED		_								
-					95	29.0	15	4.6	DDOWN	LIMESTONE	CTONES				-						
4907980	581289	4844657	1207	395.6	70	21.3	60	3.1	GREV		STUNES		Bedrock	60	18.3	10	3.0	FRESH	29/03/1995	Water Supply	Domestic
					1	0.3	1	0.3	ORET	TOPSOIL											
					6	1.8	5	1.5	BROWN	CLAY	GRAVEL										
					22	6.7	16	4.9	BROWN	CLAY	STONES	GRAVEL									
					33	10.1	11	3.4	GREY	GRAVEL	CLAY										
					40	12.2	7	2.1	RED	SHALE	SOFT										
4908028	579359	4849439	1163	381.2	50	15.2	10	3.1	BLUE	SHALE			Bedrock	45	13.7	45	13.7	FRESH	17/08/1995	Water Supply	Domestic
					62	18.9	10	3.1	BLUE	SHALE SHALE	SOFT	LAYERED	-								
					64	19.5	2	0.6	RED	SHALE	0011	DITERED									
					75	22.9	11	3.4	BLUE	SHALE											
					111	33.8	36	11.0	GREY	SHALE	LIMESTONE	HARD									
					1	0.3	1	0.3		TOPSOIL											
					18	5.5	17	5.2	BROWN	CLAY	STONES		_								
					58	21.3	40	12.2	GREV	CLAY	GRAVEL		-								
4908046	579773	4849928	1204	394.9	88	26.8	18	5.5	BLUE-GREY	CLAY	GIAVEL		Bedrock	120	36.6	113	34.5	Not stated	03/10/1995	Water Supply	Domestic
					105	32.0	17	5.2	BLUE	SHALE											
				127	38.7	22	6.7	BLUE	LIMESTONE												
					234	71.3	107	32.6	RED	SHALE											
					10	3.0	10	3.1	WHITE	LIMESTONE	FRACTURED										
4908139	582327	4847540	1236	405.1	40	12.2	20	9.2	BLUE	LIMESTONE	HARD		Bedrock	70	21.3	17	5.2	FRESH	21/03/1996	Water Supply	Domestic
					70	21.3	10	3.1	WHITE	LIMESTONE	HARD										
					18	5.5	18	5.5	BROWN	CLAY	BOULDERS	DENSE									
					46	14.0	28	8.5	BROWN	CLAY	STONES	DENSE									
4908201	579212	4849382	1174	384.9	85	25.9	39	11.9	BLUE	CLAY	STONES	DENSE	Bedrock	110	33.5	68	20.7	FRESH	22/04/1997	Water Supply	Domestic
					99	30.2	14	4.3	BLUE		DENSE		-								
					168	51.2	32	9.0	RED	SHALE	HARD		-								
					1	0.3	1	0.3		TOPSOIL											
					15	4.6	14	4.3	BROWN	GRAVEL	SANDY	ROCK									
					42	12.8	27	8.2	BROWN	GRAVEL	CLAY		_								
					54	16.5	12	3.7	GREY	CLAY	ROCK		-								
4908259	579615	4849394	1172	384.2	105	32.0	42	12.7	GREEN	SHALL SHALE			Bedrock	115	35.1	76	23.2	FRESH	25/09/1997	Water Supply	Domestic
1000200	0.0010	1010001		001.2	129	39.3	24	7.3	GREY	LIMESTONE	SHALE		Boarbon		00.1		20.2	1112011	20/00/1001	mator euppry	Domoduo
					142	43.3	13	4.0	GREY	SANDSTONE											
					149	45.4	7	2.1	RED	SHALE											
					151	46.0	2	0.6	GREEN	SHALE			-								
					30	91	30	9.2	BROWN	CLAY	SAND	STONES			-						
					98	29.9	68	20.7	BROWN	CLAY	SAND	GRAVEL						555011			
4908260	579070	4849102	1201	393.8	154	46.9	56	17.1	BLUE-GREY	SHALE			Bedrock	105	32.0	35	10.7	FRESH	22/10/1997	Water Supply	Domestic
					160	48.8	6	1.8	RED	SHALE											
					45	13.7	45	13.7	BROWN	CLAY	SAND	STONES	_								
4008261	578085	4840116	1175	395.3	95	29.0	50	15.3	BROWN	CLAY SHALE	SAND	GRAVEL	Bedrock	105	32.0	36	11.0	EDESH	23/10/1007	Water Supply	Domestic
4300201	576505	4043110	1175	303.5	154	46.9	55	16.8	BLUE-GREY	SHALE			Dedrock	105	52.0	50	11.0	TREOT	23/10/1337	Water Suppry	Domestic
					160	48.8	6	1.8	RED	SHALE											
					8	2.4	8	2.4	BROWN	CLAY	STONES				1						
					36	11.0	28	8.5	BROWN	LIMESTONE	LIGHT-COLOURED										
					42	12.8	6	1.8	BROWN	LIMESTONE	FRACTURED		-								
4908274	581768	4844395	1180	386.8	40	14.0	4	0.3	GREY	LIMESTONE	LIGHT-COLOURED	SOFT	Bedrock	24	73	12	37	FRESH	25/03/1997	Test Hole	
1000211	001100	1011000		000.0	62	18.9	15	4.6	GREY	LIMESTONE	HARD	00.1	Boarbon		1.0		0.1		20/00/1007	10011010	
					70	21.3	8	2.4	GREY	LIMESTONE	LIGHT-COLOURED	SOFT									
					102	31.1	32	9.8	BROWN	LIMESTONE											
		<u> </u>	 		120	36.6	18	5.5	GREY	LIMESTONE	STONES			<u> </u>		<u> </u>	ļ				
					0 40	2.4	32	9.8	BROWN		STOINES										
1			I	1	44	13.4	4	1.2	GREY	LIMESTONE	HARD		1	1		1	1				
1			I	1	46	14.0	2	0.6	BROWN	LIMESTONE]	1		1	1				
100007-		101100-			47	14.3	1	0.3	GREY	LIMESTONE								555011	0.1/00/1007		
4908276	581915	4844935	1201	393.9	50	15.2	3	0.9	GREY	LIMESTONE	HADD		Bedrock	30	9.1	10	3.0	FRESH	21/03/1997	I est Hole	
1			I	1	68	20.7	7	2.4	GRET	LIMESTONE	LIGHT-COLOURED	SOFT	-	1		1	1				
1			I	1	87	26.5	19	5.8	GREY	LIMESTONE	DARK-COLOURED	HARD	1	1		1	1				
1			I	1	101	30.8	14	4.3	BROWN	LIMESTONE	SOFT			1		1	1				
		1			120	36.6	19	5.8	GREY	LIMESTONE	DOLOMITE										

	Frathers	Mandalana	Elev	ation	De	pth	Thie	ckness	MarialOalas	Martanial	Marianialo	Marianialo		Water	_Depth	Stati	c_lev	Martan Island	Dete Ormulate	Final Otation	
WELL_ID	Easting	Northing	ft	m	ft	m	ft	m	WaterialColor	Material	Material2	wateriai3	Well Type	ft	m	ft	m	water_kind	Date Complete	Final_Status	Use
4009297	E01201	4944500	1202	204.0	2	0.6	2	0.6	BLACK	TOPSOIL			Padroak	60	10.2	11	2.4	EDESU	19/10/1006	Wotor Supply	Domostio
4908287	561361	4644599	1202	394.0	65	19.8	63	19.2	WHITE	LIMESTONE			Bedrock	60	10.3	11	3.4	FRESH	18/10/1996	water Supply	Domestic
					1	0.3	1	0.3		TOPSOIL											
					25	7.6	24	7.3	BROWN	CLAY	STONES							555011			
4908300	579279	4849618	1129	370.3	61	18.6	36	11.0	BROWN	CLAY	GRAVEL		Bedrock	95	29.0	63	19.2	FRESH	13/01/1998	Water Supply	Domestic
					95	29.0	34	10.4	GREY	SHALE			-								
			-		142	43.3	4/	14.3	RED	TOPSOIL					1						
					6	1.8	5	1.5	BROWN	SAND	GRAVEL										
					21	6.4	15	4.6	Bitotiit	STONES	BOULDERS	GRAVEL									
					30	9.1	9	2.7	BROWN	GRAVEL	SAND							555011			
4908409	5/923/	4849428	1173	384.7	52	15.8	22	6.7	GREY	LIMESTONE			Bedrock	45	13.7	36	11.0	FRESH	28/01/1999	vvater Supply	Domestic
					60	18.3	8	2.4	BLUE	SHALE											
					83	25.3	23	7.0	BLUE	SHALE	LIMESTONE	LAYERED									
					98	29.9	15	4.6	BLUE	LIMESTONE											
					1	0.3	1	0.3	DDOWN	TOPSOIL	CTONES	CAND									
					49	14.9	40	14.0	GREV		WEATHERED	SAND	-								
					72	21.9	19	5.8	BLUE	SHALE	SOFT										
4908462	579138	4847466	1278	419.2	74	22.6	2	0.6	RED	SHALE	SOFT		Bedrock	76	23.2	69	21.0	FRESH	29/07/1999	Water Supply	Domestic
			-	-	131	39.9	57	17.4	GREY	LIMESTONE					-		-	_			
					134	40.8	3	0.9	RED	SHALE											
					150	45.7	16	4.9	GREY	SANDSTONE											
					175	53.3	25	7.6	RED	SHALE											
					1	0.3	1	0.3		TOPSOIL											
1000511	500570	4040470	1051	440.4	18	5.5	17	5.2	BROWN	CLAY	BOULDERS		Dedeed	04	20.7	62	10.0	EDECU	20/07/4000	Water Cumplu	Dementia
4906511	560573	4049170	1251	410.1	22	10.0	37	0.5	CREV	CLAY	STUNES POUL DEBS	CRAVEL	Dedrock	94	20.7	63	19.2	FRESH	26/07/1999	water Supply	Domestic
					163	20.3	20	24.4	GREY	LIMESTONE	LAYERED	GRAVEL									
					1	0.3	1	0.3	BLACK	TOPSOIL	Entences										
					12	3.7	11	3.4	BROWN	CLAY	STONES										
4908525	582202	4844243	1153	378.2	45	13.7	33	10.1	BLACK	ROCK			Bedrock	53	16.2	1	0.3	Not stated	01/09/1999	Test Hole	Not Used
					150	45.7	105	32.0	GREY	ROCK											
					151	46.0	1	0.3	GREEN	SHALE											
4000500	504774	1011571	4470	0045	23	7.0	23	7.0	BROWN	ROCK			Di stas sta	07			4.0	Net stated	04/00/4000		
4906526	561771	4644571	1173	364.5	130	42.1	115	35.1	BLUE	SHALE			Bedrock	21	0.2	14	4.3	NOT STATED	21/09/1999		
					3	0.9	3	0.9	BROWN	CLAY											
					4	1.2	1	0.3	BROWN	ROCK											
4009527	E92009	4044102	1171	201.0	7	2.1	3	0.9	BROWN	ROCK	FRACTURED		Podroek	24	10.4			Not stated	22/00/1000		
4300327	302000	4044103		304.0	31	9.4	24	7.3	BROWN	ROCK			Dedrock	34	10.4			NOI SIAIEU	22/03/1333		
					142	43.3	111	33.9	GREY	ROCK											
					144	43.9	2	0.6	BLUE	SHALE					-						
					1	0.3	1	0.3	BROW/N	SAND	STONES		-								
4908550	583069	4846676	1202	394.0	21	6.4	11	3.4	BROWN	LIMESTONE	STONES		Bedrock	66	20.1	13	4.0	FRESH	16/02/2000	Water Supply	Domestic
					78	23.8	57	17.4	GREY	LIMESTONE	LAYERED										
					2	0.6	2	0.6	BLACK	TOPSOIL											
4908616	582769	4846677	1199	393.0	22	6.7	20	6.1	BROWN	CLAY	SANDY	BOULDERS	Bedrock	48	14.6	20	6.1	FRESH	21/12/1999	Water Supply	Domestic
	L		L	<u> </u>	50	15.2	28	8.5	BROWN	LIMESTONE					1	l					
4009636	502000	4946406	1400	200.7	6	1.8	6	1.8	BROWN		STONES		Poderali	07	0.0	24	7.0	EDEOU	22/10/2000	Water Sumply	Domentia
4900039	000000	4040400	1192	390.7	29	25.3	23 54	16.5	BLUE	LINESTONE	SHALF		Dedlock	21	0.2	24	1.3	FRESH	23/10/2000	water Suppry	Domestic
			<u> </u>		1	0.3	1	0.3	DLUL	TOPSOIL	UNALL		t		1	<u> </u>					
1	1		I		5	1.5	4	1.2	BROWN	CLAY	GRAVEL	1	1		1	I					
4908646	582613	4846847	1221	400.4	29	8.8	24	7.3	GREY	LIMESTONE			Bedrock	61	18.6	17	5.2	FRESH	24/10/2000	Water Supply	Domestic
					69	21.0	40	12.2	BLUE	LIMESTONE											
					103	31.4	34	10.4	GREY	LIMESTONE											
					1	0.3	1	0.3	BLACK	TOPSOIL	01.41/	0.41101/									
4908679	583305	4846155	1174	384.9	0 01	1.8	5	1.5	CREEN	IUPSUL	CLAY	SANDY	Bedrock	80	24.4	28	8.5	FRESH	11/05/2000	Water Supply	Domestic
					82	24.7	1	0.3	GREEN	SHALF			1			1					
-			1		11	3.4	11	3.4	BROWN	CLAY	STONES	1			1	1					
					19	5.8	8	2.4	GREEN	CLAY	STONES		1			1					
	1		I		28	8.5	9	2.7	GREEN	GRAVEL			1		1	I					
4908681	582750	4846711	1201	393.7	34	10.4	6	1.8	GREEN	CLAY	STONES		Bedrock	117	35.7	11	3.4	FRESH	30/10/2000	Water Supply	Domestic
					114	34.7	80	24.4	GREEN	LIMESTONE			4			1					
					124	37.8	10	3.1	BROWN	LIMESTONE			4			1					
				-	125	30.1	1	0.3	BDOWN			STONES									
					54	16.5	32	9.8	BROWN	CLAY	GRAVEI	STUNES	1			1					
4908684	581619	4847821	1309	429.2	73	22.3	19	5.8	GREEN	CLAY	STONES	1	Bedrock	94	28.7	35	10.7	FRESH	31/10/2000	Water Supply	Domestic
					98	29.9	25	7.6	GREEN	LIMESTONE			1			1					

	Fratient	Mandalana	Elev	ation	De	pth	Thic	kness	MartalalQalar	Martanial	MartanialO	Marianialo		Water	_Depth	Stati	c_lev	Martin Ideal	Dete Ormulate	First Otation	
WELL_ID	Easting	Northing	ft	m	ft	m	ft	m	MaterialColor	Material	Material2	Material3	Well Type	ft	m	ft	m	Water_kind	Date Complete	Final_Status	Use
					3	0.9	3	0.9		FILL											
					13	4.0	10	3.1	BROWN	CLAY	GRAVEL										
					31	9.4	18	5.5	BROWN	GRAVEL	CLAY										
4908686	579519	4849115	1218	399.4	48	14.6	17	5.2		SAND	GRAVEL		Bedrock	89	27.1	77	23.5	Not stated	09/02/2001	Water Supply	Domestic
					60	18.3	12	3.7	GREY	CLAY	SILTY										
					152	46.3	92	28.1	BLUE	SHALE	LAYERED										
					176	53.6	24	7.3	RED	SHALE											
					18	5.5	18	5.5	BROWN	CLAY	STONES										
4908741	580320	4846228	1299	426.0	56	17.1	38	11.6	BROWN	SAND	GRAVEL		Bedrock	144	43.9	12	3.7	FRESH	17/05/2001	Water Supply	Domestic
					98	29.9	42	12.8	GREY	CLAY	STONES										
					21	44.0	49	14.9	BROWN		COADSE CDAVEL										
					50	9.4	10	9.0	PED	CLAY	EINE CRAVEL	SOFT									
					85	25.9	35	10.7	GREY	CLAY	FINE GRAVEL										
4908830	579562	4849797	1174	384.8	105	32.0	20	6.1	BLUE	LIMESTONE		Entenee	Bedrock	200	61.0	97	29.6	FRESH	23/07/2001	Water Supply	Domestic
					120	36.6	15	4.6	BLUE	SHALE											
					200	61.0	80	24.4	RED	SHALE											
					1	0.3	1	0.3		TOPSOIL											
					80	24.4	79	24.1	BROWN	SAND	BOULDERS										
4908836	580896	4848283	1306	428.3	82	25.0	2	0.6	GREY	LIMESTONE	FRACTURED		Bedrock	86	26.2	33	10.1	FRESH	19/09/2001	Water Supply	Domestic
					90	27.4	8	2.4	BROWN	LIMESTONE											
					116	35.4	26	7.9	GREY	LIMESTONE											
4908977	579679	4849026	1238	405.8															09/04/2002	Abandoned-Other	
					1	0.3	1	0.3	BLACK	TOPSOIL	0.11 7										
					9	2.7	8	2.4	BROWN	GRAVEL	SILT	011 T									
					24	7.3	15	4.6	BROWN	GRAVEL	SAND	SILT	_								
					52	9.0	21	6.4	BROWN	GRAVEI	SILT	STONES									
4908979	579679	4849026	1238	405.8	68	20.7	15	4.6	BLUE	SHALE	SILT	STONES	Bedrock	65	19.8	19	5.8	Not stated	04/04/2002	Water Supply	Domestic
4300373	010010	4043020	1200	400.0	75	22.9	7	2.1	RED	SHALE			Dedrook	00	10.0	10	0.0	Not stated	04/04/2002	Water Oupply	Domestic
					110	33.5	35	10.7	BLUE	SHALE											
					136	41.5	26	7.9	GREY	LIMESTONE											
					148	45.1	12	3.7	RED	SHALE	LIMESTONE	LAYERED									
					178	54.3	30	9.2	RED	SHALE	LAYERED										
					26	7.9	26	7.9	BROWN	GRAVEL	STONES										
4909025	578011	4848027	1206	395.4	48	14.6	22	6.7	GREY	GRAVEL	SILT		Bedrock	49	14.9	28	8.5	FRESH	26/07/2002	Water Supply	Domestic
					52	15.8	4	1.2	GREY	LIMESTONE	GRAVEL										
4909056	582473	4844179	1138	373.1															21/10/2002	Abandoned-Other	Not Used
					21	6.4	21	6.4	BROWN	CLAY	STONES										
					40	12.2	19	5.8	GREY	CLAY	STONES										
4909107	580682	4845030	1210	396.7	40	21.0	24	2.4	BROWN	LIMESTONE			Bedrock	78	23.8	20	6.1	FRESH	20/02/2003	Water Supply	Livestock
					83	25.3	11	3.4	BROWN	LIMESTONE											
					95	29.0	12	3.4	GREY	LIMESTONE			-								
					8	2.4	8	2.4	BROWN	SAND	STONES										
					25	7.6	17	5.2	BROWN	CLAY	STONES										
					56	17.1	31	9.5	GREY	CLAY	STONES										
4909426	579463	4849114	1208	395.9	59	18.0	3	0.9	WHITE	LIMESTONE			Bedrock	70	21.3	65	19.8	FRESH	27/04/2004	Water Supply	Domestic
					105	32.0	46	14.0	RED	SHALE	LAYERED										
					140	42.7	35	10.7	GREY	LIMESTONE											
L			ļ	l	150	45.7	10	3.1	RED	SHALE				l							
4909821	578157	4848084	1195	391.9	3	3.0	3		BROWN	SAND	GRAVEL	WATER	Overburden	11	3.6				16/06/2005	Test Hole	Not Used
			<u> </u>		5	4.5	2	10.0	BROWN	SAND	SILI	WATER-BEARING									
1		1	1	1	0C	10.3	30	18.3	BROWN		GRAVEL	STONES	-	1	1						
4909875	578977	4848892	1215	398.2	65	21.3	7	21	GRFY	CLAY	GRAVEI		Bedrock	70	23.0	36	11.8	FRESH	11/08/2005	Water Supply	Public
					74	24.4	9	3.1	GREY	LIMESTONE	0.0.022		1								
0700000	500010	40.40707	440-	000 0	4	1.2	4	1.2	=.	TOPSOIL			But t			4.2	0 -	50500	05/05/1000	10/-1 C	Den si
6700800	582019	4843723	1125	368.9	70	21.3	66	20.1	GREY	LIMESTONE			Bedrock	30	9.1	12	3.7	FRESH	05/05/1962	Water Supply	Domestic
6700004	E01007	4940004	1100	201 0	5	1.5	5	1.5		FILL			Bodesele	45	10.7	20	0.1	EDEOU	04/00/4067	Water Sumply	Domestia
0700801	201927	4043924	1162	301.0	78	23.8	73	22.3	GREY	LIMESTONE			Dedrock	45	13.7	30	9.1	FRESH	04/09/1967	water Supply	Domestic
					2	0.6	2	0.6		TOPSOIL											
6700803	579365	4846135	1304	427 7	30	9.1	28	8.5		BOULDERS			Overburden	107	32.6	34	10.4	FRESH	06/08/1962	Water Supply	Domestic
0700000	07 0000	4040100	1004	421.1	80	24.4	50	15.3		FINE SAND			Overburden	107	02.0	04	10.4	TREOT	00/00/1002	Water Oupply	Domestic
l			ļ		107	32.6	27	8.2		GRAVEL				L							
		10.17000			2	0.6	2	0.6		TOPSOIL	0701/50				= 0			555011			
6700805	578740	4847088	1263	414.2	24	7.3	22	6.7	PDOM/N	CLAY	STONES		Overburden	24	7.3	30	9.1	FRESH	10/11/1965	Water Supply	Domestic
					25	1.0	1	0.3	DRUWN	CLAY	GRAVEL										Demestic/
6700806	578612	4846892	1267	415.5	/5	22.9	/5 FF	22.9	GREV		WEDIUW SAND	BUULDERS	Bedrock	120	36.6	50	15.2	FRESH	29/07/1966	Water Supply	Livestock
					130	43	1/	10.0	GREI		STONES										LIVESIUCK
					23	7.0	9	27		SILT	STONES		1								
6700807	578402	4846935	1278	419.1	55	16.8	32	9.8		HARDPAN	0.01120		Bedrock	90	27.4	97	29.6	FRESH	30/03/1959	Water Supply	Domestic/
	0.0.02				65	19.8	10	3.1	1	HARDPAN	BOULDERS									ouppij	Livestock
1		1	1	1	98	29.9	33	10.1	BROWN	ROCK	-		1	1	1						
6700900	578000	4847700	1224	401 4	18	5.5	18	5.5	BROWN	CLAY	BOULDERS		Overburden	40	12.0	62	2E 2	EDECU	15/00/1062	Water Supply	Domestic/
0100009	210030	4047700	1224	401.4	60	18.3	42	12.8		MEDIUM SAND	GRAVEL		Overburden	42	12.0	03	20.0	FREOR	10/08/1902	water Suppry	Livestock
6700810	577731	4847865	1205	395.2	57	17.4	57	17.4		CLAY	STONES		Bedrock	64	19.5	54	16.5	FRESH	12/10/1966	Water Supply	Domestic/
0100010	511151	-0-1003	1200	000.2	66	20.1	9	2.7	GREY	LIMESTONE			Dedrock	04	13.5	54	10.0	TREON	12/10/1300	Mater Ouppry	Livestock

WELL ID	Easting	Northing	Elev	ation	De	epth	Thic	kness	MaterialColor	Matorial	Matorial2	Matorial3		Water	_Depth	Stati	c_lev	Water kind	Date Complete	Einal Statue	Lico
WELL_ID	Easting	Northing	ft	m	ft	m	ft	m	WaterialColor	Wateria	Waterialz	Waterials	Well Type	ft	m	ft	m	water_kinu	Date Complete	Fillal_Status	USe
					20	6.1	20	6.1		GRAVEL	STONES		_								
6700812	577599	4848106	1189	390.0	25	7.6	5	22.9		MEDIUM SAND			Bedrock	195	59.4	24	73	FRESH	10/07/1965	Water Supply	Domestic
0,00012	0.1000	1010100		000.0	158	48.2	58	17.7		CLAY	STONES		Bodrook	100	00.1			THEO!!	10/01/1000	mator cuppiy	Domodilo
					200	61.0	42	12.8	GREY	ROCK	SHALE		1								
6703360	579034	4846813	1281	420.0	103	31.4	103	31.4	CREV		STONES	GRAVEL	Bedrock	110	33.5	35	10.7	FRESH	03/03/1969	Water Supply	Domestic
			1070		32	9.8	32	9.8	BROWN	MEDIUM SAND	GRAVEL	BOULDERS		10							
6703570	578889	4846963	1278	418.9	58	17.7	26	7.9		MEDIUM SAND	GRAVEL		Overburden	18	5.5	35	10.7	SULPHUR	08/09/1969	Water Supply	Domestic
6704156	581604	4844053	1161	380.8	48	14.6	48	14.6	GREY	LIMESTONE	CLAY		Bedrock	65	19.8	28	8.5	FRESH	27/11/1971	Water Supply	Domestic
					128	39.0	128	39.0	GRET	CLAY	GRAVEL	BOULDERS									
6704540	579044	4846673	1301	426.6	155	47.2	27	8.2	GREY	LIMESTONE			Bedrock	153	46.6	61	18.6	FRESH	06/12/1972	Water Supply	Domestic
					1	0.3	1	0.3	BROWN	TOPSOIL			-								
					58	5.5	40	5.2	GREY	CLAY	STONES										
6704624	578164	4847653	1230	403.3	70	21.3	12	3.7	YELLOW	DOLOMITE			Bedrock	105	32.0	40	12.2	FRESH	24/05/1973	Water Supply	Domestic
					105	32.0	35	10.7	GREY	DOLOMITE			-								
					136	41.5 0.3	1	9.5	BROWN	TOPSOIL											
					25	7.6	24	7.3	BROWN	CLAY	STONES										
					95	29.0	70	21.4	BROWN	CLAY	SAND	GRAVEL	_								
6705049	578631	4846660	1296	424.8	105	32.0	10	3.1	BROWN	CLAY	SAND	GRAVEL	Bedrock	210	64.0	24	7.3	FRESH	16/03/1974	Water Supply	Domestic
					125	38.1	10	3.1	BROWN	CLAY	SAND	STONES			••						
					150	45.7	25	7.6	GREY	ROCK											
					210	56.4 64.0	35 25	7.6	BROWN	LIMESTONE			-								
6705011	501714	4044100	1176	205.6	1	0.3	1	0.3		FILL			Podrock	6E	10.9	25	7.6	EDEQU	07/06/1075	Water Supply	Domostio
0705911	301714	4044123	1170	365.0	94	28.7	93	28.4	GREY	LIMESTONE			Bedrock	05	19.0	25	7.0	FRESH	07/00/1975	water Supply	Domestic
6705937	579154	4846703	1293	423.9	132	40.2	132	40.3	GREY		STONES	GRAVEL	Bedrock	157	47.9	45	13.7	FRESH	09/10/1975	Water Supply	Domestic
					1	0.3	1	0.3	GRET	TOPSOIL											
					10	3.0	9	2.7	BROWN	CLAY	STONES										
6706095	577674	4848023	1202	394.1	25	7.6	15	4.6	BROWN	CLAY	SAND		Overburden	70	21.3	21	6.4	FRESH	18/06/1976	Water Supply	Domestic
					70	21.3	2	0.6	BROWN	GRAVEL	GRAVEL		-								
					29	8.8	29	8.8	BROWN	CLAY	BOULDERS										
6706304	580614	4844723	1201	393.9	59 125	18.0	30	9.2	BROWN		GRAVEL	LOOSE	Bedrock	123	37.5	10	3.0	FRESH	13/07/1976	Water Supply	Domestic
					45	13.7	45	13.7	BROWN	CLAY	SANDSTONE										
6706548	578014	4847873	1199	393.2	60	18.3	15	4.6	GREY	CLAY	SANDSTONE	GRAVEL	Bedrock	123	37.5	9	2.7	FRESH	11/10/1977	Water Supply	Domestic
					123	37.5	63	19.2	BROWN	ROCK	LIGHT-COLOURED)									
6707160	581764	4844073	1171	384.0	108	32.9	93	28.4	GREY	LIMESTONE	CLAT		Bedrock	35	10.7	27	8.2	FRESH	24/04/1979	Water Supply	Domestic
					2	0.6	2	0.6	BLACK	TOPSOIL											
					11	3.4	9	2.7	BLACK	OVERBURDEN	STONES										
6707431	579314	4846373	1312	430.2	58	4.0	2 45	13.7	BROWN	CLAY	STONES	LIGHT-COLOURED	Overburden	165	50.3	15	4.6	FRESH	01/07/1980	Water Supply	Domestic
					122	37.2	64	19.5	BROWN	CLAY	MEDIUM SAND					-	-	_			
					134	40.8	12	3.7	GREY	CLAY	STONES		-								
					2	0.6	40	0.6	GRET	CLAY	STONES										
					8	2.4	6	1.8	GREY	LIMESTONE											
6707833	582116	4843746	1129	370.1	57	17.4	49	14.9	GREY	LIMESTONE			Bedrock	90	27.4	9	2.7	FRESH	20/07/1983	Water Supply	Domestic
					104	31.7	32	9.8	GREY	LIMESTONE			-								
					5	1.5	5	1.5	BROWN	OVERBURDEN											
0700045	570007	10.10010	1070	440.5	14	4.3	9	2.7	BROWN	CLAY	STONES		De des els	445	05.4	40		FREQU	10/10/1007	Weise Orienti	Description
6709215	5/838/	4846916	1276	418.5	- 38 - 63	11.6	24	7.6	GREY	CLAY	ROCK		ведгоск	115	35.1	46	14.0	FRESH	10/10/1987	vvater Supply	Domestic
					135	41.1	72	22.0	GREY	ROCK	LIMESTONE										
0700544	570000	40.40075	1001	101.1	85	25.9	85	25.9	BROWN	CLAY	STONES	GRAVEL	De des els	4.45	44.0		44.0	FREQU	40/07/4000	Weise Orienti	Demonstra
6709541	218888	4846975	1284	421.1	102	31.1 44.8	45	5.2	GREY	LIMESTONE	STUNES		Bedrock	145	44.2	36	11.0	FRESH	18/07/1988	vvater Supply	Domestic
					65	19.8	65	19.8	BROWN	GRAVEL	BOULDERS	CLAY	1	1				1			t
6710328	579191	4846699	1296	425.0	120	36.6	55	16.8	GREY	CLAY	STONES		Bedrock	137	41.8	3	0.9	FRESH	17/01/1990	Water Supply	Domestic
					140	42.7	20	0.1 0.6	GREY	FILI				<u> </u>							
6710534	581132	4844757	1205	395.1	6	1.8	4	1.2	BROWN	CLAY	STONES	1	Bedrock	38	11.6	34	10.4	FRESH	04/07/1990	Water Supply	Domestic
					74	22.6	68	20.7	GREY	LIMESTONE	076		1		L	<u> </u>		ļ			ļ
6710552	581297	4844589	1205	305.2	11 38	3.4	11 27	3.4	BROWN		CLAY		Bedrock	105	32.0			FRESH	12/10/1990	Water Supply	Domestic
0110002	001207	1044000	1200	000.Z	114	34.7	76	23.2	GREY	LIMESTONE	<u>CENT</u>		Dearboix	100	02.0			TREOT	12/10/1000	Mater Oupply	Domestic

	Factors	Mandalana	Elev	ation	De	pth	Thio	ckness	Martalala	Martanial	MartanialO	Mariala		Water	_Depth	Stati	c_lev	Martin Lind	Data Osmulata	Final Otation	
WELL_ID	Easting	Northing	ft	m	ft	m	ft	m	MaterialColor	Material	Material2	Material3	Well Type	ft	m	ft	m	Water_kind	Date Complete	Final_Status	Use
					12	3.7	12	3.7	BROWN	CLAY	SAND										
6710553	570681	4845077	1322	133.3	82	25.0	70	21.4	BROWN	CLAY	BOULDERS	GRAVEL	Bedrock	105	50.4			EDESH	01/11/1000	Water Supply	Domestic
0710333	57 500 1	4043317	1322	400.0	140	42.7	58	17.7	GREY	CLAY	STONES		Deulock	155	33.4			TRESH	01/11/1350	water Supply	Domestic
					198	60.4	58	17.7	GREY	LIMESTONE											
					8	2.4	8	2.4	BROWN	CLAY	SAND										
					75	22.9	67	20.4	BROWN	CLAY	GRAVEL	STONES									
6710794	579275	4846651	1307	428.5	108	32.9	33	10.1	GREY		STONES	SAND	Bedrock	210	64.0			FRESH	25/07/1991	Water Supply	Domestic
					103	58.8	8	23.5	BROWN	LIMESTONE			-								
					219	66.8	26	7.9	GREY	LIMESTONE											
					24	7.3	24	7.3	GREY	CLAY	GRAVEL	STONES									
0744040	570540	4040004	1210	400.0	95	29.0	71	21.7	GREY	CLAY	STONES	GRAVEL	Dedreek	105	50.4			FRECH	20/40/4002	Water Cumplu	Dementie
6711342	579540	4040304	1319	432.0	134	40.8	39	11.9	GREY	CLAY	STONES		Bedrock	195	59.4			FRESH	26/10/1993	water Supply	Domestic
					215	65.5	81	24.7	GREY	LIMESTONE											
					88	26.8	88	26.8	GREY	CLAY	SAND	STONES									
6711564	580175	4845507	1276	418.3	93	28.3	5	1.5		BOULDERS	04110		Bedrock	163	49.7			FRESH	24/10/1994	Water Supply	Domestic
					136	41.5	43	13.1	GREY		SAND	GRAVEL	-								
					30	49.7 9.1	30	9.2	BROWN	SAND	GRAVE										
6712134	578800	4848946	1189	390.0	396	120.7	366	111.6	GREY	ROCK	LIMESTONE	DOLOMITE	Bedrock						20/12/1996	Test Hole	Not Used
					400	121.9	4	1.2	RED	ROCK	GREENSTONE	SHALE									
					22	6.7	22	6.7	BROWN	CLAY	STONES										
6714185	578515	4847440	1251	410.1	63	19.2	41	12.5	GREY	CLAY	STONES		Bedrock	93	28.3			FRESH	17/09/2002	Water Supply	Domestic
					97	29.6	34	10.4	GREY	LIMESTONE											
					33	10.9	33	10.9	BROWN	COARSE SAND	COARSE GRAVEL										
6714753	579263	4846643	1305	428.0	89	29.2	56	18.3	GREY	COARSE SAND	COARSE GRAVEL		Bedrock						18/11/2003	Water Supply	Domestic
					123	40.2	34	11.0	GREY	CLAY	STONES										
					150	49.3	20	9.1	GRET	LINESTONE	STONES										
6715397	580353	4845423	1261	413.6	111	9.4 33.8	80	9.5	GREY	CLAY	STONES		Bedrock	124	37.8			FRESH	06/07/2005	Water Supply	Domestic
0110001	000000	4040420	1201	410.0	126	38.4	15	4.6	GREY	LIMESTONE	OTONEO		Dearook	124	07.0			TREON	00/01/2000	Water Oupply	Domestic
					56	18.3	56	18.3	BROWN	CLAY								1			
7043364	582996	4847016	1220	399.9	91	29.9	35	11.6	BROWN	CLAY			Bedrock	136	44.5	49	16.0	FRESH	13/02/2007	Water Supply	Domestic
					136	44.5	45	14.6	GREY	LIMESTONE			1								
7050503	583328	4846327	1182	387.6	3	0.9	3	0.9											21/08/2007	Observation Wells	Monitoring
7050504	583326	4846322	1182	387.5	3	0.9	3	0.9	GREY			HARD							21/08/2007	Observation Wells	Monitoring
					26	7.9	26	7.9	GREY			HARD									
7052189	582203	4843576	1126	369.2	67	20.4	41	12.5	BROWN	CLAY	STONES			89	27.1	12	3.7	FRESH	23/10/2007	Water Supply	Domestic
705 4000	500000	40.40000	44.47	070.0	100	30.5	33	10.1	BROWN	LIMESTONE									00/10/0007	Alternational Operation	
7054003	562363	4043993	1147	376.2	22	7.0	22	7.0	GRET	LIVIESTONE									06/12/2007	Abandoned-Supply	
					46	14.0	23	7.0	BROWN	GRAVEL	STONES										
7100372	578913	4847106	1284	421.0	100	30.5	54	16.5	BROWN	CLAY	STONES			135	41.1	36	11.0	FRESH	14/11/2007	Water Supply	Domestic
					142	43.3	42	12.8	GREY	CLAY	STONES										
7102222	583328	4846323	1182	387.6					GREY	LIMESTONE									08/02/2008	Abandoned-Other	Monitoring
7102223	583326	4846322	1182	387.5															08/02/2008	Abandoned-Other	Monitoring
7104809	579297	4849532	1157	379.4															20/04/2008	Abandoned-Supply	Domestic
7106064	578821	4848647	1217	399.0	39	11.9	39	11.9						43	13.1	32	9.8	FRESH	28/04/2008	Water Supply	Domestic
					43	13.1	4	1.2	BROWN	GRAVEL	CLAY	STONES									
7109610	579143	4848750	1233	404.3			-	-	GREY	ROCK	GRAVEL			-		37	11.3		19/06/2008	Abandoned-Supply	Not Used
7121555	579856	4846537	1304	427.7	2	0.0	2	0.0											24/03/2009		
	583039	4846624	1198	392.9	2	0.0	2	1.0	BROWN	SAND	CLAY	LOOSE	1		1	1					
1			1		2	0.8	2	0.8	GREY	LIMESTONE	DOLOMITE	ROCK	1	1	1	1	1				
1	583039	4846624	1199	393.0	2	0.8	0	0.0	BROWN	SAND	CLAY	LOOSE	1	1	1	1	1				
	E92020	4946624	1100	202.1	2	0.8	0	0.0	GREY	LIMESTONE	DOLOMITE	ROCK	1								
	303039	4040024	1133	333.1	2	0.8	2	0.8	GREY	LIMESTONE	DOLOMITE	ROCK									
	583049	4846610	1198	392.9	2	0.8	0	0.0	BROWN	SAND	CLAY	LOOSE									
					2	0.8	2	0.8	GREY	LIMESTONE	DOLOMITE	ROCK									
7130849	583049	4846610	1199	393.0	2	0.8	0	0.0	BROWN	SAND		LOUSE	4	6	2.1	3	0.9	FRESH	25/08/2009	Test Hole	Monitoring
					2	0.8	2	0.8	BROWN	SAND	CLAY	LOOSE	-								
1	583049	4846610	1199	393.1	2	0.8	0	0.0	BROWN	SAND	CLAY	LOOSE	1	1	1	1	1				
1	500055	4040007	4400	202.2	2	0.8	2	0.8	GREY	LIMESTONE	DOLOMITE	ROCK	1	1	1	1	1				
	583055	4846607	1198	392.9	2	0.8	0	0.0	BROWN	SAND	CLAY	LOOSE	1	1	1						
	583055	4846607	1100	393.0	2	0.8	2	0.8	GREY	LIMESTONE	DOLOMITE	ROCK]		1						
1	000000	10001	1133	000.0	2	0.8	0	0.0	BROWN	SAND	CLAY	LOOSE	1	1	1	1	1				
1	583055	4846607	1199	393.1	2	0.8	2	0.8	GREY	LIMESTONE	DOLOMITE	ROCK	4	1	1	1	1				
I			<u> </u>	-	2	0.8	0	0.0	BROWN	SAND		LOUSE		 		<u> </u>		l			
					12	0.3	1	12.9	BROWN		DOLOMITE	RUCK	1		1						
I			l		59	18.0	16	4.9	BROWN	SAND	GRAVEL	STONES	1								
7140490	579080	4848673	1232	404.1	65	19.8	6	1.8	BROWN	FINE SAND			1	93	28.3	53	16.1	Untested	20/10/2009	Test Hole	Test Hole
1	1		I		72	21.9	7	2.1	BROWN	SAND	GRAVEL		1	1	1	1	1				
1	I	1	1	1	112	34.1	40	12.2	BROWN	CLAY	GRAVEL		1	1	1	I		1			

WELLID	Easting	Northing	Elev	ation	D	epth	Thic	kness MaterialColor		or Material Material2		Matorial2		Water	Water_Depth		c_lev	Water kind	Data Complete	Einal Status	Use
WELL_ID	Easting	Northing	ft	m	ft	m	ft	m	WaterialColor	Wateria	Waterialz	Waterials	Well Type	ft	m	ft	m	water_kinu	Date Complete	Filial_Status	USE
					2	0.6	2	0.6	GREY	LIMESTONE											
					67	20.4	65	19.8	BROWN	TOPSOIL											
7155173	578401	4847013			72	21.9	5	1.5	BROWN	CLAY	SILT	STONES		90	27.4	37	11.4	Untested	12/10/2010	Water Supply	Domestic
					85	25.9	13	4.0		LIMESTONE											
					122	37.2	37	11.3	BROWN	LIMESTONE											
					12	3.7	12	3.7	GREY	LIMESTONE											
7162432	583474	4846516			47	14.3	35	10.7	BROWN	CLAY	GRAVEL	STONES		43	13.1	30	9.1	FRESH	11/11/2010	Water Supply	Domestic
					82	25.0	35	10.7	BROWN	LIMESTONE											
7172496	581497	4848050							GREY	LIMESTONE						4	1.3	FRESH	01/11/2011	Abandoned-Other	Other
7172497	581619	4848046														7	2.4		26/10/2011	Abandoned-Other	Other
7190296	580895	4848731																	12/10/2012		

Min	istry			The	Ontaria	Water Resource	ces Act	-17
of th Env	ne ironment		WA	ΓER	W	ELL	RECO	DRD
Ontario	1. PRINT ONLY IN	SPACES PROVIDED	11	4906	949	HUNICIP 49,00,2		, 11,5
COUNTY OR DISTRICT	2. CHECK 🖄 CORR	TOWNSHIP BOROUGH.	E 1 Z		co	N. BLOCK. TRACT SURVEY		LOT 23-27
OWNER (SURNAME FIL	RST Enterate	ADDRESS	CCAL	EPONJ		<u>V</u> W W	DATE COMPLETED	*** VV
Enterre	Prop Corp	NORTHING	ersity A	le Suite	204	Bronto MASIN CODE	DAY NO	YR. 2
21								
	L(MOST	DG OF OVERBURD	EN AND BEDR		GENE		DEP	TH - FEET
GENERAL COLOUR	COMMON MATERIAL		MATERIALS				FROM	TO
	hold in					· · · · · · · · · · · · · · · · ·		5
	Land	grave	bo.ld.				5	17
	boulders	sand.	+ sand				17	22
	boulders	+ brown	n day				22	225
	Limestone						28	0 103
			A					
					· · · · · · · · · · · · · · · · · · ·			
31						Lullili		
32 1 2 10						54		Lili, L
41 WA	TER RECORD	51 CASING	& OPEN HOLE			EISI OF OPENING	31-33 DIAMETER 34-3	LENGTH 39-40
AT - FEET	KIND OF WATER	DIAM MATERIAL INCHES	THICKNESS	FROM TO		TERIAL AND TYPE	DEPTH TO TO OF SCREEN	ip 41-44 31
2 [15-10 1 r	☐ SALTY 4 ☐ MINERALS 6 □ GAS ☐ FRESH 3 □ SULPHUR	1 DSTEEL 2 GALVANIZE 3 CONCRETE	270	0 20		PLUCCING	C & SEALING RE	
20-23	4 D MINERALS 5 SALTY 6 D GAS	C) 50 PLASTIC	· · · · · ·	2	D-23 DEP1		MATERIAL AND TYPE	EMENT GROUT
25-26	SALTY 6 GAS	2 GALVANIZE 3 CONCRETE 4 GAPPEN HOLI 5 GAPASTIC	E	9 103	29	810-13 25 14-17	Benseal	
2 [G GAS	24-25 1 🗆 STEEL 2 🗆 GALVANIZE	26 D	27	30 25	18-21 22-25 5 6	bachfill	
30-33 1 [G FRESH 3 SULPHUR 34 4 MINERALS SALTY 6 GAS	3 □ CONCRETE 4 □ OPEN HOLI 5 □ PLASTIC	E		6	26-29 30-33 80 > O	concrete	r
71 PUMPING TEST ME	THOD 10 PUMPING RAT	e 11-14 DURATION 4.9	OF PUMPING 15-16 17-1			LOCATION O	FWELL 2/8	38
STATIC	WATER LEVEL 25 END OF WATER 1	GPM	HOURS MIN	λ Γ	DIAGRAM BE	LOW SHOW DISTANCE	S OF WELL FROM ROA	DAND
	PUMPING 1 22-24 IS MINUTES	30 MINUTES 45 MIN 29-31	UTES 60 MINUTES	That	Th i	Courter	\wedge	50
2 IF FLOWING	T 81.92 (3 . 4	SET AT WATER AT	FEET 14, 17	2		Loo'		J.
		FEET 1 C			<u>ک</u> ر	<u> </u>		
	W DEEP SETTING	FEET RATE	A GPN	1 rex	\$ /	, ,	N	\backslash
	\$4 . C1		NEWEELCIENT CODDIN		\backslash	4		
FINAL STATUS	2 OBSERVATION WE	LL & ABANDONED F 7 UNFINISHED	POOR QUALITY			0	1760	1000
OF WELL	4 C RECHARGE WELL	9 DEWATERING		41	(d)	\backslash		x `
WATER	2 STOCK 3 IRRIGATION	6 🗍 MUNICIPAL 7 🗋 PUBLIC SUPPLY	Ż	,	2 2>			> Z/BD
USE	4 D INDUSTRIAL	COOLING OR AIR C	NOT USED	CO	-	\backslash		,
METHOD	57 1 CABLE TOOL 2 PROTARY (CONVEN	• 🗌 BORI ITIONAL) 7 🗍 DIAM	NG OND	1		\backslash		
OF CONSTRUCT	ION 4 C ROTARY (REVERS	E) 4 🗆 JETTI 9 🗍 DRIVI				\	31	.203
			VELL CONTRACTOR	DRILLERS REI	MARKS	CONTRACTOR 59-62	DATE RECEIVED	63-68 8
Enter	national ho	ates Supply	2301		INSPECTION	580	DEC 0 1 1	988
TO ADDRESS	Bax 310 1	Banie			-NEFECTION	INSPECTOR		
HIN NAME OF WE	Maner	1	VELL TECHNICIAN'S Tence Number					
U SIGNATURE OF	F TECHNICIAN / CONTRACTOR	SUBMISSION DAT	" 6 <u>(</u> ¢	OFFI				
						<u> </u>	FORM NO. 050	06 (11/86) FORM 9

	es provided. with a checkmark, where applical	ble. 11	2	4908	526	Municipal 490			
County or District		Township/Bord	ough/City/Town	Village		Con block	tract survey	y, etc. L	ot 25.2
	-	Address S7	TAN DEN	THOED	(= 0 . T	1 01	Date completed	21 0	19 99
21		No	TIOF FAT	RC Elé	vation AC	Basin Code	<u> </u>		montin yea
2		F OVERBURDEN AN	D BEDROC	K MATERIALS	(see instruct	ions)		-L	
General colour	Most common material	Other ma	aterials		Genera	l description		Dep From	th - feet To
BR.	Rock							0	23
							·····		
GR.	ROCK	A				1		23	138
BLUE	SARIE							1.38	139
						£.			<u> </u>
					<u>s</u>				-
						/			
					-1713 -1713			÷	1
31						<u>, III</u>			
32	15 21	32		13				1 1	1111
Water found	Kind of water diam	CASING & OPEN Waterial th	Vall hickness	Depth - feet		o.)	i	inches	igun feet
27.13 1	Fresh ³ Sulphur ¹⁴ Salty ⁴ Minerals	Steel Steel Steel	nches F	13-16	Materia	l and type		Depth at top	o of screen
36 -	Gas 44	3 Concrete							faat
110 =	Fresh 4 Minerals	4 Open hole	0	206"		BL 110 01110	A 0541 110		
47 2 D 56 ²⁰⁻²³ 1 - D	Fresh 3 3 Minerals Saity 6 Gas 17-18 Fresh 3 Sulphur 24 Minerals 4 Minerals 17-18	4 Open hole 5 Plastic 1 Steel Galvanized	0	20.6"	61	PLUGGING Annular space	& SEALING	RECORI	D
<u>47</u> ² - <u>56</u> ²⁰⁻²³ ¹ - <u>83-85</u> ² - ²⁵⁻²⁸ ¹ -	Fresh 3 Solution 3 Salty 6 Gas 17.18 Fresh 3 Sulphur 24 Salty 6 Gas 17.18 Fresh 3 Sulphur 24 Fresh 3 Sulphur 24	4 ○ Open hole 5 ○ Plastic 1 ○ Steel 19 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 ○ Plastic	0	20.6"	61 Depth set a From 10-13	PLUGGING Annular space at - feet To 14-17	& SEALING	Abandon	D ment pentonite, etc.)
47 2 0 56 ²⁰⁻²³ 2 0 83-85 2 0 91-94 2 0 101 ⁰⁻⁸³ 1 0	Fresh 3 Supplus 3 Saity 4 Minorals 3 Saity 6 Gas 17.18 Fresh 3 Sulphur 29 Fresh 4 Minorals 24.25 Saity 6 Gas 24.25 Fresh 3 Sulphur 34	4 □ Open hole 5 □ Plastic 1 □ Steel 1 □ Steel 2 □ Galvanized 3 □ Concrete 4 □ Open hole 5 □ Plastic 1 □ Steel 2 □ Galvanized 3 □ Concrete 3 □ Concrete	0	20 ⁻ 6" 20-23 27-30	61 Depth set i From 10-13 18-21	PLUGGING Annular space at - feet To 14-17 22-25	& SEALING	Abandoni	D ment pentonite, etc.)
47 ² 56 ²⁰⁻²³ 83-85 ² 91-94 ² 10 ⁷⁰⁻⁵³ 10 10 ⁷⁰⁻⁵³	Fresh 3 Supplut 3 Saity 4 Minorals 3 Saity 6 Gas 17.18 Fresh 3 Sulphur 24 Saity 6 Gas 17.18 Fresh 3 Sulphur 23 Saity 6 Gas 24.25 Fresh 3 Sulphur 34 Saity 6 Gas 24.25 Fresh 4 Minerals 24.25 Saity 5 Gas 60	4 □ Open hole 5 □ Plastic 1 □ Steel 19 2 □ Galvanized 3 □ Concrete 4 □ Open hole 5 □ Plastic 1 □ Steel 20 2 □ Galvanized 3 □ Concrete 4 □ Open hole 5 □ Plastic	0	20 ⁻ 6 " 20-23 27-30	61 Depth set From 10-13 18-21 26-29	PLUGGING Annular space at - feet To 14-17 22-25 30-33 80	& SEALING	RECORI Abandoni ment grout, t	D ment pentonite, etc.
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Fresh 3 Supprint 25 Saity 4 Minerals Saity 5 Gas Fresh 4 Minerals Saity 5 Gas Fresh 3 Sulphur 23 Saity 5 Gas Fresh 4 Minerals Bailer GPM	4 □ Open hole 5 □ Plastic 7 1 □ Steel 19 2 □ Galvanized 3 □ Concrete 4 □ Open hole 5 □ Plastic 1 □ Steel ²⁶ 2 □ Galvanized 3 □ Concrete 4 □ Open hole 5 □ Plastic	17:18	20.6"	61 Depth set From 10-13 18-21 26-29	PLUGGING Annular space at feet To Mater 14-17 22-25 30-33 80	& SEALING rial and type (Ce	RECORI Abandoni ment grout, t	D ment pentonite, etc.)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Fresh 3 Suphun 10 Saity 4 Minerals 17:38 Fresh 3 Sulphur 29 Saity 6 Gas 17:38 Fresh 3 Sulphur 29 Saity 6 Gas 24:25 Fresh 3 Sulphur 29 Saity 6 Gas 60 Fresh 3 Sulphur 34 Saity 6 Gas 60 Fresh 3 Sulphur 34 Saity 5 Gas 60 Saity 5 Gas 60 Saity 5 Gas 60 Saity 6 Gas 11:1 Bailer 25 Waiter levels during 11:1 Gabrerian 25 Waiter levels during 11:1	4 ○ Open hole 5 ○ Plastic 1 ○ Steel 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 ○ Plastic 1 ○ Steel 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 ○ Plastic 4	17.18 Mins Recovery	20 6" 20 23 27 30	61 Depth set From 10:13 18:21 26:29 LO arm below sho north by arro	PLUGGING Annular space at - feet To Mater 14-17 22-25 30-33 80 CATION OF M w distances c	& SEALING rial and type (Ce WELL of well from r	RECORI	ot line.
47 2 0 56 20-23 1 0 83 - 85 2 2 91 - 94 2 0 107 - 94	Fresh 3 Supirul 20 Saity 4 Minorals Saity 5 Gas Fresh 3 Sulphur 24 Saity 6 Gas Fresh 3 Sulphur 24 Saity 6 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 3 Sulphur 29 Saity 6 Gas store 1 Gas store 1 Gas 4 Minorals Saity 6 Gas 4 Minorals Gas Gas ater level Gas 4 Minorals Got pumping 24:25 Vater levels during 1 10 Got pumping 27:24 foot feat	4 ○ Open hole 5 ○ Plastic 1 ○ Steel 19 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 ○ Plastic 1 ○ Steel 26 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 ○ Plastic 1 ○ Steel 26 4 ○ Open hole 5 ○ Plastic 1 ○ Duration of pumping M M Duration of pumping 1 ○ Pumping 2 ○ F 3 → 45 minutes 3 → 66 m eat	17-18 Mins Recovery ninutes 35-37	In diagra	61 Depth set 1 From 10-13 15-21 28-29 LO am below sho north by arro	PLUGGING Annular space at - feet Mater 16-17 22-25 30-33 80 CATION OF 1 w distances of W. C	& SEALING rial and type (Ce WELL of well from r	RECORI	ot line.
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Fresh 3 Supptin 10 Saity 4 Minerals Saity 5 Gas Fresh 4 Sulphur 24 Saity 6 Gas Fresh 3 Sulphur 24 Saity 6 Gas Fresh 3 Sulphur 24 Saity 6 Gas Fresh 4 Minerals Saity 6 Gas Saity 7 Pumping rate 11/1 Saity 6 Saity 6 Gas Saity 7 Saity 8 Saity 8 30 minutes Saity 9 Saity 8 Saity 1 15 minutes Saity 1 Pump intako set at	4 ○ Open hole 5 □ Plastic 1 ○ Steel □ 19 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 □ Plastic 1 ○ Steel □ 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 □ Plastic 4 ○ Open hole 5 □ Plastic 4 ○ Open hole 5 □ Plastic 1 □ Pumping 2 □ F 1 Pumping 2 □ F 1 ■ Pumping 2 □ F	<u>17:18</u> <u>Mins</u> Recovery ninute _{35:37} teet Cloudy	In diagra indicate	61 Depth set From 10-13 18-21 26-29 LO am below sho north by arro X X X X X X X X X X X X X	PLUGGING Annular space at - feet 14-17 22-25 30-33 80 CATION OF M w distances of W.	& SEALING rial and type (Ce WELL of well from r	RECORI	ot line.
447 2 56 20-23 1 B3-85 2 91-94 2 107-94 2 1107-94 2 1107-94 2 1107-94 2 1107-94 2 1107-94 2 1107-94 2 1107-94 2 1107-94 2 1107-94 2 1107-94 2 1107-94 2 1107-94 2 1107-9	Fresh 3 Suphu 1 Saity 4 Minorals Saity 5 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 4 Minorals Saity 6 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 4 Minorals Saity 6 Gas 60 Gas Saity 6 Gas 9 Pumping rate 11-1 Bailer GPM 15 minutgs feet feet feet feet feet feet gPM Pecommended pump setting 4	4 ○ Open hole 5 ○ Plastic 1 ○ Steel 19 2 ○ Galvanized 2 ○ Galvanized 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 ○ Plastic 1 ○ Steel 20 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 ○ Plastic 1 ○ Open hole 5 ○ Plastic 1 ○ Plastic 1 ○ Open hole 5 ○ Plastic 1 ○ Open hole 5 ○ Plastic 1 ○ Open hole 5 ○ Plastic 1 ○ Open hole 5 ○ Plastic 1 ○ Open hole 5 ○ Plastic 1 ○ Open hole 5 ○ Plastic 1 ○ Open hole 5 ○ Plastic 1 ○ Open hole 5 ○ Plastic 1 ○ Open hole 5 ○ Plastic 1 ○ Open hole 5 ○ Plastic 1 ○ Open hole 5 ○ Plastic 1 ○ Open hole 5 ○ Plastic 1 ○ Open hole 1 ○	17.18 Mins Recovery ninutes 35.37 teet 42. Cloudy 45.49 GPM	In diagra Indiagra	61 Depth set From 10-13 18-21 28-29 LO am below sho north by arro	PLUGGING Annular space at - feet 18-17 22-25 30-33 80 CATION OF 10 w distances of W. S	& SEALING rial and type (Ce WELL of well from r	RECOR	ot line.
447 2 56 20-23 1 2 83-85 2 91-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 1107-94 2 1107-94 2 11104 1 11104 1 11104 1 11104 1 11104 1 11104 1 11104 1 11104 1 11104 1 11104 1 11104 1	Fresh 3 Suphur 25 Saity 4 Minerals Saity 5 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 3 Sulphur 34 Minerals 60 Saity 6 Gas Fresh 3 Sulphur 34 Minerals 60 Saity 6 Gas athod 10 Pumping rate 11-1 Bailer 15 minutes GPM feet GPM feet GPM Pump intake set at GPM Recommended Pump setting fe OP uput 54 10	4 ○ Open hole 5 ○ Plastic 1 ○ Steel 2 ○ Galvanized 2 ○ Galvanized 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 ○ Plastic 1 ○ Steel 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 ○ Plastic 1 ○ Plastic 1 ○ Plastic 1 ○ Plastic 4 ○ Open hole 5 ○ Plastic 4 ○ Open hole 4 ○	17-18 Mins Recovery ninutes 35-37 feet 42 Cloudy 46-49 GPM	In diagra	61 Depth set From 10-13 18-21 28-29 LO am below sho north by arro	PLUGGING Annular space at - feet To Mater 22:25 30:33 80 CATION OF M w distances of w. S	& SEALING rial and type (Ce WELL of well from r	RECOR Abandon ment grout, t road and l	ot line.
447 2 56 20-23 1 83-85 2 91-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 107-94 2 1107-94 2 1107-94 2 1107-94 2 11100 10 11100 10 11100 10 11100 10 11100 10 11100 10 11100 10 11100 10 11100 10 11100 10 11100 10 11100 10 11100 10 11100 10 11100	Fresh 3 Supplu 1 Saity 4 Minerals Saity 5 Gas Fresh 4 Minerals Saity 5 Gas Fresh 3 Sulphur 24 Saity 6 Gas Fresh 3 Sulphur 24 Saity 6 Gas Fresh 4 Minerals Saity 6 Gas Saity 7 Pumping rate 11 ¹¹ Saity 1 Saity 1 Feeomeended <td< td=""><td>4 ○ Open hole 5 □ Plastic 1 ○ Steel 19 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 □ Plastic 1 ○ Steel 20 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 □ Plastic 4 ○ Open hole 5 □ Plastic 4 ○ Open hole 5 □ Plastic 1 □ Pumping 2 □ F 3 □ 45 minutes 3 □ 45 minutes 4 □ Clear □ 5 □ Plastic 1 □ Pumping 9 □ Unfinished 10 □ Replacement</td><td></td><td>In diagra indicate</td><td>61 Depth set From 10-13 18-21 28-29 LO am below sho north by arro</td><td>PLUGGING Annular space at - feet 14-17 22-25 30-33 80 CATION OF 1 w distances of W. 2 3 3 4 2 2-26 2-26 3 3 3 3 2 2 2 2 2 2 2 2 2 3 3 3 2 2 2 2 3 3 2 2 2 2 3 3 2 2 2 2 3 3 2 3 2 2 2 2 3 3 2 2 2 5 3 2 2 2 5 3 3 2 2 2 5 3 3 2 2 2 5 3 3 2 2 2 5 5 3 2 2 2 5 5 3 2 2 5 5 5 5</td><td>& SEALING rial and type (Ce WELL of well from r</td><td>RECORI</td><td>ot line.</td></td<>	4 ○ Open hole 5 □ Plastic 1 ○ Steel 19 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 □ Plastic 1 ○ Steel 20 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 □ Plastic 4 ○ Open hole 5 □ Plastic 4 ○ Open hole 5 □ Plastic 1 □ Pumping 2 □ F 3 □ 45 minutes 3 □ 45 minutes 4 □ Clear □ 5 □ Plastic 1 □ Pumping 9 □ Unfinished 10 □ Replacement		In diagra indicate	61 Depth set From 10-13 18-21 28-29 LO am below sho north by arro	PLUGGING Annular space at - feet 14-17 22-25 30-33 80 CATION OF 1 w distances of W. 2 3 3 4 2 2-26 2-26 3 3 3 3 2 2 2 2 2 2 2 2 2 3 3 3 2 2 2 2 3 3 2 2 2 2 3 3 2 2 2 2 3 3 2 3 2 2 2 2 3 3 2 2 2 5 3 2 2 2 5 3 3 2 2 2 5 3 3 2 2 2 5 3 3 2 2 2 5 5 3 2 2 2 5 5 3 2 2 5 5 5 5	& SEALING rial and type (Ce WELL of well from r	RECORI	ot line.
447 2 56 2023 83-85 2 91-94 2 107.033 1 107.033 2 107.033 2 107.033 2 107.034 2 107.04 2 107.053 2 107.054 2 107.054 2 107.054 2 107.054 2 107.054 2 107.054 2 107.054 2 107.054 2 107.054 2 107.054 2 107.054 2 107.054 2 107.054 2 107.054 2 107.054 2 107.054 14 107.054 14 107.054 14 107.054 14 107.054 14 107.054 14 107.054 14 107.054 14 107.054 <td>Fresh 3 Gas Saity 4 Minerals Saity 5 Gas Fresh 4 Minerals Saity 6 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 4 Minerals Saity 6 Gas Fresh 4 Minerals Saity 6 Gas Saity 6 Gas 8 Sulphur 29 Saity 6 Gas 90 Pumping rate 11*1 Bailer Bailer GPM 15<minutge, 2525<="" td=""> 30 minutge, 2425 feet feet GPM Fecommended µmp type Fecommended µmp stype Sadononed, insufficient pump setting 54 54 Abandoned, poor qualit 7 Abandoned, poor qualit 7 Abandoned (Other) 8 Dewatering</minutge,></td> <td>4 ○ Open hole 5 ○ Plastic 1 ○ Steel 19 2 ○ Galvanized 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 ○ Plastic 1 ○ Steel 20 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 ○ Plastic 1 ○ Open hole 7 ○ Open hole 7 ○ Plastic 1 ○ Open hole 7 ○ Open hole</td> <td>17.18 Mins Recovery ninuteg 32 Cloudy 46-49 GPM it well</td> <td>In diagra indicate</td> <td>61 Depth set From 10-13 18-21 26-29 LO arm below sho north by arro</td> <td>PLUGGING Annular space at - feet 18-17 22-25 30-33 80 CATION OF 1 w distances c</td> <td>KM KM Softwell from r</td> <td>RECOR</td> <td>ot line.</td>	Fresh 3 Gas Saity 4 Minerals Saity 5 Gas Fresh 4 Minerals Saity 6 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 4 Minerals Saity 6 Gas Fresh 4 Minerals Saity 6 Gas Saity 6 Gas 8 Sulphur 29 Saity 6 Gas 90 Pumping rate 11*1 Bailer Bailer GPM 15 <minutge, 2525<="" td=""> 30 minutge, 2425 feet feet GPM Fecommended µmp type Fecommended µmp stype Sadononed, insufficient pump setting 54 54 Abandoned, poor qualit 7 Abandoned, poor qualit 7 Abandoned (Other) 8 Dewatering</minutge,>	4 ○ Open hole 5 ○ Plastic 1 ○ Steel 19 2 ○ Galvanized 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 ○ Plastic 1 ○ Steel 20 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 ○ Plastic 1 ○ Open hole 7 ○ Open hole 7 ○ Plastic 1 ○ Open hole 7 ○ Open hole	17.18 Mins Recovery ninuteg 32 Cloudy 46-49 GPM it well	In diagra indicate	61 Depth set From 10-13 18-21 26-29 LO arm below sho north by arro	PLUGGING Annular space at - feet 18-17 22-25 30-33 80 CATION OF 1 w distances c	KM KM Softwell from r	RECOR	ot line.
447 2 56 20-23 91-94 2 107-94 100 107-94 100 107-94 100 107-94 100 107-94 100 107-94 100 107-94 100 107-94 100 107-94 100 107-94 100 <td>Fresh 3 Gas Saity 4 Minerals Saity 5 Gas Fresh 4 Minerals Saity 5 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 3 Sulphur 34 Minerals 60 Saity 6 Gas Fresh 3 Sulphur 34 Gas 11-1 Bailer Gas feet feet feet feet GPM Recommended GPM Recommended GPW Gef WELL S Abandoned, insufficient n well 6 Abandoned, (other) 8 Dewatering</td> <td>4 ○ Open hole 5 ○ Plastic 1 7 ○ Galvanized 2 ○ Galvanized 2 ○ Galvanized 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 ○ Plastic 1 ○ Steel 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 ○ Plastic 1 ○ Plastic 1 ○ Plastic 4 ○ Open hole 5 ○ Plastic 4 ○ Open hole 4 ○ Open hole 4 ○ Open hole 5 ○ Plastic 4 ○ Open hole 5 ○ Plastic 4 ○ Open hole 5 ○ Plastic 4 ○ Open hole 5 ○ Plastic 4 ○ Open hole 4 ○ Open hole</td> <td>17:18 Mins Recovery inutes 35:37 feet 46:49 GPM</td> <td>20.6" 20.23 27.30 In diagree Indicate</td> <td>61 Depth set From 10:13 16:21 26:39 LO Arm below sho north by arro</td> <td>PLUGGING Annular space at - freet 30-33 80 CATION OF W w distances of W. S</td> <td>$\begin{array}{c} & \text{SEALING} \\ \hline \\ & \text{seal and type (Ce} \\ \hline \\ & \text{well and type (Ce} \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce} \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce} \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce) } \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce) } \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce) } \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce) } \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce) } \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce) } \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce) } \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce) } \\ \hline \\$</td> <td>RECOR Abandoni ment grout, t road and l</td> <td>ot line.</td>	Fresh 3 Gas Saity 4 Minerals Saity 5 Gas Fresh 4 Minerals Saity 5 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 3 Sulphur 34 Minerals 60 Saity 6 Gas Fresh 3 Sulphur 34 Gas 11-1 Bailer Gas feet feet feet feet GPM Recommended GPM Recommended GPW Gef WELL S Abandoned, insufficient n well 6 Abandoned, (other) 8 Dewatering	4 ○ Open hole 5 ○ Plastic 1 7 ○ Galvanized 2 ○ Galvanized 2 ○ Galvanized 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 ○ Plastic 1 ○ Steel 2 ○ Galvanized 3 ○ Concrete 4 ○ Open hole 5 ○ Plastic 1 ○ Plastic 1 ○ Plastic 4 ○ Open hole 5 ○ Plastic 4 ○ Open hole 4 ○ Open hole 4 ○ Open hole 5 ○ Plastic 4 ○ Open hole 5 ○ Plastic 4 ○ Open hole 5 ○ Plastic 4 ○ Open hole 5 ○ Plastic 4 ○ Open hole 4 ○ Open hole	17:18 Mins Recovery inutes 35:37 feet 46:49 GPM	20.6" 20.23 27.30 In diagree Indicate	61 Depth set From 10:13 16:21 26:39 LO Arm below sho north by arro	PLUGGING Annular space at - freet 30-33 80 CATION OF W w distances of W. S	$\begin{array}{c} & \text{SEALING} \\ \hline \\ & \text{seal and type (Ce} \\ \hline \\ & \text{well and type (Ce} \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce} \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce} \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce) } \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce) } \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce) } \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce) } \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce) } \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce) } \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce) } \\ \hline \\ & \text{well from r} \\ \hline \\ & \text{seal and type (Ce) } \\ \hline \\ $	RECOR Abandoni ment grout, t road and l	ot line.
447 2 56 20-23 1 83-85 2 91-94 2 107-16 1 107-16 2 107-16 1 107-16 1 107-16 2 107-16 1 107-16 1 107-16 1 118-17 1 118-17 1	Fresh 3 Gas Saity 4 Minerals Saity 5 Gas Fresh 4 Minerals Saity 5 Gas Fresh 3 Sulphur 24 Saity 5 Gas Fresh 4 Minerals Saity 5 Gas saity 6 Gas bid 0 Pumping rate 11-11 GPM ater level 22-24 15 minutes 22-24 15 16 feet feet feet gpM Feeommended 0 Pump intake set at GPM Geber imp type Se OEFWELL 54 3 Dewatering in well 5 6 Commercial 6 Municipal 7 <td< td=""><td>4 Open hole 5 Plastic 1 Steel 2 Galvanized 3 Concrete 4 Open hole 5 Plastic 1 Steel 2 Galvanized 3 Concrete 4 Open hole 5 Plastic 4 Open hole 6 Plastic 1 Pumping 2 F 31 45 minutes 45 Recommended pump rate et Clear 45 Replacemen 10 Replacemen 9 Not use 10 Other</td><td></td><td>In diagra indicate</td><td>61 Depth set From 10:13 15:21 28:29 LO am below sho north by arro</td><td>PLUGGING Annular space at - feet 30:33 80 CATION OF W w distances of W. 2 BAS,</td><td>$\frac{\& \text{ SEALING}}{(a \text{ and type (Ce}))}$ $\frac{WELL}{(b \text{ of well from r})}$ $\frac{KM}{(c \text{ of well from r})}$ $\frac{KM}{(c \text{ of well from r})}$ $\frac{KM}{(c \text{ of well from r})}$</td><td>RECORI Abandonu ment grout, t road and l Coad and l</td><td>ot line.</td></td<>	4 Open hole 5 Plastic 1 Steel 2 Galvanized 3 Concrete 4 Open hole 5 Plastic 1 Steel 2 Galvanized 3 Concrete 4 Open hole 5 Plastic 4 Open hole 6 Plastic 1 Pumping 2 F 31 45 minutes 45 Recommended pump rate et Clear 45 Replacemen 10 Replacemen 9 Not use 10 Other		In diagra indicate	61 Depth set From 10:13 15:21 28:29 LO am below sho north by arro	PLUGGING Annular space at - feet 30:33 80 CATION OF W w distances of W. 2 BAS,	$\frac{\& \text{ SEALING}}{(a \text{ and type (Ce}))}$ $\frac{WELL}{(b \text{ of well from r})}$ $\frac{KM}{(c \text{ of well from r})}$ $\frac{KM}{(c \text{ of well from r})}$ $\frac{KM}{(c \text{ of well from r})}$	RECORI Abandonu ment grout, t road and l Coad and l	ot line.
447 2 56 2023 91-94 2 107 2028 107 2 107 2 107 2 107 2 107 2 107 2 107 2 107 2 107 2 107 2 107 2 107 2 107 10 107 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 12 10 13 10 14 10 14 10 1503 10 12 10 13 10 14 10 150 10 14 10 150 10<	Fresh 3 Gas Saity 4 Minerals Saity 5 Gas Fresh 4 Minerals Saity 6 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 4 Minerals Saity 6 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 4 Minerals Saity 6 Gas Fresh 4 Sulphur 34 Minerals 60 Saity 6 Gas 90 Pumping rate 11-1 Bailer 122-24 15 minutgs 16et feet feet feet GPM Pump intake set at GPM Fecommended 22-24 54 15 minutgs 10 feet feet GPM Pump intake set at GPM Abandoned, insufficient n well 54-30 6 Dewatering 55-56 S 6 Minerals	4 Open hole 5 Plastic 1 Steel 19 2 Galvanized 3 3 Concrete 4 4 Open hole 5 5 Plastic 10 1 Steel 20 2 Galvanized 3 3 Concrete 4 4 Open hole 5 5 Plastic 11 4 Open hole 5 5 Plastic 14 9 Pumping 2 F 11 Pumping 2 15 12 Pumping 2 16 13 45 minutes 32:34 60 m 14 Benjacemmended 10 16 15 Recommended 17 17 14 Seconmended 10 17 15 Plastic 10 17 16 Replacemen <	17.18 Mins Recovery ininute35.37 teet 42 Cloudy 46.49 GPM	In diagra In diagra	61 Depth set From 10:13 18:21 28:29 LO arm below sho north by arro	PLUGGING Annular space at - feet To Mater 22:25 30:33 80 CATION OF W w distances c W. S	& SEALING rial and type (Ce WELL of well from r $\mathcal{K}M$ \mathcal{T}	Abandoni Abandoni ment grout, t road and l Coad and l	ot line.
447 2 56 20-23 91-94 2 107-94 102 107-94 102 107-94 102 107-94 102 107-94 102 107-94 102 107-94 102 107-94 102 107-94 102 107-94 102 107-94 102 107-94 102	Fresh 3 Gas Salty 4 Minerals Salty 5 Gas Fresh 4 Minerals Salty 6 Gas Fresh 3 Sulphur 20 Salty 6 Gas Fresh 3 Sulphur 20 Salty 6 Gas Fresh 3 Sulphur 34 Salty 6 Gas Fresh 4 Minerals Salty 5 .Gas Bailer Geb 22224 15 minutes 16 drumping 15 17.16 Mater levels during 17.17 16 Bailer GPM 17.18 16 17.18 17.18 18 Deep 19 Pumpintaks set at GPM 6 10 Abandoned (cher) 17 Abandoned (Cher) 19 Deep 10 Dewarring 10 Solts 10 Solts 10 Solts 10 Soltsup 10	4 Open hole 5 Plastic 1 Steel 19 2 Galvanized 3 3 Concrete 4 4 Open hole 5 7 Steel 26 2 Galvanized 3 2 Galvanized 3 2 Galvanized 3 2 Galvanized 3 3 Concrete 4 4 Open hole 5 5 Plastic 4 4 Duration of pumping 4 60 rn Hours 4 9 Pumping 2 F 9 Chear 1 45 Recommended 10 Replacemen 9 Not use 10 Other 10 Other 10 Other	17-18 Mins Recovery 19et 46-49 GPM	In diagram	61 Depth set From 10-13 18-21 28-29 LO Am below sho north by arro 13 14 28-29	PLUGGING Annular space at - feet To Mater 22:25 30:33 80 CATION OF W w distances of W. S.	& SEALING trial and type (Ce WELL of well from the KM $\rightarrow 0$ T E KM F KM F KM F F KM F F F F F F F F	Abandonu Abandonu ment grout, t road and l Lo Lo T	ot line. N
447 2 56 222 83-85 2 91-94 2 107-116 2 107-116 2 107-116 2 107-116 2 107-116 2 107-116 2 107-116 2 107-116 2 107-116 2 107-116 2 107-116 2 107-116 2 107-116 2 107-116 2 107-116 2 107-116 2 107-116 2 107-116 2 11 Pumping test min 11 Pumping test min 11 Heet 11 Heet 11 Fiscal 11 Heet 11 Heet 11 Heet 11 Heet 12 Observalio 3 Irrigation 4 Industrial 1	Fresh 3 Gas Saity 4 Gas Fresh 3 Sulphur 24 Fresh 3 Sulphur 24 Saity 6 Gas Fresh 3 Sulphur 24 Saity 6 Gas Fresh 4 Minerals Saity 6 Gas Fresh 3 Sulphur 24 Saity 6 Gas Fresh 4 Minerals Saity 6 Gas Bailer GPM ater level feet feet feet feet feet gPM Pump intake set at GPM Abandoned, poor qualit in neell Abandoned, poor qualit 7 Abandoned, poor qualit 8 Commercial 6 Municipal 7 Abandoned, poor qualit 8 Commercial <t< td=""><td>4 Open hole 5 Plastic 1 Steel 2 Galvanized 3 Concrete 4 Open hole 5 Plastic 1 Steel 2 Galvanized 3 Concrete 4 Open hole 5 Plastic 1 Duration of pumping 4 Open hole 5 Plastic 1 Purgping 2 F 45 minutes_{32,34} 60 rr feet eet Gear 10 Pumping 45 Recommended pump rate eet Other 10 Other 10 Other 10 Other 11 Other</td><td>17.18 Mins Recovery ninuteg 35-37 feet 32 Cloudy 46-49 GPM</td><td>In diagree indicate</td><td>61 Depth set From 10-13 18-21 28-29 LO am below sho north by arro NY KJW</td><td>PLUGGING Annular space at - feet To Nater 16-17 22-25 30-33 80 CATION OF W w distances of W S BAS, BAS,</td><td>& SEALING rial and type (Ce WELL of well from r KM $\rightarrow 0$ $T \lesssim$ J KM $\rightarrow 0$ $T \lesssim$ $E \land I \sim E$</td><td>Abandoni Abandoni ment grout, t road and l Co Lo 206</td><td>or line. N 5550</td></t<>	4 Open hole 5 Plastic 1 Steel 2 Galvanized 3 Concrete 4 Open hole 5 Plastic 1 Steel 2 Galvanized 3 Concrete 4 Open hole 5 Plastic 1 Duration of pumping 4 Open hole 5 Plastic 1 Purgping 2 F 45 minutes _{32,34} 60 rr feet eet Gear 10 Pumping 45 Recommended pump rate eet Other 10 Other 10 Other 10 Other 11 Other	17.18 Mins Recovery ninuteg 35-37 feet 32 Cloudy 46-49 GPM	In diagree indicate	61 Depth set From 10-13 18-21 28-29 LO am below sho north by arro NY KJW	PLUGGING Annular space at - feet To Nater 16-17 22-25 30-33 80 CATION OF W w distances of W S BAS, BAS,	& SEALING rial and type (Ce WELL of well from r KM $\rightarrow 0$ $T \lesssim$ J KM $\rightarrow 0$ $T \lesssim$ $E \land I \sim E$	Abandoni Abandoni ment grout, t road and l Co Lo 206	or line. N 5550
447 2 56 2023 91-94 2 2028 1 91-94 2 107 2028 107 2028 107 2028 107 2027 107 2028 107 2028 107 2028 107 2028 107 2007 107 2007 107 107 107	Fresh 3 Gas Saity 4 Minerals Saity 5 Gas Fresh 4 Minerals Saity 6 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 3 Sulphur 29 Saity 6 Gas Fresh 4 Minerals Saity 6 Gas Fresh 4 Minerals Saity 6 Gas Fresh 4 Minerals Saity 6 Gas 60 Fresh 4 Bailer GPM Bailer GPP feet feet feet feet feet feet gPM Fecommended pump setting fe Deep Dewatering 5 Abandoned, insufficient n well 5 6 Muncipal 7 Abandoned, poor qualit 7 Abandoned (Cther) 8 Dewatering 5 Air percussion 6 Boriconing & air conditioni<	4 Open hole 5 Plastic 1 Steel 19 2 Galvanized 2 3 Concrete 4 4 Open hole 5 5 Plastic 13 1 Steel 26 2 Galvanized 3 3 Concrete 4 4 Open hole 5 5 Plastic 16 4 Open hole 5 7 Pumping 2 F 9 Plastic 60 m 10 Pumping 2 F 11 Pumping 2 F 12 Penommended 10 Heplacemen 10 Replacemen 10 Replacemen 10 Other 10 Other 11 Other 11 Other	17:18 Mins Recovery 17:18 Recovery 16et 46:49 GPM 1t well icence No.	In diagra Indicate	61 Depth set From 10:13 18:21 28:29 LO am below sho north by arro NY, NY, NY, NY, NY, NY, NY, NY, NY, NY,	PLUGGING Annular space at - feet To Mater 22-25 30-33 80 CATION OF M w distances of W. S. PAS, BAS, 2+	& SEALING rial and type (Ce well of well from r $\mathcal{K}M$ \mathcal{T}	RECORI Abandoni Ment grout, t road and l road and l Corr 206 Wed 1 1 2	ot line. N 5550
4 7 2 5 6 7	Fresh 3 Gas Fresh 4 Minerals Salty 6 Gas Fresh 3 Sulphur 24 Salty 6 Gas Fresh 3 Sulphur 34 Salty 6 Gas Fresh 4 Minerals Salty 5 .Gas Bailer GPM 22224 15 minutes 16 of pumping feet feet feet feet feet gpwn Sattoneed, insufficient nwell 6 Abandoned, opor qualition 7 Abandoned (Other) 8 Dewatering 9 5 6 Commercial 6 Municipal 7 Public supply 8 Jetting 9 7 9 10 9	4 Open hole 5 Plastic 1 Steel 19 2 Galvanized 3 3 Concrete 4 4 Open hole 5 7 Steel 20 3 Concrete 4 4 Open hole 5 2 Galvanized 3 3 Concrete 5 4 Open hole 5 5 Plastic 5 4 Open hole 5 6 Plastic 5 4 Open hole 5 7 Pumping 2 6 3 45 minutes 32.34 6 60 r feet 10 10 45 Recommended 10 10 9 Orving 10 Replacemen 9 Orving 10 0 10 Other 33.1 10		In diagram indicate	61 Depth set : From 10-13 16-21 28-29 LO am below sho north by arro 17 / // 28-29 LO am below sho north by arro 7 / // 7 / // // 7 / // // // 7 / // // // // // // // // // // // //	PLUGGING Annular space at - feet To Mater 14-17 22-26 30-33 80 CATION OF M w distances of W. S.	& SEALING trial and type (Ce well from the second secon	Lor 2006 1112	ot line. N 550 03.98

rint only in spac lark correct box	Environment ces provided. with a checkmark, where applie	cable.	4	908527	Municipality Cor	S.W.	
County or Distrig		Townshin/Borouch/	City/Town/Village		Con block tract surve	v. etc. Lo	25-27
PEEL	<u>\</u>	C	ALEDO	~/	II WH.	5	/
Our out on the our	²⁸⁻⁴⁷ First Name	Address PRI MOF	FAT ON	T. LOPIJO	Date completed	යට () day n	nonth year
21	Zone	Easting Northing	24	RC Elevation RC	Basin Code ii		
General colour	LOG Most common material	OF OVERBURDEN AND B Other materia	EDROCK MAT	ERIALS (see instruction General	description	Dept	h - feet To
BR.	CLAY					0	3
BR.	Rock					3	4
-BR	ROCK			BROKEN		4	7
BR.	Rock			SOLID		7	31
GR.	ROCK					31	142
3LUE	SHALE			· · · · · · · · · · · · · · · · · · ·		142	144
		-					
31			1.11.			<u> </u>	
32		┈┙┹┶┙└╌┶╅╌┶╼┶╴	┷╼╛╘┸┵┺ ┷┲╛╘┲╼┲	╵╴╽╴╽╴┥╴┥╴┥╴┥	╶┼┼┹┼┸╾┼╌╎╵┖┼╌┶		
41 WATE	R RECORD 51			Sizes of c (Slot No.)	pening 31-33 Diameter	34-38 Leng	75 90 jth 39-40
Water found at - feet	Kind of water	e Wall Material thicknes es inches	ss From	To Material a	ind type	inches P Depth at top	feet
34 20] Fresh 4 □ Minerals 3 Salty 6 □ Gas	11 1 Steel 12 2 Galvanized 3 Concrete		13-16 O			41-44 feet
60 ¹⁵⁻¹³ 1 [2 [2	Fresh ³ Sulphur ¹⁹ A Minerals Salty ⁶ Gas	4 Open hole 5 Plastic	0	61	PLUGGING & SEALING	RECORD	
75-98 1 C	Fresh ³ Sulphur ²⁴ 4 Minerals	1 Steel 2 Galvanized 3 Concrete		Depth set at	Annular space	Abandonn	nent entonite, etc.)
25-28 1	Fresh 3 C Sulphur 29 3	4 Open hole 5 Plastic 25		27-30	14-17		
30-33 1 E] Sany 6 □ Gas] Fresh ³ □ Sulphur ³⁴ 60	2 Galvanized 3 Concrete		18-21	22-25		
2] Salty ⁴ □ Minerais Gas	5 🗌 Plastic		2025	30/35 00		
Pumping test m	ethod ¹⁰ Pumping rate	Duration of pumping SPM Hours Min	IB IS	LOC	ATION OF WELL		
Static level e	Vater level 25 Water levels during	1 Pumping 2 Recove	iry	In diagram below show Indicate north by arrow	distances of well from i	road and lo	ot line.
19-21 E	22-24 15 minutes 30 minute	es 29-31 45 minutes 32-34 60 minutes 30	5-37	. •	2KM		
feet If flowing give ra	feet feet at 38-41 Pump intake set at	feet feet f Water at end of test	eet	LIJ	$\rightarrow 0$		
Recommended p	GPM grant GPM grant gran	feet Clear Cloudy 43-45 Recommended 44	/ 5·49		1		$N \mid$
Shallow	Deep pump setting	feet G	РМ	રે જિ	'Σ		
	S OF WELL 54	ander	=		1th		
FINAL STATUS	ply ⁵ Abandoned, insufficie on well ⁶ Abandoned, poor qu	ent supply ⁹ Unfinished ality ¹⁰ Replacement well		IÇ I	× •	,	
FINAL STATUS	· Anangoned () mean		11	1 2	\mathbf{V}	人07	/
FINAL STATUS	well ⁸ Dewatering			K			
FINAL STATUS Under Sup Observation Final Status inal Status Final Status Final Status Final Status F	well 8 Dewatering	e □ Not use		I'N R	ASELINE	·····	
FINAL STATUS	well 8 Dewatering 5:556 6 Municipal 7 Public supply 8 Cooling & air condition	⁹ ☐ Not use 10 ☐ Other		R. I.	asel ine	407	34
FINAL STATUS 1 Water sup 2 Observatio 3 Test hole 4 Recharge WATER USE 1 Domestic 2 Stock 3 Inrigation 4 Industrial METHOD OF	well 8 Dewatering 56-56 5 Commercial 6 Municipal 7 Public supply 8 Cooling & air condition CONSTRUCTION 57	° ☐ Not use 10 ☐ Other		MINSTU NUNSTU	asel ine	607	34
FINAL STATUS	well 6 Dewatering 6 Dewatering 55-56 5 Commercial 6 Municipal 7 Public supply 8 Cooling & air condition CONSTRUCTION 97 5 Air percussion 6 Boring			N/W/ TUNST	9SELINIE	L07	34
FINAL STATUS	well 6 Dewatering 55-56 5 Commercial 6 Municipal 7 Public supply 5 Cooling & air condition CONSTRUCTION 57 5 Air percussion 6 Boring verse) 7 Diamond 9 Jetting	 9 Not use 10 Other 10 Other 9 Driving 10 Digging 11 Other 		Twc on Minster	95EZINE 300+	人。7 206	34 551
FINAL STATUS	well 6 Dewatering 55-56 5 Commercial 6 Municipal 7 Public supply 6 Cooling & air condition 5 Air percussion 6 Boring verse) 7 Diamond 9 Jetting		 No. J Data sourc	TWC of Contractor	300+ 300+ 177 9482 Date rece	人。7 206	34 551
FINAL STATUS	well 8 Dewatering Solo 6 Solo 6 Solo 7 Well 8 Dewatering Solo 6 Solo 7 Public supply CONSTRUCTION 67 Solo 7 Devating 8 air condition werse 7 Devating actor Devating Construction 6 Dev		No. No. Data Source Date	TWC se Contractor sof inspection	95.EZ.IN/E 300+ 17 spector	人。7 206 112	34 551
FINAL STATUS	well 8 Deandoned (clutter) 8 Deanderring 56-56 5 Commercial 6 Municipal 7 Public supply 8 Cooling & air condition 5 Air percussion 9 Deander Supply 8 Cooling & air condition 10 Public supply 9 Deanderring 10 Deandering 10 Deanderring 10 Dea		No. No. No. Rema	TWC se Contractor sof inspection rks	95.EZ.IN/E 300+ 300+ 177 Date rece JAN	人。7 206 112	34 551

	ntario nts recorded in	Ministry o the Envir n: 🗌 Metr	of onment ic v	perial	Well Tag	AUO	° 1030 -	Regulation	903 Ontar	Well F	sources Act
Well Owner First Name Mailing Addr Mell Locat Address of W County/Distr UTM Coordin NAD	er's Information (Street, Number 1) (Street, Number 2) (Street, Number	ation UE Last mber/Name) DERIF Street Number Ation asting 79 81 Materials	Name / Or CONS (RK ar/Name) (HIL SI (AS) (Abandon	ganization ERUP 2. LB thing 846	UD To DD Cit	incipality MSSISSAUG wnship church hy/Town/Village unicipal Plan and Sublo	E-mail Address Province	Postal Code USNG	Con Province Ontaric Other	cession Posta	Constructed ell Owner area code) 1665 1866 1866 1866 1866
General Col X Th We c of ang	lour M 1.5 We ling d He C GPS	ll R loion loca Loca	ecord 5'a 5'ng (tad.	l is ind with	othe For pe-gr	r Materials Clepgading outed the entonite.	Gene a well - cannular well wa	eral Description - avd:1 # 5 Pace 5 Togg	= Nb jal	T Fou	
Depth Se From	t at (<i>m/ft)</i> To	T; (A	Annular ype of Seal Material and	Space ant Used d Type)		Volume Placed (m³/ft³)	After test of well yield Clear and sand Other, specify If pumping discontinu	Results of We , water was: free ued, give reason:	Time Wa (min) Static Level	resting Down ater Level Time (m/tt) 1	Recovery a Water Level) (m/ft)
Meth Cable To Rotary (C Rotary (F Boring Air percu	od of Constr ol [Conventional] [Reverse] [Ission	ruction Diamond Jetting Driving Digging	Put Dor Live	Nic nestic astock gation ustrial er, sneotiv	Well Use Commer Municipe Test Hol Cooling	e cial Dewatering e Monitoring & Air Conditioning	Pump intake set at (Pumping rate (Vimin Duration of pumping hrs + Final water level end	(m/tt) / GPM) g min of pumping (m/tt)	2 3 4 5 10	2 3 4 5 10	
Inside Diameter (cm/in)	Const Open Hole Of (Galvanized, F Concrete, Plas	ruction Rec R Material Fibreglass, stic, Steel)	Wall Thickness (cm/in)	ing Dept From	h (<i>m/ft)</i> To	Status of Well Uster Supply Replacement Well Gest Hole Recharge Well Observation and/or Monitoring Hole Alteration	Recommended pun Recommended pun (<i>Wmin / GPM</i>) Well production (<i>Vm</i>	np depth (m/ft) np rate nin / GPM)	20 25 30 40 50	20 25 30 40 50	5 5 7 7
Outside Diameter (cm/in)	Cons Mater (Plastic, Galvar	struction Rec rial nized, Steel)	cord - Scre Slot No.	en Depi From	th (<i>m/ît</i>) To	(Construction) Construction Abandoned, Insufficient Supply Abandoned, Poor Water Quality Abandoned, other, specify Other, specify	Please provide a ma	Map of W ap below following	60 ell Locati instructions	60 s on the back.	
Water four (n Water four (n Water four (n	nd at Depth Ki n/ft) Gas nd at Depth Ki n/ft) Gas nd at Depth Ki n/ft) Gas Wall	Water Deta nd of Water: Other, spec nd of Water: Other, spec nd of Water: Other, spec	ills Fresh ify Fresh ify Fresh ify and Well	Unteste Unteste Unteste	d Dep From d d	tione Diameter	13: N. C.	C.3OK	- Hund	rese St.	Ŧ
Business N Business A Province OW Bus.Teleph Z 0 5	Varme of Well C S Well C Address (Street Posl Posl L g ione No. (inc. are G 3 5 8 2 cian's Licence No.	Autoritation and a second particular and a second part	Busines Busines	s E-mail Ac Technician	C Mi ddress (Last Name, TEVE Contractor Da	ell Contractor's Licence No. 7 1 4 3 unicipality Cas Te c First Name) 2 te Submjtted	Comments: Well owner's Date information package delivered Yes Date	e Package Deliver	ed 2.4	Ministry Mudit No. Z	Use Only 31088 6 2000
Z 9	34	5	L		2	Ministry's Copy		00903	24 R	© Queen's Print	ter for Ontario, 2007

/ UI					POLOMINIA	Re Re	- j			ter Re	
Measureme	ents recorded in: 🏌	Metric 🗌] Imperial		Vo 7746.				Page	<u> </u>	of
Well Own First Name	ner's Information	Last Name	/ Organizatio	on		E-mail Address					Conete
1										by W	ell Own
Mailing Add	fress (Street Number/Na	ime)			Municipality	Province Pos	stal Code	a	Telephone	No. (inc	area co
	0150 MISS	(95400	GA RE	UHD	CACEDON	UNTARD L	114112	<u>19</u> 1			
Address of \	Well Location (Street Nu	mber/Name	e)		Township	Lot			Concessio	n	
16	STO MISS.	SAVO	64 AC	AD	CHIEDO	<u>N</u>	7		5	W	
County/Dist	trict/Municipality				City/lown/Village		ł	Provin Ont:	ce ario	Posta	
JTM Coordir	nates Zone Easting		Northing	1-	Municipal Plan and Sub	lot Number	0	Other		Sere 1	
NAD	83175BC	8951	1848	731	24 					Senore Hold (2014)	
Overburde	and Bedrock Mater	ials/Aband	lonment Se	ealing Rec	cord (see instructions on th ther Materials	e back of this form) General De	escription			Dep	oth (m/ft
										From	
	- DECOM-	Miss/C	over	PER	MOE REG	YOSE (
	-ALC D	EBRI	s Ate	MOVE	Dr Room (veri 4 12	PER	74			-
	PARED	SBAC	F	5.0A2	EN 10 SU	RTACK D				····	-
	- TOP 2	,4 m	WELL	c CA	SING (ENTIR	E LENETH DEM	10/8	Y			
	No.										
Depth Sct	tat (m/ft)	Annula	r Space		Volumo Direct	After test of well yield, water	ts of Well	I Yiel	d Testing		ecovor
From	То	(Material a	nd Type)		(m ³ /ft ³)	Clear and sand free	was.	Time	Water Leve	I Time	Water
00	1.B GAAD	E To .	SUC24	KE		Other, specify		(<i>min</i>) Static	(m/ft)	(min)	(m/i
1.8	2.4 500	to wr	E			it pumping aiscontinuea, give	e reason:	Level			2
					-			1		1	
-	7.4 FOND										
	ZIT FON					Pump intake set at (m/ft)		2		2	
Math	ZI Y EON			Wall II		Pump intake set at (m/ft) Pumping rate (l/min / GPM)		2 3		2 3	
Metho	od of Construction	i Pi	ublic	Well U	se ercial	Pump intake set at (m/ft) Pumping rate (l/min / GPM)		2 3 4	****	2 3 4	
Metho Cable Too Rotary (Cc	Cd of Col of Col □ Diamond □ Onventional) □	j Do	ublic	Well U	se ercial Dewatering	Pump intake set at (m/ft) Pumping rate (//min / GPM) Duration of pumping hrs + min		2 3 4 5		2 3 4 5	
Metho Cable Too Rotary (Co Rotary (Re Boring	A Forf od of Construction ol Diamono onventional) Jetting everse) Driving Digging	j Pu Do Liv I rr	ublic omestic vestock igation	Well U Comm Munici Test H Cooling	se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning	Pump intake set at (<i>m/ft</i>) Pumping rate (<i>l/min / GPM</i>) Duration of pumpinghrs +min Final water level end of pump		2 3 4 5		2 3 4 5	
Metho Cable Too Rotary (Co Rotary (Re Boring Air percus: Other, spe	Cut Forf od of Construction oil Diamono onventional) Detting everse) Driving Digging ssion ecify		ublic omestic vestock igation dustrial ther. <i>specify</i>	Well U Comm Munici Test H Cooling	se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning	Pump intake set at (<i>m</i> /ft) Pumping rate (<i>l/min / GPM</i>) Uuration of pumpinghrs +min Final water level end of pump	bing (m/ft)	2 3 4 5 10		2 3 4 5 10	
Metho Cable Too Rotary (Cc Rotary (Re Boring Air percuss Other, spe	Zit J F0H od of Construction ol Diamond onventional) Jetting everse) Driving Digging ssion ecify Construction R	d Pu Do Liv I m I m Ot ecord - Ca	ublic omestic vestock igation dustrial ther, <i>specify</i> sing	Weil U Comm Munici Test H Cooling	se ercial Dewatering ole Monitoring g & Air Conditioning Status of Well	Pump intake set at (m/ft) Pumping rate (l/min / GPM) Duration of pumping hrs + min Final water level end of pump If flowing give rate (l/min / Gl	bing (m/ft)	2 3 4 5 10 15		2 3 4 5 10 15	
Metho Cable Too Rotary (Cc Rotary (Re Boring Air percuss Other, spe	Zit J F0H od of Construction ol Diamond onventional) Jetting everse) Driving Digging ssion ecify Construction R Open Hole OR Material Construction Characterial	t Pu Do Lin Irr Ot ecord - Ca	ublic omestic vestock igation dustrial ther, <i>specify</i> _ sing Depth	Well U Comm Municip Test H Cooling Kooling h (<i>m/ft</i>)	Se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply	Pump intake set at (m/ft) Pumping rate (l/min / GPM) Duration of pumping hrs + min Final water level end of pump If flowing give rate (l/min / Gl Recommended pump depth	ping (m/ft)	2 3 4 5 10 15 20		2 3 4 5 10 15 20	
Metho Cable Too Rotary (Cc Rotary (Re Boring Air percus: Other, spe Inside Diameter (cm/in)	Carl Forf od of Construction ol □ Diamonc onventional) □ Jetting everse) □ Driving ssion □ Digging ssion ■ Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	d Pu Do Liv Liv Inr ecord - Ca Wall Thickness (cm/in)	ublic omestic vestock igation dustrial ther, <i>specify</i> _ sing Depth From	Well U Comm Munici; Test H Cooling h (m/ft) To	se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Test Hole	Pump intake set at (m/ft) Pumping rate (l/min / GPM) Duration of pumping hrs + min Final water level end of pump If flowing give rate (l/min / GH Recommended pump depth		2 3 4 5 10 15 20 25		2 3 4 5 10 15 20 25	
Metho Cable Too Rotary (Cc Rotary (Re Boring Air percus: Other, spe Diameter (cm/in) Q	Zi J Forf od of Diamonc onventional) Detting everse) Driving ecify Digging Ssion ecify Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	d Pu Du Lin In ecord - Ca Wall Thickness (cm/in)	ublic omestic vestock igation dustrial ther, <i>specify</i> _ sing Depth From	Well U Comm Municit Test H Cooling n (m/ft) To 7	se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Test Hole Recharge Well	Pump intake set at (<i>m</i> /ft) Pumping rate (<i>l/min / GPM</i>) Duration of pumpinghrs +min Final water level end of pump If flowing give rate (<i>l/min / GH</i> Recommended pump depth Recommended pump rate (<i>l/min / GPM</i>)	ing (m/ti) PM) 	2 3 4 5 10 15 20 25 30		2 3 4 5 10 15 20 25 30	
Metho Cable Too Rotary (Cc Rotary (Re Boring Air percus: Other, spe Inside Diameter (cm/in) 9 0	Cat Forf od of Construction ol Diamond oventional) Detting everse) Driving bigging ssion ecify Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Constructor R	i Pu Da Li Irr Irr Ot ecord - Ca Wall Thickness (<i>cm/in</i>)	ublic omestic vestock igation dustrial ther, <i>specify</i> sing Depth From Ø , D	Well U Comm Munici Test H Cooling h (m/ft) To Z. √	se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Test Hole Recharge Well Dewatering Well Debervation and/or	Pump intake set at (<i>m</i> /ft) Pumping rate (<i>l/min / GPM</i>) Duration of pumping hrs + min Final water level end of pump If flowing give rate (<i>l/min / GI</i> Recommended pump depth Recommended pump rate (<i>l/min / GPM</i>) Well production <i>l/min / GPM</i>	ping (m/tt) PM) n (m/tt)	2 3 4 5 10 15 20 25 30 40		2 3 4 5 10 15 20 25 30 40	
Metho Cable Too Rotary (Cc Rotary (Re Boring Air percuss Other, spe Inside Diameter (cm/An) 9 C	Zit J Forf od of Construction ol Diamond onventional) Jetting everse) Driving Digging ssion ecify Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Constente	i Pu Da Li Irr Ot ecord - Ca Wall Thickness (cm/in)	ublic omestic vestock igation dustrial ther, <i>specify</i> sing Depth From 6 , , D	Well U Comm Municij Test H Cooling n (m/ft) To Z. √	Se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Test Hole Recharge Well Observation and/or Monitoring Hole Alternation	Pump intake set at (<i>m</i> /ft) Pumping rate (<i>l/min / GPM</i>) Duration of pumping hrs + min Final water level end of pump If flowing give rate (<i>l/min / GH</i> Recommended pump depth Recommended pump rate (<i>l/min / GPM</i>) Well production (<i>l/min / GPM</i>)		2 3 4 5 10 15 20 25 30 40 50		2 3 4 5 10 15 20 25 30 40 50	
Metho Cable Too Rotary (Cc Rotary (Cc Rotary (Re Boring Air percuss Other, spe Inside Diameter (cm/in) 9 C	Zit Ý Eðif od of Construction ol □ Diamond onventional) □ Jetting everse) □ Driving □ Digging ssion ecify Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction R	i Pu Da Li I rr I rr Ot ecord - Ca Wall Thickness (cm/in)	ublic omestic vestock igation dustrial ther, <i>specify</i> sing Depth From 6 , D	Well U Comm Municij Test H Cooling n (m/fil) To Z. √	Se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Dewatering Well Deservation and/or Monitoring Hole Alteration (Construction)	Pump intake set at (<i>m</i> /ft) Pumping rate (<i>l/min / GPM</i>) Duration of pumping hrs + min Final water level end of pump If flowing give rate (<i>l/min / GI</i> Recommended pump depth Recommended pump rate (<i>l/min / GPM</i>) Well production (<i>l/min / GPM</i> Disinfected?		2 3 4 5 10 15 20 25 30 40 50		2 3 4 5 10 15 20 25 30 40 50	
Metho Cable Too Rotary (Cc Boring Air percuss) Other, spe Inside Diameter (cm/m) 9 ©	Zit Ý Eðif od of Construction ol Diamonc onventional) Jetting everse) Driving Digging ssion ecify Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction R	i Pe Da Liu Liu Inrr Oti ecord - Ca Wall Thickness (crvin)	ublic omestic vestock igation dustrial ther, <i>specify</i> _ sing Depth From Ø , D	Well U Comm Munici Test H Cooling h (m/ft) To Z/	Se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Test Hole Recharge Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Insufficient Supply	Pump intake set at (m/ft) Pumping rate (l/min / GPM) Duration of pumping hrs + min Final water level end of pump If flowing give rate (l/min / Gl Recommended pump rate (l/min / GPM) Well production (l/min / GPM Disinfected? Yes No		2 3 4 5 10 15 20 25 30 40 50 60		2 3 4 5 10 15 20 25 30 40 50 60	
Metho Cable Too Rotary (Cc Boring Air percuss Other, spee Inside (cm/in) Q O	Zi Ý Fôlf od of Construction ol Diamono overtional) Detting everse) Driving bigging ssion ecify Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction R Construction R Material	s Pt Dt Lit In ecord - Ca Wall Thickness (cm/in)	ublic omestic vestock igation dustrial ther, specify sing Depth From Ø / D /	Well U Comm Munici Test H Cooling n (m/ft) To Z. n (m/ft)	se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Dewatering Well Dewatering Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Insufficient Supply Abandoned, Poor Water Quality	Pump intake set at (m/ft) Pumping rate (l/min / GPM) Duration of pumpinghrs +min Final water level end of pump If flowing give rate (l/min / Gl Recommended pump depth Recommended pump rate (l/min / GPM) Well production (l/min / GPM Disinfected?YesNoNoNo	ing (m/ti) PM) 1 (m/ti) 1 1) pp of Well	2 3 4 5 10 15 20 25 30 40 50 60	ation	2 3 4 5 10 15 20 25 30 40 50 60	
Metho Cable Too Rotary (Cc Rotary (Re Boring Air percus: Other, spe Inside Diameter (cm/in) Q O Outside Diameter (cm/in)	Construction od of Construction od Diamond oventional) Jetting everse) Driving digging bigging ssion ecify Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction R Material (Plastic, Galvanized, Steel)	d Pt Dt Lis Inn ecord - Ca Wall Thickness (cm/in) ecord - Scree Slot No.	ublic omestic vestock igation dustrial ther, specify sing Depth From Ø / D een Depth From	Well U Comm Munici; Test H Cooling n (m/ft) To Z. ✓ n (m/ft) To	se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning	Pump intake set at (m/ft) Pumping rate (l/min / GPM) Duration of pumpinghrs +min Final water level end of pump If flowing give rate (l/min / GI Recommended pump depth Recommended pump rate (l/min / GPM) Well production (l/min / GPM Disinfected?YesNoNoMa Please provide a map below fi	ing (m/ti) PM) a (m/ti) b following ins	2 3 4 5 10 15 20 25 30 40 50 60	ation	2 3 4 5 10 15 20 25 30 40 50 60	
Metho Cable Toco Rotary (Re Boring Air percuss Other, spe Inside Diameter (cm/in) Q. Outside Diameter (cm/in)	Zit J Forf od of Construction ol Diamond onventional) Jetting everse) Driving Digging ssion ecify Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction R Material (Plastic, Galvanized, Steel)	i Pu Da Li Irr Ot ecord - Ca Wall Thickness (cm/in)	ublic omestic vestock igation dustrial ther, specify sing Depth From Ø , D een Depth From	Well U Comm Municij Test H Cooling n (m/ft) To Z. √ n (m/ft) To	se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Dewatering Well Dewatering Well Observation and/or Monitoring Hole Alteration Abandoned, Poor Water Quality Abandoned, other, specify CUSST ASDEE	Pump intake set at (m/ft) Pumping rate (l/min / GPM) Duration of pumpinghrs + min Final water level end of pump If flowing give rate (l/min / GH Recommended pump depth Recommended pump rate (l/min / GPM) Well production (l/min / GPM Disinfected? Yes No No	ining (m/lt) PM) in (m/lt) in (m/lt) in (m/lt) in (m/lt)	2 3 4 5 10 15 20 25 30 40 50 60 1 Locci	ation ns on the b	2 3 4 5 10 15 20 25 30 40 50 60	
Metho Cutside Diameter Contside Diameter Contside Diameter Contside Contside Diameter Contside	Zit J Forf od of Construction ol Diamond onventional) Jetting everse) Driving Digging ssion ecify Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction R Material (Plastic, Galvanized, Steel)	s Pu Da Lin Irr Ot ecord - Ca Wall Thickness (cm/in)	ublic omestic vestock igation dustrial ther, specify sing Depth From Ø / D From Depth From	Well U Comm Municij Test H Cooling n (m/ft) To an (m/ft) To	Se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Dewatering Well Deservation and/or Monitoring Hole Alteration (Construction) Abandoned, Poor Water Quality Abandoned, other, specify Status of Mell Other, specify Pump intake set at (<i>m</i> /ft) Pumping rate (<i>l/min / GPM</i>) Duration of pumpinghrs + min Final water level end of pump If flowing give rate (<i>l/min / GI</i> Recommended pump depth Recommended pump rate (<i>l/min / GPM</i>) Well production (<i>l/min / GPM</i>) Disinfected? Yes NoMa Please provide a map below f	ing (m/ti) PM) (m/ti) (m/ti) prof Well following ins	2 3 4 5 10 15 20 25 30 40 50 60 I Locc	ation ns on the b	2 3 4 5 10 15 20 25 30 40 50 60		
Metho Cable Too Rotary (Cc Boring Air percuss Other, spe Inside Diameter (cm/in) Q. Outside Diameter (cm/in) (Zity Ford od of Construction ol Diamond onventional) Jetting everse) Driving bigging bigging ston ecify Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction R Material (Plastic, Galvanized, Steel)	i Pt DC Lin Irr ON ecord - Ca Wall Thickness (crr/in)	ublic omestic vestock igation dustrial ther, <i>specify</i> _ sing Depth From Ø , D sen Depth From	Well U Comm Munici, Test H Cooling n (m/ft) To Z/ n (m/ft) To	Se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Recharge Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Poor Water Quality Abandoned, other, specify Other, specify Other, specify	Pump intake set at (m/ft) Pumping rate (l/min / GPM) Duration of pumpinghrs +min Final water level end of pump If flowing give rate (l/min / Gl Recommended pump depth Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Disinfected?YesNoNoNa	ining (m/ft) PM) in (m/ft)	2 3 4 5 10 15 20 25 30 40 50 60 Loca	ation pons on the b	2 3 4 5 10 15 20 25 30 40 50 60	
Metho Cable Too Rotary (Cc Boring Air percuss Other, spee Inside Diameter (cm/in) Q Outside Diameter (cm/in) (// (cm/in) // (cm/in)	Z. Y ForM od of Construction Diamond ol Diamond onventional) Jetting everse) Driving generation Diaging ssion ecify Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction R Material (Plastic, Galvanized, Steel) Water Det Water Det at Depth Kind of Water	i □ Pt □ Dt □ It □ It □ It □ It □ It □ It □ It It It Crovin) ecord - Ca Wall Thickness (crvin) ecord - Scre Slot No.	ublic omestic vestock igation dustrial ther, specify _ sing Depth From Ø / D Pepth From Depth From	Well U Comm Munici Test H Cooling n (m/ft) To Z/ n (m/ft) To	Se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Dewatering Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Poor Water Quality Abandoned, other, specify Other, specify Other, specify Hole Diameter th (m/ft)	Pump intake set at (m/ft) Pumping rate (l/min / GPM) Duration of pumpinghrs +min Final water level end of pump If flowing give rate (l/min / Gl Recommended pump depth Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Disinfected?NoNoNoNo	sing (m/tt) PM) in (m/tt) in (m/tt) in (m/tt) in (m/tt) in (m/tt) in (m/tt)	2 3 4 5 10 15 20 25 30 40 50 60 I Locct	ation ns on the b	2 3 4 5 10 15 20 25 30 40 50 60	
Metho Cable Too Rotary (Cc Rotary (Cc Rotary (Re Boring Air percus: Other, spe Inside Diameter (cnvin) Q Outside Diameter (cnvin) Q Outside Diameter (cnvin) Q Outside Diameter (cnvin) Q Outside Diameter (cnvin) Q Outside Diameter (cnvin) Q Outside Diameter (cnvin)	Can Forf od of col Diamond oventional) Jetting everse) Driving construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction R Material (Plastic, Galvanized, Steel) Water Dett at Depth at Depth () Gas Other, spe	ecord - Ca Wall Thickness (cm/in) Biot No.	ublic omestic vestock igation dustrial ther, specify sing Depth From Ø / D Pepth From Depth From	Well U Comm Munici Test H Cooling n (m/ft) To Z/ n (m/ft) To Promotestic Promotestic Promotestic	se ercial Dewatering pal Dewatering ole Monitoring g & Air Conditioning Water Supply Replacement Well Dewatering Well Dewatering Well Dewatering Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Deor Water Quality Abandoned, other, specify Other, specify Dither, specify tht (m/ft) Diameter To	Pump intake set at (m/ft) Pumping rate (l/min / GPM) Duration of pumpinghrs +min Final water level end of pump If flowing give rate (l/min / Gl Recommended pump depth Recommended pump rate (l/min / GPM) Well production (l/min / GPM Disinfected?YesNoNa	ing (m/tt) PM) (m/tt) (m/tt) point (m/tt) po	2 3 4 5 10 15 20 25 30 40 50 60 Locc	ation ons on the b	2 3 4 5 10 20 25 30 40 50 60	
Metho Cable Too Rotary (Re Boring Air percuss Other, spe Inside Diameter (cm/in) Q. Outside Diameter (cm/in) (/ater found /ater found	Cod of cod of construction col Diamono conventional) Detting everse) Driving construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction R Material (Plastic, Galvanized, Steel) Water Det at Depth Kind of Water at Depth Kind of Water at Depth	i Pr i Pr i Irr	ublic omestic vestock igation dustrial ther, specify sing Depth From Ø / D From Depth From Depth From	Well U Comm Municij Test H Cooling n (m/ft) To Z. √ n (m/ft) To Provide Provide Provide	Se pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Dewatering Well Dewatering Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Poor Water Quality Abandoned, other, specify Other, specify Other, specify Hole Diameter To (cmvin)	Pump intake set at (<i>m</i> /ft) Pumping rate (<i>l/min / GPM</i>) Duration of pumpinghrs +min Final water level end of pump If flowing give rate (<i>l/min / GH</i> Recommended pump depth Recommended pump rate (<i>l/min / GPM</i>) Well production (<i>l/min / GPM</i>) Disinfected?NoNoNoNo	ing (m/tt) PM) a (m/tt) b t) a (m/tt) b c t) b c t) c	2 3 4 5 10 15 20 25 30 40 50 60 1 Loca	ation ns on the b	2 3 4 5 10 25 30 40 50 60	
Metho Cable Too Rotary (Cc Rotary (Cc Rotary (Re Boring Air percuss Other, spe Inside Diameter (cm/in) Q. Outside Coutside	Zit Y Ford od of Construction oil Diamond onventional) Jetting everse) Driving bigging bigging ssion ecify Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction R Material (Plastic, Galvanized, Steel) Water Det at Depth Kind of Water	d □ Pt □ Dt □ Dt □ Tr □ Inr □ NT 0 Dt 0 Dt 0 Dt 0 Dt 0 Dt 0 Dt 0 Dt 0 Dt	ublic omestic vestock igation dustrial ther, specify _ sing Depth From Ø / D Peen Depth From Untested	Well U Comm Municij Test H Cooling n (m/ft) To Z. √ n (m/ft) To Dep From	Se pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Dewatering Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Door Moter Quality Peckarge Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Poor Water Quality Abandoned, other, specify Other, specify Other, specify Other, specify Other (m/ft) Diameter To (cm/in)	Pump intake set at (<i>m</i> /ft) Pumping rate (<i>l/min / GPM</i>) Duration of pumpinghrs +min Final water level end of pump If flowing give rate (<i>l/min / GP</i> Recommended pump depth Recommended pump rate (<i>l/min / GPM</i>) Well production (<i>l/min / GPM</i>) Disinfected?YesNoMa Please provide a map below f	ing (m/tt) PM) a (m/tt) b pof Well	2 3 4 5 10 15 20 25 30 40 50 60	ation ons on the b	2 3 4 5 10 15 20 25 30 40 50 60	
Metho Cable Too Rotary (Cc Rotary (Cc Rotary (Cc Boring Air percuss) Other, spe Inside Diameter (cm/in) Q. Outside Diameter (cm/in) (/ater found (m/ft /ater found (m/ft /ater found (m/ft	Zit Y F0H od of Construction ol □ Diamond onventional) □ Jetting everse) □ Driving □ Digging ssion ecify Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction R Material (Plastic, Galvanized, Steel) Water Dett at Depth Kind of Water	i Pt DC DC I I I Tr I Tr OU ecord - Ca Wall Thickness (cm/in) ecord - Scre Slot No. ails : ØFresh [cify : □ Fresh [cify]	ublic omestic vestock igation dustrial ther, specify _ sing Depth From Ø / D From Pepth From Untested	Well U Comm Munici, Test H Cooling n (m/ft) To Z/ n (m/ft) To Promotion Promotion	Se ercial Dewatering pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Dewatering Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Poor Water Quality Abandoned, other, specify Other, specify Other, specify Mole Diameter th (m/ft) Diameter To	Pump intake set at (<i>m</i> /ft) Pumping rate (<i>l/min / GPM</i>) Duration of pumpinghrs +min Final water level end of pump If flowing give rate (<i>l/min / GI</i> Recommended pump depth Recommended pump rate (<i>l/min / GPM</i>) Well production (<i>l/min / GPM</i>) Disinfected?YesNoNo	ining (m/ft) PM) in (m/ft) in (m/ft) in (m/ft) in (m/ft)	2 3 4 5 10 15 20 25 30 40 50 60 Locc	ation points on the b	2 3 4 5 10 15 20 25 30 40 50 60	
Metho Cable Too Rotary (Cc Boring Air percuss Other, spe Inside Diameter (cm/in) Q Outside Diameter (cm/in) (Vater found (m/ft /ater found (m/ft	Z. Ý FØH od of Construction ol Diamond onventional) Jetting everse) Driving generation Diaging ssion ecify Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction R Material (Plastic, Galvanized, Steel) Water Det at Depth Kind of Water t) Gas Other, spe- at Depth Kind of Water t) Gas Other, spe- at Depth Kind of Water t) Gas Other, spe- at Depth Kind of Water t) Gas Other, spe- at Depth Kind of Water t) Gas Other, spe-	t □ Pt □ Dt □ Li □ Li □ Li □ Trr □ Dt ecord - Ca Wall Thickness (crvin) ecord - Scre Slot No. alls : [2] Fresh □ cify : □ Fresh □ cify r and Well	ublic omestic vestock igation dustrial ther, specify _ sing Depth From Ø / D Pepth From Depth From Untested Untested Untested	Well U Comm Munici Test H Cooling n (m/ft) To Z/ n (m/ft) To P P P P P N To N N N N N N N N N N N	Se ercial Dewatering pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Dewatering Well Observation and/or Monitoring Hole Ateration (Construction) Abandoned, poor Water Quality Abandoned, other, specify Other, specify Other, specify Hole Diameter To (cmvin) Diameter To Ition	Pump intake set at (<i>m</i> /ft) Pumping rate (<i>l/min / GPM</i>) Duration of pumpinghrs +min Final water level end of pump If flowing give rate (<i>l/min / GH</i> Recommended pump depth Recommended pump rate (<i>l/min / GPM</i>) Well production (<i>l/min / GPM</i>) Disinfected? Yes NoNo	ping (m/tt)	2 3 4 5 10 15 20 25 30 40 50 60 ULocc	ation points on the b	2 3 4 5 10 15 20 25 30 40 50 60	
Metho Cable Too Rotary (Cc Rotary (Cc Boring Air percuss Other, spee Inside Diameter (cm/in) Q Outside Diameter (cm/in) (/ / / / / / / / / / / / /	Z. Y ForM od of Construction Diamone on Diamone Diamone Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction Re Material (Plastic, Galvanized, Steel) Material (Plastic Galvanized, Steel) Material (Plastic Galvanized, Steel) Material (Plastic Galvanized, Steel) Material (Plastic Galvanized, Steel) Material (Plastic Galvanized, Steel) Material (Plastic Galvanized, Steel) Material<	I Pt Dt Dt Im Dt Im Im Im <t< td=""><td>ublic omestic vestock igation dustrial ther, specify_ Sing Depth From Ø / D Pepth From Depth From Untested Untested Untested</td><td>Well U Comm Munici Test H Cooling n (m/ft) To Z. n (m/ft) To Provide No No No No No To No <t< td=""><td>Se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning Status of Well Replacement Well Dewatering Well Dewatering Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Poor Water Quality Abandoned, Other, specify Other, specify Other, specify Other, specify Iole Diameter th (m/ft) Diameter tdion all Contractor's Licence No.</td><td>Pump intake set at (<i>m</i>/ft) Pumping rate (<i>l/min / GPM</i>) Duration of pumpinghrs +min Final water level end of pump If flowing give rate (<i>l/min / GP</i> Recommended pump depth Recommended pump rate (<i>l/min / GPM</i>) Well production (<i>l/min / GPM</i>) Disinfected?YesNoNo</td><td>ing (m/tt) PM) (m/tt) (m/tt) p to (m/tt) p p to (m/tt)</td><td>2 3 4 5 10 15 20 25 30 40 50 60 Locc</td><td>ation</td><td>2 3 4 5 10 20 25 30 40 50 60</td><td></td></t<></td></t<>	ublic omestic vestock igation dustrial ther, specify_ Sing Depth From Ø / D Pepth From Depth From Untested Untested Untested	Well U Comm Munici Test H Cooling n (m/ft) To Z. n (m/ft) To Provide No No No No No To No No <t< td=""><td>Se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning Status of Well Replacement Well Dewatering Well Dewatering Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Poor Water Quality Abandoned, Other, specify Other, specify Other, specify Other, specify Iole Diameter th (m/ft) Diameter tdion all Contractor's Licence No.</td><td>Pump intake set at (<i>m</i>/ft) Pumping rate (<i>l/min / GPM</i>) Duration of pumpinghrs +min Final water level end of pump If flowing give rate (<i>l/min / GP</i> Recommended pump depth Recommended pump rate (<i>l/min / GPM</i>) Well production (<i>l/min / GPM</i>) Disinfected?YesNoNo</td><td>ing (m/tt) PM) (m/tt) (m/tt) p to (m/tt) p p to (m/tt)</td><td>2 3 4 5 10 15 20 25 30 40 50 60 Locc</td><td>ation</td><td>2 3 4 5 10 20 25 30 40 50 60</td><td></td></t<>	Se ercial Not used pal Dewatering ole Monitoring g & Air Conditioning Status of Well Replacement Well Dewatering Well Dewatering Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Poor Water Quality Abandoned, Other, specify Other, specify Other, specify Other, specify Iole Diameter th (m/ft) Diameter tdion all Contractor's Licence No.	Pump intake set at (<i>m</i> /ft) Pumping rate (<i>l/min / GPM</i>) Duration of pumpinghrs +min Final water level end of pump If flowing give rate (<i>l/min / GP</i> Recommended pump depth Recommended pump rate (<i>l/min / GPM</i>) Well production (<i>l/min / GPM</i>) Disinfected?YesNoNo	ing (m/tt) PM) (m/tt) (m/tt) p to (m/tt) p p to (m/tt)	2 3 4 5 10 15 20 25 30 40 50 60 Locc	ation	2 3 4 5 10 20 25 30 40 50 60	
Metho Cable Too Rotary (Cc Rotary (Cc Boring Air percuss Other, spee Inside Jiameter (cm/in) Q Outside Diameter (cm/in) Q Outside Diameter (cm/in)	Zit Y Ford od of Construction onventional) □ Jatting everse) □ Diamond onventional) □ Jatting everse) □ Dirving □ Digging ssion ecify Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction Re Material (Plastic, Galvanized, Steel) Water Det at Depth Kind of Water 10 Gas 0 Other, speil at Depth Kind of Water 10 Gas 0 Other, speil at Depth Kind of Water 10 Gas 0 Other, speil at Depth Kind of Water 10 Gas 0 Other, speil at Depth Kind of Water 10 Gas 0 Other, speil at Depth Kind of Contractor IL SAMIPLINC	Image: second - Ca Wall Thickness Corr/in)	ublic omestic vestock igation dustrial ther, <i>specify</i> sing Depth From Ø / D / Pepth From Untested Untested Untested Techniciar	Well U Comm Munici Test H Cooling n (m/ft) To Z. n (m/ft) To Promotion Image: State S	se pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Dewatering Well Dewatering Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, plor Insufficient Supply Abandoned, other, specify Other, specify Other, specify Hole Diameter To (cmvin) All Contractor's Licence No. Incipality	Pump intake set at (m/ft) Pumping rate (l/min / GPM) Duration of pumpinghrs +min Final water level end of pump If flowing give rate (l/min / Gl Recommended pump depth Recommended pump rate (l/min / GPM) Well production (l/min / GPM Disinfected?YesNoNa Please provide a map below f	ing (m/tt) PM) a (m/tt) b (m/tt) comparison potential following instant	2 3 4 5 10 15 20 25 30 40 50 60 1Loca	ation ons on the b	2 3 4 5 10 20 25 30 40 50 60	
Metho Cable Too Rotary (Cc Rotary (Re Boring Air percuss Other, spe Inside Diameter (cm/in) Q. Outside Diameter (cm/in) Vater found (m/it /ater found (m/it /ater found (m/it) /ater foun	Zit Y Ford od of Construction oil □ lamond onventional) □ Jetting everse) □ Driving □ Digging ssion ecify Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction R Material (Plastic, Galvanized, Steel) (Plastic, Galvanized, Steel)	d □ Pu □ Du □ Li □ Irr □ Irr □ Ot ecord - Ca Wall Thickness (cm/in) ecord - Scre Slot No. Slot No. Slot No. Slot No. Slot No. Slot No. Trickness (cm/in) City Trickness (cm/in) City Trickness (cm/in) City Trickness (cm/in) City Trickness (cm/in) City Trickness (cm/in) City City Trickness (cm/in) City City Trickness (cm/in) City City City City City City City Cit	ublic omestic vestock igation dustrial ther, specify sing Depth From Ø / D From Ø / D Peth From Untested Untested Untested Untested	Well U Comm Municij Test H Cooling n (m/ft) To Z/ n (m/ft) To Dep From Local Number Mu Mu Mu	se pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Dewatering Well Observation and/or Monitoring Hole Abandoned, Poor Water Quality Abandoned, other, specify Other, specify Other, specify th (m/ft) Diameter To (cmt/in) seli Contractor's Licence No. 4 7 unicipality YORK	Pump intake set at (m/ft) Pumping rate (l/min / GPM) Duration of pumpinghrs +min Final water level end of pump If flowing give rate (l/min / Gl Recommended pump depth Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Disinfected? Yes NoMa Please provide a map below ff	ing (m/ti) PM) (m/ti) in (m/ti) - in (m/ti) - - - - - - - - - - - - -	2 3 4 5 10 15 20 25 30 40 50 60 1 Loca	ation ons on the b	2 3 4 5 10 15 20 25 30 40 50 60	
Metho Cable Too Rotary (Cc Rotary (Cc Rotary (Cc Rotary (Cc Boring Air percuss Other, spe Inside Diameter (cm/in) Q Outside Diameter (cm/in) Q Ater found Cutside Diameter (cm/in) Q Ater found (m/ft /ater	Zit Y F0H od Of Construction onventional) Diamond onventional) otiting everse) Driving Digging ssion construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction R Material (Plastic, Galvanized, Steel) Water Det at Depth Kind of Water at Depth Kind of Water at Depth Kind of Water it SAMIPLING Material Postal Code AK	ecord - Ca Wall Thickness (cm/in) ecord - Ca Wall Thickness (cm/in) Ecord - Scre Slot No. alls Ecord - Scre Slot No. alls Fresh cify Trickness Cify Cify Trickness Cify	ublic omestic vestock igation dustrial ther, specify sing Depth From G / C untested Untested Untested Untested Techniciar	Well U Comm Municij Test H Cooling n (m/ft) To Z/ n (m/ft) To Prom Dep From Wet Y Multiverse	Se ercial Dewatering pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Test Hole Dewatering Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Poor Water Quality Abandoned, Other, specify Other, specify Other, specify Other, specify Other, specify Ition ell Contractor's Licence No. 1 4 7 unicipality YORK	Pump intake set at (m/ft) Pumping rate (l/min / GPM) Duration of pumpinghrs +min Final water level end of pump If flowing give rate (l/min / Gl Recommended pump depth Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Disinfected?YesNoMa Please provide a map below ff Please provide a map below ff Comments:MALP	ing (m/ft) PM) in (m/ft) ing of Well following ins	2 3 4 5 10 15 20 25 30 40 50 60 Loca	ation ons on the b	2 3 4 5 10 15 20 25 30 40 50 60	
Metho Cable Too Rotary (Cc Boring Air percuss Other, spe Inside Diameter (cm/in) 9 C Outside Diameter (cm/in) Q Outside Diameter (cm/in) Q Siness Nam Mic C., usiness Add Siness Add Siness Add Siness Add Siness Telephone	Zity Ford od of Construction oil Diamond onventional) Jetting everse) Driving wind Digging ssion ecify Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction R Material (Plastic, Galvanized, Steel) Water Dett at Depth Kind of Water bill Gas Other, spent well Contractor OH OH WAY AVENUE Postal Code L AK V2 e No. (inc. area code) National	i Pt DC DC DC II I' I' Pr OC ecord - Ca Wall Thickness (crt/in) ecord - Scre Slot No. ails i Ø Fresh cify : Fresh cify r and Well i NC. me) Business SOI me of Well	ublic omestic vestock igation dustrial ther, specify sing Depth From G / C een Untested Untested Untested Techniciar	Well U Comm Munici Test H Cooling n (m/ft) To Z/ n (m/ft) To Promotion n (m/ft) To Promotion Nicsonia ast Name.	Se ercial Dewatering pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Dewatering Well Observation and/or Monitoring Hole Abandoned, poor Water Supply Abandoned, poor Water Guilty Other, specify Other, specify Other, specify Including Diameter th (m/ft) Diameter th Too all Contractor's Licence No. 1 4 YORK First Name)	Pump intake set at (m/ft) Pumping rate (l/min / GPM) Duration of pumping hrs +min Final water level end of pump If flowing give rate (l/min / Gl Recommended pump depth Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Disinfected? Yes No Ma Please provide a map below fl Comments: Mathematic Well owner's information package No	ping (m/ft)	2 3 4 5 10 15 20 25 30 40 50 60 Locc structic	ation ons on the b mission the b	2 3 4 5 10 15 20 25 30 40 50 60 60	Only
Metho Cable Too Rotary (Re Boring Air percuss Other, spe Inside Diameter (cm/in) Q Outside Diameter (cm/in) Q Outside Diameter (cm/in)	Zit Ý Žð Ø Ø Od of Construction ol □ Diamond onventional) □ Jetting everse) □ Driving ision □ Digging ssion ecify Construction R Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Construction R Material (Plastic, Galvanized, Steel) Weil Contractor Diagon Other, spenation At Depth Kind of Water Diagon Diagon Other, spenation MAY AVENUE MAY AVENUE Postal Code AVENUE Postal Code Nar Q S <t< td=""><td>ecord - Ca Wall Thickness (crvin) ecord - Ca Wall Thickness (crvin) ecord - Scre Slot No. alls Ecord - Scre Slot No. alls Ecord - Scre Slot No. Business Sol me of Well T ARCH</td><td>ublic omestic vestock igation dustrial ther, specify sing Depth From G / D en Untested Untested Untested Untested Untested Technician EE-mail Addr IBALD</td><td>Well U Comm Munici Test H Cooling n (m/ft) To Z/ n (m/ft) To P. (m/ft) To Image: State S</td><td>Se ercial Dewatering pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Dewatering Well Observation and/or Monitoring Hole Ateration (Construction) Abandoned, Insufficient Supply Abandoned, Opcor Water Quality Other, specify Other, specify Other, specify Iton Iton Iton VORK YORK</td><td>Pump intake set at (m/ft) Pumping rate (l/min / GPM) Duration of pumping hrs +min Final water level end of pump If flowing give rate (l/min / Gl/R Recommended pump depth Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Disinfected? Yes No Ma Please provide a map below flow flow flow flow flow flow flow f</td><td>ping (m/tt)</td><td>2 3 4 5 10 15 20 25 30 40 50 60 1 Loca structic</td><td>ation ons on the b Decree Minist Audit No. Z 1</td><td>2 3 4 5 10 15 20 25 30 40 50 60 60 8 ack.</td><td>Only 2 7</td></t<>	ecord - Ca Wall Thickness (crvin) ecord - Ca Wall Thickness (crvin) ecord - Scre Slot No. alls Ecord - Scre Slot No. alls Ecord - Scre Slot No. Business Sol me of Well T ARCH	ublic omestic vestock igation dustrial ther, specify sing Depth From G / D en Untested Untested Untested Untested Untested Technician EE-mail Addr IBALD	Well U Comm Munici Test H Cooling n (m/ft) To Z/ n (m/ft) To P. (m/ft) To Image: State S	Se ercial Dewatering pal Dewatering ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Dewatering Well Observation and/or Monitoring Hole Ateration (Construction) Abandoned, Insufficient Supply Abandoned, Opcor Water Quality Other, specify Other, specify Other, specify Iton Iton Iton VORK YORK	Pump intake set at (m/ft) Pumping rate (l/min / GPM) Duration of pumping hrs +min Final water level end of pump If flowing give rate (l/min / Gl/R Recommended pump depth Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Disinfected? Yes No Ma Please provide a map below flow flow flow flow flow flow flow f	ping (m/tt)	2 3 4 5 10 15 20 25 30 40 50 60 1 Loca structic	ation ons on the b Decree Minist Audit No. Z 1	2 3 4 5 10 15 20 25 30 40 50 60 60 8 ack.	Only 2 7

					and the second sec
17 58117	DE	1949 ST	¥	49_ N	994
		The second	F.	GROUND WATER BR	NICH CH
<u><u><u>g</u></u><u><u>R</u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u></u>				FFD 97 105	
ev. 45 R			RIO	FED & (194	8
asin 24	The Wate De	er-well Dri epartment	of Mines	RESOURCES COMMI	SSION
kilontanic St. West	17 - L	TI7 -	II Dece	74	
N N		we	II Reco		<i>л</i> .
			ip, Village, Town	or CityCalee	lm
			Village, Town of	r City)	
Date completed	11/00.	52			
(day)	(month)	(yéar)			
Pipe and Casing	g Record			Pumping Test	
Casing diameter(s)			Static level	<i>()</i>	••••••
Length(s)			Pumping rate?	L G.P.M.	
Type of screen			Pumping level	1. 645.	
Length of screen			Duration of test		
Well Log	· · · ·			Water Record	
Overburden and Bedrock Record	From ft.	To ft.	Depth (s) at which water (s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
stoney clay	0	4	30		hint
sey fimestone		50			Fach
0					
					_
·					
		-			
· · · · · · · · · · · · · · · · · · ·					
	-				
For what nurnose (s) is the water	r to be used?	1		Location of Wall	,
Jourse			In diagram b	elow show distances	of well from
Is water clear or cloudy?	leav		road and lot	line. Indicate north	n by arrow.
Is well on upland, in valley, or or	1 hillside?		1 lu	wel	1
Lipiana m	colum		They		
Addrogg			. N	1 0	L L
	lwood		10 71	~ ¢ ~	
Name of Driller	•••••••		and in the	(1) \	N
Address	me		5° '	\mathbb{N}	
			U	H	
Licence Number	 foregoing		CI	internet 1"	
statements of fac	t are true.		C		
A 1	mc.		,	¥	
Date	Signature of Licens	<i>k</i>			/
				H	
orm 5				C 22 20	

......

WATER RESOURCES DIVISION 1025 3 3 E SEP tario Water Resources Commission Act ONTARIO WATER RECORD DONTownship, Village, Town or City..... Basin County or J.L. Date completed. **Pumping Test** Casing and Screen Record 8 Inside diameter of casing 36" Static level Test-pumping rate Cond G.P.M. Total length of casing /6 Pumping level Type of screen Duration of test pumping 9. Length of screen Water clear or cloudy at end of test Clear Depth to top of screen 36 Diameter of finished hole with pump setting of 16 feet below ground surface Water Record Well Log Kind of water Depth(s) at From ft. Тο (fresh, salty, sulphur) which water(s) Overburden and Bedrock Record ft. found 5710 3 15 0 3 Я 8 Location of Well For what purpose(s) is the water to be used?... Reside In diagram below show distances of well from road and lot line. Indicate north by arrow. Is well on upland, in valley, or on hillside?... 2 Drilling or Boring Firm 40 8 Address P.P. / Oro N. K. Licence Number /2 C Name of Driller or Borer... J Address D Date (Signature of Licensed Drilling or Boring Contra Form 7 15M-60-4138 ૦૬૬.કેઠ OWRC COPY

	/ M The	INISTRY OF THE ENV	IRONMENT sources Act	t	30	MIC	3 W
Untario NLY	ATER		_ RE 904489	COR	۲ D المي ا	ÿis∟W_⊥	C 0.4
2. CHECK 🛛 C	TOWNSHIP, BOROUR	IBLE 1 2 IH. CHTV. TOWN. VIELAGE 3	, ,	CON., BLOCK, TRACE,	IN THE	W	008 5-27
NER (SURNAME FIRST) 28-47	ADDRESS	Belfounto	zen Dur	+ OLYARIE	DAT	E COMPLETED	48-53 74 74 74 74
	NORTHIN	RC.	ELEVATION	RC. BASIN CODE		20. 1975	81
4904489 17 580	LOG OF OVERBUI	9235 4 RDEN AND BEDROCK	1375 (MATERIALS	5 24 S (SEE INSTRUCTIONS		201 1713]
NERAL COLOUR COMMON MATERIAL	отн	ER MATERIALS		GENERAL DESCRIPTI	ION	DE FROM	PTH - FEET
althown sand	boulde	rs fine grave	:1			0	22
NOW N Sandston	1.9					22	30
Imetone	,						
	,						
31) 10022161281131111 D	25618	00301615					
		32		SIZE(S) OF OPENING	31-33	65 DIAMETER 34-	75 80 38 LENGTH 39-40
41 WATER RECORD	INSIDE MAT	NG & OPEN HOLE RE	PTH - FEET	Z (SLOT NO.)	·E	INCH DEPTH TO	TOP 41-44
	14 INCHES	INCHES FROM	a TO 13-16	SC		OF SCREET	FEET
15-18 1 _ FRESH 3 _ SULPHUR	19 05 2 GAL 3 CON 4 COPE	CRETE 158 0	027	61 PLU	GGING 8	SEALING R	ECORD
20-23 1 G FRESH 3 G SULPHUR	24 17-18 1 🗋 STE 2 🗋 GAL	EL 19 VANIZED	20-23	FROM TO	MATE	RIAL AND TYPE	EAD PACKER. ETC.)
25-28 1 _ FRESH 3 _ SULPHUR		ICRETE C	27-30	18-21 23	2-25		
30-33 1 FRESH 3 SULPHUI	2 GA1 34 80 3 G CO1	VANIZED ICRETE		26-29 31	0-33 80		
2 SALTY 4 MINERAL	IGRATE II-14 DUR			LOCATI	ON OF	WELL	
	1013 GPM 1	1 - 10- 17-18 HOURS - MINS 1 - FUMPING		GRAM BELOW SHOW D	DISTANCES O	F WELL FROM RO	DAD AN
LEVEL PUMPING W.	NUTES 30 MINUTES	2 RECOVERY 45 MINUTES 60 MINUTES 12-34 7 4 45-37		2440	10	1 m	
	THEET DIFEET	TER AT END OF TEST 42		e arra		A	
	28 FEET 1	CLEAR 2 CLOUDY	TO ONT	1 10 CAF	5		IV ETT
COMMENDED PUMP TYPE RECOM PUMP SHALLOW DEEP SETTIN		APINOUS GPM.			/		
50-53 0 0 / 2 GPM./	FT. SPECIFIC CAPACITY			٩		1/	h
	DN WELL 6 . ABANDO 7 . UNFINI	NED. POOR QUALITY SHED		10		~/	
FINAL 1 DWNATER SUF 2 D OBSERVATION 3 D TEST HOLE	WELL			\mathbf{N}'		0	
FINAL 1 If Arter sub- 2 OBSERVATI STATUS 2 OBSERVATI 3 TEST HOLE OF WELL 4 RECHARGE ST-ST6 1 If Arter sub- Def WESTIC	5 🖸 COMMERCIA	-					
FINAL STATUS 2 OBSERVATI 3 TEST HOLE OF WELL 4 RECHARGE WATER 0 3 STATUS WATER 0 3 OBSERVATI 3 TEST HOLE 2 STOCK 3 OBSERVATI 2 OBSERVATI 3 OBSERVATI	5 COMMERCIA 6 MUNICIPAL 8 7 PUBLIC SUF 8 COOLING O	PLY R AIR CONDITIONING		No.		10 1	A
FINAL STATUS OF WELL WATER 01 USE FINAL 2 OBSENVATI 3 TEST HOLE 0 FWELL 4 RECMARGE 55:56 1 OF WELE 2 STOCK 2 STOCK 2 STOCK 2 INDUSTRIA 0 OTHE	S CONMERCIA 6 NUNICIPAL 8 7 PUBLIC SUF L 8 COOLING OF R	PLY R AIR CONDITIONING 9 D NOT USED		5000		850 7	A
FINAL 2 065ERVATI STATUS 2 065ERVATI 3 TEST HOLE OF WELL 4 RECHARGE 55-56 1 00000000000000000000000000000000000	S CONMERCIA G MUNICIPAL A 7 PUBLICAU A 8 COOLING OF R 	A AIR CONDITIONING A AIR CONDITIONING BORING DIAMOND UISTING		A COO		8 ⁵⁰ 7	A
FINAL STATUS OF WELL STATUS OF WELL STATUS OF WELL STATUS STAT	S COMMERCIA G MUNICIPAL A 7 PUBLIC SUI L 8 COOLING O R 	A IR CONDITIONING P NOT USED BORING DIAMORD JETTING DRIVING	DRILLERS REMAR	K5		8 ⁵⁰ 7	A
FINAL STATUS OF WELL	S COMMERCIA S MUNICIPAL S PUBLICSUPAL S PUBLICSUPAL S COOLING OR SUL S COOLING O R SUL S COOLING O C COULING O C C COULING O C C COULING O C C COULING O C C C C C C C C C C C C C C C C C C C	PLY A IR CONDITIONING A IR CONDITIONING BORING DIAMOND JETTING DRIVING LICENCE NUMBER	DRILLERS REMAR		53-62 DA		A
FINAL STATUS STATUS OF WELL STATUS OF WELL STATUS STATU	s COMMERCIA 6 MUNICIPAL 7 PUBLIC SUL 1 0 COOLING OR SUL 6 COOLING OR IL 6 COOLING OR IL 6 COOLING OR IL 6 COOLING OR IL 7 COOLING OR	PLY RAR CONDITIONING P NOT USED BORING DIAMOND JETTING DRIVING LICENCE NUMBER 5 2 1 /	DRILLERS REMAR	KS: 50 CONTRACTOR CETION (975)	59-62 DA	850 7 V	A 174
FINAL STATUS OF WELL STATUS OF WELL STATUS OF WELL STATUS OF WELL STATUS STA	S COMMERCIA S MUNICIPAL S MUNICIPAL S DUBLICSUP L COLING OR CONVENTIONAL) SION C / B C OLING C / B C OLING C / B C OLING C / B C OLING C / C C OLING C / C C OLING C C C C C C C C C C C C C C C C C C C	PLY A IR CONDITIONING P D NOT USED BORING DIAMOND JETTING DRIVING LICENCE NUMBER 5211 449 LICENCE NUMBER	DRILLERS REMAR DATA SOURCE DATE OF INSP JAW. REMARKS	KS: 58 CONTRACTOR 59 CONTRACTOR 50 50 50 50 50 50 50 50 50 50	SPECTOR		A 174
FINAL STATUS OF WELL STATUS OF WELL STATUS OF WELL STATUS STATUS STATUS STATUS STATUS STATUS STATUS STOCK	S = COMMERCIA S = MUNICIPAL A 7 = PUBLIC SUP L 8 = COOLING OR NL 6 = COOLING OR NL 6 = COOLING OR NL 6 = COOLING OR ONVENTIONAL 7 = COOLING OR IR) 7 = COOLING OR SSION 2 7 b e 1 a 2 7 b e 1 a 2 7 b e 1 a SUBMIS	PPLY A AIR CONDITIONING P D NOT USED BORING DIAMORD JETTING DRIVING LICENCE NUMBER SZII LICENCE NUMBER SZI/ SION DATE	DRILLERS REMAR DATA SOURCE DATE OF INSP DATE OF INSP DATE OF INSP DATE OF INSP DATE OF INSP	KS: 50 CONTRACTOR 50 50 50 50 50 50 50 50 50 50	S9-62 DA		A 174

		MINISTRY O	F THE ENVIRC Water Reso	ONMENT urces Act		
	V	WATER W	ELL	RE	CORD	# 40 PIGE
Control within Contro within Control within Control	Ontario	ONLY IN SPACES PROVIDED		48/9.	49.002	$\begin{bmatrix} CON \\ H \\ S \\ IS \\ IS \\ IS \\ IOI \\ IOI \\ 25.22 \end{bmatrix} = \frac{O S}{24}$
	COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN.	VILLAGE _k	H.S	W.COU 5	DATE COMPLETED 05 48-53
14.8.9		CEDI	ER DR	1	PC BASIN CODE	DAY 25 NO 11 17
COG OF OUR BUNDER AND BUNDER AND PUNCE AN		17 18 41819 5		265	5 3 +	,
BROWN STANCES SAND STALL POULOERS O 15 19 GRAUEL SAND 10 15 19 15 19 GRAUEL SAND 10 15 19 15 19 Torrest GRAUEL SAND 10 15 19 Torrest GRAUEL SAND 10 10 10 10 Torrest GRAUEL SAND 10 10 10 10 10 Torrest GRAUEL GRAUEL GRAUEL 10 10 10 10 Torrest GRAUEL GRAUEL GRAUEL GRAUEL 10 10 10 10 Torrest GRAUEL GRAUEL GRAUEL GRAUEL 10 10 10 10 Torrest GRAUEL GRAUEL GRAUEL GRAUEL 10 10 10 10 10 Torrest GRAUEL GRAUEL GRAUEL GRAUEL 10 10 10 10 10 Torrest GRAUEL GRAUEL GRAUEL GRAUEL 10 10 10 10 10 Torrest GRAUEL GRAUEL GRAUEL <td< td=""><td>GENERAL COLOUR MOST</td><td>LOG OF OVERBURDEN AND</td><td>BEDROCK</td><td>G</td><td>SENERAL DESCRIPTION</td><td>DEPTH - FEET FROM TO</td></td<>	GENERAL COLOUR MOST	LOG OF OVERBURDEN AND	BEDROCK	G	SENERAL DESCRIPTION	DEPTH - FEET FROM TO
GRAVEL SAVO 30 ODISE/12281/3 00.91/1281.1 31 ODISE/12281/3 00.91/1281.1 32 ODISE/12281/3 00.91/1281.1 33 ODISE/12281/3 00.91/1281.1 34 ODISE/12281/3 00.91/1281.1 35 ODISE/12281/3 00.91/1281.1 36 ODISE/12281/3 00.91/1281.1 37 ODISE/12281/3 00.91/1281.1 38 ODISE/12281/3 00.91/1281.1 39 ODISE/12281/3 00.91/1281.1 39 ODISE/12281/3 00.91/1281.1 30 ODISE/12281/3 00.91/1281.1 <	BROWN STOINE	SAND S	MALLA	BOULDE	RS	0 15
3) Col/56/28/38/3 Col/9/1/28 41) WATER RECORD 42) Water Record 41) WATER RECORD 42) Water Record 44) Water Record 44) Water Record 45) Water Record 46) Water Record 46) Water Record 46) Water Record 47) Water Record 48) Water Record 49)	GRAVE	2 SAND	, j	ំង	Alta da da	
3) DOISGUZSUJS COIP // 281 31) DOISGUZSUJS COIP // 281 32) Mainter RECORD 32) DOISGUZSUJS COIP // 281 33) DOISGUZSUJS COIP // 281 34) Watter RECORD 34) District and the control of the control			*		3	
3) ODISS/128/13 ODISS/128						
3) DOILS // 228 //3 DOILS //2						
3) D01551/1228/1/3 00/9 1//28 1 32) MATER RECORD 1 1 34) MATER RECORD 1 CASING & OPEN HOLE RECORD 34) MATER RECORD 1 CASING & OPEN HOLE RECORD 34) MATER RECORD 1 CASING & OPEN HOLE RECORD 34) MATER RECORD 1 CASING & OPEN HOLE RECORD 34) MATER RECORD 1 CASING & OPEN HOLE RECORD 34) MATER RECORD 1 CASING & OPEN HOLE RECORD 34) MATER RECORD 1 MATER RECORD 34) MATER RECORD 1 MATER RECORD 34) MATER RECORD 1 MATER RECORD 34) MATER RECORD 1 MATER RECORD 34) MATER RECORD 1 MATER RECORD 34) MATER RECORD 1 MATER RECORD 35) MATER RECORD 1 MATER RECORD 34) MATER RECORD 1 MATER RECORD 35) MATER RECORD 1 MATER RECORD 36) MATER RECORD 1 MATER RECORD						
3) 00156/328/3 0019 1/28 3) 00156/328/3 0019 1/28 4) 00156/3						
30 001561/3281/3 0019 1/128 31 001561/3281/3 0019 1/128 32 001561/3281/3 0019 1/128 34 000 0000 34 000 0000 35 0000 0000 00000000000000000000000000						
32 Image: State of the s	31 001541122011	3 100/191 1/1281, 11, 11, 11,				
Image: Second					SIZE (S) OF OPENING	1-33 DIAMETER 34-38 LENGTH 39-40
	41 WATER RECORD) 51 CASING & OPER	N HOLE RECC ALL DEPTH ANESS FROM		MATERIAL AND TYPE	INCHES FEET DEPTH TO TOP 41-44 BO OF SCREEN
Image: Image:	0019 10-13 1 1 FRESH 3 0 SU 2 0 SALTY 4 0 MI		0	13-16 D AIG		
1 SALTY & Q WIERAN 1 1 Concentro 1 </td <td>15-18 1 FRESH 3 SU 2 SALTY 4 MI 20-23 1 FRESH 3 SU</td> <td>LPHUR Image: Concentration NERAL 4 □ OPEN HOLE 17-18 1 □ STEEL 19 10 OPEN HOLE</td> <td></td> <td>20-23</td> <td>DEPTH SET AT - FEET M</td> <td>ATERIAL AND TYPE (CEMENT GROUT.</td>	15-18 1 FRESH 3 SU 2 SALTY 4 MI 20-23 1 FRESH 3 SU	LPHUR Image: Concentration NERAL 4 □ OPEN HOLE 17-18 1 □ STEEL 19 10 OPEN HOLE		20-23	DEPTH SET AT - FEET M	ATERIAL AND TYPE (CEMENT GROUT.
1 1 ALLY 4 INTRACL INTRACL 1 1 1 INTRACL INTRACL INTRACL 1 1 1 INTRACL INTRACL INTRACL 1 1 INTRACL INTRACL INTRACL INTRACL 1 INTRACL INTRACL INTRACL INTRACL INTRACL INTRACL 1 INTRACL INTRACL INTRACL INTRACL INTRACL INTRACL INTRACL INTRACL 1 INTRACL INTRACL INTRACL INTRACL INTRACL INTRACL INTRACL	2 SALTY 4 MI 25-28 1 FRESH 3 SL			27-30	10-13 18-21 22-25	
Image: Status Image: Status<	2 GALTY 4 M	NERAL 24-23 1 STEEL 20 JLPHUR 34 CO 3 CONCRETE JUNERAL - 00FM HOLF			26-29 30-33 80	
Image: State in the state	PUMPING TEST METHOD 10	PUMPING RATE 1:-14 QURATION OF PUMPING	17-18	· · · · · · · · · · · · · · · · · · ·	LOCATION O	F WELL 7848
Image: State in the matrix is and the state in the s	1 D'PUMP 2 □ BAILER STATIC LEVEL PUMPING	25 WATER LEVELS DURING 2 RECO		IN DIAGR	AM BELOW SHOW DISTANCES INDICATE NORTH BY AR	S OF WELL FROM ROAD AND ROW.
Intervence 18 + 41 PUMP INTARE SET AT MATER ALCROW TYET 42 Incomplement Incomplement Incomplement Incomplement Incomplement Incom	5005 19-21 066 22-24	15 MINUTES 30 MINUTES 45 MINUTES 6 26-28 29-31 32-34 32-34 FEET FEET FEET FEET	50 MINUTES 35-37 FEET	1	POND	
Incommence Juny Type Incommence Juny Type Incommence Juny Type Incommence Juny Type Instantus Internet O/2 Terrine O/2 Terrine O/2 Terrine O/2 Terrine O/2 Instantus <	C IF FLOWING. 38-41 GIVE RATE GPM	PUMP INTAKE SET AT WATER AT END OF TES	T 42		WELL	
Image: Status of the supervision of the	RECOMMENDED PUMP TYPE	RECOMMENDED 43.45 RECOMMENDED PUMP 0/2 FEET ROOOS	46-49 GPM	150'	EXT	RELFOUNTAN
STATUS OF WELL 0 DESERVATION WELL 0 DESERVATION WELL 0 FUEL STATUS OF WELL 0 DESERVATION WELL 0 DESTANCE 0 DESTANCE		GPN./FT. SPECIFIC CAPACITY ER SUPPLY 5 ABANDONED, INSUFFICIE	INT SUPPLY		TI I I	
SISTER : O DOMESTIC : O CONMERCIAL WATER STOCK MUNICIPAL WATER STOCK MUNICIPAL USE I IRRICATION ? DIPLIC SUPPLY I IRRICATION ? DIPLIC SUPPLY <td>STATUS OF WELL</td> <td>RVATION WELL 6 ABANDONED, POOR QUAL Hole 7 UNFINISHED Harge Well ~~</td> <td>.117</td> <td>/</td> <td>6</td> <td>LITH, W/</td>	STATUS OF WELL	RVATION WELL 6 ABANDONED, POOR QUAL Hole 7 UNFINISHED Harge Well ~~	.117	/	6	LITH, W/
USE O ALLER OF WELL CONTRACTOR WETHOD OF DRILLER OF WELL CONTRACTOR WELL		ESTIC S CONMERCIAL :K G MUNICIPAL GATION - PUBLIC SUPPLY		ROAD 1	to ERIN	- 1 L.W.
METHOD OF DRILLING OF DRILLING METHOD OF DRILLERS REMARKS CONTRACTOR MAKE OF WELL CONTRACTOR MODAESS NAME OF WELL CONTRACTOR MODAESS NAME OF WELL CONTRACTOR MODAESS SIGNATURE OF DRILLER OR BOKEN MODAESS SIGNATURE OF DRILLER OR BOKEN MODAESS SIGNATURE OF DRILLER OR BOKEN MODAESS SIGNATURE OF DRILLER OR BOKEN SUBMISSION DATE SUBMISSION DATE		ISTRIAL 8 COOLING OR AIR CONDITION OTHER 9 NOT USE	ING D	с 4	n 4 - 1	
UP DRILLING DRILLING DRILLERS REMARKS DRILLERS		LE TOOL 6 DORING ARY (CONVENTIONAL) 7 DIAMOND		·		
NAME OF WELL CONTRACTOR HODRESS FSON CO ADDRESS FSON CO	OF 3 ROT. DRILLING 6 A ROT. 5 AIR	ART (REVENSE) E JETTING ARY (AIR) 9 DRIVING PERCUSSION	DR	LLERS REMARKS		`
Abdeles Store of INSPECTOR WARE OF DRILLER OR BOLER F OR BOLER OR	AME OF WELL CONTRACTOR			DATA SOURCE	58 CONTRACTOR 29/8 62	DATO 70676
Under or bourspices of bourspi	RRHI TER	RA COTTA		DATE OF INSPECT	This well in an little	
CSS.SS WI	LE NAME OF DRILLER OR BOMER	2HEYC SUBMISSION DATE	16	it a	ustines & HEAS Southel	lidy Ludyp's will P 44 12
	L'Qal Ch	ent of moth		5	\$5. ⁻¹	CSS.SS FORM 7 MOE 07-0

UTNI ZE UTNI ZE Elev SR 1350 WATER WEL Basin 217 Interict Peter Cuellington To Con XI Lot 109 Da	rces (L ownshi ate con 3 S ress.	Commission A RECO ip, Village, To mpleted	Act RD In Cooky	67 Nº GPTARD OUN Month Nou month Nou	805 1023 1965 year)
Carring and Screen Record			Pumping	Test	
	Stat	ia lovel	8'		
Inside diameter of casing	<u>Cn</u>	ning in		1 5	GPM
Total length of casing	Test	pumping rat	e	<u>.</u>	
Type of screen	Pun	nping level			
Length of screen	Dur	ation of test p	1mping	. A	
Death to top of screen	Wa	ter clear or clo	udy at end of	test Clear	2
Depth to top of screen $3/$	Rec	commended pu	imping rate	12	G.P.M.
Diameter of finished hole	wit	h numn setting	rof 23	, feet belo	w ground surface
			<u> </u>	Water	
Weil Log				Denth(s) at	Kind of water
Overburden and Bedrock Record		From ft.	To ft.	which water(s) found	(fresh, salty, sulphur)
top. sail		0	2		
stoney clay		2	24	21	Tresh
red clay & gravel		24	~ 5	14	p.i.
For what purpose(s) is the water to be used? For what purpose(s) is the water to be used? Journe Is well on upland, in valley, or on hillside? Drilling or Boring Firm Address Licence Number Name of Driller or Borer Address Date Jon 20/66		In diagrar road and	Location n below show lot line. Ind 85' M. 500'. 5	of Well distances of we dicate north by	ell from arrow. Belfounten
(Signature of Licensed Drilling or Boring Contractor) Form 7 15M-60-4138		-	500	2 F. CS	5S.S8

Appendix D

 $^{\circ}$

EcoLog ERIS Environmental Database Report

Coffey Geotechnics Inc. GEOTETOB21649AA March 11, 2014

Canada's Primary Environmental Risk Information Service

Project Site:	Un-named
	Bush St
	Brampton, ON
Client:	MAGDI WIDAATALLA Coffey Geotechnics Inc. 20 Meteor Drive Toronto, ON M9W1A4
ERIS Project No:	20121207016
Report Type:	Custom Report25km Search Radius
Prepared By:	Shermin Haider shaider@eris.ca
Date:	December 17, 2012

DISCLAIMER AND COPYRIGHT NOTICE

DATABASE

REPORTS

The information contained in this report has been produced by EcoLog ERIS Ltd. using various sources of information, including information provided by Federal and Provincial government departments. Although EcoLog ERIS Ltd. has endeavoured to present you with information that is accurate, EcoLog ERIS Ltd. disclaims, except as set out below, any and all liability for any errors, omissions, or inaccuracies in such information and data, whether attributable to inadvertence or otherwise, and for any consequences arising therefrom. Liability on the part of EcoLog ERIS Ltd. is limited to the monetary value paid for this report. The report applies only to the address specified on the cover of this report, and any alterations or deviation from this description will require a new report. This report and the data contained herein does not purport to be and does not constitute a guarantee of the accuracy of the information contained herein and does not constitute a legal opinion nor medical advice. This report is solely intended to be used to focus further investigation and is not intended to replace a full Phase 1 Environmental Site Assessment. No page of this report should be used without this cover page, this disclaimer and the project property identifier.

The contents of this Service are protected by copyright. Copyright in the Service is owned by EcoLog ERIS Ltd. Copyright in data obtained from private sources is owned by EcoLog ERIS Ltd. or its licensors. The Service and its contents may not be copied or reproduced in whole or in any substantial part without prior written consent of EcoLog ERIS Ltd.

12 Concorde Place, Suite 800 Toronto, Ontario M3C 4J2 416-510-5204 • Fax: 416-510-5133 Toll Free: 1-866-517-5204 • www.eris.ca • info@eris.ca

Table of Contents

Order Number:	20121207016
Site Name:	Un-named
Site Address:	Bush St Brampton, ON
Report Type:	Custom Report, 0.25 km Search Radius

	Section
Report Summary This outlines the number of records from each database that fall on the site, and within various distances from	i
Site Diagram The records that were found within a specified distance from the project property (the primary search radius) have	ii
been plotted on a diagram to provide you with a visual representation of the information available. Sites will be plotted on the diagram if there is sufficient information from the database source to determine accurate geographic coordinates. Each plotted site is marked with an acronym identifying the database in which the record was found (i.e., WDS for Waste Disposal Sites). These are referred to as "Map Keys". A variety of problems are inherent when attempting to associate various government or private source records with locations. EcoLog ERIS has attempted to make the best fit possible between the available data and their positions on the site diagram.	
Site Profile	iii
This table describes the records that relate directly to the property that is being researched.	
Detail Report	iv
This section represents information, by database, for the records found within the primary search radius. Listed at the end of each database are the sites that could not be plotted on the locator diagram because of insufficient address information. These records will not have map keys. They have been included because they may be found to be relevant during a more detailed investigation.	
	Page
Certificates of Approval	1
Fuel Storage Tank	4
Ontario Regulation 347 Waste Generators Summary	7
National Pollutant Release Inventory	8
Private and Retail Fuel Storage Tanks	10
Ontario Spills	11

Appendix: Database Descriptions
Report Summary

Order Number:	20121207016
Site Name:	Un-named
Site Address:	Bush St Brampton, ON
Report Type:	Custom Report, 0.25 km Search Radius

Database		Selected	On-site	Within 0.25	0.25km to 0.25km	Total
AAGR	Abandoned Aggregate Inventory	Ν	0	0	0	0
AGR	Aggregate Inventory	Ν	0	0	0	0
AMIS	Abandoned Mine Information System	Ν	0	0	0	0
ANDR	Anderson's Waste Disposal Sites	Ν	0	0	0	0
AUWR	Automobile Wrecking & Supplies	Ν	0	0	0	0
BORE	Borehole	Ν	0	9	0	9
CA	Certificates of Approval	Y	1	1	0	1
CFOT	Commercial Fuel Oil Tanks	Ν	0	0	0	0
CHEM	Chemical Register	Ν	0	0	0	0
COAL	Coal Gasification Plants	Ν	0	0	0	0
CONV	Compliance and Convictions	Y	0	0	0	0
CPU	Certificates of Property Use	Ν	0	0	0	0
DRL	Drill Hole Database	Ν	0	0	0	0
EASR	Environmental Activity and Sector Registry	Ν	0	0	0	0
EBR	Environmental Registry	Y	0	0	0	0
ECA	Environmental Compliance Approval	N	0	0	0	0
EEM	Environmental Effects Monitoring	Ν	0	0	0	0
EHS	ERIS Historical Searches	Y	0	0	0	0
EIIS	Environmental Issues Information System	Ν	0	0	0	0
EXP	List of TSSA Expired Facilities	N	0	1	0	1
FCON	Federal Convictions	Ν	0	0	0	0
FCS	Contaminated Sites on Federal Land	N	0	0	0	0
FOFT	Fisheries & Oceans Fuel Storage Tanks	Ν	0	0	0	0
FST	Fuel Storage Tank	Y	0	0	0	0
GEN	Ontario Regulation 347 Waste Generators Summary	Y	0	0	0	0
HINC	TSSA Historic Incidents	N	0	1	0	1
IAFT	Indian & Northern Affairs Fuel Tanks	Ν	0	0	0	0
INC	TSSA Incidents	N	0	0	0	0
LIMO	Landfill Inventory Management Ontario	Ν	0	0	0	0
MINE	Canadian Mine Locations	N	0	0	0	0
MNR	Mineral Occurrences	N	0	0	0	0
NATE	National Analysis of Trends in Emergencies System (NATES)	N	0	0	0	0
NCPL	Non-Compliance Reports	N	0	0	0	0
NDFT	National Defence & Canadian Forces Fuel Storage Tanks	N	0	0	0	0
NDSP	National Defence & Canadian Forces Spills	N	0	0	0	0
NDWD	National Defence & Canadian Forces Waste Disposal Sites	N	0	0	0	0
NEES	National Environmental Emergencies System (NEES)	N	0	0	0	0
NPCB	National PCB Inventory	Y	0	0	0	0
NPRI	National Pollutant Release Inventory	Y	0	0	0	0
OGW	Oil and Gas Wells	N	0	0	0	0
OOGW	Ontario Oil and Gas Wells	N	0	0	0	0
OPCB	Inventory of PCP Storage Sites	N	Ĵ	Û Û	-	0

Report Summary

Order Number:20121207016Site Name:Un-namedSite Address:Bush St Brampton, ONReport Type:Custom Report, 0.25 km Search Radius

Database		Selected	On-site	Within 0.25	0.25km to 0.25km	Total
ORD	Orders	N	0	0	0	0
PAP	Canadian Pulp and Paper	Ν	0	0	0	0
PCFT	Parks Canada Fuel Storage Tanks	Ν	0	0	0	0
PES	Pesticide Register	Ν	0	0	0	0
PINC	TSSA Pipeline Incidents	Ν	0	0	0	0
PRT	Private and Retail Fuel Storage Tanks	Y	0	0	0	0
PTTW	Permit to Take Water	Ν	0	0	0	0
REC	Ontario Regulation 347 Waste Receivers Summary	Ν	0	0	0	0
RSC	Record of Site Condition	Ν	0	0	0	0
RST	Retail Fuel Storage Tanks	Ν	0	0	0	0
SCT	Scott's Manufacturing Directory	Y	0	0	0	0
SPL	Ontario Spills	Y	1	1	0	1
SRDS	Wastewater Discharger Registration Database	Ν	0	0	0	0
TANK	Anderson's Storage Tanks	Ν	0	0	0	0
TCFT	Transport Canada Fuel Storage Tanks	Ν	0	0	0	0
VAR	Variances for Abandonment of Underground Storage Tanks	Ν	0	0	0	0
WDS	Waste Disposal Sites - MOE CA Inventory	Y	0	0	0	0
WDSH	Waste Disposal Sites - MOE 1991 Historical Approval Inventory	Y	0	0	0	0
WWIS	Water Well Information System	Ν	0	193	0	193
		TOTAL	2	206	0	206

The databases chosen by the client as per the submitted order form are denoted in the 'Selected' column in the above table. Counts have been provided outside the primary buffer area for cursory examination only. These records have not been examined or verified, therefore, they are subject to change.

SITE DIAGRAM





- This diagram is to be used solely for relative street location purposes. It may not accurately portray street or site positions.

Site Report

Order Number:	20121207016
Site Name:	Un-named
Site Address:	Bush St Brampton, ON
Report Type:	Custom Report, 0.25 km Search Radius

FOR COMPLETE INFORMATION, REFER TO DETAIL REPORT

Ontario Spills										
Мар Кеу	Company Name	Address		City	Postal Code					
SPL-1	ONTARIO HYDRO SERVICES COMPANY	LOT 10, CONCESSION 11 BLVD TRANSFORMER	5262 WINSTON CHURCHILL	ERIN TOWN						
Certificates of Approval										
Мар Кеу	Company Name	Address		City	Postal Code					
CA-1		15801 Mississauga Road		Caledon						

Detail Report

Order Number:20121207016Site Name:Un-namedSite Address:Bush St Brampton ONReport Type:Custom Report, 0.25 km Search Radius

If information is required for sites located beyond the selected address, please contact your ERIS representative.

Certificates of Approval

Fuel Storage Tank

Ontario Regulation 347 Waste Generators Summary

National Pollutant Release Inventory

Private and Retail Fuel Storage Tanks

Ontario Spills

Certificates of Approval

Мар Кеу	Company	Address	Certificate #	Application Year	Issue Date	Approval Type	Status	Application Type
CA-1		15801 Mississauga Road Caledon	2837-576SFK Client Name: Client Addres Client City: Client Postal Project Descr Contaminants Emission Cor	02 Ti S: 77 Bi Code: Lé iption: Aj av s: ttrol:	2/27/02 the Corporation of t 750 Hurontario Stre rampton 6V 3W6 pproval is sought for vailable at all times	Industrial air he Regional Municipality of Pe bet or the installation of a small en t, especially during a power fai	Approved eel nergency diesel genreator to e lure.	New Certificate of Approval
n/a	BETOMAT CONCRET PRODUCTS	PART LOT 10 CONC. V CALEDON TOWN	8-3038-87- Client Name: Client Addres Client City: Client Postal Project Descr Contaminants Emission Cor	87 s: Code: iption: C s: s: ttrol:	6/25/1987 ONCRETE BRICK	Industrial air MFG.	Approved	
n/a	R.M. OF PEEL	MISSISSAUGA RD. SLOPE STAB. CALEDON TOWN	3-0807-93- Client Name: Client Addres Client City: Client Postal Project Descr Contaminants Emission Cor	93 s: Code: iption: s: htrol:	7/26/1993	Municipal sewage	Approved	
n/a	PAPERTIOUS INVESTMENTS INC.	LOT 10, CON.5/STS.A/C&L CALEDON	3-0581-98- Client Name: Client Address Client City: Client Postal Project Descr Contaminants Emission Cor	98 s: Code: iption: s: htrol:	5/20/1998	Municipal sewage	Approved	

Certificates of Approval

Мар Кеу	Company	Address	Certificate #	Application Year	Issue Date	Approval Type	Status	Application Type
n/a		Part of Lot 10, Concession 5 Caledon	1503-4Q6QFE Client Name:	: 00 Va	10/25/00 alleygrove Investm	Municipal & Private sewage	Approved	New Certificate of Approval
			Client Addres Client City: Client Postal Project Descr Contaminants Emission Cor	s: 24 Mi Code: L5 iption: Co s: htrol:	58 Dundas Street ssissauga K 1R8 onstruction of Sani	West itary sewers in the Town of Cal	edon (Bolton) under project 21	T-89037c.
n/a		Part of Lot 10, Concession 5 Caledon	8804-4Q7LKE	00	10/25/00	Municipal & Private water	Approved	New Certificate of Approval
			Client Name: Client Address Client City: Client Postal Project Descr Contaminants Emission Cor	Va s: 24 Mi Code: L5 iption: Co s: itrol:	alleygrove Investm 58 Dundas Street ssissauga K 1R8 onstruction of wate	ents Inc. West ermains in the Town of Caledor	n (Bolton) under Project 21T-89	0037c.
n/a		The Grange Sideroad Caledon	7076- 5BAQVW	02	6/21/02	Municipal & Private water	Approved	New Certificate of Approval
			Client Name: Client Address Client City: Client Postal Project Descr Contaminants Emission Cor	Do SS: 24 Ca Code: L7 iption: Ap S: introl:	ouglas K. Wood Foxchase Drive aledon E 1H7 oproval is sought fo	or the construction of watermai	ns on Granitestone Drive and	Grange Sideroad.
n/a	Vincos Corp.	Part of Lot 10, Concession 5 Caledon	5442- 5NKPJW	2003	6/17/2003	Municipal and Private Sewage Works	Approved	
			Client Name: Client Addres Client City: Client Postal Project Descr Contaminants Emission Cor	s: Code: iption: s: ntrol:				

Certificates of Approval

Мар Кеу	Company	Address	Certificate #	Application Year	Issue Date	Approval Type	Status	Application Type
n/a	Vincos Corp.	Part of Lot 10, Concession 5 Caledon	9272-5TLK7Y Client Name: Client Addres Client City: Client Postal Project Descr	2003 s: Code: iption:	12/9/2003	Municipal and Private Sewage Works	Approved	
			Contaminants Emission Cor	s: ntrol:				

Map Key	Company	Address	License Issue Date	Tank Status	Tank Status As Of	Operation Type	Facility Type	
n/a	FLINKERT FARMS LTD	LOT 2 CON 11 PEEL TWP	3/16/1994	Licensed	August 2007	Private Fuel Outlet	Gasoline Station - Self Serve	
			<u>Status</u>	<u>Capacity (</u>	L)	Year of Installation	Corrosion Protection	Tank Fuel Type
			Active	9000		1979		Liquid Fuel Single Wall UST - Gasoline
n/a	LAWRY & JEAN HOLLICK	LOT 34 CON 6 CALEDON	12/28/1990	Licensed	August 2007	Private Fuel Outlet	Gasoline Station - Self Serve	
			<u>Status</u>	<u>Capacity (</u>	<u>L)</u>	Year of Installation	Corrosion Protection	Tank Fuel Type
			Active	9092		1982		Liquid Fuel Single Wall UST -
			Active	9092		1982		Diesei Liquid Fuel Single Wall UST - Gasoline
n/a	FLINKERT FARMS LTD	LOT 2 CON 11 PEEL TWP	3/16/1994	Licensed	December 2008	Private Fuel Outlet	Gasoline Station - Self Serve	
			<u>Status</u>	<u>Capacity (</u>	L)	Year of Installation	Corrosion Protection	Tank Fuel Type
			Active	9000		1979		Liquid Fuel Single Wall UST - Gasoline
n/a	LAWRY & JEAN HOLLICK	LOT 34 CON 6 CALEDON	12/28/1990	Licensed	December 2008	Private Fuel Outlet	Gasoline Station - Self Serve	
			<u>Status</u>	<u>Capacity (</u>	L)	Year of Installation	Corrosion Protection	Tank Fuel Type
			Active	9092		1982		Liquid Fuel Single Wall UST -
			Active	9092		1982		Diesei Liquid Fuel Single Wall UST - Gasoline
n/a	FLINKERT FARMS LTD	LOT 2 CON 11 PEEL TWP N0G 1P0			January 2010) Private Fuel Outlet	FS PRIVATE FUEL OUTLET -	SELF SERVE
			<u>Status</u>	Capacity (L)	Year of Installation	Corrosion Protection	Tank Fuel Type
			Active	9000		1979	Impressed Current	Liquid Fuel Single Wall UST - Gasoline

Мар Кеу	Company	Address	License Issue Date	Tank Status	Tank Status As Of	Operation Type	Facility Type	
n/a	LAWRY & JEAN HOLLICK	LOT 34 CON 6 CALEDON LON 1E0			January 201	0 Private Fuel Outlet	FS PRIVATE FUEL OUTLET	- SELF SERVE
			<u>Status</u>	<u>Capacity (</u>	L)	Year of Installation	Corrosion Protection	Tank Fuel Type
			Active	9092		1982	Impressed Current	Liquid Fuel Single Wall UST -
			Active	9092		1982	Impressed Current	Liquid Fuel Single Wall UST - Gasoline
n/a	FLINKERT FARMS LTD	LOT 2 CON 11 PEEL TWP N0G 1P0			June 2010	Private Fuel Outlet	FS PRIVATE FUEL OUTLET	- SELF SERVE
			<u>Status</u>	Capacity (L)	Year of Installation	Corrosion Protection	Tank Fuel Type
			Active	9000		1979	Impressed Current	Liquid Fuel Single Wall UST - Gasoline
n/a	LAWRY & JEAN HOLLICK	LOT 34 CON 6 CALEDON LON 1E0			June 2010	Private Fuel Outlet	FS PRIVATE FUEL OUTLET	- SELF SERVE
			<u>Status</u>	<u>Capacity (</u>	L)	Year of Installation	Corrosion Protection	Tank Fuel Type
			Active	9092		1982	Impressed Current	Liquid Fuel Single Wall UST -
			Active	9092		1982	Impressed Current	Liquid Fuel Single Wall UST - Gasoline
n/a	FLINKERT FARMS LTD	LOT 2 CON 11 PEEL TWP N0G 1P0			June 2011	Private Fuel Outlet	FS PRIVATE FUEL OUTLET	- SELF SERVE
			<u>Status</u>	Capacity (L)	Year of Installation	Corrosion Protection	Tank Fuel Type
			Active	9000		1979	Impressed Current	Liquid Fuel Single Wall UST - Gasoline

Мар Кеу	Company	Address	License Issue Date	Tank Status	Tank Status As Of	Operation Type	Facility Type	
n/a	LAWRY & JEAN HOLLICK	LOT 34 CON 6 CALEDON LON 1E0			June 2011	Private Fuel Outlet	FS PRIVATE FUEL OUTLET	- SELF SERVE
			<u>Status</u>	Capacity (I	L)	Year of Installation	Corrosion Protection	Tank Fuel Type
			Active	9092		1982	Impressed Current	Liquid Fuel Single Wall UST - Gasoline
			Active	9092		1982	Impressed Current	Liquid Fuel Single Wall UST - Diesel

Ontario Regulation 347 Waste Generators Summary

Мар Кеу	Company	Address	SIC Code	SIC Description	Waste Code	Waste Description
n/a	GRAND RIVER CONSERVATION AUTHORITY	CONESTOGO DAM, LOT 2, CONCESSION 4 PEEL TWP. NOB 2S0	8372 Generator #: Approval Yrs:	REG. CONS./IND. DEV. ON0679504 95,96,97,98	252	WASTE OILS & LUBRICANTS
n/a	GRAND RIVER CONSERVATION AUTHORITY	CONESTOGO DAM, R.R. #2 LOT 2, CONCESSION 4 PEEL TOWNSHIP N0B 2S0	8372 Generator #: Approval Yrs:	REG. CONS./IND. DEV. ON0679504 99,00,01,02,03,04	252	WASTE OILS & LUBRICANTS
n/a	CALEDON LANDSCAPING & MAINTENANCE	WINSTON CHURCHILL BLVD. C/O RR #1 TERRA COTTA CALEDON LOP 1N0	4213 Generator #: Approval Yrs:	SEPTIC TANK INSTAL. ON1231400 89	252	WASTE OILS & LUBRICANTS
n/a	CALEDON LANDSCAPING & MAINTENANCE	WINSTON CHURCHILL BLVD. LOT 9, CONC. 6 CALEDON LOP 1N0	4213 Generator #: Approval Yrs:	SEPTIC TANK INSTAL. ON1231400 92,93,97,98	252	WASTE OILS & LUBRICANTS
n/a	CALEDON LANDSCAPING & MAINTENANCE 08-574	WINSTON CHURCHILL BLVD. C/O RR #1 TERRA COTTA CALEDON LOP 1N0	4213 Generator #: Approval Yrs:	SEPTIC TANK INSTAL. ON1231400 94,95,96	252	WASTE OILS & LUBRICANTS
n/a	CALEDON LANDSCAPING & MAINTENANCE	WINSTON CHURCHILL BOULEVARD LOT 9, CONCESSION 6 CALEDON LOP 1N0	4213 Generator #: Approval Yrs:	SEPTIC TANK INSTAL. ON1231400 99,00,01	252	WASTE OILS & LUBRICANTS

National Pollutant Release Inventory

Мар Кеу	Company	Address	NPRI #	Year	Longitude		Latitude		
n/a	Union Gas Limited	Lot 9 Concession 11 Township of Peel	10141	2002					
			<u>Air</u>	Water	Land	<u>Units</u>		Substances Released	
			29.802	0	0	tonnes		Oxides of nitrogen (expressed as NO2)	
			0.546	0	0 tonnes			PM10 - Particulate Matter <= 10 Microns	
			0.546	0	0	tonnes		PM2.5 - Particulate Matter <= 2.5 Microns	
n/a	Union Gas Limited	Lot 9 Concession 11 Township of Peel	10141	2003					
			<u>Air</u>	Water	Land	<u>Units</u>		Substances Released	
			68.00	0.00	0.00	tonnes		Oxides of nitrogen (expressed	
			0.83	0.00	0.00	tonnes		PM10 - Particulate Matter <= 10 Microns	
			0.83	0.00	0.00	tonnes		PM2.5 - Particulate Matter <= 2.5 Microns	
n/a	UNION GAS	Lot 9 Concession 11 Township of Peel	10141	2004	-79.7371		43.6743		
			<u>Air</u>	Water	Land	<u>Units</u>		Substances Released	
			88.00			tonnes		Oxides of nitrogen (expressed	
			1.10			tonnes		PM10 - Particulate Matter <= 10 Mirrons	
			1.10			tonnes		PM2.5 - Particulate Matter <= 2.5 Microns	

National Pollutant Release Inventory

Мар Кеу	Company	Address	NPRI #	Year	Longitud	e	Latitude	
n/a	UNION GAS	Lot 9 Concession 11 Township of Peel	10141	2005	-79.7371		43.6743	
			<u>Air</u>	Water	Land	<u>Units</u>		Substances Released
			59.00			tonnes		Oxides of nitrogen (expressed as NO2)
			0.72			tonnes		PM10 - Particulate Matter <= 10 Microns
			0.72			tonnes		PM2.5 - Particulate Matter <= 2.5 Microns
n/a	Union Gas Limited	Lot 9 Concession 11 Township of Peel	10141	2006	-79.7371		43.6743	
			Air	Water	Land	<u>Units</u>		Substances Released
			0.59			tonnes		PM10 - Particulate Matter <= 10 Microns
			49.00			tonnes		Oxides of nitrogen (expressed as NO2)
			0.59			tonnes		PM2.5 - Particulate Matter <= 2.5 Microns
n/a	Union Gas Limited	Lot 9 Concession 11 Township of Peel	10141	2007				
			<u>Air</u>	Water	Land	<u>Units</u>		Substances Released
			33.00			tonnes		Oxides of nitrogen (expressed as NO2)

Мар Кеу	Company	Address	Location ID	Туре	Expiry Date	Capacity (L)	Licence #
n/a	LAWRY & JEAN HOLLICK	LOT 34 CON 6 CALEDON	2540	private		18184.00	0001052614
n/a	MCNICHOL MOTORS DIV OF MONO ROAD ENTERPRISES LTD	LOT 34 CON 6 CALEDON EAST	2526	retail	1995-04-30	5000	0053302001
n/a	FLINKERT FARMS LTD	LOT 2 CON 11 PEEL TWP	11410	private		9000.00	0001043353

Ontario Spills

Map Key	Company	Address	Ref No. Inciden	Dt MOE Reported Dt	Contaminant Name	Contaminant Quantity
SPL-1	ONTARIO HYDRO SERVICES COMPANY	LOT 10, CONCESSION 11 5262 WINSTON CHURCHILL BLVD TRANSFORMER ERIN TOWN	180246 5/2/2000 Incident Summary: Incident Cause: Incident Reason: Nature of Impact: Receiving Medium: Environmental Impact:) 5/2/2000 ONTARIO HYDRO: SLOW LE OTHER CONTAINER LEAK UNKNOWN Soil contamination LAND POSSIBLE	EAK FROM A TRANSFORMER.API	PROX 18L. PCB STATUS UKN.
n/a	ONTARIO HYDRO	LOT 6 CONC 11 MOTOR VEHICLE (OPERATING FLUID) ERIN TOWN	21910 7/12/198 Incident Summary: Incident Cause: Incident Reason: Nature of Impact: Receiving Medium: Environmental Impact:	39 7/12/1989 ONTARIO HYDRO - 3 L HY PIPE/HOSE LEAK MATERIAL FAILURE LAND NOT ANTICIPATED	YDRAULIC FLUID TO ROAD S	HOULDER.
n/a	ONTARIO HYDRO	LOT 3,CONC5. TRANSFORMER CALEDON TOWN	87457 6/23/199 Incident Summary: Incident Cause: Incident Reason: Nature of Impact: Receiving Medium: Environmental Impact:	03 6/23/1993 ONTARIO HYDRO-25 LITERS PIPE/HOSE LEAK EQUIPMENT FAILURE Soil contamination LAND POSSIBLE	S HYDRAULIC OIL TO GROUND,	CONTAINED, CLEANUP ONGOING
n/a	CALEDON SKI CLUB	CALEDON SKI CLUB, MISSISSAUGA RD AND FORKS OF THE CREDIT RD, BELFONTAINE BELFONTAINE (MISSISSAUGA ROAD AND FORKS OF THE CREDIT) CALEDON TOWN	127847 6/13/199 Incident Summary: Incident Cause: Incident Reason: Nature of Impact: Receiving Medium: Environmental Impact:	6 6/13/1996 CALEDON SKI CLUB-DUST S UNKNOWN CARELESS APPLICATION Multi Media Pollution LAND / WATER CONFIRMED	SUP-RESSANT TO TOWN DITCH	ES,ROADS.REGION, WORKS.
n/a	HIGHLAND WELLS	763 BUSH ST BELFOUNTAIN N.W. CORNER OF CALEDON TWP CALEDON TOWN	170868 7/29/199 Incident Summary: Incident Cause: Incident Reason: Nature of Impact: Receiving Medium: Environmental Impact:	9 7/29/1999 HIGHLAND WELLS: DRILLING WASTEWATER DISCHARGE NEGLIGENCE (APPARENT) Water course or lake WATER POSSIBLE	G OPERATION SLURRY DSCHRO	GEDTO BELFOUNTAIN CREEK

Ontario Spills

Мар Кеу	Company	Address	Ref No. II	ncident Dt	MOE Reported Dt	Contaminant Name	Contaminant Quantity
n/a	Bajala Transport Ltd.	Olde Base Line Road Caledon	7316- 7 5P9SDM	7/8/2003	7/8/2003	HYDRAULIC OIL	181 L
			Incident Summa Incident Cause: Incident Reasor Nature of Impac Receiving Mediu Environmental I	ary: Ba Pip n: Eq ct: So um: La Impact: Po	jala Transport-40 Gal hydraulic v be Or Hose Leak uipment Failure - Malfunction of il Contamination nd ssible	w/ gravel to rd system components	
n/a		MISSISSAUGA RD., IN FRONT OF	0854-6PENY3 5	5/2/2006	5/2/2006	DIESEL FUEL	10 L
		RD. <unofficial> Caledon</unofficial>	Incident Summa Incident Cause: Incident Reasor Nature of Impac Receiving Media	ary: Uk : Ov n: ct: So um: La	xn source,10 cubic yards of clean fill to ditch,clng up verturn - Truck Or Trailer pil Contamination und		
			Environmental I	Impact: Po	ssible		

Appendix: Ontario Database Descriptions

EcoLog Environmental Risk Information Services Ltd can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to EcoLog ERIS at the time of update. Note: Databases denoted with "*" indicates that the database will no longer be updated. See the individual database descriptions for more information.

Provincial Government Source Databases:

Abandoned Aggregate Inventory Up to Sept 2002

The MAAP Program maintains a database of all abandoned pits and quarries. Please note that the database is only referenced by lot and concession and city/town location. The database provides information regarding the location, type, size, land use, status and general comments.

Aggregate Inventory Up to Jun 2011

The Ontario Ministry of Natural Resources maintains a database of all active pits and quarries. Please note that the database is only referenced by lot/concession and city/town location. The database provides information regarding the registered owner/operator, location, status, licence type, and maximum tonnage.

Abandoned Mines Information System 1800-Jan 2012

The Abandoned Mines Information System contains data on known abandoned and inactive mines located on both Crown and privately held lands. The information was provided by the Ministry of Northern Development and Mines (MNDM), with the following disclaimer: "the database provided has been compiled from various sources, and the Ministry of Northern Development and Mines makes no representation and takes no responsibility that such information is accurate, current or complete". Reported information includes official mine name, status, background information, mine start/end date, primary commodity, mine features, hazards and remediation.

Borehole 1875-Aug 2011

A borehole is the generalized term for any narrow shaft drilled in the ground, either vertically or horizontally. The information here includes geotechnical investigations or environmental site assessments, mineral exploration, or as a pilot hole for installing piers or underground utilities. Information is from many sources such as the Ministry of Transportation (MTO) boreholes from engineering reports and projects from the 1950 to 1990's in Southern Ontario. Boreholes from the Ontario Geological Survey (OGS) including The Urban Geology Analysis Information System (UGAIS) and the York Peel Durham Toronto (YPDT) database of the Conservation Authority Moraine Coalition. This database will include fields such as location, stratigraphy, depth, elevation, year drilled, etc.

For all water well data or oil and gas well data for Ontario please refer to WWIS and OOGW.

Certificates of Approval 1985-Oct 30, 2011*

This database contains the following types of approvals: Air & Noise, Industrial Sewage, Municipal & Private Sewage, Waste Management Systems and Renewable Energy Approvals. The MOE in Ontario states that any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste, must have a Certificate of Approval before it can operate lawfully. Fields include approval number, business name, address, approval date, approval type and status. This database will no longer be updated, as CofA's have been replaced by either Environmental Activity and Sector Registry (EASR) or Environmental Compliance Approval (ECA). Please refer to those individual databases for any information after Oct.31, 2011.

BORE

AGR

AAGR

AMIS

CA

- 2 -

TSSA Commercial Fuel Oil Tanks 1948-Aug 2011

Since May 2002, Ontario developed a new act where it became mandatory for fuel oil tanks to be registered with Technical Standards & Safety Authority (TSSA). This data would include all commercial underground fuel oil tanks in Ontario with fields such as location, registration number, tank material, age of tank and tank size.

Inventory of Coal Gasification Plants and Coal Tar Sites April 1987 and November 1988* COAL

This inventory includes both the "Inventory of Coal Gasification Plant Waste Sites in Ontario-April 1987" and the "Inventory of Industrial Sites Producing or Using Coal Tar and Related Tars in Ontario-November 1988) collected by the MOE. It identifies industrial sites that produced and continue to produce or use coal tar and other related tars. Detailed information is available and includes: facility type, size, land use, information on adjoining properties, soil condition, site operators/occupants, site description, potential environmental impacts and historic maps available. This was a one-time inventory.*

Compliance and Convictions 1989-Oct 2012

This database summarizes the fines and convictions handed down by the Ontario courts beginning in 1989. Companies and individuals named here have been found guilty of environmental offenses in Ontario courts of law.

Certificates of Property Use 1994-Oct 2012

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all CPU's on the registry such as (EPA s. 168.6) - Certificate of Property Use.

Drill Holes 1886-Oct 2011

The Ontario Drill Hole Database contains information on more than 113,000 percussion, overburden, sonic and diamond drill holes from assessment files on record with the department of Mines and Minerals. Please note that limited data is available for southern Ontario, as it was the last area to be completed. The database was created when surveys submitted to the Ministry were converted in the Assessment File Research Image Database (AFRI) project. However, the degree of accuracy (coordinates) as to the exact location of drill holes is dependent upon the source document submitted to the MNDM. Levels of accuracy used to locate holes are: centering on the mining claim; a sketch of the mining claim; a 1:50,000 map; a detailed company map; or from submitted a "Report of Work".

Environmental Activity and Sector Registry Oct 31, 2011-Nov 2012

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. The EASR allows businesses to register certain activities with the ministry, rather than apply for an approval. The registry is available for common systems and processes, to which preset rules of operation can be applied. The EASR is currently available for: heating systems, standby power systems and automotive refinishing. Businesses whose activities aren't subject to the EASR may apply for an ECA (Environmental Compliance Approval), Please see our ECA database.

Environmental Registry 1994-Oct 2012

The Environmental Registry lists proposals, decisions and exceptions regarding policies, Acts, instruments, or regulations that could significantly affect the environment. Through the Registry, thirteen provincial ministries notify the public of upcoming proposals and invite their comments. For example, if a local business is requesting a permit, license, or certificate of approval to release substances into the air or water; these are notified on the registry. Data includes: Approval for discharge into the natural environment other than water (i.e. Air) - EPA s. 9, Approval for sewage works - OWRA s. 53(1), and EPA s. 27 - Approval for a waste disposal site. For information regarding Permit to Take Water (PTTW), Certificate of Property Use (CPU) and (ORD) Orders please refer to those individual databases.

CFOT

EASR

EBR

CONV

CPU

DRL

Environmental Compliance Approval Oct 31, 2011-Nov 2012

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. In the past, a business had to apply for multiple approvals (known as certificates of approval) for individual processes and pieces of equipment. Today, a business either registers itself, or applies for a single approval, depending on the types of activities it conducts. Businesses whose activities aren't subject to the EASR may apply for an ECA. A single ECA addresses all of a business's emissions, discharges and wastes. Separate approvals for air, noise and waste are no longer required. This database will also include Renewable Energy Approvals. For CofA's prior to Nov 1st, 2011, please refer to the CA database. For all Waste Disposal Sites please refer to the WDS database.

List of TSSA Expired Facilities Current to Feb 2012

This is a list of all expired facilities that fall under the TSSA (TSS Act & Safety Regulations), including the six regulations that exist under the Fuels Safety Division. It will include facilities such as private fuel outlets, bulk plants, fuel oil tanks, gasoline stations, marinas, propane filling stations, liquid fuel tanks, piping systems, etc. These tanks have been removed and automatically fall under the expired facilities inventory held by TSSA.

TSSA Fuel Storage Tanks Current to Jun 2011

The Technical Standards & Safety Authority (TSSA), under the *Technical Standards & Safety Act* of 2000 maintains a database of registered private and retail fuel storage tanks in Ontario with fields such as location, tank status, license date, tank type, tank capacity, fuel type, installation year and facility type.

Ontario Regulation 347 Waste Generators Summary 1986-Apr 2012

Regulation 347 of the Ontario EPA defines a waste generation site as any site, equipment and/or operation involved in the production, collection, handling and/or storage of regulated wastes. A generator of regulated waste is required to register the waste generation site and each waste produced, collected, handled, or stored at the site. This database contains the registration number, company name and address of registered generators including the types of hazardous wastes generated. It includes data on waste generating facilities such as: drycleaners, waste treatment and disposal facilities, machine shops, electric power distribution etc. This information is a summary of all years from 1986 including the most currently available data. Some records may contain, within the company name, the phrase "See & Use..." followed by a series of letters and numbers. This occurs when one company is amalgamated with or taken over by another registered company. The number listed as "See & Use", refers to the new ownership and the other identification number refers to the original ownership. This phrase serves as a link between the 2 companies until operations have been fully transferred.

TSSA Historic Incidents 2006-June 2009

This database will cover all incidences recorded by TSSA with their older system, before they moved to their new management system. TSSA's Fuels Safety Program administers the *Technical Standards & Safety Act* 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. We also work to protect the public, the environment and property from fuel-related hazards such as spills, fires and explosions. This database will include spills and leaks from pipelines, diesel, fuel oil, gasoline, natural gas, propane and hydrogen recorded by the TSSA.

TSSA Incidents June 2009-Mar 2012

TSSA's Fuels Safety Program administers the *Technical Standards & Safety Act* 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. Includes incidents from fuel-related hazards such as spills, fires and explosions. This database will include spills and leaks from diesel, fuel oil, gasoline, natural gas, propane and hydrogen recorded by the TSSA.

ECA

EXP

HINC

INC

FST

GEN

Landfill Inventory Management Ontario 2010

The Landfill Inventory Management Ontario (LIMO) database is updated every year, as the ministry compiles new and updated information. The inventory will include small and large landfills. Additionally, each year the ministry will request operators of the larger landfills complete a landfill data collection form that will be used to update LIMO and will include the following information from the previous operating year. This will include additional information such as estimated amount of total waste received, landfill capacity, estimated total remaining landfill capacity, fill rates, engineering designs, reporting and monitoring details, size of location, service area, approved waste types, leachate of site treatment, contaminant attenuation zone and more. The small landfills will include information such as site owner, site location and certificate of approval # and status.

Mineral Occurrences 1846-Nov 2011

In the early 70's, the Ministry of Northern Development and Mines created an inventory of approximately 19,000 mineral occurrences in Ontario, in regard to metallic and industrial minerals, as well as some information on building stones and aggregate deposits. Please note that the "Horizontal Positional Accuracy" is approximately +/- 200 m. Many reference elements for each record were derived from field sketches using pace or chain/tape measurements against claim posts or topographic features in the area. The primary limiting factor for the level of positional accuracy is the scale of the source material. The testing of horizontal accuracy of the source materials was accomplished by comparing the planimetric (X and Y) coordinates of that point with the coordinates of the same point as defined from a source of higher accuracy.

Non-Compliance Reports 1992(water only), 1994-2010

The Ministry of the Environment provides information about non-compliant discharges of contaminants to air and water that exceed legal allowable limits, from regulated industrial and municipal facilities. A reported non-compliance failure may be in regard to a Control Order, Certificate of Approval, Sectoral Regulation or specific regulation/act.

Ontario Oil and Gas Wells 1800-Feb 2012

In 1998, the MNR handed over to the Ontario Oil, Gas and Salt Resources Corporation, the responsibility of maintaining a database of oil and gas wells drilled in Ontario. The OGSR Library has over 20,000+ wells in their database. Information available for all wells in the ERIS database include well owner/operator, location, permit issue date, well cap date, licence no., status, depth and the primary target (rock unit) of the well being drilled. All geology/stratigraphy table information, plus all water table information is also provide for each well record.

Ontario Inventory of PCB Storage Sites 1987-Oct 2004

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of PCB storage sites within the province. Ontario Regulation 11/82 (Waste Management - PCB) and Regulation 347 (Generator Waste Management) under the Ontario EPA requires the registration of inactive PCB storage equipment and/or disposal sites of PCB waste with the Ontario Ministry of Environment. This database contains information on: 1) waste quantities; 2) major and minor sites storing liquid or solid waste; and 3) a waste storage inventory.

Orders 1994-Oct 2012

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all Orders on the registry such as (EPA s. 17) - Order for remedial work, (EPA s. 18) - Order for preventative measures, (EPA s. 43) - Order for removal of waste and restoration of site, (EPA s. 44) - Order for conformity with Act for waste disposal sites, (EPA s. 136) - Order for performance of environmental measures.

Pesticide Register 1988-Mar 2011

The Ontario Ministry of Environment maintains a database of all manufacturers and vendors of registered pesticides.

LIMO

MNR

OOGW

NCPL

OPCB

- 4 -

PES

ORD

TSSA Pipeline Incidents June 2009-Mar 2012

TSSA's Fuels Safety Program administers the *Technical Standards & Safety Act* 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. This database will include spills, strike and leaks from recorded by the TSSA.

Private and Retail Fuel Storage Tanks 1989-1996*

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks and licensed retail fuel outlets. This database includes an inventory of locations that have gasoline, oil, waste oil, natural gas and/or propane storage tanks on their property. The MCCR no longer collects this information. This information is now collected by the Technical Standards and Safety Authority (TSSA).

Permit to Take Water 1994-Oct 2012

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all PTTW's on the registry such as OWRA s. 34 - Permit to take water.

Ontario Regulation 347 Waste Receivers Summary 1986-2009

Part V of the Ontario Environmental Protection Act ("EPA") regulates the disposal of regulated waste through an operating waste management system or a waste disposal site operated or used pursuant to the terms and conditions of a Certificate of Approval or a Provisional Certificate of Approval. Regulation 347 of the Ontario EPA defines a waste receiving site as any site or facility to which waste is transferred by a waste carrier. A receiver of regulated waste is required to register the waste receiving facility. This database represents registered receivers of regulated wastes, identified by registration number, company name and address, and includes receivers of waste such as: landfills, incinerators, transfer stations, PCB storage sites, sludge farms and water pollution control plants. This information is a summary of all years from 1986 including the most currently available data.

Record of Site Condition 1997-Sept 2001, Oct 2004-Oct 2012

The Record of Site Condition (RSC) is part of the Ministry of the Environment's Brownfields Environmental Site Registry. Protection from environmental cleanup orders for property owners is contingent upon documentation known as a record of site condition (RSC) being filed in the Environmental Site Registry. In order to file an RSC, the property must have been properly assessed and shown to meet the soil, sediment and groundwater standards appropriate for the use (such as residential) proposed to take place on the property. The Record of Site Condition Regulation (O. Reg. 153/04) details requirements related to site assessment and clean up.

RSCs filed after July 1, 2011 will also be included as part of the new (O.Reg. 511/09).

Ontario Spills 1988-2011

This database identifies information such as location (approximate), type and quantity of contaminant, date of spill, environmental impact, cause, nature of impact, etc. Information from 1988-2002 was part of the ORIS (Occurrence Reporting Information System). The SAC (Spills Action Centre) handles all spills reported in Ontario. Regulations for spills in Ontario are part of the MOE's Environmental Protection Act, Part X.

Wastewater Discharger Registration Database 1990-2011

Information under this heading is combination of the following 2 programs. The Municipal/Industrial Strategy for Abatement (MISA) division of the Ontario Ministry of Environment maintained a database of all direct dischargers of toxic pollutants within nine sectors including: Electric Power Generation; Mining; Petroleum Refining; Organic Chemicals; Inorganic Chemicals; Pulp & Paper; Metal Casting; Iron & Steel; and Quarries. All sampling information is now collected and stored within the Sample Result Data Store (SRDS).

PINC

PRT

PTTW

REC

RSC

SPL

SRDS

TSSA Variances for Abandonment of Underground Storage Tanks Current to October 2011

The TSSA, Under the Liquid Fuels Handling Code and the Fuel Oil Code, all underground storage tanks must be removed within two years of disuse. If removal of a tank is not feasible, you may apply to seek a variance from this code requirement. This is a list of all variances granted for abandoned tanks.

Waste Disposal Sites - MOE CA Inventory 1970-Nov 2012

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of known open (active or inactive) and closed disposal sites in the Province of Ontario. Active sites maintain a Certificate of Approval, are approved to receive and are receiving waste. Inactive sites maintain Certificate(s) of Approval but are not receiving waste. Closed sites are not receiving waste. The data contained within this database was compiled from the MOE's Certificate of Approval database. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number. All new Environmental Compliance Approvals handed out after Oct 31, 2011 for Waste Disposal Sites will still be found in this database.

Waste Disposal Sites - MOE 1991 Historical Approval Inventory Up to Oct 1990*

In June 1991, the Ontario Ministry of Environment, Waste Management Branch, published the "June 1991 Waste Disposal Site Inventory", of all known active and closed waste disposal sites as of October 30st, 1990. For each "active" site as of October 31st 1990, information is provided on site location, site/CA number, waste type, site status and site classification. For each "closed" site as of October 31st 1990, information is provided on site location is provided on site location, site/CA number, closure date and site classification. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number.

Water Well Information System 1955-2011

This database describes locations and characteristics of water wells found within Ontario in accordance with Regulation 903. It includes such information as coordinates, construction date, well depth, primary and secondary use, pump rate, static water level, well status, etc. Also included are detailed stratigraphy information, approximate depth to bedrock and the approximate depth to the water table.

Federal Government Source Databases:

Environmental Effects Monitoring 1992-2007*

The Environmental Effects Monitoring program assesses the effects of effluent from industrial or other sources on fish, fish habitat and human usage of fisheries resources. Since 1992, pulp and paper mills have been required to conduct EEM studies under the Pulp and Paper Effluent Regulations. This database provides information on the mill name, geographical location and sub-lethal toxicity data.

Environmental Issues Inventory System 1992-2001*

The Environmental Issues Inventory System was developed through the implementation of the Environmental Issues and Remediation Plan. This plan was established to determine the location and severity of contaminated sites on inhabited First Nation reserves, and where necessary, to remediate those that posed a risk to health and safety; and to prevent future environmental problems. The EIIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

Federal Convictions 1988-Jun 2007

Environment Canada maintains a database referred to as the "Environmental Registry" that details prosecutions under the Canadian Environmental Protection Act (CEPA) and the Fisheries Act (FA). Information is provided on the company name, location, charge date, offence and penalty.

Diagram Identifier:

WWIS

EEM

EIIS

FCON

VAR

WDS

WDSH

Contaminated Sites on Federal Land June 2000-Sept 2012

The Treasury Board of Canada Secretariat maintains an inventory of all known contaminated sites held by various Federal departments and agencies. This inventory does not include properties owned by Crown corporations, but does contain nonfederal sites for which the Government of Canada has accepted some or all financial responsibility. All sites have been classified through a system developed by the Canadian Council of Ministers of the Environment. The database provides information on company name, location, site ID #, property use, classification, current status, contaminant type and plan of action for site remediation.

Fisheries & Oceans Fuel Tanks 1964-Sept 2003

Fisheries & Oceans Canada maintains an inventory of all aboveground & underground fuel storage tanks located on Fisheries & Oceans property or controlled by DFO. Our inventory provides information on the site name, location, tank owner, tank operator, facility type, storage tank location, tank contents & capacity, and date of tank installation.

Indian & Northern Affairs Fuel Tanks 1950-Aug 2003

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of all aboveground & underground fuel storage tanks located on both federal and crown land. Our inventory provides information on the reserve name, location, facility type, site/facility name, tank type, material & ID number, tank contents & capacity, and date of tank installation.

National Analysis of Trends in Emergencies System (NATES) 1974-1994*

In 1974 Environment Canada established the National Analysis of Trends in Emergencies System (NATES) database, for the voluntary reporting of significant spill incidents. The data was to be used to assist in directing the work of the emergencies program. NATES ran from 1974 to 1994. Extensive information is available within this database including company names, place where the spill occurred, date of spill, cause, reason and source of spill, damage incurred, and amount, concentration, and volume of materials released.

National Defence & Canadian Forces Fuel Tanks Up to May 2001*

The Department of National Defence and the Canadian Forces maintains an inventory of all aboveground & underground fuel storage tanks located on DND lands. Our inventory provides information on the base name, location, tank type & capacity, tank contents, tank class, date of tank installation, date tank last used, and status of tank as of May 2001. This database will no longer be updated due to the new National Security protocols which have prohibited any release of this database.

National Defence & Canadian Forces Spills Mar 1999-Aug 2010

The Department of National Defence and the Canadian Forces maintains an inventory of spills to land and water. All spill sites have been classified under the "Transportation of Dangerous Goods Act - 1992". Our inventory provides information on the facility name, location, spill ID #, spill date, type of spill, as well as the quantity of substance spilled & recovered.

National Defence & Canadian Forces Waste Disposal Sites 2001-April 2007

The Department of National Defence and the Canadian Forces maintains an inventory of waste disposal sites located on DND lands. Where available, our inventory provides information on the base name, location, type of waste received, area of site, depth of site, year site opened/closed and status.

FCS

IAFT

FOFT

NATE

NDFT

NDSP

NDWD

National Environmental Emergencies System (NEES) 1974-2003

In 2000, the Emergencies program implemented NEES, a reporting system for spills of hazardous substances. For the most part, this system only captured data from the Atlantic Provinces, some from Quebec and Ontario and a portion from British Columbia. Data for Alberta, Saskatchewan, Manitoba and the Territories was not captured. However, NEES is also a repository for all previous Environment Canada spill datasets. NEES is composed of the historic datasets – or Trends – which dates from approximately 1974 to present. **NEES Trends** is a compilation of historic databases, which were merged and includes data from NATES (National Analysis of Trends in Emergencies System), ARTS (Atlantic Regional Trends System), and NEES. In 2001, the Emergencies Program determined that variations in reporting regimes and requirements between federal and provincial agencies made national spill reporting and trend analysis difficult to achieve. As a consequence, the department has focused efforts on capturing data on spills of substances which fall under its legislative authority only (CEPA and FA). As such, the NEES database will be decommissioned in December 2004.

National PCB Inventory 1988-2008

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. All federal out-of-service PCB containing equipment and all PCB waste owned by the federal government or by federally regulated industries such as airlines, railway companies, broadcasting companies, telephone and telecommunications companies, pipeline companies, etc. are also listed. Although it is not Environment Canada's mandate to collect data on non-federal PCB waste, the National PCB inventory includes some information on provincial and private PCB waste and storage sites.

National Pollutant Release Inventory 1993-2010

Environment Canada has defined the National Pollutant Release Inventory ("NPRI") as a federal government initiative designed to collect comprehensive national data regarding releases to air, water, or land, and waste transfers for recycling for more than 300 listed substances.

Parks Canada Fuel Storage Tanks 1920-Jan 2005

Canadian Heritage maintains an inventory of all known fuel storage tanks operated by Parks Canada, in both National Parks and at National Historic Sites. The database details information on site name, location, tank install/removal date, capacity, fuel type, facility type, tank design and owner/operator.

Transport Canada Fuel Storage Tanks 1970-March 2007

With the provinces of BC, MB, NB, NF, ON, PE, and QC; Transport Canada currently owns and operates 90 fuel storage tanks. This inventory will also include The Pickering Lands, which refers to the 7,530 hectares (18,600 acres) of land in Pickering, Markham and Uxbridge - owned by the Government of Canada since 1972. Properties on this land has been leased by the government since 1975, falls under the Site Management Policy of Transport Canada, but administered by Public Works and Government Services Canada. Our inventory provides information on the site name, location, tank age, capacity and fuel type.

Private Source Databases:

Anderson's Waste Disposal Sites 1860s-Present

The information provided in this database was collected by examining various historical documents which aimed to characterize the likely position of former waste disposal sites from 1860 to present. The research initiative behind the creation of this database was to identify those sites that are missing from the *Ontario MOE Waste Disposal Site Inventory*, as well as to provide revisions and corrections to the positions and descriptions of sites currently listed in the MOE inventory. In addition to historic waste disposal facilities, the database also identifies certain auto wreckers and scrap yards that have been extrapolated from documentary sources. *Please note that the data is not warranted to be complete, exhaustive or authoritive. The information was collected for research purposes only.*

NPCB

NPRI

TCFT

PCFT

ANDR

Automobile Wrecking & Supplies 2001-Jun 2010

This database provides an inventory of all known locations that are involved in the scrap metal, automobile wrecking/recycling, and automobile parts & supplies industry. Information is provided on the company name, location and business type.

Chemical Register 1992, 1999-Jun 2010

This database includes information from both a one time study conducted in 1992 and private source and is a listing of facilities that manufacture or distribute chemicals. The production of these chemical substances may involve one or more chemical reactions and/or chemical separation processes (i.e. fractionation, solvent extraction, crystallization, etc.).

ERIS Historical Searches 1999-Apr 2012

EcoLog ERIS has compiled a database of all environmental risk reports completed since March 1999. Available fields for this database include: site location, date of report, type of report, and search radius. As per all other databases, the ERIS database can be referenced on both the map and "Statistical Profile" page.

Canadian Mine Locations 1998-2009

This information is collected from the Canadian & American Mines Handbook. The Mines database is a national database that provides over 290 listings on mines (listed as public companies) dealing primarily with precious metals and hard rocks. Listed are mines that are currently in operation, closed, suspended, or are still being developed (advanced projects). Their locations are provided as geographic coordinates (x, y and/or longitude, latitude). As of 2002, data pertaining to Canadian smelters and refineries has been appended to this database.

Oil and Gas Wells Oct 2001-Sept 2012

The Nickle's Energy Group (publisher of the Daily Oil Bulletin) collects information on drilling activity including operator and well statistics. The well information database includes name, location, class, status and depth. The main Nickles' database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at www.nickles.com.

Canadian Pulp and Paper 1999, 2002, 2004, 2005, 2009

This information is part of the Pulp and Paper Canada Directory. The Directory provides a comprehensive listing of the locations of pulp and paper mills and the products that they produce.

Retail Fuel Storage Tanks 2000-Jun 2010

This database includes an inventory of retail fuel outlet locations (including marinas) that have on their property gasoline, oil, waste oil, natural gas and / or propane storage tanks. Information is provided on company name, location and type of business.

Scott's Manufacturing Directory 1992-Mar 2011

Scott's Directories is a data bank containing information on over 70,000 manufacturers in Ontario. Even though Scott's listings are voluntary, it is the most comprehensive database of Ontario manufacturers available. Information concerning a company's address, plant size, and main products are included in this database. This database begins with 1992 information and is updated annually.

Anderson's Storage Tanks 1915-1953*

The information provided in this database was collected by examining various historical documents, which identified the location of former storage tanks, containing substances such as fuel, water, gas, oil, and other various types of miscellaneous products. Information is available in regard to business operating at tank site, tank location, permit year, permit & installation type, no. of tanks installed & configuration and tank capacity. *Data contained within this database pertains only to the city of Toronto and is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.*

CHEM

EHS

MINE

OGW

RST

PAP

SCT

TANK

AUWR