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**PROPOSED GROUNDWATER MONITORING
FOR THREE PROPOSED SOLAR FARMS
Project Liskeard 1, 3 and 4
Temiskaming Shores, Ontario**

***Draft*
SCOPING REPORT**

Prepared for:
Canadian Solar Solutions Inc.

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1.0 INTRODUCTION

McIntosh Perry Consulting Engineers Ltd. (McIntosh Perry) was retained by Canadian Solar Solutions Inc. (Canadian Solar) to prepare a groundwater monitoring plan related to three proposed solar farm projects (Project Liskeard 1, 3 and 4) located near New Liskeard , in the Township of Temiskaming Shores (Figure 1).

The legal description of the Liskeard 1 property is: East half of the south half of Lot 5, Concession 2, Geographic Township of Dymond, City of Temiskaming Shores. It has a civic address of 704137 Rockley Road, Temiskaming Shores, ON.

Assuming that Rockley Road runs east-west along the southern boundary of the site (Figure 1), the site is bounded as follows:

- To the west by a former landfill site and woodlands
- To the north by woodlands and a transmission line corridor
- To the east by woodlands and residential properties
- To the south by Rockley Road and residential properties

The legal description of the Liskeard 3 property is: Bucke Concession 6 North, Lot 5. It has a civic address of Radley Hill Road and Highway 11, Temiskaming Shores, ON.

Assuming that an unopened road allowance runs east-west along the northern boundary of the site (Figure 1), the site is bounded as follows:

- To the west by woodlands and croplands
- To the north by an unopened road allowance, woodlands and croplands
- To the east by woodlands and Highway 11
- To the south by woodlands and croplands

The legal description of the Liskeard 4 property is: North half, Lot 5, Concession 1, Geographic Township of Dymond, City of Temiskaming Shores. It has a civic address of 704130 Rockley Road, Temiskaming Shores, ON.

Assuming that Rockley Road runs east-west along the northern boundary of the site (Figure 1), the site is bounded as follows:

- To the west by woodlands and crop lands
- To the north by Rockley Road
- To the east by woodlands and industrial properties
- To the south by woodlands and crop lands

This scoping report provides background information and a proposed plan for monitoring groundwater around the proposed solar farms. It forms part of the Renewable Energy Approval (REA) submission for these projects.

1.1 Rationale

As part of the REA application process, it is understood that applicants should consider the potential impact of the development on groundwater, in particular drinking water. In order to be pro-active, Canadian Solar has prepared this document and will execute the proposed plan in order to assess and mitigate any *potential* groundwater impacts from these developments.

1.2 MOE Consultation

The Ontario Ministry of the Environment (MOE) has been consulted concerning groundwater monitoring and proposed solar farms in Eastern Ontario where potential issues with groundwater impacts first arose. The MOE Regional Hydrogeologist (Frank Crossley) was consulted and provided some general guidance on groundwater monitoring for solar farms in eastern Ontario (Appendix A). Mark Priddle, P.Geo., of McIntosh Perry has also verbally consulted with Mr. Crossley concerning groundwater monitoring at proposed solar farms in eastern Ontario. Mr. Crossley's guidance has been used elsewhere in Ontario. The MOE in Sudbury was also contacted by Mark Priddle; no response had been received at the time of publishing this report.

2.0 BACKGROUND INFORMATION

2.1 Site Setting

The subject properties are located at 704137 Rockley Road, Temiskaming Shores, ON (Liskeard 1), at Radley Hill Road and Highway 11, Temiskaming Shores, ON (Liskeard 3), and at 704130 Rockley Road, Temiskaming Shores, ON (Liskeard 4) (Figure 1).

For the purpose of discussions in this report, it is considered that Rockley Road is oriented east-west and represents the southern boundary of the Liskeard 1 site and the northern boundary of the Liskeard 4 site. It is considered that an unopened road allowance is oriented east-west and represents the northern boundary of the Liskeard 3.

2.2 Site Water Services

There are no municipal potable water services or sewer services supplying the subject properties or neighbouring properties. There are residential properties with private wells to the south, east and northeast of the Liskeard 1 site. These same wells area also located to the north of the Liskeard 4 site. All neighbouring properties likely have drilled bedrock wells and individual septic systems. No residential wells are located within the Liskeard 3 site study area.

2.3 Topography and Drainage

The elevation on the Liskeard 1 site ranges between 230 and 250 m asl. The lowest point on-site is located along the north-eastern portion of the site. The elevation on the Liskeard 3 site ranges between 230 and 270 m asl. The lowest point on-site is located along the north-eastern portion of the site. The elevation on the Liskeard 4 site ranges between 250 and 270 m asl. The lowest point on-site is located along the south-western portion of the site. Locally, the shallow groundwater flow direction on Liskeard Sites 1 and 4 is expected to be toward the northeast and to the southwest on the Liskeard Site 3. The regional bedrock groundwater flow direction is likely to be to the east in the direction of Lake Temiskaming.

2.4 Surficial and Bedrock Geology

General geological maps of the area indicate that overburden consists of glaciolacustrine deposits described as silt and clay, with minor sand, basin and quiet water deposits, as well as till deposits described as undifferentiated, predominantly sand to silty sand matrix, with a high content of clasts, often low in matrix carbonate content (OGS, Google Earth). The bedrock in the area is of the Liskeard Group and is described as shale, limestone, dolostone or siltstone (OGS, Google Earth).

2.5 Water Wells

A Well Record Search Request was placed with the Ontario Ministry of the Environment (MOE) in an attempt to locate well records for wells within approximately 500 m of the three subject properties. A total of 52 wells records were located around the three sites. The average depth of bedrock in the area is 25.7m. The primary use of the wells is domestic; other water uses in the area include public use, industrial use, for livestock watering, and

municipal use. According to the well records the average depth of the wells is 61.7m. The majority of the wells (42 of the 52 wells) are completed in bedrock. The well records are included as Appendix B.

A geotechnical investigation was completed by exp Services Inc. in June 2011. The geotechnical investigation encountered refusal, at various depths (0.5 to 4.9m) across the three sites. Refusal was suspected bedrock, but was possibly very dense till. (exp, 2011)

3.0 PROPOSED MONITORING AND CONTINGENCY PLANS

While no negative effects on surrounding well water are expected from this project, Canadian Solar is pro-actively proposing a monitoring plan to ensure that the construction of the solar farms will not affect local wells. This plan is to address potential issues related to construction and/or public concern which have been raised. A proposed work plan has been developed after the following were conducted:

- A review of conditions and the presence and type of neighbouring wells, and
- Pre-consultation with the MOE

All of this information was compiled to help address potential issues related to construction and/or public concern that may be raised. An initial response from F. Crossley, P.Geo., Hydrogeologist with the Technical Support Section of the MOE Eastern Region was received as part of the MOE pre-consultation and is included as Appendix B. The MOE in Sudbury was also contacted; no response had been received at the time of publishing this report. The Eastern Region Groundwater Unit has the most experience with solar farms and potential groundwater issues and they recommended that the following groundwater monitoring program be followed:

- Interview selected residents regarding well construction, groundwater quality, groundwater quantity and well locations to establish a history of the water well.
- Collect a water well sample from the well after allowing the distribution system to flow for approximately 5 minutes. The sample should be collected prior to any treatment systems (“raw”).
- Submit the water sample for analysis to a qualified laboratory. The analysis should be the “subdivision suite” (alkalinity, ammonia, bacteria, calcium, chloride, colour, conductivity, DOC, hardness, iron, magnesium, manganese, nitrite, nitrate, pH, potassium, sodium, sulphate, TDS and turbidity).
- Establish a contingency plan by a qualified person.

Subsequent discussion with Mr. Crossley indicated that only vulnerable wells need to be addressed and only a sub-sample of representative wells need to be sampled. Also, it was noted that on-site monitoring wells are not required. Vulnerable wells are those that are in close proximity to the solar project and which are drilled bedrock wells at sites where holes will have to be drilled into rock as part of the project construction.

All well owners with property abutting the proposed solar farms will be considered as priority wells for sampling prior to the commencement of construction activities. Other factors influencing the selection of wells include groundwater flow directions, well construction, subsurface conditions and professional judgment. At this site, the abutting properties are the only ones likely to be affected by construction of the solar farm as there are few other wells around the property.

Following the delineation of an assessment area, the MOE recommendation is then to seek permission from selected well owners within the assessment area to undertake a groundwater survey. If permission is granted then the above-noted actions would be undertaken.

3.1 Groundwater Monitoring Plan

Well water monitoring will be performed to ensure that there are no impacts on local wells during construction. The neighbouring properties are all serviced by private wells for potable water supply, most of which are drilled bedrock wells. There may also be some dug wells in the area. Therefore it is prudent to monitor groundwater around this proposed solar farm.

Based on our review of these Project locations and surrounding areas, we have prepared a plan for groundwater monitoring that will effectively assess potential impacts to neighbouring properties. This Plan has been prepared by a Professional Geoscientist. At this location, it appears that the most important properties to be assessed are those with drilled wells or shallow dug wells (if present) on properties abutting the proposed solar farms.

Prior to any actual monitoring of residential wells, selected well owners with properties and water supply wells abutting the sites boundaries will be contacted by McIntosh Perry to seek permission to undertake a groundwater survey. This work will be undertaken prior to the commencement of any on-site construction activities. Where permission is granted then residents will be interviewed regarding their well construction, groundwater quality, groundwater quantity and well locations to establish a history of the water well. At this stage these closest wells will be chosen for monitoring (again, with owner's permission).

Based on the available information, McIntosh Perry and Canadian Solar have determined that up to five wells are located to the south, east and north east of Liskeard 1. Four of these wells are also included within the study area for the Liskeard 4 site and are located to the north of this site. No wells were located within in the Liskeard 3 site study area. The final number of wells that are sampled depends on whether or not permission is granted by well owners. The following is therefore the proposed plan for groundwater monitoring at this site:

Site	Private Wells	Monitoring Wells (proposed)
Liskeard 1 and 4 Solar Energy Projects Rockley Road, Temiskaming Shores	4 on Rockley Road (sites 1 and 4) 1 on Highway 65 (site 1)	none

The key test parameters at each site will be alkalinity, ammonia, bacteria (TC, EC), calcium, chloride, colour, conductivity, DOC, hardness, iron, magnesium, manganese, nitrite, nitrate, pH, potassium, sodium, sulphate, TDS and turbidity.

Samples from the selected domestic wells will be collected from flushed, untreated (raw water) taps in residences by trained personnel. Strict QA/QC procedures will be followed, including the collection of blind duplicate samples. At these location, samples will be collected prior to construction and also post-construction.

If a complaint arises during construction, the subject well will be re-sampled and the results will be compared to the pre-construction results to determine whether or not the well has been impacted by construction activities. If evidence shows that the well has been impacted by Project construction, then a contingency plan will be implemented, as noted below. Post-construction samples will be collected following substantial completion of the solar farm. No other sampling or chemical analysis of samples will be undertaken unless agreed upon with the proponent or suggested during the REA process. All work to be undertaken as part of this Plan will be overseen by a Professional Geoscientist.

3.2 Contingency Plan

In the event that a groundwater complaint arises during the construction activities, the proponent will repeat the sampling at the complainant's residence. The water samples will be submitted as "high priority" (rush analysis) to a qualified laboratory. If a problem is confirmed to be related to the construction activities at the proponent's 2176047 Solar Energy Project, then the proponent will immediately provide bottled water to the impacted party and implement a contingency plan.

1. Supply bottled water or water cooler for drinking (potable uses)
2. Supply portable water supply for household use (non-potable) – storage tank
3. Fill dug well (if present) with trucked potable water
4. Retain licensed driller to assess well and determine if deepening or other options are available
5. Evaluate modifications to the solar farm construction process which potentially caused groundwater issues

The MOE will be notified of any complaints and the proponent's actions to address the complaints.

3.3 Reporting

Following each sampling event, a short letter report will be prepared. It is recommended that the results of the private well sampling be provided to the well owners. The data will be compiled in spreadsheets in order to assist in the evaluation of potential groundwater impacts.

4.0 REFERENCES

Dillon Consulting (Dillon), *"Project Liskeard 1, 3 and 4 – Project Description Report, Draft"*
August 2011

exp Services Inc. (exp), *"Geotechnical Investigation and Design Recommendations"*
September 18, 2011

OGS (Ontario Geological Survey), 2009 – Google Earth™ (website:
http://www.mndmf.gov.on.ca/mines/ogs_earth_e.asp).

5.0 LIMITATIONS

This report has been prepared and the work referred to in this report has been undertaken by McIntosh Perry Consulting Engineers Ltd. for "Canadian Solar Solutions Inc.". It is intended for the sole and exclusive use of Canadian Solar Solutions Inc., any affiliated companies and partners and their respective financial institutions, insurers, agents, employees and advisors (collectively, "the proponent"). The report may not be relied upon by any other person or entity without the express written consent (*Reliance Letter*) of McIntosh Perry Consulting Engineers Ltd.

Any use which a third party makes of this report, or any reliance on decisions made based on it, without a *reliance letter* are the responsibility of such third parties. McIntosh Perry Consulting Engineers Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The conclusions presented represent the best professional judgment of the professional geoscientist based on current environmental standards and site conditions. Should additional information become available, McIntosh Perry Consulting Engineers Ltd. requests that this information be brought to our attention so that we may re-assess the conclusions presented herein.

We trust that this information is satisfactory for your present requirements. Should you have any questions or require additional information, please do not hesitate to contact the undersigned.

Yours truly,

McIntosh Perry Consulting Engineers Ltd



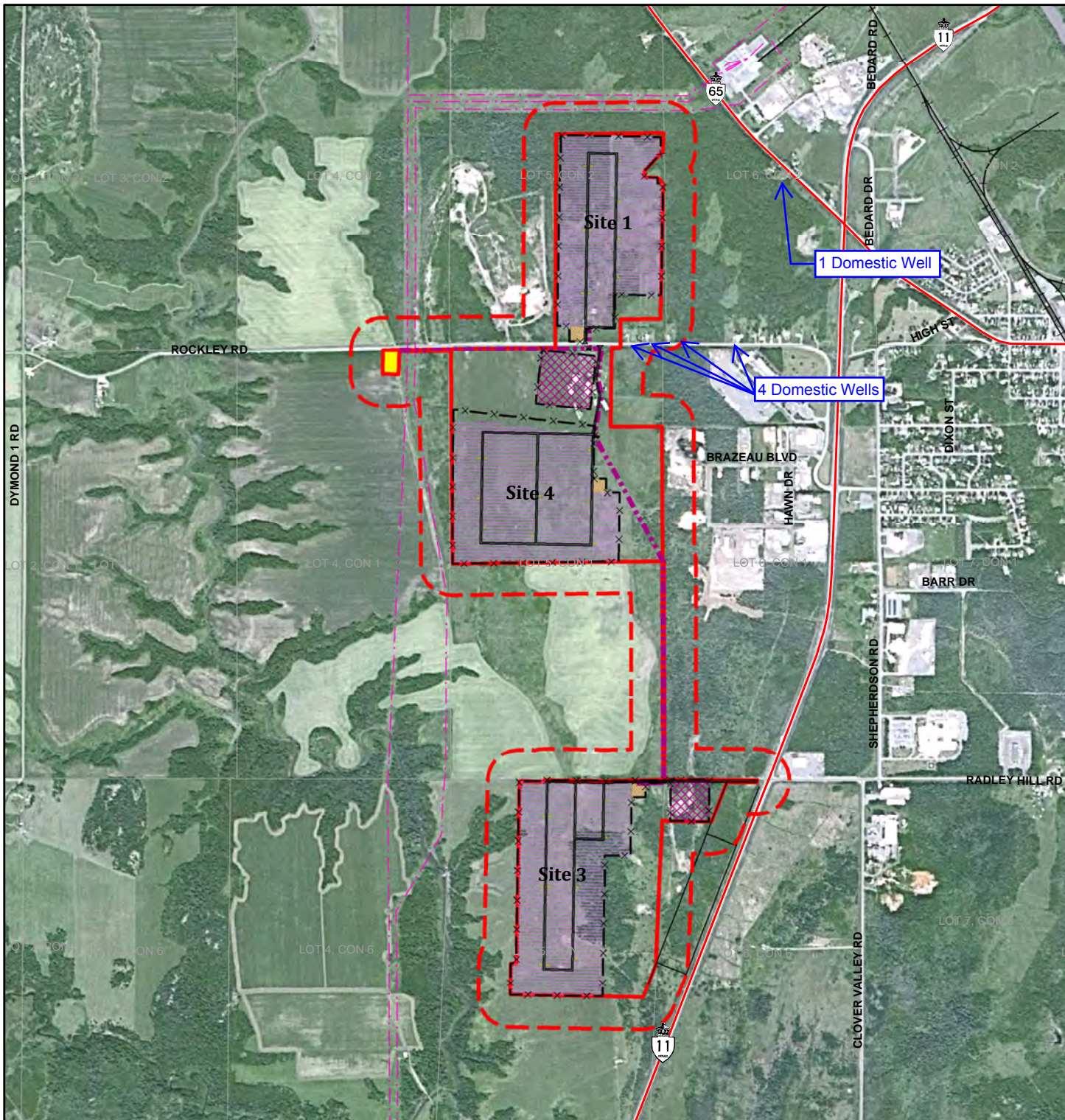
Mark Priddle, P.Geo.
Project Manager



Meghan Cameron, B.Sc.
Project Coordinator

FIGURE

Project Liskeard 1, 3 and 4 Figure 2: Project Location Map



Legend

- Railway
- Highway
- Transmission Line
- Project Location - Outer Boundary
- 120 m Setback from Project Location
- Lots/Concessions

Project Components

- Roads
- Fence
- Proposed Distribution Lines
- Rack
- E-House
- Switchgear
- Substation
- Staging Area
- Communications Tower
- Granular Area

Notes: * Added by McIntosh Perry Consulting Engineers

Proposed Sampling Locations

Figure 1



1:21,000

0 200 400 600



APPENDIX A
MOE CONSULTATION RECORD

Edited E-mail response from MOE

From: Crossley, Frank (ENE) [mailto:Frank.Crossley@ontario.ca]

Sent: Wednesday, June 15, 2011 1:56 PM

To: Mark Priddle

Cc: Harrison, Courtney (ENE); Robert, Marc (ENE); Ryan, Jason (ENE); Taylor, Peter (ENE)

Subject:

Mark Priddle - McIntosh Perry Consulting Engineers

Hello Mark

Thank you for your e-mail dated June 09, 2011 requesting a groundwater monitoring program at upcoming solar farm construction sites by *PROPONENT*. You indicated that the proposed installations are in Eastern Ontario. As part of the Renewable Energy Approval (REA) process, a groundwater monitoring program is required.

To this end, the Eastern Region Groundwater Unit recommends the following groundwater monitoring program:

- Contact all well owners within 500 metres of the site boundaries prior to the commencement of construction activities and seek permission to undertake a groundwater survey. If permission is granted then:
 - interview the residents regarding well construction, groundwater quality, groundwater quantity and well locations to establish a history of the water well.
 - collect a water well sample from the well after allowing the distribution system to flow for approximately 5 minutes. The sample should be collected prior to any treatment systems ("raw").
 - submit the water sample for analysis to a qualified laboratory. The analysis should be the "subdivision suite" (alkalinity, ammonia, bacteria, calcium, chloride, colour, conductivity, DOC, hardness, iron, magnesium, manganese, nitrite, nitrate, pH, potassium, sodium, sulphate, TDS and turbidity).
 - establish a contingency plan by a qualified person.

The groundwater monitoring program should be conducted under the supervision of a qualified person (P.Eng. or P.Geo.). The survey information should be summarized in a report by a qualified person and a copy forwarded to this Ministry.

In the event that a complaint arises against the construction activities, *PROPONENT* should repeat the survey at the complainant's residence. The water samples should be submitted as "high priority" to a qualified laboratory. If a problem is confirmed related to the construction activities at *PROPONENT*, then *PROPONENT* should immediately provide bottled water to the impacted party and implement their contingency plan. This Ministry should be notified of any complaints and the company's actions to address the complaints.

F. Crossley, P.Geo.
Hydrogeologist
Technical Support
Eastern Region
1259 Gardiners Road, Unit 3
Kingston, Ontario K7P 3J6
(613)549-4000x2631

APPENDIX B

WELL RECORD SEARCH

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 EXTEND ^{5,11}
HAILEYBURY TOWN (BUC CON 05(006)	17 597472 5259066 ^N	1986/09 3424	06	FR 0180	025 / 008 / 1:0	DO		6301739 () BRWN SAND 0001 GREY LMSN 0200
HAILEYBURY TOWN (BUC CON 05(007)	17 598246 5259151 ^N	1992/08 3344	06 06	FR 0110 FR 0100	072 / 085 010 / 2:0	DO		6302315 (097383) FILL 0005 BRWN CLAY 0015 BLUE CLAY 0035 BLUE CLAY STNS 0045 HPAN SOFT 0050 HPAN BLDR HARD 0053 BLUE LMSN SOFT 0095 RED DLMT 0115
HAILEYBURY TOWN (BUC CON 05()	17 597659 5259261 ^N	1997/09 3344	06 06	FR 0185 FR 0220 FR 0240	143 / 151 008 / 2:0	DO		6302670 (161662) BRWN HPAN 0004 BRWN LMSN 0025 GREY LMSN SOFT 0155 RED LMSN SOFT 0210 RED DLMT SOFT 0240 RED GRWK 0250
HAILEYBURY TOWN (BUC CON 06(006)	17 597806 5260089 ^L	1993/05 3344	06 06	FR 0240 FR 0180	170 / 195 007 / 2:0	DO		6302335 (097843) LOAM 0001 BRWN HPAN 0016 BRWN LMSN SOFT 0060 BLUE LMSN 0170 BRWN DLMT 0210 RED LMSN SOFT 0225 GRSN 0250
HAILEYBURY TOWN (BUC CON 06(006)	17 598115 5260677 ^N	1975/11 2401	02 02		005 / / 1:0			6300739 () CLAY 0005 GRNT 0250
HAILEYBURY TOWN (BUC CON 06(007)	17 598281 5260808 ^N	1973/07 3404	07 07	FR 0154 FR 0213	157 / 198 013 / 5:0	IN		6300609 () GREY LOAM STNS SAND 0002 GREY HPAN STNS 0004 GREY LMSN 0085 GREY SHLE 0150 RED SNDS 0213
HAILEYBURY TOWN (BUC CON 06(007)	17 598265 5260657 ^N	1971/11 3404	07 07	FR 0120	120 / 180 015 / 3:0	PS		6300502 () BRWN SAND BLDR SILT 0002 BRWN ROCK 0053 GREY ROCK 0160 RED ROCK 0214
HAILEYBURY TOWN (BUC CON 06(007)	17 598306 5260463 ^N	1974/11 3344	06 06	FR 0180 FR 0220	126 / 149 060 / 3:15	IN		6300673 () BRWN SAND LOAM 0001 BRWN LMSN 0010 BLUE LMSN 0170 WHIT DLMT 0215 BLUE ROCK 0225
HAILEYBURY TOWN (BUC CON 06(007)	17 598315 5259427 ^N	1977/07 3344	06 06	FR 0200 FR 0175 FR 0190	143 / 147 006 / 1:0	DO		6300944 () LOAM 0001 BLUE CLAY 0004 LMSN 0210
HAILEYBURY TOWN (BUC CON 06(007)	17 598256 5260675 ^N	1987/05 3424	06 06	FR 0210 FR 0240	130 / 130 040 / 3:0	IN		6301771 () BRWN CLAY 0002 GREY LMSN 0085 BLCK ROCK 0205 RED ROCK 0235 BLUE ROCK 0238 RED GRNT 0245 BLUE ROCK 0250
HAILEYBURY TOWN (BUC CON 06(007)	17 598235 5260697 ^N	1968/09 3418	07 07	FR 0205	117 / 175 012 / 5:0	IN		6300422 () GRVL BLDR 0004 GREY LMSN 0020 GREY SHLE 0180 RED SHLE 0200 QRTZ 0212
HAILEYBURY TOWN (BUC CON (005)	17 596702 5259160 ^N	1988/02 3344	06 06	FR 0150 FR 0250 FR 0230	050 / 075 010 / 4:0	DO CO		6301890 () LOAM 0002 BRWN LMSN 0125 BLUE LMSN SOFT 0220 RED DLMT 0250
HAILEYBURY TOWN (BUC 06(005)	17 597400 5259208 ^N	2006/05 7037	###	FR 0085	025 / 025 030 / 1:0	DO		6303247 (Z39628) A039739 YLLW SAND CLAY SOFT 0001 YLLW LMSN SOFT 0095
DYMOND TOWNSHIP CON 01(005)	17 597165 5262327 ^N	1970/12 3404	07 07	FR 0170 FR 0180	024 / 120 010 / 3:20	ST DO		6300463 () BRWN HPAN CLAY 0005 GREY LMSN 0060 RED SHLE 0106 BLCK LMSN 0126 GREY LMSN 0180

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 EXTEND ^{5,11}
DYMOND TOWNSHIP CON 01(006)	17 598079 5261986 ^w	1997/09 3344	06 06	FR 0130 FR 0160	085 / 091 010 / 6:0	IN		6302652 (161659) BLCK LOAM 0001 BRWN CLAY HPAN STNS 0015 BLUE CLAY HPAN STNS 0065 GREY LMSN SOFT 0120 BRWN DLMT SOFT 0155 RED DLMT SOFT 0165 GREY BSLT HARD 0175
DYMOND TOWNSHIP CON 01(006)	17 597843 5261682 ^u	1989/09 3424	06 06	FR 0140 FR 0121 FR 0115	089 / 089 019 / 3:0	IN		6302044 (34526) FILL 0001 BRWN CLAY STNS 0038 BLUE CLAY 0048 GREY HPAN 0107 YLLW LMSN 0135 RED LMSN 0141 GREY ROCK HARD 0147
DYMOND TOWNSHIP CON 01(006)	17 597957 5262338 ^w	1989/09 3424	06 06	FR 0110	068 / 068 011 / 3:0	IN		6302043 (34519) FILL 0001 BRWN CLAY STNS 0043 GREY HPAN STNS BLCK LMSN RED LMSN ROCK HARD
DYMOND TOWNSHIP CON 01(006)	17 598202 5262481 ^w	2000/08 3344	06 06 05		135 / 210 003 / 1:0	DO		6302877 (197650) PRDR 0180 GREY ROCK SOFT FCRD 0218
DYMOND TOWNSHIP CON 01(006)	17 598218 5261420 ^w	1987/05 3344	06	FR 0150 FR 0200	145 / 170 005 / 1:0	DO		6301791 () PRDG 0128 BLUE LMSN SOFT 0150 RED DLMT 0200 GRWK 0208
DYMOND TOWNSHIP CON 01(006)	17 597843 5261682 ^u	1999/04 3344	06 06	FR 0230 FR 0145	132 / 240 002 / 1:0	DO		6302795 (197717) BLCK LOAM 0001 BRWN HPAN BLDR 0060 GREY HPAN BLDR 0106 GREY LMSN SOFT 0120 RED CLAY DLMT SOFT 0150 GREY BSLT 0195 GREY GRWK SOFT 0240 GREY ROCK HARD 0250
DYMOND TOWNSHIP CON 01(006)	17 598215 5261927 ^w	1985/04 3424	06 06	FR 0095 FR 0160	065 / 300 001 / 1:0	PS		6301587 () HPAN BLDR 0090 STNS HARD 0300
DYMOND TOWNSHIP CON 01(006)	17 598188 5262495 ^w	1986/11 3344	06 06	FR 0175 FR 0165	135 / 165 008 / :0	DO		6301757 () LOAM 0001 HPAN BLDR 0072 LMSN SOFT 0178 GRWK 0180
DYMOND TOWNSHIP CON 01(008)	17 598231 5262300 ^w	1988/08 3344	09					6301989 (35640) LOAM 0001 RED CLAY BLDR 0008 RED SAND BLDR 0015 BLUE CLAY BLDR 0148 RED LMSN 0150
DYMOND TOWNSHIP CON 02(004)	17 596191 5263259 ^u	1995/06 3344	06 06	FR 0108 FR 0112	026 / 034 010 / 2:0	DO		6302521 (161003) CLAY FILL 0007 GREY CLAY 0014 BLUE CLAY 0100 BRWN LMSN 0115
DYMOND TOWNSHIP CON 02(004)	17 596191 5263259 ^u	1998/08 3344	06 06	FR 0120 FR 0132 FR 0139	/ 034 010 / :0	DO		6302739 (170867) BLCK LOAM 0002 BRWN FILL 0006 RED CLAY 0012 BLUE CLAY 0109 BRWN LMSN 0140
DYMOND TOWNSHIP CON 02(005)	17 597715 5263427 ^w	1981/10 3344	06 06	FR 0134 FR 0140 FR 0143	048 / 064 012 / 2:0	MN DO		6301370 () FILL 0001 RED CLAY 0012 BLUE CLAY 0020 BLUE SAND GRVL CLAY 0055 BRWN HPAN SOFT 0110 BRWN HPAN HARD 0129 BRWN LMSN HARD 0132 BRWN LMSN SOFT LTCL 0145
DYMOND TOWNSHIP CON 02(005)	17 597165 5262502 ^w	1962/12 1638	02 02	FR 0080	042 / 002 / 4:0	DO		6300137 () GREY CLAY 0007 GREY SHLE 0080 SNDS 0097

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 EXTEND ^{5,11}
DYMOND TOWNSHIP CON 02(005)	17 597006 5263278 ^L	1997/09 3344	06 06	FR 0140 FR 0157	047 / 054 008 / 2:0	DO		6302651 (161660) BLCK LOAM 0001 RED CLAY 0011 BLUE CLAY 0132 BRWN LMSN 0160
DYMOND TOWNSHIP CON 02(005)	17 597006 5263278 ^L	1997/09 3344	06 06	FR 0140 FR 0156	047 / 053 010 / 2:0	DO		6302650 (161661) BLCK LOAM 0001 RED CLAY 0012 BLUE CLAY 0123 GREY HPAN 0126 BRWN LMSN 0160
DYMOND TOWNSHIP CON 02(005)	17 597006 5263278 ^L	1997/07 3344	06 06	FR 0123	029 / 030 010 / 2:0	DO		6302600 (161098) FILL 0006 BRWN CLAY 0019 BLUE CLAY 0108 BRWN LMSN 0125
DYMOND TOWNSHIP CON 02(005)	17 597006 5263278 ^L	1972/08 3424	06 06	UK 0050 UK 0250	/ 075 025 / 3:0	DO		6302246 (115015) BRWN CLAY LMSN FCRD LMSN 0255
DYMOND TOWNSHIP CON 02(005)	17 597006 5263278 ^L	1991/11 3424	06 06	FR 0112 FR 0120	/ 025 / 2:0	DO		6302225 (115003) BRWN CLAY 0006 HPAN 0015 GREY LMSN 0124
DYMOND TOWNSHIP CON 02(005)	17 597001 5262502 ^W	1990/07 3344	06 06	FR 0095	052 / 075 008 / 2:0	DO		6302157 (33720) LOAM 0001 RED CLAY 0005 BRWN HPAN 0008 GREY LMSN MUCK 0070 BRWN DLMT 0100
DYMOND TOWNSHIP CON 02(005)	17 597777 5263327 ^W	1989/11 3344	06 06	UK 0220 UK 0235 UK 0185	052 / 083 012 / 24:0	DO CO		6302067 (33688) LOAM 0001 RED CLAY 0015 BLUE CLAY 0040 BLUE HPAN SOFT 0075 BLUE HPAN STNS MGRD 0110 BRWN HPAN STNS SOFT 0154 BRWN LMSN 0235
DYMOND TOWNSHIP CON 02(006)	17 597980 5262957 ^W	1971/11 3344	06 06	FR 0194 FR 0175	040 / 125 005 / 2:0	DO		6300506 () WHIT CLAY 0003 RED CLAY 0012 BLUE HPAN BLDR 0032 BLUE HPAN 0159 BRWN LMSN 0197
DYMOND TOWNSHIP CON 02(006)	17 597802 5263293 ^L	1983/06 3344	06 06	UK 0130 UK 0150 UK 0170	115 / 170 008 / :0	DO		6301525 () LOAM 0001 BRWN CLAY SAND HARD 0012 BLUE CLAY SAND GRVL 0065 BRWN HPAN SOFT 0095 BLUE LMSN SOFT 0115 BRWN LMSN 0170 ROCK HARD 0175
DYMOND TOWNSHIP CON 02(006)	17 597065 5263677 ^W	1979/10 3344	06 06	FR 0175 FR 0185 FR 0218	050 / 100 012 / 1:0	DO		6301190 () LOAM 0001 RED CLAY 0008 BLUE CLAY 0035 BLUE CLAY SAND STNS 0170 BRWN LMSN 0220
DYMOND TOWNSHIP CON 02(006)	17 598165 5262577 ^W	1976/09 3424	06					6301083 () RED CLAY 0019 BLUE CLAY 0033 HPAN BLDR 0095 ROCK 0300
DYMOND TOWNSHIP CON 02(006)	17 598165 5262927 ^W	1977/08 3424	06 06	FR 0215 FR 0233	030 / 240 025 / 2:0	DO		6300939 () BRWN CLAY 0020 BLUE CLAY 0038 HPAN STNS 0207 ROCK FCRD 0240
DYMOND TOWNSHIP CON 02(006)	17 597465 5263677 ^W	1976/09 3424	06	FR 0125	040 / 100 030 / 4:0	DO		6300854 () BRWN CLAY LOOS 0008 GREY CLAY LOOS 0030 GREY SAND SILT CLAY 0125 GREY GRVL SAND LOOS 0131
DYMOND TOWNSHIP CON 02(006)	17 597802 5263293 ^L	1988/09 3424	06 06					6301942 (34489) BRWN CLAY 0002 HPAN STNS 0068 ROCK 0324

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 EXTEND ^{5,11}
DYMOND TOWNSHIP CON 02(006)	17 597665 5263517 ^N	1970/06 4405	06	FR 0200	040 / 115 012 / 16:0	IN		6300449 () GREY CLAY 0030 GREY QSND 0055 GREY HPAN 0155 GREY QSND 0180 GREY GRVL 0190 GREY STNS GRVL 0195 WHIT LMSN 0200
DYMOND TOWNSHIP CON 02(006)	17 598190 5263427 ^N	1985/12 3344	06	FR 0262	064 / 065 006 / 30:0	DO		6301632 () FILL 0003 RED CLAY 0008 BLUE CLAY SOFT 0145 HPAN 0158 FSND SLTY DRTY 0162 MSND SLTY DRTY 0210 HPAN 0260 SAND GRVL 0262
DYMOND TOWNSHIP CON 02(006)	17 597865 5263252 ^N	1964/04 3418	07	FR 0126	045 / 088 015 / 8:0	DO		6300140 () BLUE CLAY 0060 BLDR HPAN 0100 GRVL 0126
DYMOND TOWNSHIP CON 02(006)	17 597265 5262507 ^N	1962/12 1638	02 02	FR 0080	042 / 002 / 4:0	DO		6300139 () GREY CLAY 0012 GREY SHLE 0080 SNDS 0102
DYMOND TOWNSHIP CON 02(006)	17 597875 5263187 ^N	1955/08 1320	01					6300138 () CLAY 0020 CLAY GRVL 0038
DYMOND TOWNSHIP CON 02(006)	17 598145 5262957 ^N	1972/08 3344	06 06	FR 0200 FR 0214	070 / 200 003 / 2:0	DO		6300570 () PRDG 0005 RED CLAY 0020 BLUE CLAY SAND BLDR 0050 BLUE CLAY SAND GRVL 0165 BRWN HPAN SAND GRVL 0178 WHIT LMSN 0180 BRWN LMSN 0216
DYMOND TOWNSHIP CON 02(006)	17 598135 5262527 ^N	1972/03 3404	07 07	FR 0073	022 / 098 / 3:30	DO		6300527 () BRWN CLAY 0001 BLUE CLAY 0015 HPAN BLDR 0070 GREY LMSN 0073 GRSN 0200
DYMOND TOWNSHIP CON 02(006)	17 597802 5263293 ^L	1994/04 3424	06 06	FR 0340 FR 0260 FR 0295	067 / 067 030 / 3:0	PS IN		6302429 (123657) GRVL CMTD 0004 BLUE CLAY 0160 GREY HPAN CLAY 0239 LMSN 0350
DYMOND TOWNSHIP CON 02(L)	17 597937 5263153 ^N	1991/03 3344	06 06	FR 0235 FR 0290 FR 0280	063 / 280 010 / 2:0	DO		6302191 (33755) LOAM 0001 RED CLAY 0008 BLUE CLAY 0035 BLUE HPAN 0225 BRWN LMSN 0295
DYMOND TOWNSHIP 01(006)	17 597843 5261682 ^L	1988/10 3424	08 08	FR 0082	060 / 060 010 / 2:0	CO		6301945 (34493) FILL 0002 BRWN SAND 0008 HPAN 0072 GREY SNDS 0080 LMSN 0096 ROCK HARD 0103
DYMOND TOWNSHIP 02(005)	17 597373 5262984 ^N	2007/10 6809	02					7052297 (Z69290) A059653 BRWN SAND SLTY 0009 GREY SILT TILL 0075 ROCK
DYMOND TOWNSHIP 02(006)	17 597856 5262532 ^N	2008/09 3344	06		076 / 295 003 / 2:0	DO		7115283 (Z76396) A064342 BLCK LOAM 0001 RED CLAY 0010 BRWN HPAN 0030 GREY HPAN 0065 GREY BSLT 0440 GREY GRWK 0560 GREY BSLT 0605
MARTER TOWNSHIP 03(009)	17 597881 5262520 ^N	2008/07 3344	09		010 / 400 / :0	DO		7115264 (Z76393) A051254 BLCK LOAM 0001 RED CLAY 0008 BLUE CLAY 0063 GREY ROCK 0440
NEW LISKEARD TOWN ()	17 597685 5263258 ^N	2004/11 6809	01				197 -49	6303163 (Z11104) A011117 GREY SILT 0098 GREY SAND 0197

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 EXTEND ^{5,11}
NEW LISKEARD TOWN ()	17 598146 5263445 ^N	1975/10 2801						6300760 () GREY CLAY 0141 GREY CLAY SAND LYRD 0162 SAND LOOS 0169 SAND CLAY LYRD 0174 SAND GRVL CLAY 0183 SAND GRVL LOOS 0188 GREY CLAY GRVL BLDR 0239 GREY LMSN 0241
NEW LISKEARD TOWN ()	17 597777 5263359 ^N	1975/11 2801						6300761 () GREY CLAY SOFT 0005 BRWN CLAY HARD 0011 GREY CLAY SOFT 0034 GREY CLAY GRVL BLDR 0069 SAND GRVL BLDR 0076 GREY CLAY GRVL BLDR 0126 BRWN LMSN 0133
NEW LISKEARD TOWN ()	17 598005 5263308 ^N	1975/11 2801						6300762 () GREY CLAY SOFT 0004 BRWN CLAY HARD 0009 GREY CLAY SOFT 0069 SAND GRVL BLDR 0078 GREY CLAY GRVL BLDR 0086 GREY SAND LOOS 0091 GREY CLAY GRVL BLDR 0229 GREY LMSN 0231

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
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	GYP SUM		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		