APPENDIX K

Wells and Groundwater Monitoring

New East-West Road Corridor Class Environmental Assessment Hydrogeology Report

Draft Report
August 27, 2009

Submitted to:

City of Hamilton and Region of Halton

Dillon Project 08-9020-2040

Submitted by:

Dillon Consulting Limited
235 Yorkland Boulevard, Suite 800
Toronto, Ontario M2J 4Y8

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1.0 INTRODUCTION

The purpose of the hydrogeological component of the Class Environmental Assessment is to assess the potential impacts of the proposed road construction on the groundwater system and private groundwater users along the preferred New East-West Road Corridor. This assessment is based on published geological reports and maps, Ministry of Environment (MOE) computerized well record data base, and a field survey of private wells along the corridor.

The MOE records were assessed of 60 wells located within a 100 m buffer zone along the preferred corridor, and these are shown in ***Figure 1***. The computerized MOE records of these wells are in ***Appendix A***. Selected information was extracted from these records and presented in a more usable form in ***Table 1***, and this provided the main data set for this assessment.

A field survey was also done of private wells along the preferred corridor within the 100 m buffer zone (***Figures 2a***, ***2b***). A total of 29 wells were identified along the corridor, and the results are summarized in ***Table 2***. The field sheets are in ***Appendix B***.

2.0 HYDROGEOLOGY

2.1 Geological Setting

The regional geology in the area around the New East-West Road Corridor consists of glacial overburden overlying Paleozoic dolostone bedrock, and has been described by Karrow (1987), Johnson et al (1992), and Ontario Geological Survey (OGS, 1982, 1984). The information from these reports was supplemented by geological logs in the MOE well records of private wells along the preferred corridor. The surficial geology along the corridor is shown in plan in ***Figure 2*** and in Cross-Section A-A' in ***Figure 3***.

The Niagara Escarpment forms a cliff about 300 m high that trends northeast-southwest across the study area (***Figure 1***), and is the major physiographic and geological feature in the area. The New East-West Road Corridor lies mostly above the Escarpment except for a small portion at the east end. Streams on the flat area above the Escarpment drain southeastward off the Escarpment to Lake Ontario, the most prominent being Grindstone Creek (***Figure 1***).

Cross-Section A-A' in ***Figure 3*** was constructed using the MOE well records of the private wells, and illustrates elements of the geology and hydrogeology along the corridor, including surface topography, topography of the bedrock surface, overburden thickness and the approximate position of the water table. Cross-Section A-A' shows that the ground surface reflects the highs and lows of the bedrock surface. Paleozoic bedrock formations are not differentiated.

Waterdown East – West Road Corridor

Centre Rd

Robson Road

Parkside Drive

6

Hamilton Street

Evans Road

Dundas Street E

Dundas Street

Kerns Road

Mountain Brow Road

King Road

Waterdown Road Corridor

N

W

E

S

Legend

- Private well, MOE well records
- Preferred corridor
- Major Roads
- Secondary Roads
- Niagara Escarpment
- 100m Buffer Zone

1 : 25,000

0 500 1,000 1,500 metres

I:\GIS\089020 - Waterdown\Mapping\Alignment Corridor Mapping\East - West Private Well Locations.mxd

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Private Wells along the Waterdown Road Corridor and the New East-West Corridor

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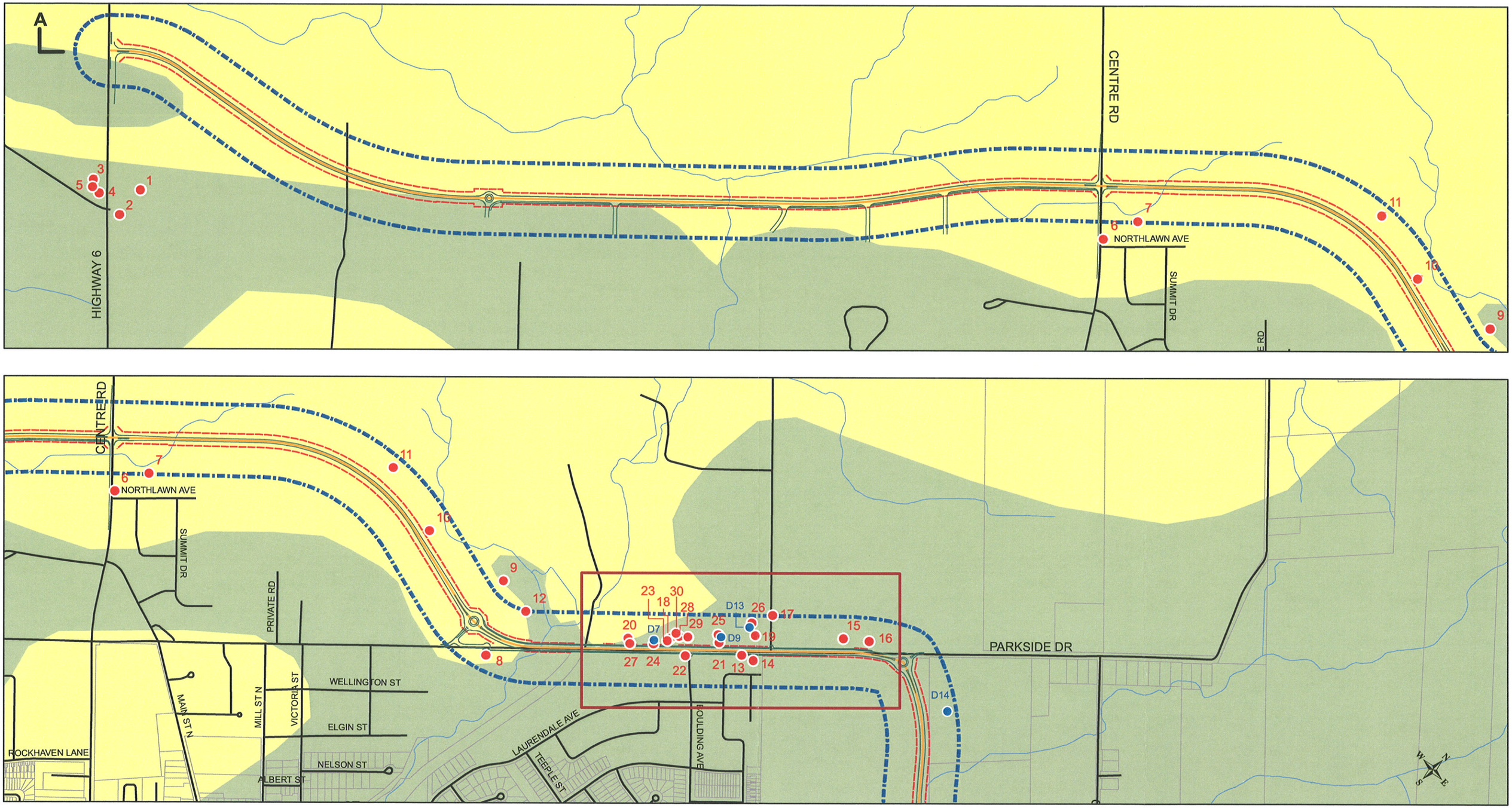
Figure 1



Legend

- 20 Private well, MOE well records
- D9 Private well, Dillon field survey
- Preferred corridor
- Stream
- Enlarged on Figure 5
- A Cross Section Line
- End of Pavement
- Property Boundary
- 100m Buffer Zone
- Parcels
- Halton Till
- Glacial lake and outwash sand

1:10,000

0 100 200 300 400 metres

Notes:
Geology based on Karrow (1987).
Private wells from MOE records summarized in ***Table 1***
Private wells from Dillon field survey summarized in ***Table 2***
MOE = Ministry of Environment

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Private Wells and Surficial Geology Along the New East-West Road Corridor

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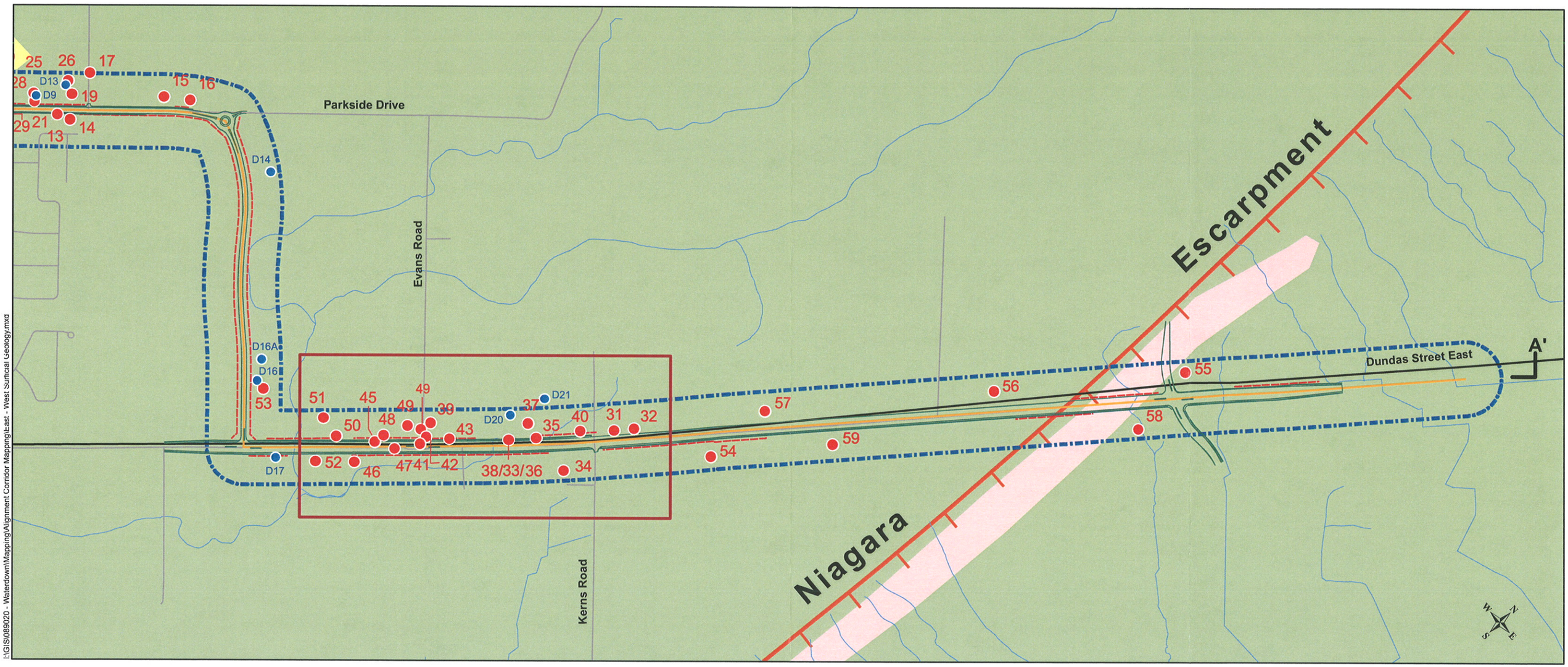
Figure 2a



Legend

- Private well, MOE well records (42)
- Private well, Dillon field survey (D14)
- Preferred corridor
- Stream
- Niagara Escarpment
- Cross Section Line (A')
- End of Pavement
- Property Boundary
- 100m Buffer Zone
- Parcels
- Halton Till
- Bedrock
- Enlarged on Figure 5

1:10,000

0 100 200 300 400 meters

Notes:
Geology based on Karrow (1987).
Private wells from MOE records summarized in ***Table 1***
Private wells from Dillon field survey summarized in ***Table 2***
MOE = Ministry of Environment

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Private Wells and Surficial Geology Along the New East-West Road Corridor

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Figure 2b

I:\GIS\089020 - Waterdown\Mapping\Alignment Corridor Mapping\East - West Surficial Geology.mxd

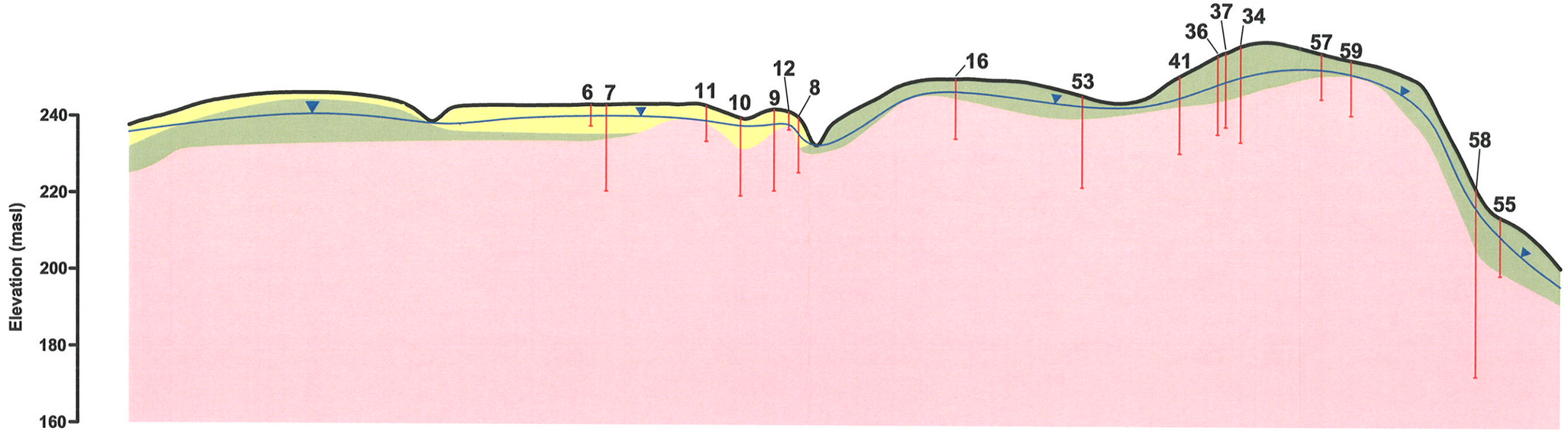
A

A'

New East-West Road
Corridor Limit

New East West Road
Corridor Limit

Niagara Escarpment



Legend

- Glacial lake and outwash sand
- Halton Till
- Bedrock (undifferentiated dolostones and shales)
- Water table (approximate)
- Private well

Notes:
Geological interpretation based on MOE well records (***Appendix A*** and ***Table 1***).
Surface topography based on NTS sheet 30 M/5, 1:50,000.
Cross-section line shown in ***Figure 2***.
Vertical exaggeration=25x.

Hamilton Public Works | City of Burlington | Halton Region

New E-W Road
Class Environmental Assessment
Hwy 6 to Brant

0 500 1000 2000m

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Figure 3:
Cross-section A-A'

FileName: G:\CAD\089920 Waterdown E-W Roads\Geotechnical\Well Depths (dwg)\well Depths-C30000.dwg Modified: October 29, 2008

2.1.1 Bedrock

The Amabel Formation forms the caprock of the Niagara Escarpment in this area, and is an important regional aquifer in Southern Ontario. Underlying the Amabel is the Queenston Formation, which consists mainly of red shale, and is exposed along streambeds below the Escarpment. The bedrock formations dip gently toward the southwest.
Along the corridor east of Robson Road and above the Escarpment, the area has been referred to in OGS (1982, 1984) as a bedrock resource area. Quarries occur in the area to extract rock from the Amabel Formation for crushed stone, though there no quarries are indicated along the corridor.

2.1.2 Overburden

The overburden in the study area consists of a regional till blanket (mainly Halton Till in this area) deposited by the advancing glacial ice, which is overlain in west of Waterdown by a deposit of glacial lake sand (***Figure 2***). The Halton Till is a low-permeability clay-silt unit that extends as a sheet across much of the area, and is generally the basal overburden unit in the area, except locally west of Waterdown, where the glacial lake sand rests directly on the bedrock (Wells 8 to 12, ***Figure 3***). The glacial lake sand is a generally fine-grained, deep-water sediment (Karrow, 1987).

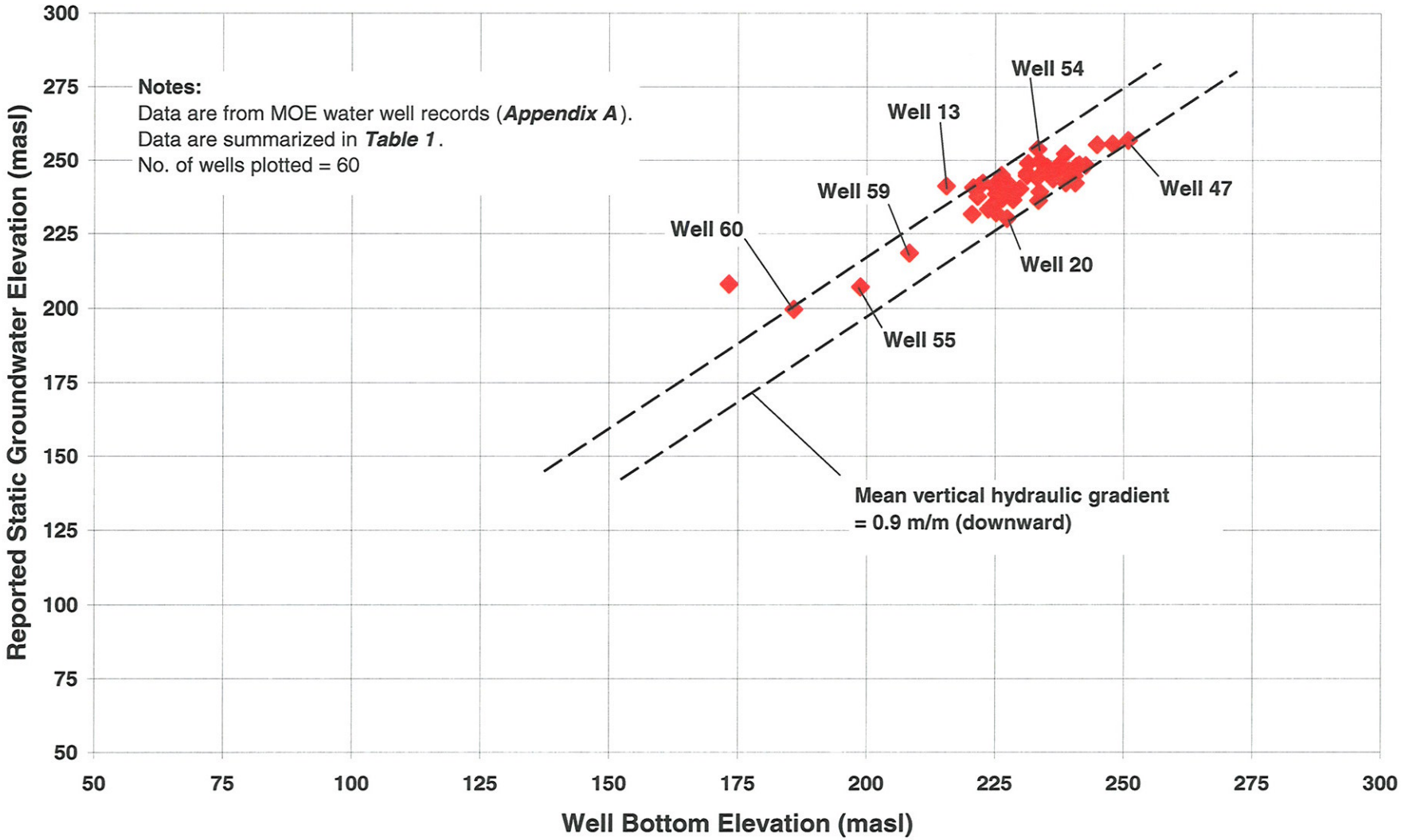
The overburden thickness along the corridor as interpreted from Cross-Section A-A' (***Figure 3***), ranges from 4 to 13 m, and averages about 8 m. The glacial lake deposit west of Waterdown is mapped as a sand and gravel resource area in OGS (1984), although no extraction pits were indicated along the corridor.

2.2 Groundwater Flow

The depth to the water table along the corridor is estimated at about 1 m, based on the MOE records. The reported static water levels in wells in ***Table 1*** do not represent the water table, but rather piezometric levels of deeper zones in the bedrock.

Groundwater generally flows southward and discharges to Lake Ontario. The predominant vertical component of groundwater flow is downward from the water table, through the till and granular overburden and into the underlying bedrock. ***Figure 4*** shows a plot of reported static level versus elevation of the well bottom for wells along the preferred corridor, using data from ***Table 1***. The plot indicates a strong vertical downward hydraulic gradient of about 0.9 m/m in the bedrock above the Niagara Escarpment. This means that groundwater moves downward from the water table, through the Amabel Formation toward deeper zones in the bedrock.

FIGURE 4: Reported Static Level vs Well Bottom Elevation in Bedrock Wells along the New East-West Road Corridor



3.0 PRIVATE WELLS ALONG THE PREFERRED CORRIDOR

3.1 Private Wells in MOE Records

The MOE computerized data base indicated 60 wells along the preferred New East-West Road Corridor. All of the wells are bedrock wells, and most are 6-inch diameter drilled wells, installed between 1952 and 2005. The details of these wells, as discussed in ***Section 1.0***, were extracted from the MOE well records (***Appendix A***), and are summarized in ***Table 1***. Several parameters from ***Table 1*** are further summarized for convenience below:

Parameter	No. Wells	Range	Mean
Drilled Date	60	1952-2005	1970
Depth (m)	60	4.6-48.8	16.6
Depth to Top of Bedrock (m)	54	1.8-16.5	6.7
Static Water Level Depth (m)	54	0.9-13.7	5.2
Available Drawdown (m)	54	1.8-35.1	11.8
Tested Flow Rate (L/min)	51	3.8-345	41.2
Tested Drawdown (m)	46	0.0-25.3	7.8
Specific Capacity (L/min/m)	46	0.3-~1500	6.2*

Notes:
Selected parameters are explained in ***Table 1***.
* Geometric mean

The private wells in ***Figure 2*** were plotted using UTM coordinates in the well records, which were estimated by the MOE from topographic maps. Two high-density clusters of wells along the corridor near the Boulding Avenue/Robson Road intersections (***Figure 2a***) and the Evans Road/Kerns Road intersections (***Figure 2b***) are shown on a larger scale in ***Figure 5***. Wells 38/33/36, 43, 44, 45 and 47 appear to lie outside the property boundary and within the road alignment or walkway on the north side, due to inaccurate UTM coordinates in the MOE records.

3.2 Field-Surveyed Private Wells

As discussed in ***Section 1.0***, relatively few wells were surveyed in the field due to the difficulty in contacting the well owners. The results of the field survey of 29 private wells along the corridor within the 100 m buffer zone are summarized in ***Table 2***. The field sheets are provided in ***Appendix B-2***. The wells are identified as D-1 to D-15, D-16 and D-16A, D-17 to D-28. Wells for which the UTM coordinates were measured in the field are plotted in ***Figure 2***.

Field surveys were done in 14 cases where the resident was home (***Appendix B-1***). The field survey included measurement of the UTM coordinates using a hand-held Global Positioning System (GPS) device. The coordinates of some of these wells were not measured because the well owner did not know exact location of the well.

In 15 cases, the residents were not home, and a survey package was mailed to them (***Appendix B-2.1***). Of the mailed survey packages, 9 were returned completed by the well owner (***Appendix B-2.2***), and 6 were returned unopened.

4.0 POTENTIAL IMPACTS OF ROAD CONSTRUCTION

Potential impacts on wells due to external factors generally fall into two categories: impacts on groundwater quality and impacts on groundwater quantity. This section discusses each of these potential impacts on the private wells along the New East-West Road Corridor. Based on the available information we consider it unlikely that the proposed road construction will cause any significant impacts on private wells along the corridor.

4.1 Potential Impact on Groundwater Quality

This project will involve a widening of the existing road allowance by about 3.5 m on each side. This proposed widening will reduce the setback from the widened road allowance of the existing wells on lots along the corridor.

The reduced setback, combined with the increased traffic, could make some of the existing wells more susceptible to inflow of contaminants from surface sources, particularly road salt. The susceptibility of an individual well will depend on a number of factors, including the integrity of the well construction, the well's setback, the depth of the well and the type of the surficial geological material.

In wells that are (possibly) improperly constructed, contaminants such as road salt that may be present at the water table along the road could reach the well intake by inflow along the annulus of the well (the clearance between the casing and the formation).

Alternatively, such contaminants could migrate downward from the water table to the well intakes in the bedrock under the strong downward hydraulic gradient that exists in the saturated zone (See ***Section 2.2***). The risk of downward migration is relatively low where the surficial material is low-permeability till. In the area of glacial lake sand west of Robson Road (***Figure 2a***), the potential for downward migration would be greater due to the higher permeability of the sand, particularly where the sand directly overlies the bedrock (Wells 8 to 12, ***Figure 3***).

The potential for downward migration is mitigated by the fact that almost all the wells in the MOE well records are deep bedrock wells. Of the 60 listed wells, 54 wells are >10 m deep and 14 wells are >20 m deep (***Table 1***). The 6 relatively shallow (<10 m deep) wells (Wells 3, 5, 12, 18, 39, 41, ***Figures 2a***, ***2b***) are all located in the lower-risk till area.

ROBSON RD
PARKSIDE DR
BOULDING AVE
FELLOWES CRES
EVANS RD
TOWN LINE RD
DUNDAS ST E
KERNS RD

Legend

- 30 Private well, MOE well records
- 33 Private well, MOE well records - (exact location unknown due to inaccurate UTM coordinates)
- 9 Private well, Dillon field survey
- Roads
- Preferred corridor
- Stream
- End of Pavement
- Property Boundary
- 100m Buffer Zone
- Parcels

1:2,400

0 50 100 metres

Notes:
Geology based on Karrow (1987).
Private wells from MOE records summarized in ***Table 1***
Private wells from Dillon field survey summarized in ***Table 2***
MOE = Ministry of Environment

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Enlarged Map of Private Wells in Two Areas Along the New East-West Road Corridor

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Figure 5

4.2 Potential Impact on Groundwater Quantity

Impacts on the groundwater quantity in wells, i.e. those involving a reduction in yield or an increase in drawdown, are typically caused by interference from another pumped well nearby. In this case, the proposed road construction along the preferred corridor will not have any foreseeable such impacts on the local wells, because the construction activities will not involve any groundwater extraction.

5.0 SUMMARY AND CONCLUSIONS

Based on the above discussion, we present the following summary and conclusions:

- The characterization of private wells along the preferred corridor was done using the Ministry of Environment (MOE) computerized well record data base, and also by a field survey of private wells along the corridor. This information was supplemented by government geological reports and maps.

- Based on the available information, we consider it unlikely that the proposed road construction will cause any significant impacts on private wells along the corridor.

Potential Impact on Groundwater Quality

- The proposed road widening will reduce by about 3.5 m the setback of existing wells on lots along the preferred corridor. The reduced setback, combined with the increased traffic, could make some of the existing wells more susceptible to inflow of contaminants from surface sources, particularly road salt. The susceptibility of an individual well will depend on a number of factors, including the integrity of the well construction, the well's setback, the depth of the well and the type of the surficial geological material.

- Contaminants (e.g. road salt) that may be present at the water table along the road could reach the well intake by inflow along the casing annulus of (possibly) improperly constructed wells.

- Alternatively, such contaminants could migrate downward from the water table to the well intakes in the bedrock under the strong downward hydraulic gradient that exists in the saturated zone. The potential of downward migration to the bedrock would be relatively low where the surficial material is low-permeability till. In the area of glacial lake sand west of Robson Road, the potential would be greater due to the higher permeability of the sand, particularly where the sand directly overlies the bedrock contact.

- The potential for downward migration is mitigated by the fact that almost all the wells in the MOE well records are deep bedrock wells. Of the 60 listed wells, 54 wells are >10 m deep and 14 wells are >20 m deep. The 6 relatively shallow (<10 m deep) wells are all located in the lower-risk till area.

Potential Impact on Groundwater Quantity

- Impacts on the groundwater quantity in wells, i.e. those involving a reduction in yield or an increase in drawdown, are typically caused by interference from another pumped well nearby. In this case, the proposed road construction along the preferred corridor will not have any foreseeable such impacts on the local wells, because the construction activities will not involve any groundwater extraction.

6.0 REFERENCES

Karrow, P.F., 1987. Quaternary Geology of the Hamilton-Cambridge Area, Southern Ontario. Ontario Geological Survey Report 255, 94p.

Johnson, M.D., Armstrong, D.K., Sanford, B.V., Telford, P.G. and M.A. Rutka, 1992. Paleozoic and Mesozoic Geology of Ontario. In Geology of Ontario, Ontario Geological Survey, Special Volume 4, p. 907-1008.

Ontario Geological Survey, 1991. Bedrock geology of Ontario, southern sheet. Ontario Geological Survey, Map 2544, Scale 1:1 000 000.

Ontario Geological Survey, 1982. Aggregate Resources Inventory of the City of Burlington, Regional Munipality of Halton. Aggregate Resources Inventory Paper 45. 31 p.

Ontario Geological Survey, 1984. Aggregate Resources Inventory of the Regional Municipality of Hamilton-Wentworth. Aggregate Resources Inventory Paper 50.
53 p.

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APPENDIX A:
MOE WELL RECORDS

Notes:

1. UTM in Zone, Easting, Northing and Datum is NAD83; L: UTM estimated from Centroid of Lot; W: UTM not from Lot Centroid
2. Date Work Completed
3. Well Contractor Licence Number
4. Casing diameter in inches
5. Unit of Depth in Feet
6. See Table 4 for Meaning of Code
7. STAT LVL: Static Water Level in Feet ; PUMP LVL: Water Level After Pumping in Feet
8. Pump Test Rate in GPM, Pump Test Duration in Hour : Minutes
9. See Table 3 for Meaning of Code
10. Screen Depth and Length in feet
11. See Table 1 and 2 for Meaning of Code

1. Core Material and Descriptive terms

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
BLDR	BOULDERS	FCRD	FRACTURED	IRFM	IRON FORMATION	PORS	POROUS	SOFT	SOFT
BSLT	BASALT	FGRD	FINE-GRAINED	LIMY	LIMY	PRDG	PREVIOUSLY DUG	SPST	SOAPSTONE
CGRD	COARSE-GRAINED	FGVL	FINE GRAVEL	LMSN	LIMESTONE	PRDR	PREV. DRILLED	STKY	STICKY
CGVL	COARSE GRAVEL	FILL	FILL	LOAM	TOPSOIL	QRTZ	QUARTZITE	STNS	STONES
CHRT	CHERT	FLDS	FELDSPAR	LOOS	LOOSE	QSND	QUICKSAND	STNY	STONEY
CLAY	CLAY	FLNT	FLINT	LTCL	LIGHT-COLOURED	QTZ	QUARTZ	THIK	THICK
CLN	CLEAN	FOSS	FOSILIFEROUS	LYRD	LAYERED	ROCK	ROCK	THIN	THIN
CLYY	CLAYEY	FSND	FINE SAND	MARL	MARL	SAND	SAND	TILL	TILL
CMTD	CEMENTED	GNIS	GNEISS	MGRD	MEDIUM-GRAINED	SHLE	SHALE	UNKN	UNKNOWN TYPE
CONG	CONGLOMERATE	GRNT	GRANITE	MGVL	MEDIUM GRAVEL	SHLY	SHALY	VERY	VERY
CRYS	CRYSTALLINE	GRSN	GREENSTONE	MRBL	MARBLE	SHRP	SHARP	WBRG	WATER-BEARING
CSND	COARSE SAND	GRVL	GRAVEL	MSND	MEDIUM SAND	SHST	SCHIST	WDFR	WOOD FRAGMENTS
DKCL	DARK-COLOURED	GRWK	GREYWACKE	MUCK	MUCK	SILT	SILT	WTHD	WEATHERED
DLMT	DOLOMITE	GVLY	GRAVELLY	OBDN	OVERBURDEN	SLTE	SLATE		
DNSE	DENSE	GYPS	GYPSUM	PCKD	PACKED	SLTY	SILTY		
DRTY	DIRTY	HARD	HARD	PEAT	PEAT	SNDS	SANDSTONE		
DRY	DRY	HPAN	HARDPAN	PGVL	PEA GRAVEL	SNDY	SANDY		

2. Core Color

Code	Description
WHIT	WHITE
GREY	GREY
BLUE	BLUE
GREN	GREEN
YLLW	YELLOW
BRWN	BROWN
RED	RED
BLCK	BLACK
BLGY	BLUE-GREY

3. Water Use

Code	Description	Code	Description
DO	Domestic	OT	Other
ST	Livestock	TH	Test Hole
IR	Irrigation	DE	Dewatering
IN	Industrial	MO	Monitoring
CO	Commercial		
MN	Municipal		
PS	Public		
AC	Cooling And A/C		
NU	Not Used		

4. Water Detail

Code	Description	Code	Description
FR	Fresh	GS	Gas
SA	Salty	IR	Iron
SU	Sulphur		
MN	Mineral		
UK	Unknown		

DILLON NO.

TOWNSHIP CONCESSION (LOT)	UTM[1]	DATE[2] CNTR[3]	CASING DIA[4]	WATER[5,6] DETAIL	STAT LVL/PUMP LVL[7] RATE[8]/TIME HR:MIN	WATER USE[9]	SCREEN INFO[10]	WELL # (AUDIT#) WELL TAG # DEPTHS TO WHICH FORMATIONS EXTEND5,11
EAST FLAMBOROUGH TOW CON 04(011)	17 587072 4798339[L]	1986/03 4005	06	FR 0060 FR 0068	022 / 030 030 / 1:0	DO IR		6810968 () BRWN CLAY SNDY LOOS 0010 BRWN SAND LOOS 0041 BRWN SAND GRVL LOOS 0043 BRWN SAND LOOS 0046 BRWN CLAY SNDY LOOS 0052 GREY CLAY SNDY LOOS 0055 GREY LMSN HARD 0070
EAST FLAMBOROUGH TOW CON 04(011)	17 587494 4797923[W]	1976/06 4005	06	FR 0048	023 / 030 025 / 2:0	DO		6809436 () BRWN CLAY STNS LOOS 0047 GREY LMSN HARD 0050
EAST FLAMBOROUGH TOW CON 04(012)	17 587465 4797494[W]	1958/05 1208	06 06	FR 0020	005 / 008 005 / 1:0	DO		6802690 () LOAM MSND 0002 CLAY 0014 GREY LMSN 0020
EAST FLAMBOROUGH TOW CON 04(012)	17 586748 4798010[L]	1989/09 4005	06	UK 0066	022 / 060 018 / 2:0	DO		6811730 (55630) BRWN SAND GRVL LOOS 0011 GREY SAND GRVL LOOS 0055 GREY GRVL PCKD 0065 GREY LMSN HARD 0073
EAST FLAMBOROUGH TOW CON 04(012)	17 586748 4798010[L]	1985/06 4005	06	FR 0062	018 / 045 016 / 1:0	ST		6810832 () UNKN 0016 BRWN SAND LOOS 0042 GREY CLAY LOOS 0055 GREY LMSN LYRD 0060 GREY LMSN HARD 0065
EAST FLAMBOROUGH TOW CON 04(013)	17 586946 4797164[W]	1959/09 4001	06 06	FR 0021	006 / 006 010 / 2:0	DO		6802694 () BRWN CLAY MSND 0002 BRWN CLAY 0018 LMSN 0021
EAST FLAMBOROUGH TOW CON 04(013)	17 586949 4797034[W]	1949/09 4002	06 06	FR 0020	008 / 008 003 / 2:0	DO		6802693 () QSND 0016 LMSN 0026
EAST FLAMBOROUGH TOW CON 04(013) 1	17 586625 4797292[W]	2005/06 4005	06	0048	029 / 034 091 / 1:0	DO		6814264 (Z22307) A022047 BRWN CLAY 0015 GREY CLAY 0045 GREY LMSN 0052
EAST FLAMBOROUGH TOW CON 04(013)	17 586546 4797317[W]	1964/07 4602	06 06	FR 0052	029 / 035 014 / 15:0	IN		6802698 () CLAY MSND 0020 GREY CLAY 0041 BRWN LMSN 0053
EAST FLAMBOROUGH TOW CON 04(013)	17 587114 4797123[W]	1968/09 5417	06 06	FR 0026	002 / 014 008 / 1:0	DO		6806780 () BRWN CLAY 0008 GREY CLAY 0014 GREY LMSN 0028
EAST FLAMBOROUGH TOW CON 04(013) 2	17 586636 4797202[W]	1965/06 4208	06 06	FR 0036	011 / 025 015 / 1:0	DO		6802695 () CLAY 0029 CLAY MSND GRVL 0030 LMSN 0038
EAST FLAMBOROUGH TOW CON 05(011)	17 586501 4799145[W]	2002/06 4005	07 06	UK 0075 UK 0089 UK 0126	028 / 110 010 / 1:0	DO		6813649 (241279) BRWN CLAY SAND 0025 GREY CLAY SAND 0040 GREY CLAY 0060 GREY CLAY SAND GRVL 0072 GREY LMSN HARD 0130
EAST FLAMBOROUGH TOW 04(011)	17 586486 4798622[W]	2006/01 6607	02	FR 0011			0008 09	6814427 (Z42221) A036861 BRWN SAND 0003 BRWN SAND 0010 GREY SAND 0016
EAST FLAMBOROUGH TOW 05()	17 586542 4798691[W]	2006/03 6607	01	FR 0007			0016 10	6814489 (Z44209) A041057 BRWN SAND SILT WBRG 0026
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EAST FLAMBOROUGH TOW ()	17 587853 4798810[W]	2005/09 6607	02	0010		NU	0005 15	6814374 (Z35430) A031716 BRWN SILT LOAM 0010 BRWN SILT CLAY 0012 GREY SILT SAND 0020

TOWNSHIP CONCESSION (LOT)	UTM[1]	DATE[2] CNTR[3]	CASING DIA[4]	WATER[5,6] DETAIL	STAT LVL/PUMP LVL[7] RATE[8]/TIME HR:MIN	WATER USE[9]	SCREEN INFO[10]	WELL # (AUDIT#) WELL TAG # DEPTHS TO WHICH FORMATIONS EXTEND5,11
WEST FLAMBOROUGH TOW CON 03(022)	17 586474 4797123[N]	1970/04 4208	06	FR 0058	034 / 035 030 / 1:0	DO		6807462 () BRWN CLAY 0015 GREY CLAY 0053 GREY LMSN 0062
WEST FLAMBOROUGH TOW CON 04(021) 3	17 586514 4797216[L]	1988/07 5469		FR 0019	015 / 015 010 / :0	DO		6811470 (38084) BRWN CLAY 0016 LMSN 0025
WEST FLAMBOROUGH TOW CON 04(023) 4	17 586553 4797202[N]	1957/10 4208	06 06	FR 0053	021 / 040 012 / 1:0	DO		6806414 () CLAY 0035 CLAY SILT GRVL 0047 LMSN 0055
WEST FLAMBOROUGH TOW CON 04(023)	17 586476 4797280[N]	1955/10 3609	06 06	FR 0048	015 / 025 017 / :0	DO		6806413 () CLAY GRVL BLDR 0040 LMSN 0048
WEST FLAMBOROUGH TOW CON 04(023) 5	17 586528 4797200[N]	1952/12 4208	06 06	FR 0050	025 / 040 017 / 1:0	ST		6806412 () CLAY 0030 MSND CLAY 0045 LMSN 0057

TOWNSHIP CONCESSION (LOT)	UTM[1]	DATE[2] CNTR[3]	CASING DIA[4]	WATER[5,6] DETAIL	STAT LVL/PUMP LVL[7] RATE[8]/TIME HR:MIN	WATER USE[9]	SCREEN INFO[10]	WELL # (AUDIT#) WELL TAG # DEPTHS TO WHICH FORMATIONS EXTEND5,11
BURLINGTON CITY 04(007) 6	17 588562 4799177[W]	2007/04 7147	02	FR 0008		NU	0004 10	7043864 (Z65710) A052025 GREY 0001 BRWN FILL 0002 BRWN SAND 0015
EAST FLAMBOROUGH TOW CON 03(008)	17 588831 4798825[W]	1958/04 4208	06 06	FR 0038	018 / 025 020 / 1:0	DO		6801644 () CLAY 0015 LOAM MSND 0025 CLAY GRVL 0035 LMSN 0040
EAST FLAMBOROUGH TOW CON 04(007)	17 588243 4799544[W]	1964/02 2803	06 06	FR 0040	010 / 036 005 / 1:0	DO		6802629 () PRDG 0010 CLAY MSND 0021 LMSN 0042
EAST FLAMBOROUGH TOW CON 04(007)	17 588869 4799165[W]	1964/03 4001	06 06	FR 0045	022 / 045 006 / 8:0	DO		6802630 () LOAM 0003 GREY CLAY BLDR 0040 BLUE SHLE 0047
EAST FLAMBOROUGH TOW CON 04(007)	17 588884 4799055[W]	1964/05 2803	06 06	FR 0048	033 / 035 025 / 1:0	DO		6802631 () BRWN CLAY 0004 BRWN CLAY MSND 0043 LMSN 0050
EAST FLAMBOROUGH TOW CON 04(007)	17 588984 4799114[W]	1964/05 2803	06 06	FR 0050	035 / 039 020 / 1:0	DO		6802632 () BRWN CLAY 0004 BRWN CLAY MSND 0043 LMSN 0054
EAST FLAMBOROUGH TOW CON 04(007)	17 588819 4799178[W]	1964/05 2803	06 06	FR 0045	030 / 035 025 / 1:0	DO		6802634 () LOAM CLAY 0008 BLUE CLAY MSND 0037 LMSN 0048
EAST FLAMBOROUGH TOW CON 04(007)	17 588873 4799161[W]	1964/08 2803	06 06	FR 0050	040 / 042 020 / 2:0	DO		6802635 () BRWN CLAY STNS 0010 BLUE CLAY STNS 0042 LMSN 0053
EAST FLAMBOROUGH TOW CON 04(007)	17 588874 4799184[W]	1964/08 2803	06 06	FR 0048	037 / 039 020 / 2:0	DO		6802636 () BRWN CLAY STNS 0010 BLUE CLAY STNS 0040 LMSN 0050
EAST FLAMBOROUGH TOW CON 04(007)	17 588853 4799175[W]	1964/09 2803	06 06	FR 0049	035 / 038 015 / 1:0	DO		6802637 () BRWN CLAY STNS 0010 BLUE CLAY STNS 0043 LMSN 0051
EAST FLAMBOROUGH TOW CON 04(007)	17 588839 4799053[W]	1964/09 2803	06 06	FR 0050	040 / 042 010 / 1:0	DO		6802638 () BRWN CLAY STNS 0008 BLUE CLAY STNS 0045 LMSN 0052
EAST FLAMBOROUGH TOW CON 04(007)	17 588911 4799074[W]	1964/12 2803	06 06	FR 0050	038 / 042 040 / 2:0	DO		6802639 () BRWN CLAY MSND 0020 BLUE CLAY 0041 SHLE 0047 LMSN 0052
EAST FLAMBOROUGH TOW CON 04(007)	17 588925 4799101[W]	1964/12 2803	06 06	FR 0050	038 / 040 020 / 2:0	DO		6802640 () BRWN CLAY 0012 BLUE CLAY 0042 SHLE 0046 LMSN 0052
EAST FLAMBOROUGH TOW CON 04(007)	17 588924 4799132[W]	1965/11 2803	06 06	FR 0060	020 / 087 / 2:0	DO		6802641 () BRWN CLAY 0010 BLUE CLAY STNS 0036 LMSN 0087
EAST FLAMBOROUGH TOW CON 04(007)	17 588943 4799154[W]	1965/12 2803	06 06	FR 0043	032 / 034 020 / 1:0	DO		6802642 () BRWN CLAY 0010 BLUE CLAY STNS 0038 LMSN 0047
EAST FLAMBOROUGH TOW CON 04(007)	17 588833 4799114[W]	1965/12 2803	06 06	FR 0060	005 / 070 002 / 2:0	DO		6802643 () CLAY MSND 0026 LMSN 0070
EAST FLAMBOROUGH TOW CON 04(007)	17 588832 4799148[W]	1966/01 2803	06 06	FR 0060	015 / 070 003 / 2:0	DO		6802644 () BRWN CLAY 0006 BLUE CLAY 0029 LMSN 0070

TOWNSHIP CONCESSION (LOT)	UTM[1]	DATE[2] CNTR[3]	CASING DIA[4]	WATER[5,6] DETAIL	STAT LVL/PUMP LVL[7] RATE[8]/TIME HR:MIN	WATER USE[9]	SCREEN INFO[10]	WELL # (AUDIT#) WELL TAG # DEPTHS TO WHICH FORMATIONS EXTEND5,11
EAST FLAMBOROUGH TOW CON 04(007)	17 588810 4799094[W]	1966/01 2803	06 06	FR 0038	015 / 025 020 / 1:0	DO		6802645 () BRWN CLAY 0008 BLUE CLAY 0027 LMSN 0040
EAST FLAMBOROUGH TOW CON 04(007)	17 588815 4799064[W]	1966/04 2803	06 06	FR 0040	028 / 030 020 / 1:0	DO		6802646 () BRWN CLAY 0015 BLUE CLAY STNS 0031 LMSN 0042
EAST FLAMBOROUGH TOW CON 04(007)	17 588834 4799070[W]	1966/04 2803	06 06	FR 0043	030 / 032 020 / 1:0	DO		6802647 () BRWN CLAY 0010 BLUE CLAY STNS 0035 LMSN 0046
EAST FLAMBOROUGH TOW CON 04(007)	17 588836 4799000[W]	1960/08 4001	06 06	FR 0050	033 / 033 005 / 2:0	DO		6802628 () FSND GRVL 0033 LMSN 0050
EAST FLAMBOROUGH TOW CON 04(007)	17 588911 4798985[W]	1960/07 4001	06 06	FR 0070	021 / 070 001 / 2:0	DO		6802627 () PRDG 0006 CLAY FSND 0029 LMSN 0075
EAST FLAMBOROUGH TOW CON 04(007) 7	17 588591 4799281[W]	1959/10 4602	08 08	FR 0036	007 / 035 / 1:0	NU		6802626 () BLCK LOAM 0002 MSND 0018 CLAY BLDR 0025 LMSN 0056 BLUE SHLE 0072 RED SHLE 0073
EAST FLAMBOROUGH TOW CON 04(007)	17 588357 4799682[L]	2000/07 4005	06 06	FR 0062 FR 0072	015 / 025 025 / 1:0	DO		6813354 (212253) BRWN SAND 0018 BRWN SAND GRVL 0041 GREY LMSN 0072 BLUE CLAY LMSN 0080 RED SHLE 0081
EAST FLAMBOROUGH TOW CON 04(007)	17 588360 4799683[L]	1999/10 4005	06 06	FR 0038	016 / 025 015 / :30	DO		6813216 (204452) BRWN CLAY SNDY 0008 BRWN SAND 0022 BRWN GRVL SAND 0037 GREY LMSN 0041
EAST FLAMBOROUGH TOW CON 04(007)	17 588360 4799683[L]	1997/08 4207	06 06	FR 0028 FR 0040	005 / 045 007 / 1:0	DO		6812894 (174415) BRWN SILT STNS 0018 GREY STNS SILT 0026 GREY LMSN 0045
EAST FLAMBOROUGH TOW CON 04(007)	17 588360 4799683[L]	1997/05 4207	06 06	FR 0060	035 / 065 007 / 1:0	DO		6812893 (174398) BRWN SILT 0006 BRWN CSND 0043 GREY GRVL CLAY 0056 GREY LMSN 0065
EAST FLAMBOROUGH TOW CON 04(007)	17 588360 4799683[L]	1996/03 4005						6812706 (166783)
EAST FLAMBOROUGH TOW CON 04(007)	17 588360 4799683[L]	1995/12 4005	06 06	UK 0048 UK 0082 UK 0063	025 / 085 004 / 0:30	DO		6812680 () BRWN SAND 0038 BRWN SAND GRVL 0043 GREY LMSN HARD 0083 GREY LMSN SHLE LYRD 0092 RED SHLE 0093
EAST FLAMBOROUGH TOW CON 04(007)	17 588694 4799243[W]	1980/05 4005	06	FR 0037	014 / 063 001 / 1:0	DO		6810103 () BRWN CLAY LOOS 0003 BRWN SAND LOOS 0012 GREY CLAY SNDY LOOS 0024 GREY CLAY LOOS 0026 GREY LMSN HARD 0061 GREY CLAY MGRD HARD 0065
EAST FLAMBOROUGH TOW CON 04(007)	17 588954 4799023[W]	1972/05 4208	06	FR 0055	038 / 040 020 / 1:0	DO		6808214 () BRWN CLAY 0037 GREY LMSN 0058
EAST FLAMBOROUGH TOW CON 04(007)	17 588801 4798940[W]	1952/11 4002	06 06	FR 0054	040 / 040 002 / 3:0	DO		6802660 () MSND GRVL 0054 GRVL 0055
EAST FLAMBOROUGH TOW CON 04(007)	17 588889 4798973[W]	1955/09 2415	06 06	FR 0055	031 / 032 010 / 0:30	DO		6802659 () CLAY 0041 LMSN 0060

TOWNSHIP CONCESSION (LOT)	UTM[1]	DATE[2] CNTR[3]	CASING DIA[4]	WATER[5,6] DETAIL	STAT LVL/PUMP LVL[7] RATE[8]/TIME HR:MIN	WATER USE[9]	SCREEN INFO[10]	WELL # (AUDIT#) WELL TAG # DEPTHS TO WHICH FORMATIONS EXTEND5,11
EAST FLAMBOROUGH TOW CON 04(006)	17 589303 4799585[W]	1959/10 4602	08 08		010 / / :0			6802623 () CSND 0020 FSND 0040 LMSN 0058 BLUE SHLE 0070
EAST FLAMBOROUGH TOW () 12	17 589590 4799790[W]	2005/01 6607	02	0005			0012 05	6814369 (Z26526) A021382 BRWN SAND FILL 0012 GREY LMSN ROCK 0017
WATERDOWN VILLAGE ()	17 589365 4800153[W]	1971/01 1619	06	FR 0025 FR 0034	010 / 032 005 / 2:0	IN		6807700 () BRWN LOAM MSND 0004 GREY CLAY 0011 GREY SHLE 0013 WHIT LMSN 0027 GREN LMSN 0035

TOWNSHIP CONCESSION (LOT)	UTM[1]	DATE[2] CNTR[3]	CASING DIA[4]	WATER[5,6] DETAIL	STAT LVL/PUMP LVL[7] RATE[8]/TIME HR:MIN	WATER USE[9]	SCREEN INFO[10]	WELL # (AUDIT#) WELL TAG # DEPTHS TO WHICH FORMATIONS EXTEND5,11
EAST FLAMBOROUGH TOW CON 03(004) 14	17 590125 4800165[W]	1956/11 4002	06 06	FR 0037	025 / 030 005 / :0	DO		6801623 () GRVL 0014 GREY LMSN 0037
EAST FLAMBOROUGH TOW CON 03(005) 8	17 589604 4799625[W]	1949/09 4002	06 06	FR 0040	010 / 010 040 / 6:0	DO		6801624 () GRVL QSND 0025 LMSN 0045
EAST FLAMBOROUGH TOW CON 03(005)	17 589714 4799580[W]	1964/12 2309	08	FR 0049 FR 0046	-012 / 007 113 / 72:0	PS	0047 08	6801625 () MSND GRVL 0002 GREY CLAY 0003 CLAY FSND GRVL 0034 BLUE CLAY 0041 GREY FSND CSND GRVL 0049 WHIT MSND GRVL 0055 GRVL MSND CLAY 0070 SHLE 0076
EAST FLAMBOROUGH TOW CON 04(003)	17 590240 4800511[W]	1974/11 4005	06	FR 0032	018 / 025 018 / 2:0	DO		6809014 () PRDG 0020 GREY LMSN HARD 0035
EAST FLAMBOROUGH TOW CON 04(003)	17 590435 4800573[W]	1973/09 4005	06		012 / 065 002 / 1:0	DO		6808618 () PRDR 0050 GREY LMSN 0063 BLUE CLAY 0070
EAST FLAMBOROUGH TOW CON 04(003)	17 590198 4800523[W]	1955/09 2415	06 06	FR 0033	010 / / :0	NU		6802594 () LOAM MSND 0012 LMSN 0034
EAST FLAMBOROUGH TOW CON 04(003)	17 590106 4800651[W]	1955/09 2415	06 06	FR 0033	010 / 015 006 / 0:30	IN		6802593 () LOAM MSND 0012 LMSN 0051
EAST FLAMBOROUGH TOW CON 04(003)	17 590435 4800543[W]	1978/11 4005	06	FR 0022 FR 0036	008 / 030 010 / 2:0	DO		6809836 () BRWN CLAY LOOS 0009 GREY LMSN HARD 0038
EAST FLAMBOROUGH TOW CON 04(003) 15	17 590251 4800391[W]	1966/05 4602	06 06	FR 0052 FR 0024 FR 0034	003 / 061 006 / 1:0	DO		6802598 () BRWN MSND 0006 MSND CLAY BLDR 0012 GREY LMSN 0034 BLUE LMSN 0052 BRWN LMSN 0060 BLUE SHLE 0061
EAST FLAMBOROUGH TOW CON 04(003) 16	17 590306 4800438[W]	1956/07 4602	06 06	FR 0038	007 / 015 010 / 2:0	DO		6802596 () CLAY 0009 MSND BLDR 0016 LMSN 0049
EAST FLAMBOROUGH TOW CON 04(003)	17 590111 4800794[W]	1961/01 4602	08 08	FR 0035 FR 0049	022 / 037 015 / 3:0	CO		6802595 () LOAM MSND 0011 GREY LMSN 0070 SHLE 0072
EAST FLAMBOROUGH TOW CON 04(004)	17 589650 4800657[W]	1954/07 4208	06 06	FR 0035 FR 0058	018 / 060 002 / 1:0	DO		6802601 () CLAY STNS 0015 SHLE 0024 LMSN 0060
EAST FLAMBOROUGH TOW CON 04(004)	17 589765 4800561[W]	1954/08 4208	06 06	FR 0035	010 / 030 017 / 1:0	DO		6802602 () CLAY STNS 0015 SHLE 0022 LMSN 0040
EAST FLAMBOROUGH TOW CON 04(004) 17	17 590070 4800291[W]	1955/07 4002	06 06	FR 0033	011 / 035 004 / 2:0	DO		6802603 () GRVL BLDR 0012 LMSN 0035
EAST FLAMBOROUGH TOW CON 04(004) 18	17 589920 4800036[W]	1955/09 4208	06 06	FR 0030	025 / 030 008 / 1:0	DO		6802604 () CLAY MSND 0010 CLAY MSND STNS 0026 LMSN 0031
EAST FLAMBOROUGH TOW CON 04(004) 19	17 590078 4800216[W]	1956/07 4002	06 06	FR 0046	009 / 050 003 / 3:0	DO		6802605 () BLDR GRVL 0013 LMSN 0040 BLUE SHLE 0050

TOWNSHIP CONCESSION (LOT)	UTM[1]	DATE[2] CNTR[3]	CASING DIA[4]	WATER[5,6] DETAIL	STAT LVL/PUMP LVL[7] RATE[8]/TIME HR:MIN	WATER USE[9]	SCREEN INFO[10]	WELL # (AUDIT#) WELL TAG # DEPTHS TO WHICH FORMATIONS EXTEND5,11
EAST FLAMBOROUGH TOW CON 04(004) 20	17 589840 4799950[W]	1956/09 4002	06 06	FR 0045	035 / 035 010 / :0	DO		6802606 () CLAY 0023 GREY LMSN 0045
EAST FLAMBOROUGH TOW CON 04(004)	17 590065 4800201[W]	1957/06 4208	06 06	FR 0030	008 / 035 001 / 1:0	DO		6802607 () LOAM CLAY 0014 LMSN 0040
EAST FLAMBOROUGH TOW CON 04(004) 21	17 590023 4800128[W]	1958/08 4208	06 06	FR 0055	022 / 050 004 / 1:0	DO		6802608 () CLAY STNS 0032 LMSN 0050 GREY SHLE 0060
EAST FLAMBOROUGH TOW CON 04(004) 22	17 589985 4800033[W]	1959/06 4001	06 06	FR 0045	012 / 045 004 / 3:0	DO		6802609 () CLAY MSND 0012 LMSN 0045
EAST FLAMBOROUGH TOW CON 04(004) 23	17 589920 4800025[W]	1960/03 4208	07 06	FR 0035	015 / 050 004 / 1:0	DO		6802610 () CLAY MSND 0029 LMSN 0045 GREY SHLE 0050
EAST FLAMBOROUGH TOW CON 04(004)	17 589595 4800707[W]	1961/08 4208	06 06	FR 0021	003 / 010 020 / 1:0	DO		6802611 () LOAM MSND 0015 LMSN 0023
EAST FLAMBOROUGH TOW CON 04(004)	17 589748 4800599[W]	1962/07 5417	06 06	FR 0034	006 / 025 005 / 0:40	DO		6802612 () BRWN LOAM MSND STNS 0007 YLLW LMSN 0026 GREY LMSN 0035
EAST FLAMBOROUGH TOW CON 04(004) 24	17 589900 4799990[W]	1964/06 1620	06 06	FR 0045	015 / 030 010 / 2:0	DO		6802613 () BRWN CLAY BLDR 0027 LMSN 0048
EAST FLAMBOROUGH TOW CON 04(004) 25	17 590005 4800141[W]	1966/04 4602	06 06	FR 0011 FR 0019 FR 0024	004 / 041 004 / 1:0	DO		6802614 () BRWN CLAY 0006 LMSN 0041
EAST FLAMBOROUGH TOW CON 04(004)	17 589904 4800272[W]	1966/08 4001	06 06	FR 0022	022 / 040 002 / 2:0	ST		6802615 () LOAM 0002 GRVL MSND 0011 LMSN 0042
EAST FLAMBOROUGH TOW CON 04(004) 26	17 590045 4800233[W]	1972/01 4003	06	FR 0040 FR 0057	020 / 052 004 / 2:15	DO		6808018 () BRWN SAND BLDR 0023 GREY LMSN 0059 BLUE SHLE 0060
EAST FLAMBOROUGH TOW CON 04(004)	17 589875 4800443[W]	1972/12 4208	06	FR 0020 FR 0050	007 / 050 015 / 1:0	DO		6808358 () GREY CLAY STNS 0015 GREY LMSN 0062 RED SHLE 0063
EAST FLAMBOROUGH TOW CON 04(004) 27	17 589855 4799943[W]	1972/12 4005	06	FR 0054	010 / 048 005 / 1:30	DO		6808363 () BRWN SAND STNS 0022 GREY LMSN 0057
EAST FLAMBOROUGH TOW CON 04(004)	17 589375 4800383[W]	1973/06 5417	06	UK 0028 UK 0045	007 / 033 018 / 1:0	DO		6808458 () BRWN SAND GRVL 0012 GREY LMSN 0046
EAST FLAMBOROUGH TOW CON 04(004)	17 589783 4800516[W]	1953/09 4208	06 06	FR 0040 FR 0058	015 / 050 007 / 1:0	DO		6802600 () CLAY STNS 0010 LMSN 0060
EAST FLAMBOROUGH TOW CON 04(004)	17 589970 4800313[W]	1952/11 4208	06 06	FR 0072 FR 0065	015 / 060 012 / 1:0	ST		6802599 () PRDR 0045 LMSN 0072
EAST FLAMBOROUGH TOW CON 04(004) 28	17 589934 4800058[L]	2001/03 4005	06 06	FR 0030	021 / 064 001 / :30	DO		6813457 (226987) BRWN CLAY STNS LOOS 0008 GREY LMSN HARD 0010 GREY LMSN HARD 0056 BLUE CLAY LMSN LYRD 0064 RED SHLE HARD 0065

TOWNSHIP CONCESSION (LOT)	UTM[1]	DATE[2] CNTR[3]	CASING DIA[4]	WATER[5,6] DETAIL	STAT LVL/PUMP LVL[7] RATE[8]/TIME HR:MIN	WATER USE[9]	SCREEN INFO[10]	WELL # (AUDIT#) WELL TAG # DEPTHS TO WHICH FORMATIONS EXTEND5,11
EAST FLAMBOROUGH TOW CON 04(004) 29	17 589952 4800075[L]	1997/06 2663	06 06	FR 0060 FR 0080	027 / 055 006 / 1:0	DO		6812887 (176572) LOAM 0002 BRWN CLAY 0022 GREY LMSN 0060 BLUE SHLE 0070 RED SHLE 0080
EAST FLAMBOROUGH TOW CON 04(004) 30	17 589921 4800057[L]	1997/06 2663	06 06	FR 0060 UK 0080	027 / 055 006 / 1:0	DO		6812886 (176571) LOAM 0002 BRWN CLAY SAND GRVL 0020 GREY LMSN 0040 BLUE SHST 0070 RED SHLE 0080
EAST FLAMBOROUGH TOW CON 04(004)	17 589312 4800685[L]	1995/07 4207	08 08	FR 0050	017 / 054 050 / 1:0	IR		6812677 (159298) BRWN CLAY GRVL STNS 0046 GREY LMSN 0054
EAST FLAMBOROUGH TOW CON 04(004)	17 589312 4800685[L]	1991/12 4005	06	UK 0030 UK 0053	016 / 020 040 / 1:30	DO		6812163 (76570) BRWN SAND CLAY LOOS 0012 BRWN SAND LOOS 0025 BRWN SAND GRVL LOOS 0028 GREY LMSN HARD 0060
EAST FLAMBOROUGH TOW CON 04(004)	17 589815 4800463[W]	1976/12 4005	06	FR 0050	011 / 040 009 / 1:30	IR		6809551 () BRWN CLAY LOOS 0012 GREY LMSN HARD 0053
EAST FLAMBOROUGH TOW CON 04(004)	17 589795 4800483[W]	1979/06 4005	06	FR 0035 FR 0050	005 / 045 006 / 1:0	IR ST		6809963 () BRWN CLAY SNDY LOOS 0004 BRWN SAND LOOS 0010 GREY LMSN HARD 0055
EAST FLAMBOROUGH TOW CON 04(005)	17 589094 4800263[W]	1969/06 5417	06	FR 0080	022 / 066 150 / 24:0	PS	0070 10	6807117 () FILL MSND 0004 CLAY MSND 0012 GREY MSND CLAY GRVL 0039 MSND GRVL CLAY 0080
EAST FLAMBOROUGH TOW CON 04(005)	17 589413 4800135[W]	1975/10 4005	06	FR 0040 FR 0011	006 / 040 014 / 4:0	IN		6809250 () BRWN SAND GRVL LOOS 0006 GREY LMSN HARD 0050 GREY SHLE HARD 0053
EAST FLAMBOROUGH TOW CON 04(005)	17 589512 4800151[W]	1975/12 4005	08 08	FR 0034 FR 0018	007 / 018 040 / 3:0	ST DO		6809321 () BRWN SAND GRVL LOOS 0014 GREY LMSN HARD 0038
EAST FLAMBOROUGH TOW CON 04(005) 9	17 589485 4799803[W]	2004/11 4005	06					6814154 (Z07895) A007800 BRWN SAND CLAY 0020 GREY LMSN 0064 GREY CLAY LMSN 0070 GREY SHLE
EAST FLAMBOROUGH TOW CON 04(005)	17 589559 4799843[W]	2005/10 4005	06	0019 0031	015 / 029 027 / 1:0	DO		6814387 (Z37826) A034265 BRWN CLAY 0015 GREY LMSN 0045 GREY LMSN CLAY LYRD 0050
EAST FLAMBOROUGH TOW CON 04(006)	17 589047 4799501[W]	1949/09 4002	06 06	FR 0042	012 / 012 050 / 48:0	DO		6802616 () GRVL QSND 0035 LMSN 0050
EAST FLAMBOROUGH TOW CON 04(006)	17 589025 4799516[W]	1961/01 2613	12 08 08	FR 0049	013 / 031 015 / 3:0	NU		6802618 () CLAY 0006 RED MSND 0023 CSND 0025 BLDR 0028 CLAY BLDR LMSN 0039 LMSN 0069 SHLE 0070
EAST FLAMBOROUGH TOW CON 04(006)	17 589320 4799500[W]	1955/03 4002	06 06	FR 0050	011 / 040 014 / 5:0	PS		6802619 () LOAM 0002 MSND GRVL 0021 LMSN 0070 BLUE SHLE 0075
EAST FLAMBOROUGH TOW CON 04(006) 10	17 589243 4799748[W]	1955/04 2415	06 06	FR 0034	027 / 033 050 / 24:0	PS		6802620 () FSND 0027 LMSN 0063 RED SHLE 0064
EAST FLAMBOROUGH TOW CON 04(006)	17 588990 4799971[W]	1955/05 2402	06 06	FR	035 / 040 010 / 0:30	NU		6802621 () LOAM MSND 0028 LMSN 0065 RED SHLE 0066
EAST FLAMBOROUGH TOW CON 04(006) 11	17 589045 4799794[W]	1959/10 4208	07 06	FR 0030	015 / 030 008 / 1:0	ST		6802625 () BRWN CLAY MSND 0016 LMSN 0034

TOWNSHIP CONCESSION (LOT)	UTM[1]	DATE[2] CNTR[3]	CASING DIA[4]	WATER[5,6] DETAIL	STAT LVL/PUMP LVL[7] RATE[8]/TIME HR:MIN	WATER USE[9]	SCREEN INFO[10]	WELL # (AUDIT#) WELL TAG # DEPTHS TO WHICH FORMATIONS EXTEND5,11
BURLINGTON CITY DS N 01(024) 31	17 591743 4800672[W]	1951/11 4002	06 06	FR 0035	014 / / :0	DO		2800081 () CLAY 0020 BLUE SHLE 0040
BURLINGTON CITY DS N 01(024) 32	17 591777 4800715[W]	1951/11 4002	06 06	FR 0035	014 / / :0	DO		2800080 () CLAY 0020 BLUE SHLE 0040
EAST FLAMBOROUGH TOW CON 03(001)	17 591615 4800723[W]	1970/07 1620	06	FR 0040	016 / 030 015 / 1:0	DO		6807583 () BRWN CLAY 0033 LMSN 0042
EAST FLAMBOROUGH TOW CON 03(001) 33	17 591568 4800445[L]	1955/05 4002	06 06	FR 0035	011 / 035 004 / 3:0	DO		6801606 () BLDR GRVL 0018 LMSN 0035
EAST FLAMBOROUGH TOW CON 03(001)	17 591595 4800623[W]	1977/06 4005	06	FR 0068 FR 0023	020 / 070 003 / 2:0	DO		6809601 () BRWN CLAY CGVL LOOS 0012 GREY CLAY CGVL LOOS 0020 GREY LMSN HARD 0075
EAST FLAMBOROUGH TOW CON 03(001)	17 591748 4800471[L]	2000/08 4005						6813361 (212262)
EAST FLAMBOROUGH TOW CON 03(001) 34	17 591730 4800497[L]	2000/06 4005	06 06	FR 0052 FR 0064 FR 0036	017 / 050 025 / 1:0	DO		6813340 (212245) BRWN CLAY 0019 GREY CLAY 0029 GREY LMSN 0070
EAST FLAMBOROUGH TOW CON 03(001) 35	17 591568 4800445[L]	1999/10 4005	06 06	FR 0065	/ 065 002 / :30	DO		6813234 (204462) BRWN CLAY SNDY 0009 GREY LMSN 0065
EAST FLAMBOROUGH TOW CON 03(001)	17 591275 4800473[W]	1970/11 4001	06	FR 0018 FR 0050	010 / 045 009 / 1:30	DO		6807618 () BRWN LOAM 0001 BRWN CLAY 0009 GREY LMSN 0055
EAST FLAMBOROUGH TOW CON 03(001) 36	17 591615 4800503[W]	1978/06 1620	06	FR 0054	012 / 020 025 / 2:0	PS		6809847 () BRWN CLAY 0010 GREY CLAY 0017 LMSN 0057
EAST FLAMBOROUGH TOW CON 03(001)	17 591165 4800673[L]	1989/10 4005	06	UK 0073 UK 0042	019 / 075 008 / 1:0	DO		6811763 (55668) BRWN CLAY STNS LOOS 0008 GREY LMSN HARD 0078 RED SHLE HARD 0080
EAST FLAMBOROUGH TOW CON 03(001) 37	17 591568 4800445[L]	1989/02 4005	06	UK 0042 UK 0055	027 / 038 030 / 2:0	CO		6811614 (42477) PRDR 0035 BLCK GRVL SAND LOOS 0038 GREY LMSN HARD 0060
EAST FLAMBOROUGH TOW CON 03(001)	17 591020 4800713[W]	1959/11 4727	06 06	FR 0048	015 / 025 010 / 0:30	DO		6801610 () LOAM 0002 BRWN CLAY 0010 BLUE CLAY 0022 LMSN 0048
EAST FLAMBOROUGH TOW CON 03(001)	17 591057 4800680[W]	1959/11 4727	06 06	FR 0048	015 / 025 010 / 0:30	DO		6801609 () CLAY 0002 BRWN CLAY 0010 BLUE CLAY 0022 LMSN 0048
EAST FLAMBOROUGH TOW CON 03(001) 38	17 591571 4800514[W]	1955/10 2415	06 06	FR 0031 FR 0028	025 / 032 006 / 1:0	DO		6801607 () LOAM CLAY 0018 LMSN 0044
EAST FLAMBOROUGH TOW CON 03(001) 39	17 591391 4800323[W]	2005/02 6032	02			NU	0005 10	6814285 (Z05357) A005479 BLCK LOAM 0002 BRWN SILT 0013 BRWN SAND GRVL 0015 GREY ROCK

TOWNSHIP CONCESSION (LOT)	UTM[1]	DATE[2] CNTR[3]	CASING DIA[4]	WATER[5,6] DETAIL	STAT LVL/PUMP LVL[7] RATE[8]/TIME HR:MIN	WATER USE[9]	SCREEN INFO[10]	WELL # (AUDIT#) WELL TAG # DEPTHS TO WHICH FORMATIONS EXTEND5,11
EAST FLAMBOROUGH TOW CON 03(001) 40	17 591682 4800604[W]	1951/12 4002	06 06	FR 0047	016 / 002 / :0	DO		6801595 () BLUE CLAY 0022 LMSN 0052
EAST FLAMBOROUGH TOW CON 03(001) 41	17 591386 4800291[W]	1952/03 4002	06 06	FR 0028	010 / / :0	DO		6801596 () CLAY 0012 LMSN 0030
EAST FLAMBOROUGH TOW CON 03(001) 42	17 591411 4800288[W]	1952/08 4002	06 06	FR 0032	020 / 020 002 / :0	DO		6801597 () BLUE CLAY 0022 LMSN 0035
EAST FLAMBOROUGH TOW CON 03(001)	17 591308 4800364[W]	1952/09 4002	06 06	FR 0033	013 / 018 002 / 2:0	DO		6801598 () BLUE CLAY 0020 LMSN 0035
EAST FLAMBOROUGH TOW CON 03(001)	17 591305 4800361[W]	1953/01 4002	06 06	FR 0028	002 / 020 003 / 2:0	DO		6801599 () BLDR GRVL 0013 LMSN 0031
EAST FLAMBOROUGH TOW CON 03(001) 43	17 591458 4800331[W]	1953/10 4002	06 06	FR 0038	018 / 040 002 / 3:0	DO		6801603 () BLUE CLAY 0023 LMSN 0035 BLUE SHLE 0040
EAST FLAMBOROUGH TOW CON 03(001) 44	17 591413 4800263[W]	1954/07 4002	06 06	FR 0038	016 / 040 004 / 2:0	DO		6801605 () BLUE CLAY 0018 LMSN 0040
EAST FLAMBOROUGH TOW CON 03(001)	17 591175 4800543[W]	1969/02 4208	06 06	FR 0015	005 / 070 010 / 0:30	DO		6807011 () CLAY 0010 ROCK 0014 LMSN 0065 BLUE SHLE 0075 RED SHLE 0077
EAST FLAMBOROUGH TOW CON 03(002)	17 590875 4800783[W]	1968/06 4602	06 06	FR 0027	012 / 066 015 / 2:0	DO		6806976 () BRWN CLAY 0012 GREY CLAY 0021 LMSN 0023 GREY LMSN 0066
EAST FLAMBOROUGH TOW CON 03(002)	17 591155 4800507[W]	1966/11 4001	06 06	FR 0033	010 / 030 003 / 2:0	DO		6801622 () LOAM 0002 BRWN CLAY 0010 LMSN 0035
EAST FLAMBOROUGH TOW CON 03(002) 45	17 591325 4800176[W]	1963/10 3609	06 05	FR 0040	012 / 076 001 / 1:30	DO		6801621 () GREY CLAY STNS 0008 LMSN 0075 RED SHLE 0076
EAST FLAMBOROUGH TOW CON 03(002) 46	17 591328 4800098[W]	1963/02 4602	06 06	FR 0028	004 / 052 020 / 2:0	ST		6801620 () PRDR 0030 LMSN 0049 BLUE SHLE 0052
EAST FLAMBOROUGH TOW CON 03(002)	17 590744 4800798[W]	1960/07 4602	06 06	FR 0022	006 / 039 002 / 1:0	DO		6801619 () MSND GRVL 0016 GREY LMSN 0039
EAST FLAMBOROUGH TOW CON 03(002) 47	17 591375 4800203[W]	1959/08 4001	06 06	FR 0042	017 / 042 001 / 2:0	DO		6801618 () BRWN CLAY 0019 LMSN 0042
EAST FLAMBOROUGH TOW CON 03(002)	17 591308 4800361[W]	1956/05 5417	06 06	FR 0014 FR 0009 FR 0029	002 / 016 012 / 0:20	DO		6801617 () BRWN LOAM LMSN 0006 GREY LMSN 0031
EAST FLAMBOROUGH TOW CON 03(002) 48	17 591328 4800206[W]	1953/01 4002	06 06	FR 0063	020 / 065 002 / 4:0	DO		6801614 () BLDR GRVL 0015 LMSN 0065
EAST FLAMBOROUGH TOW CON 03(002) 49	17 591353 4800271[W]	1952/05 4002	06 06	FR 0038	008 / 003 / :0	DO		6801613 () BLUE CLAY 0025 LMSN 0040

TOWNSHIP CONCESSION (LOT)	UTM[1]	DATE[2] CNTR[3]	CASING DIA[4]	WATER[5,6] DETAIL	STAT LVL/PUMP LVL[7] RATE[8]/TIME HR:MIN	WATER USE[9]	SCREEN INFO[10]	WELL # (AUDIT#) WELL TAG # DEPTHS TO WHICH FORMATIONS EXTEND5,11
EAST FLAMBOROUGH TOW CON 03(002) 50	17 591243 4800110[L]	2000/10 4005	06 06			CO		6813405 (212294) BRWN SAND GRVL LOOS 0006 GREY LMSN HARD 0065 BLUE SHLE HARD 0072 RED SHLE HARD 0073
EAST FLAMBOROUGH TOW CON 03(002) 51	17 591183 4800118[L]	1993/07 4005	06		015 / 067 006 / 1:0	CO ST		6812360 (118245) PRDR 0034 GREY LMSN HARD 0065 GREY LMSN SHLE LYRD 0070 RED SHLE HARD 0070
EAST FLAMBOROUGH TOW CON 03(002)	17 590917 4800729[L]	1987/08 4005	06	FR 0021 FR 0070	011 / 073 004 / 2:0	DO		6811262 (15502) BRWN CLAY SNDY LOOS 0011 BRWN CLAY GRVL BLDR 0018 BRWN GRVL LOOS 0021 GREY LMSN HARD 0070 GREY CLAY GRVL HARD 0075 RED SHLE HARD 0076
EAST FLAMBOROUGH TOW CON 03(002)	17 591246 4800111[L]	1986/10 4005	06	FR 0029 FR 0045 FR 0067 FR 0053	003 / 065 010 / 1:0	DO		6811066 (00291) BRWN CLAY SNDY LOOS 0009 BRWN LMSN HARD 0014 GREY LMSN HARD 0061 GREY CLAY MGRD HARD 0070 RED SHLE MGRD HARD 0072
EAST FLAMBOROUGH TOW CON 03(002)	17 591246 4800111[L]	1986/09 4005	06	FR 0055	012 / 064 002 / 1:0	DO		6811065 (00275) BRWN SAND GRVL LOOS 0003 BRWN CLAY SNDY LOOS 0014 GREY LMSN HARD 0063 BLUE SHLE MGRD HARD 0065
EAST FLAMBOROUGH TOW CON 03(002) 52	17 591255 4800023[W]	1977/07 4005	06	FR 0042	003 / 060 003 / 2:0	DO		6809631 () BRWN CLAY LOOS 0006 BRWN CLAY BLDR LOOS 0009 GREY LMSN LOOS 0065
EAST FLAMBOROUGH TOW CON 03(002)	17 590675 4800753[W]	1973/09 4005	06	FR 0033 FR 0065	016 / 065 004 / 2:0	DO		6808616 () BRWN SAND FILL 0003 BRWN CLAY BLDR GRVL 0024 GREY LMSN 0066 BLUE CLAY 0076
EAST FLAMBOROUGH TOW CON 03(002) 53	17 591015 4800053[W]	1972/08 4602	06	FR 0055 FR 0060	022 / 060 004 / 1:0	DO		6808177 () BRWN CLAY SILT 0013 GREY CLAY BLDR 0020 GREY LMSN 0055 BLUE DLMT 0060 GREN LMSN 0065 BLUE SHLE 0066
EAST FLAMBOROUGH TOW CON 03(003)	17 590995 4799843[W]	1978/05 4005	06	FR 0030	007 / 017 030 / 2:0	ST		6809767 () GREY CLAY LOOS 0013 GREY LMSN HARD 0035
EAST FLAMBOROUGH TOW CON 03(003) 13	17 590092 4800150[L]	1994/08 2803	06	SU 0103	025 / 108 003 / 1:0	DO		6812487 (124904) LOAM 0003 BRWN CLAY SNDY 0019 GREY LMSN 0110
EAST FLAMBOROUGH TOW CON 03(003)	17 590927 4799757[L]	2000/05 4207	06 06		005 / 074 002 / 5:0	ST		6813433 (211006) BRWN CLAY STNS 0012 GREY LMSN 0063 BLUE SHLE 0071 RED SHLE 0075
EAST FLAMBOROUGH TOW CON 03(004)	17 590755 4799593[W]	1973/09 4005	06	FR 0058 FR 0032	019 / 060 002 / 1:0	CO DO		6808617 () BRWN CLAY STNS 0010 BRWN SAND BLDR 0019 GREY LMSN 0063 BLUE CLAY 0065
EAST FLAMBOROUGH TOW CON 03(004)	17 590686 4799534[W]	1975/04 4005						6809114 () BRWN CLAY LOOS 0010 GREY LMSN HARD 0060 GREY CLAY HARD 0069 RED SHLE HARD 0070
EAST FLAMBOROUGH TOW CON 03(004)	17 590668 4799524[W]	1975/04 4005	06	FR 0018	016 / 040 003 / 4:0	DO CO		6809115 () BRWN CLAY LOOS 0010 GREY LMSN HARD 0042
EAST FLAMBOROUGH TOW CON 03(004)	17 590675 4799563[W]	1976/11 4005	06	FR 0043	010 / 070 003 / 2:0	CO		6809547 () BRWN CLAY LOOS 0010 GREY LMSN HARD 0063 GREY SHLE HARD 0070 RED SHLE HARD 0074

TOWNSHIP CONCESSION (LOT)	UTM[1]	DATE[2] CNTR[3]	CASING DIA[4]	WATER[5,6] DETAIL	STAT LVL/PUMP LVL[7] RATE[8]/TIME HR:MIN	WATER USE[9]	SCREEN INFO[10]	WELL # (AUDIT#) WELL TAG # DEPTHS TO WHICH FORMATIONS EXTENDS,11
BURLINGTON CITY DS S 01(023)	17 592350 4800530[W]	2006/01 1129	02					2810527 (Z44421) A033859 CLAY 0020 0058
BURLINGTON CITY DS S 01(023)	17 592324 4800823[W]	1960/04 4001	06 06	FR 0070	040 / 050 010 / 2:0	DO ST		2800245 () BRWN CLAY 0006 LMSN 0055 RED SHLE 0075
BURLINGTON CITY DS S 01(023) 59	17 592175 4801083[W]	1980/07 4005	06	FR 0025 FR 0043	011 / 037 012 / 1:0	CO		2805551 () BRWN CLAY LOOS 0011 BRWN SAND GRVL LOOS 0014 GREY LMSN HARD 0045
BURLINGTON CITY 01(021)	17 592198 4802043[W]	2007/09 4005						7102672 (Z65951) A064512
BURLINGTON CITY 01(024)	17 591902 4800486[W]	2005/08 4005	06	0014	008 / 053 091 / 1:0	IR		2810333 (Z22341) A022081 BRWN CLAY 0011 GREY LMSN 0060
BURLINGTON CITY 01(024) 54	17 591974 4800817[W]	2005/05 4005	06	FR 0055	013 / 025 002 / :1	CO IR		2810259 (Z22295) A022037 BRWN CLAY 0015 GREY CLAY 0025 GREY LMSN 0076 BLUE CLAY SHLE LYRD 0081
BURLINGTON CITY 01(024)	17 592048 4800667[W]	2005/08 4005	06			NU		2810334 (Z22329) A022068 BRWN CLAY 0017 GREY LMSN 0060 GREY CLAY SHLE 0070
BURLINGTON CITY ()	17 592035 4800676[W]	2005/08 4005	06	0025	029 / 052 018 / 1:0			2810335 (Z22330) A022071 BRWN CLAY 0015 GREY LMSN 0060
EAST FLAMBOROUGH TOW CON 03(001)	17 591730 4800497[L]	2000/06 4005	06 06	FR 0052 FR 0064 FR 0036	017 / 050 025 / 1:0	DO		6813340 (212245) BRWN CLAY 0019 GREY CLAY 0029 GREY LMSN 0070
EAST FLAMBOROUGH TOW CON 03(001)	17 591748 4800471[L]	2000/08 4005						6813361 (212262)

TOWNSHIP CONCESSION (LOT)	UTM[1]	DATE[2] CNTR[3]	CASING DIA[4]	WATER[5,6] DETAIL	STAT LVL/PUMP LVL[7] RATE[8]/TIME HR:MIN	WATER USE[9]	SCREEN INFO[10]	WELL # (AUDIT#) WELL TAG # DEPTHS TO WHICH FORMATIONS EXTEND5,11
BURLINGTON CITY DS N 01(020) 55	17 592684 4801919[W]	1955/10 2415	06	SU 0049	022 / 029 005 / :0	DO		2800046 () RED CLAY 0045 RED SHLE 0050
BURLINGTON CITY DS N 01(020)	17 592658 4801939[W]	1950/05 4002	06 06	FR 0047	020 / 020 / 2:0	DO		2800044 () LOAM MSND 0025 LMSN 0050
BURLINGTON CITY DS N 01(020)	17 592653 4801931[W]	1951/07 4002	06 06	FR 0094	050 / 099 004 / 4:0	DO		2800045 () QSND CLAY 0063 SNDS 0099
BURLINGTON CITY DS N 01(020)	17 592598 4801991[W]	1956/03 4002	06 06	FR 0060	038 / 050 008 / :0	DO		2800047 () CLAY 0026 LMSN 0060
BURLINGTON CITY DS N 01(021)	17 592460 4801955[W]	1985/08 4005	06	FR 0059 FR 0061 FR 0056	035 / 044 023 / 1:0	DO		2806322 () PRDR 0053 GREY LMSN HARD 0062 GREY CLAY HARD 0065
BURLINGTON CITY DS N 01(021)	17 592590 4801923[W]	1955/03 4002	06 06	FR 0043	010 / 045 002 / 2:0	DO		2800067 () BLUE CLAY 0006 LMSN 0045
BURLINGTON CITY DS N 01(021)	17 592495 4802014[W]	1953/10 2415	06 06	FR 0039	014 / 020 010 / 0:30	DO		2800066 () CLAY 0006 LMSN 0046
BURLINGTON CITY DS N 01(021)	17 592507 4801847[W]	1965/06 4602	06 06	FR 0046 FR 0051	019 / 029 020 / 1:0	DO		2800074 () CLAY 0013 GREY LMSN 0054
BURLINGTON CITY DS N 01(022) 56	17 592367 4801502[W]	1954/04 2309	06 06		025 / 040 005 / 1:0	DO		2800076 () BRWN CLAY 0042 LMSN 0090
BURLINGTON CITY DS N 01(023) 57	17 591983 4801008[W]	1956/11 1307	36	FR 0039	005 / 010 / :0	DO		2800078 () RED LOAM 0015 RED CLAY 0039 RED MSND 0040
BURLINGTON CITY DS N 01(023)	17 591915 4801243[W]	1974/06 4602	06	FR 0053 FR 0026 FR 0040 FR 0022	005 / 050 007 / 1:0	DO		2804521 () PRDG 0003 GREY LMSN 0058
BURLINGTON CITY DS N 01(024)	17 591777 4800715[W]	1951/11 4002	06 06	FR 0035	014 / / :0	DO		2800080 () CLAY 0020 BLUE SHLE 0040
BURLINGTON CITY DS N 01(024)	17 591743 4800672[W]	1951/11 4002	06 06	FR 0035	014 / / :0	DO		2800081 () CLAY 0020 BLUE SHLE 0040
BURLINGTON CITY DS S 01(021)	17 592825 4801588[W]	1971/07 2519	30	FR 0003	003 / 022 / :0	DO		2803582 () BLCK LOAM 0001 BRWN CLAY 0003 BRWN MSND 0006 GREY CLAY STNS 0022
BURLINGTON CITY DS S 01(021) 58	17 592709 4801719[W]	1952/01 4002	06 06	FR 0156	045 / / :0	DO		2800242 () RED CLAY 0054 RED SHLE 0160
BURLINGTON CITY DS S 01(021)	17 592776 4801588[W]	1964/04 4602	06 06	SU 0018	-001 / 020 002 / 1:0	DO		2800244 () BRWN CLAY 0012 GREN LMSN 0018 BLUE SHLE 0020

TOWNSHIP CONCESSION (LOT)	UTM[1]	DATE[2] CNTR[3]	CASING DIA[4]	WATER[5,6] DETAIL	STAT LVL/PUMP LVL[7] RATE[8]/TIME HR:MIN	WATER USE[9]	SCREEN INFO[10]	WELL # (AUDIT#) WELL TAG # DEPTHS TO WHICH FORMATIONS EXTENDS,11
BURLINGTON CITY FEF 02(006) 60	17 590614 4797923[W]	1969/11 1205	06	FR 0030	030 / 076 004 / :0	DO		2803303 () PRDR 0050 BLUE SHLE 0076
BURLINGTON CITY FEF 02(006)	17 590770 4797858[W]	1960/03 4001	06 06	FR 0055	015 / 055 005 / 2:0	DO		2800324 () BRWN CLAY BLDR 0044 LMSN 0055
BURLINGTON CITY FEF 02(006)	17 590994 4797483[W]	1969/08 2519	30	FR 0006	006 / / :0	DO		2803136 () BLCK LOAM 0001 BRWN CLAY MSND 0004 BRWN CLAY 0012 GREY CLAY 0015
BURLINGTON CITY FEF 02(006)	17 590902 4797891[W]	1960/08 1102	02 02					2800325 () GREY MSND GRVL 0017 GREY SHLE 0040 RED SHLE 0125
BURLINGTON CITY FEF 02(006)	17 591161 4797870[W]	1960/09 2309	06 06	FR 0065	040 / 080 001 / 1:0	DO		2800326 () BLUE CLAY STNS 0020 BLUE CLAY 0032 RED SHLE 0090
BURLINGTON CITY FEF 02(006)	17 590657 4797868[W]	1960/10 1102	02 02	FR 0075	024 / 044 002 / 1:0	DO		2800327 () GREY CLAY STNS 0032 GREY SHLE 0075 RED SHLE 0078
BURLINGTON CITY FEF 02(006)	17 590776 4797675[W]	1961/06 4602	06	SA 0108				2800328 () BRWN CLAY 0027 RED SHLE 0112
BURLINGTON CITY FEF 02(006)	17 590972 4797904[W]	1962/07 4602	06					2800330 () BLDR SILT 0020 LMSN 0028 BLUE SHLE 0035 RED SHLE 0054
BURLINGTON CITY FEF 02(006)	17 591057 4798079[W]	1962/07 4602	06					2800331 () LMSN BLDR SILT 0028 LMSN 0035 BLUE SHLE 0045 RED SHLE 0069
BURLINGTON CITY FEF 02(006)	17 590974 4797903[W]	1962/08 4602	06 06	FR 0014	015 / 054 / 1:0	DO		2800332 () CLAY BLDR 0014 LMSN 0027 BLUE CLAY 0032 LMSN 0039 BLUE SHLE 0051 RED SHLE 0054
BURLINGTON CITY FEF 02(006)	17 591029 4797913[W]	1962/10 4602	06 06	FR 0023	016 / 026 009 / 2:0	DO		2800333 () BLDR SILT 0007 RED CLAY STNS 0015 GREY CLAY LMSN 0032 GREY LMSN 0034
BURLINGTON CITY FEF 02(006)	17 590814 4797863[W]	1962/12 4001	06 06	FR 0025	001 / 005 015 / 24:0	DO		2800334 () PRDG 0005 LMSN 0010 BLUE SHLE 0030
BURLINGTON CITY FEF 02(006)	17 590708 4797837[W]	1964/06 3608	06 06	FR 0045	027 / 045 002 / 2:0	DO		2800335 () BLUE CLAY 0010 RED CLAY 0038 GREY SHLE 0047
BURLINGTON CITY FEF 02(006)	17 591181 4797856[W]	1967/07 4602	06 06	FR 0053	016 / 053 001 / 1:0	DO		2800336 () BRWN CLAY 0010 RED CLAY 0014 RED SHLE 0053
BURLINGTON CITY FEF 02(006)	17 590694 4797818[W]	1956/10 4002	06 06	FR 0080	060 / 080 001 / :0	DO		2800318 () CLAY 0035 SHLE 0080
BURLINGTON CITY FEF 02(006)	17 591010 4797880[W]	1958/06 4602	06 06	FR 0036	031 / 067 001 / 1:30	DO		2800322 () BLCK LOAM LMSN BLDR 0021 CLAY 0029 LMSN 0051 RED SHLE 0067
BURLINGTON CITY FEF 02(006)	17 591154 4797883[W]	1980/09 4005	06	FR 0030	017 / 036 004 / 1:0	DO		2805556 () BRWN CLAY LOOS 0018 RED CLAY LOOS 0022 RED SHLE HARD 0040

APPENDIX B:
RESULTS OF FIELD SURVEY
OF PRIVATE WELLS

B-1: Field Survey Letter and Form

July 30, 2008

DILLON
CONSULTING

235 Yorkland Blvd.
Suite 800
Toronto, Ontario
Canada
M2J 4Y8
Telephone
(416) 229-4646
Fax
(416) 229-4692

Attention: Local Water Well Users

Waterdown Road and New East-West Road
Class Environmental Assessment Projects
Water Well Survey
City of Hamilton, City of Burlington, Region of Halton

Dear Resident:

As part of the Class Environmental Assessments studies being carried out for improvements to Waterdown Road and the New East-West Road corridor, Dillon Consulting is conducting a technical study of conditions along the existing and proposed new road alignments to evaluate the potential for effects to groundwater supply wells.

Your property is located within the study corridors (see attached Key Plan). If you are serviced by a private supply well, we would appreciate your assistance with this survey. **Participation is voluntary.** Participation involves your completion of the attached questionnaire, which should take about fifteen minutes of your time. The questionnaire seeks information on well construction, available water quantity, and water quality. Finish the form to the best of your knowledge, and then please mail the form to our office using the envelope provided. Your participation helps to ensure that effects to your well are considered.

The information that you provide will be summarized in our final report. Personal contact information (e.g. name, address) will not be included in our summaries.

If you should have any questions, or require assistance with the questionnaire, please contact the undersigned at 416-229-4647 ext. 2324. Thank you in advance for your helpful assistance.

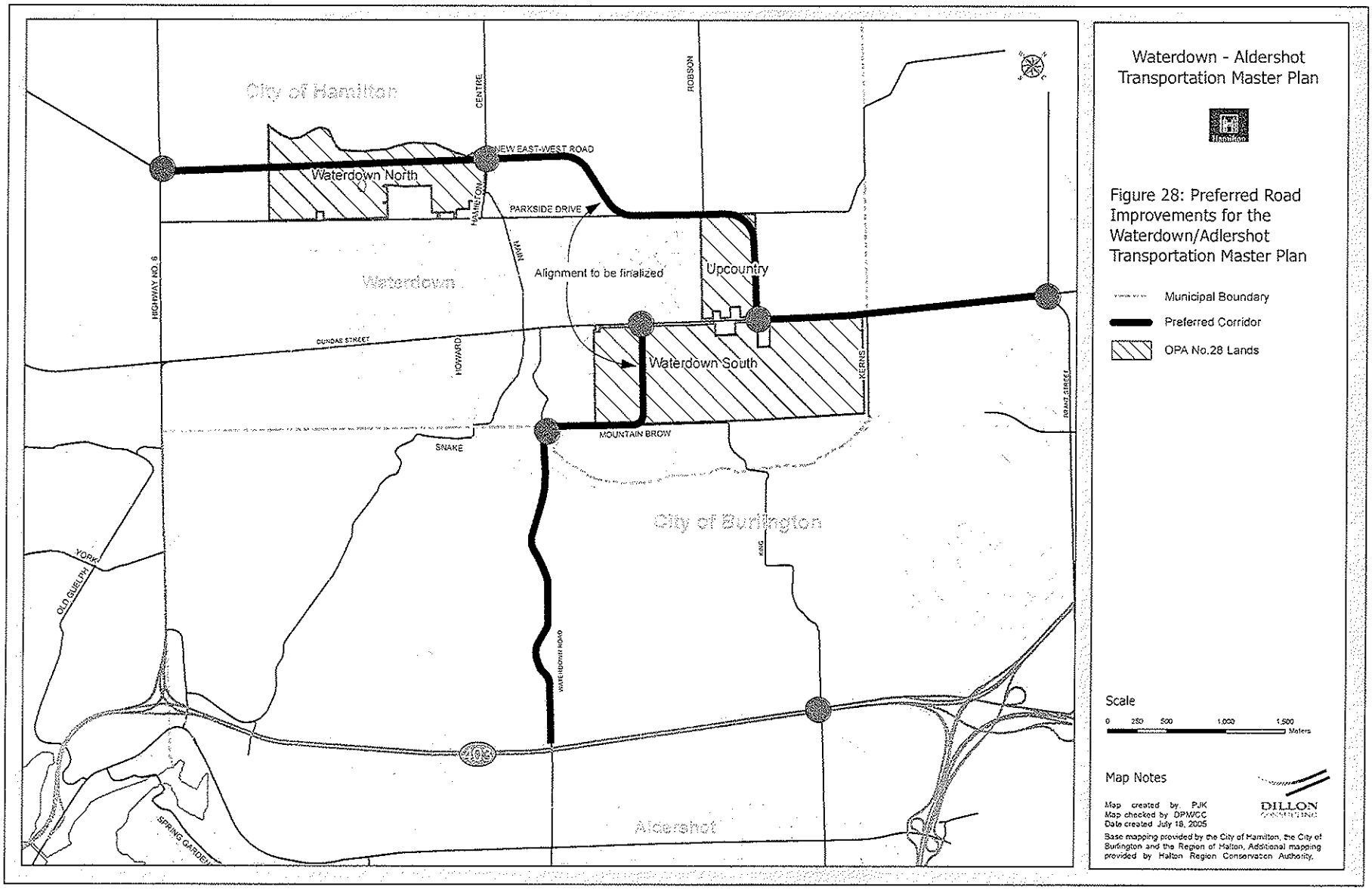
Yours sincerely,

DILLON CONSULTING LIMITED

Ted Rannie, M.Sc., P.Geo.
Hydrogeologist

THR:lkc
Encl.

Our File: 08-9020


City of Hamilton
CENTRE
ROBSON
NEW EAST-WEST ROAD
Waterdown North
HAMILTON
PARKSIDE DRIVE
MAIN
Alignment to be finalized
Upcountry
HIGHWAY NO. 6
Waterdown
DUNDAS STREET
HOWARD
Waterdown South
KERNS
ROAST STREET
MOUNTAIN BROW
SNAKE
City of Burlington
KING
YORK
OLD GUELPH
WATERDOWN ROAD
403
SPRING GARDEN
Aldershot
Waterdown - Aldershot Transportation Master Plan
Figure 28: Preferred Road Improvements for the Waterdown/Adlershot Transportation Master Plan
Municipal Boundary
Preferred Corridor
OPA No.28 Lands
Scale
0 250 500 1,000 1,500 Meters
Map Notes
Map created by: PJK
Map checked by: DPWCC
Date created: July 18, 2005
DILLON
Base mapping provided by the City of Hamilton, the City of Burlington and the Region of Halton. Additional mapping provided by Halton Region Conservation Authority.

Water Supply Well Survey Form

(One sheet per well on property)

DILLON CONSULTING

Project Number: 08 - 9020

Project Name: Waterdown and E-W Corridor

Date:

Name of property owner: _____

Name of tenant [if different from above]: _____

Street address [911 Number]: _____

Mailing address: _____

Municipality, postal code: _____

Telephones: _____ [work, home]

Number of persons routinely using well water: _____

Property use: _____ [resid, comm, indust, instit]

Number and type of livestock: _____

Well Construction

Number of wells on property: _____

Usage activity: _____ [active, dormant]

Well usage: _____ [e.g. domestic, irrigation, washing]

MOE Well Tag No.: _____

Drilling contractor: _____

Depth of well: _____ [feet / metres]

Construction: _____ [dug, drilled, jetted]

Casing material and diameter: _____ [concrete, steel]

Screen presence, depth: _____ [open hole in bedrock?]

Static [un-pumped] water level: _____ [feet / metres]

Pump type: _____ [e.g. submersible, jet]

Is a driller's borehole record attached? _____ [yes / no]

Casing access port: _____ [yes / no]

Well location by GPS. Easting: _____ Northing: _____ Datum: _____

Please Complete as Best You Can !

Water Treatment Systems

Indicate all applicable components below:

◯ Water softener ◯ Iron filter ◯ UV ◯ Other (specify) _____

◯ Reverse osmosis ◯ Sediment filter ◯ Chlorination ◯ Other (specify) _____

Water Quantity History

How many years has the interviewed person used the well? _____

How often does the well run dry?

◯ Never ◯ Daily ◯ Weekly ◯ Monthly ◯ Annually ◯ Once. When: _____

If so, what activity is associated with the well running dry? _____

Is the well ever recharged by water truck? Last recharge date: _____

Was the well ever deepened? When? _____

Well Vulnerability

Direction of ground slope: _____

Well head stick-up above ground: _____ [inches / centimetres]

Casing condition: _____ [cracks, decayed wood, holes?]

Drainage at well head: _____ [level, mound, even slope, inward ditch, pit]

Condition of well lid: _____ [material, cracks, holes, rotted wood?]

Do livestock/pets have access to wellhead area? _____

Water Supply Well Survey Form (continued)

Street address: _____

Water Quality History

Odour problems: _____

Taste problems: _____

Colour problems: _____

Staining of fixtures or laundry: _____

Encrustation at fixtures or pipes: _____

Is the water used for drinking by occupants? _____

Is there any history of illness associated with the water? Frequency? _____

Was the water tested for microbiology by a laboratory and what were results?

Details: _____

Has the water quality changed over time?

Explain: _____

Additional Comments by Interviewed Well User

_____

_____

Draft Property Sketch

Indicate the following features:
(Even if only known approximately)

Property boundary
Houses and other buildings
Well
Septic tank
Septic field
Road
Driveway
North arrow
Distances between well and septic field
Ground slope direction [downward]
Ditches
Water pipe connections
Fuel storage /heating oil tanks
Watercourses, ponds, lakes