WELL EVALUATION - TW1-14
PROPOSED COMMERCIAL DEVELOPMENT
5640 BANK STREET
COMMUNITY OF GREELY
CITY OF OTTAWA

Prepared For:
Alium Investments (Greely) Limited

Project 2012-08
July 22, 2015

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CONSULTING HYDROGEOLOGISTS

Clinton, Ontario

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TABLE OF CONTENTS **PAGE**

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1.0 INTRODUCTION

It is proposed to establish a commercial development on the eastern portion of a 13.7 hectare (approximate) parcel of land located within part of Lot 1, Concession 5, Geographic Township of Osgoode. Figure 1 shows the location and layout of the proposed development.

The proposed development will be serviced by on-site wells and subsurface sewage disposal systems.

A previous report (July 18, 2012 Wilson Associates Hydrogeologic Evaluation) describes the geologic setting of the site, shallow soils and groundwater observations, the results of testing of three on-site drilled test wells (TW1, TW2 and TW3), and the results of a Reasonable Use Assessment for the development.

Following a City of Ottawa review of the 2012 Wilson Associates report and subsequent discussions, the following additional hydrogeological work was implemented to address City preferences and requirements:

- A production well (TW1-14) and standby production well (TW2-14) were drilled in 2014 at the site design location, with the following specifications to address City preferences and requirements:
    - The production well and standby well were completed to the base of Nepean Sandstone Formation, so that interference potential with the majority of existing local wells (predominantly completed in the overburden and the overlying dolostone of the Oxford Formation) is minimized.
    - The well casings are to be advanced until fully penetrating the overburden and the overlying dolostone of the Oxford Formation, and if present, the interbedded dolostone and sandstone of the March Formation, in order to minimize potential interference with existing local wells, so that the overburden aquifer and Oxford dolostone aquifer are isolated from the taking.

A 24-hour pumping test was conducted on the new production well (TW1-14) on June 10 and 11, 2015. This report provides a summary of the results of well construction, well testing and water quality analyses for TW1-14.

2.0 WELL CONSTRUCTION

2.1 Test Well 1 (East):

The following information is derived from the water well record prepared by the drilling contractor, Canadian Soil Drilling. A copy of the water well record is included in the appendix. Figures 1 and 2 show the location of the well.

Date of construction: May 2012

Contractor's Log of Formations Penetrated:

Depth (m)	Materials
0 - 14.6	sand and gravel with boulders
14.6 - 47.6	grey limestone
47.6 - 61.0	white sandstone with grey limestone

Water was reported by the contractor to have been located in the sandstone below a depth of 50.0m.

Casing Record:

Casing length:	19.5m
Casing setting:	0.6m above grade to 18.9m below grade
Casing diameter:	15.88cm ID
Wall thickness:	0.48cm
Material:	steel
Bedrock Open Hole:	18.9 to 61.0m
Annular Seal:	Bentonite slurry from grade to 15.9m Neat cement from 15.9m to 18.9m

2.2 Test Well 2 (Central):

The following information is derived from the water well record prepared by the drilling contractor, Canadian Soil Drilling. A copy of the water well record is included in the appendix. Figures 1 and 2 show the location of the well.

Date of construction: May 2012

Contractor's Log of Formations Penetrated:

Depth (m)	Materials
0 - 4.9	clay with boulders
4.9 - 14.6	sand and gravel with boulders
14.6 - 51.8	grey limestone
51.8 - 57.9	grey limestone with white sandstone

Water was reported by the contractor to have been located in the limestone with sandstone below a depth of 52.1m.

Casing Record:

Casing length:	18.9m
Casing setting:	0.6m above grade to 18.3m below grade
Casing diameter:	15.88cm ID
Wall thickness:	0.48cm
Material:	steel
Bedrock Open Hole:	18.3 to 57.9m
Annular Seal:	Bentonite slurry from grade to 15.2m Neat cement from 15.2m to 18.3m

2.3 Test Well 3 (West):

The following information is derived from the water well record prepared by the drilling contractor, Canadian Soil Drilling. A copy of the water well record is included in the appendix. Figure 2 shows the location of the well.

Date of construction: May 2012

Contractor's Log of Formations Penetrated:

Depth (m)	Materials
0 - 6.1	clay with boulders
6.1 - 15.9	sand and gravel with boulders
15.9 - 43.9	grey limestone
43.9 - 48.2	grey limestone with white sandstone

48.2 - 54.9 white sandstone

Water was reported by the contractor to have been located in the grey limestone at a depth of 32.3m and in the sandstone below a depth of 53.0m.

Casing Record:

Casing length:	20.1m
Casing setting:	0.6m above grade to 19.5m below grade
Casing diameter:	15.88cm ID
Wall thickness:	0.48cm
Material:	steel
Bedrock Open Hole:	19.5 to 54.9m
Annular Seal:	Bentonite slurry from grade to 16.5m Neat cement from 16.5m to 19.5m

2.4 Production Well (TW1-14):

The following information is derived from the water well record prepared by the drilling contractor, Canadian Soil Drilling. A copy of the water well record is included in the appendix. Figures 1 and 2 show the location of the well.

Date of construction: August 2014

Contractor's Log of Formations Penetrated:

Depth (m)	Materials
0 - 9.8	clay with sand and boulders
9.8 - 14.9	sand and gravel with boulders
14.9 - 45.1	grey limestone
45.1 - 61.0	white sandstone with grey limestone
61.0 - 87.5	white sandstone with grey limestone, fractured

Water was reported by the contractor to have been located in the limestone at a depth of 36.6m, and in the sandstone at 51.8m and below a depth of 61.0m.

Casing Record:

Casing length:	61.0m
Casing setting:	grade to 61.0m below grade
Casing diameter:	15.56cm ID
Wall thickness:	0.53cm
Material:	steel
Bedrock Open Hole:	61.0 to 87.5m

Annular Seal:	Bentonite slurry from grade to 15.2m Neat cement from 15.2m to 50.3m Bentonite chips from 50.3m to 60.1m Neat cement from 60.1m to 61.0m

2.5 Standby Production Well (TW2-14):

The following information is derived from the water well record prepared by the drilling contractor, Canadian Soil Drilling. A copy of the water well record is included in the appendix. Figures 1 and 2 show the location of the well.

Date of construction: August 2014

Contractor's Log of Formations Penetrated:

Depth (m)	Materials
0 - 9.8	clay with sand and boulders
9.8 - 14.9	sand and gravel with boulders
14.9 - 45.1	grey limestone
45.1 - 61.0	white sandstone with grey limestone
61.0 - 87.5	white sandstone with grey limestone, fractured

Water was reported by the contractor to have been located in the limestone at a depth of 36.6m, and in the sandstone at 51.8m and below a depth of 60.4m.

Casing Record:

Casing length:	60.4m
Casing setting:	grade to 60.4m below grade
Casing diameter:	15.56cm ID
Wall thickness:	0.53cm
Material:	steel
Bedrock Open Hole:	60.4 to 87.5m
Annular Seal:	Bentonite slurry from grade to 24.4m Neat cement from 15.2m to 50.0m Bentonite chips from 50.0m to 60.4m

3.0 2015 WELL TESTING

The 24-hour pumping test of TW1-14 was conducted under the authorization of Permit to Take Water 3732-9RPKRR, a copy of which is included in the appendix. As required by Condition of 4.3 of the Permit, written notification of the pumping test, including contact information (telephone, email and on-site staff information) and a request for written permission to observe off-site wells, was delivered by hand to all properties within 300m of TW1-14 during the evening of June 8, 2015.

Only one property owner within the 300m radius notification area (7090 Marco Street) provided written permission (by email) to the written request for permission to observe off-site wells. On June 10, 2015, prior to the commencement of the pumping test, staff of Wilson Associates and the well testing contractor (Alliston Pump Service & Water Treatment Inc.) visited 7090 Marco Street to attempt to commence monitoring of this well. The drilled well at 7090 Marco Street was found to be situated in a 0.9m diameter, approximately 1.5m deep concrete well pit (with a 0.3m diameter access lid), with the drilled well situated at the base of the well pit under several layers of fibreglass insulation. After removing the insulation, the drilled well was observed to be equipped with a deep well jet pump and well seal, and with no accessible vent, could not be accessed for monitoring without disrupting the supply. Accordingly, the well was determined to be unobservable and the homeowner advised.

For the 24-hour pumping test of TW1-14, Alliston Pump Service & Water Treatment Inc. installed and operated all well testing equipment, including installation of the test pump and all dataloggers.

3.1 Production Well (TW1-14) Pumping Test:

TW1-14 was subjected to a 24-hour pumping test on June 10 and 11, 2015 at a rate of 225L/min. Water levels were observed on a regular basis during pumping and for an extended 6-day period of recovery following the conclusion of pumping. Water levels were also observed on a regular basis during pumping in TW2-14, TW1, TW2 and TW3. Water levels were observed using electronic water level meters in all wells, and submersible pressure transducers/dataloggers (with barometric compensation) in TW1-14 (recovery only), TW1, TW2 and TW3. The pumping rate was monitored using a calibrated container. Water was discharged approximately 30m downslope to the south and allowed to flow as sheet flow to a low area of the property near TW2.

Figure 3 is a semi-logarithmic plot of the test results showing the drawdown of the water level in TW1-14 versus the elapsed time from the start of pumping and residual drawdown versus the ratio of time from the start of pumping to the time from the end of pumping (ratio t/t'). Figure 4 is a 7-day plot of the change of water level in the well versus the elapsed time from the start of pumping. All manual pumping test data are included in the appendix.

The water level in TW1-14 lowered 0.92m during the first minute of pumping at 225L/min and assumed a slightly steepening shallow downward trend, which began to moderate after about 10 minutes. By about 40 minutes, a steady shallow downward trend was established, this downward trend lasting the balance of the 1440 minute pumping test.

The final water level in TW1-14 was 17.77 metres below grade, or approximately 43m above the base of the well casing. Total water level drawdown was 3.62m, which represents about 8% of the available drawdown in the well above the base of the well casing (46.9m). For wells completed in the bedrock, it is recommended where possible that the water level in the well be maintained above the base of the well casing.

Following the conclusion of pumping, the water level rose to the original static water level (100% recovery) within about 850 minutes of the conclusion of pumping. As shown by Figures 3 and 4, the water level in TW1-14 continued to rise after the recovery period, eventually reaching about 0.6m above the original static level 3 to 4 days after the conclusion of pumping. Included in the appendix is a summary of Environment Canada daily precipitation data from the nearby Ottawa Airport for May and June 2015. Following a relatively dry month of May, between June 8 and June 12, 48.8mm of rainfall is reported in the area (or about 49% of the monthly total rainfall for June). The water level rise during and after the pumping test period is most likely attributable to significant rainfall in the area during the testing and recovery period following a dry period.

A total of approximately 324,000 litres of water were pumped from TW1-14 during the 24-hour testing program. It is understood that the average day design flow for the development is about 69,000L/day and that maximum day design demand is about 103,000L/day. Accordingly, approximately 4.7 times the average day flow and approximately 3.1 times the maximum day design flow was withdrawn from TW1-14 during the 24 hour pumping test.

3.2 Well Testing Summary:

	TW1-14
Dates of Tests	June 10 and 11, 2015
Test Duration (Hours)	24 hours
Static Water Level (m below grade)	14.15
Water Level Drawdown (m)	3.62
Final Pumping Level (m below grade)	17.77
Pumping Rate (L/min)	225
Final Specific Capacity (L/min/m)	62
Depth to Base of Well Casing (m)	61
Final Water Level Above Base of Well Casing (m)	43.23
Available Drawdown Above Base of Well Casing (m)	46.9
Available Drawdown Used (%)	8%
Coefficient of Transmissivity (m^2/day)	79
Coefficient of Storage (dimensionless)	$1x10^{-5}$ at TW2-14 $1x10^{-5}$ at TW1 $4x10^{-6}$ at TW2 $7x10^{-6}$ at TW3
Safe Yield (L/day)	225L/min

Notes:

i The coefficient of transmissivity was calculated using the Cooper and Jacob modified nonequilibrium method, with a TW1-14 drawdown extrapolation from 20-1440 minutes.

ii The coefficient of storage values were determined using the Cooper and Jacob modified nonequilibrium equation. For TW2-14 a zero drawdown intercept of 0.04 minutes (T= 79m^2/day, 5.8m distance) was utilized, for TW1 a zero drawdown intercept of 6 minutes (T=79m^2/day, 231m distance) was utilized, for TW2 a zero drawdown intercept of 0.8 minutes (T=79m^2/day, 154m distance) was utilized, and for TW3 a zero drawdown intercept of 12 minutes (T=79m^2/day, 450m distance) was utilized.

Based on similar well construction and very close proximity, TW2-14 is expected to exhibit very similar performance and water quality to TW1-14. TW2-14 is recommended as a standby/alternate source for TW1-14.

3.3 Interference:

Table 1 (appendix) provides a summary of all off-site wells plotted by the Ministry of the Environment and Climate Change (MOECC) water well record database within 300m of TW1-14. The estimated locations of these wells are shown on Figure 2. There are 28 off-site wells plotted within 300m of TW1-14, all except one located to the south of TW1-14, at a distance of greater than 170m. Of the 28 off-site wells, six are reported to be completed in the overburden, nineteen reported in limestone (occasional shale and sandstone) of the upper bedrock, and two reported in the sandstone of the lower bedrock. Accordingly, only two plotted off-site wells within 300m of TW1-14 are completed in the same aquifer as TW1-14 (the Nepean sandstones).

As outlined above, following the distribution of a contact letter more than 24 hours in advance of the pumping test, written permission was not provided by any off-site well owners except for 7090 Marco Street to the southeast, which was found to be unobservable.

During the 24-hour pumping test of TW1-14, water levels were observed on a regular basis in TW2-14 using an electronic water level meter and on a continuous basis in TW1, TW2 and TW3 using submersible pressure transducers/dataloggers (barometrically compensated). Figures 5 through 11 provides the water level observation data as semi-logarithmic plots of drawdown and residual drawdown (Figures 5, 6, 8 and 10) and as extended linear plots of water level change (Figures 7, 9 and 11). Figure 12 is a plot of barometric observations through the pumping test period.

The following summarizes the water level response in the observed wells:

Observed Well	Distance from TW1-14	Water Level Change at end of Pumping Test	Time for Full Water Level Recovery After Test
TW2-14	5.8m	-3.44m	850 minutes*
TW1	231m	-1.31m	~1480 minutes
TW2	154m	-1.69m	~1700 minutes
TW3	450m	-0.14m	~1800 minutes

* Based on water level recovery in adjacent TW1-14.

The recovery of the water level in TW1, TW2 and TW3 appears to have been delayed slightly by diurnal water level fluctuation (in the order of a few centimetres), which is most apparent in the water level plot for TW3 (see Figure 11).

As noted in Section 3.1, average day demand is estimated to be about 20% of the total groundwater withdrawal during the pumping test. Maximum day demand is estimated to be about 32% of the total groundwater withdrawal during the pumping test. The risk of adverse water level interference potential with off-site wells is considered to be low based on the following:

- All off-site wells within 300m of TW1-14, except two lower bedrock wells, are completed in the overburden and upper bedrock. As TW1-14 (and standby well TW2-14) are completed into the deep Nepean sandstone aquifer, with grouted casing extending to a depth of 60m to isolate the overburden aquifer and upper bedrock aquifer (Oxford dolostone aquifer) from the deep Nepean Aquifer, the risk of interference to wells completed in the upper bedrock and overburden is very low.

- Wells completed in the deep Nepean sandstone aquifer have in excess of 40m of available drawdown, and potential interference in the range of 1m is not considered to represent a risk of adverse impact.

- At 20% to 32% of withdrawal during the pumping test, interference potential in the deep Nepean sandstone at the closest possible off-site groundwater users (i.e. homes to the south at about 170m distance) from the development's projected average and maximum day water demand will be significantly less than observed by the conclusion of pumping. Depending on the development's daily water taking patterns, actual interference potential in wells completed in the Nepean Aquifer will be somewhat less than 1m.

- Even if some water level impact occurs to off-site wells completed in the upper bedrock and overburden aquifers due to slow leakage through the bedrock aquitard between the Oxford and Nepean Aquifers, or through local deep wells with shallow casing settings, as illustrated in Table 1 (appendix) all off-site wells within 300m of TW1-14 have sufficient available drawdown to withstand potential interference of 1m or less.

- Relatively rapid water level recovery following the pumping test indicates that in normal average day to maximum day demand use, water levels in the wells will recover rapidly between pumping cycles. The potential for cumulative long-term interference is therefore considered low.

4.0 WATER QUALITY

4.1 Bacteriological Water Quality:

Samples of water were collected from TW1-14 after one hour of pumping, and at the conclusion of the pumping test, and were submitted to Maxxam Analytics Inc. for bacteriological examination. The samples were collected in laboratory-supplied bottles, stored in an ice-packed cooler and submitted to the laboratory under chain of custody.

The samples collected from TW1-14 were reported to contain no detectable Total Coliform or E. Coli bacteria and acceptably low levels of background bacteria.

The bacteriological analytical results are included with the chemical analytical results in the appendix.

4.2 Chemical Water Quality:

Samples of water were collected from TW1-14 after one hour of pumping, and at the conclusion of the pumping test, and were submitted to Maxxam Analytics Inc. for an analysis of general chemistry parameters. The samples were collected in laboratory-supplied bottles, stored in ice-packed coolers and submitted to the laboratory under chain of custody.

The water from TW1-14 is alkaline, with a pH value of 7.94 to 8.02. The water from the s exhibits moderate hardness, with a hardness value of 270 to 280 mg/L as $CaCO_3$. These pH and hardness values are typical for groundwater in southern Ontario.

The sodium content of the water from TW1-14 at 53 to 56mg/L exceeds the level at which physicians for persons on sodium-restricted diets should be notified (20mg/L), which normally occurs through notification of the Health Unit. This is not uncommon for groundwater in southern Ontario. The sodium content of the water from TW1-14 is well below the aesthetic ODWQS of 200mg/L.

All other chemical parameters analysed were within applicable Ontario Drinking Water Quality standards.

A copy of the laboratory analytical results is included in the appendix.

5.0 SHALLOW GROUNDWATER CONDITIONS

At the request of the City of Ottawa, previously-installed shallow monitoring wells that were sampled for groundwater nitrate content in 2012 (see July 18, 2012 Wilson Associates Hydrogeologic Evaluation) were re-sampled on June 10, 2015 to conduct shallow groundwater analyses for ammonia, total Kjeldahl nitrogen, nitrite and nitrate.

On June 10, 2015, the three previously-installed shallow monitoring wells (BAE Boreholes BH2, BH5 and BH6, see Figure 12) were each purged of more than three casing volumes of water using a bailer and were sampled for ammonia, total Kjeldahl nitrogen, nitrite and nitrate. The samples were collected in laboratory-supplied bottles, stored in an ice-packed cooler and submitted to Maxxam Analytics Inc. under chain of custody. The analytical results are included with the TW1-14 1-hour laboratory analytical results in the appendix. The following summarizes the 2012 and 2015 analytical results for the shallow groundwater samples:

	Ammonia (mg/L as N)	TKN (mg/L)	Nitrite (mg/L as N)	Nitrate (mg/L as N)
BH2 (2012)	--	--	--	<0.1
BH2 (2015)	6.6	10.0	<0.01	<0.1
BH5 (2012)	--	--	--	0.20
BH5 (2015)	1.2	1.8	0.022	<0.1
BH6 (2012)	--	--	--	0.31
BH6 (2015)	0.51	1.2	0.032	0.68

6.0 MONITORING AND CONTINGENCY

Implementation of a water level monitoring program is advisable to ensure that long-term withdrawals from the deep bedrock aquifer do not exceed the rate of recharge to the aquifer. Information gathered from the well testing program indicates that the impact of proposed long-term withdrawals on the aquifer will be acceptable. A monitoring program is also advisable as a best management practice in order that adequate background data are available in the unlikely event that a complaint of off-site water level interference is received. The program should consist of the monthly monitoring of the water level in either TW1-14 or TW2-14, preferably in the well that is non-operational at the time of observation, and also at a time least likely to reflect short-term daily drawdown, such as early morning.

In the event of a valid complaint of water supply disruption, the City and MOECC must be immediately notified. Data from the monitoring program should be evaluated by a qualified hydrogeologist and compared with the complainant's water level, well construction and pump setting. If the water supply disruption is found by the

hydrogeologic review, the City or the MOECC to be a result of withdrawals from TW1-14/TW2-14, the quality and quantity of water of the complainant's water supply must be restored at the developer's expense.

Wells completed in the upper and lower bedrock aquifers have considerable available drawdown, and most modern well records indicate more than sufficient well yields for domestic use (see Table 1 in appendix). Pump intake lowering is a viable remedial option in most cases of interference complaints. For shallower wells completed in the uppermost bedrock, well deepening is also a viable remedial option.

7.0 CONCLUSIONS AND RECOMMENDATIONS

1. TW1-14 has a safe yield of 225L/min, and is more than capable of supplying the average day design flow for the development of 69,000L/day and the maximum day design flow of 103,000L/day.

2. Based on similar well construction and very close proximity, TW2-14 is expected to exhibit very similar performance and water quality to TW1-14. TW2-14 is recommended as a standby/alternate source for TW1-14.

3. A Permit to Take Water will be required if the actual rate of withdrawal from TW1-14 and TW2-14 exceed 50,000L/day.

4. The bacteriological quality of the water from TW1-14 is acceptable.

5. The chemical quality of the water from TW1-14 is acceptable. The local medical officer of health should be notified of the slightly elevated sodium content of the water from TW1-14.

6. Observed interference during testing and rapid water level recovery following testing is considered to represent a low risk of disruptive off-site water level interference. A best management monitoring and contingency plan is detailed in Section 6.0 of this report.

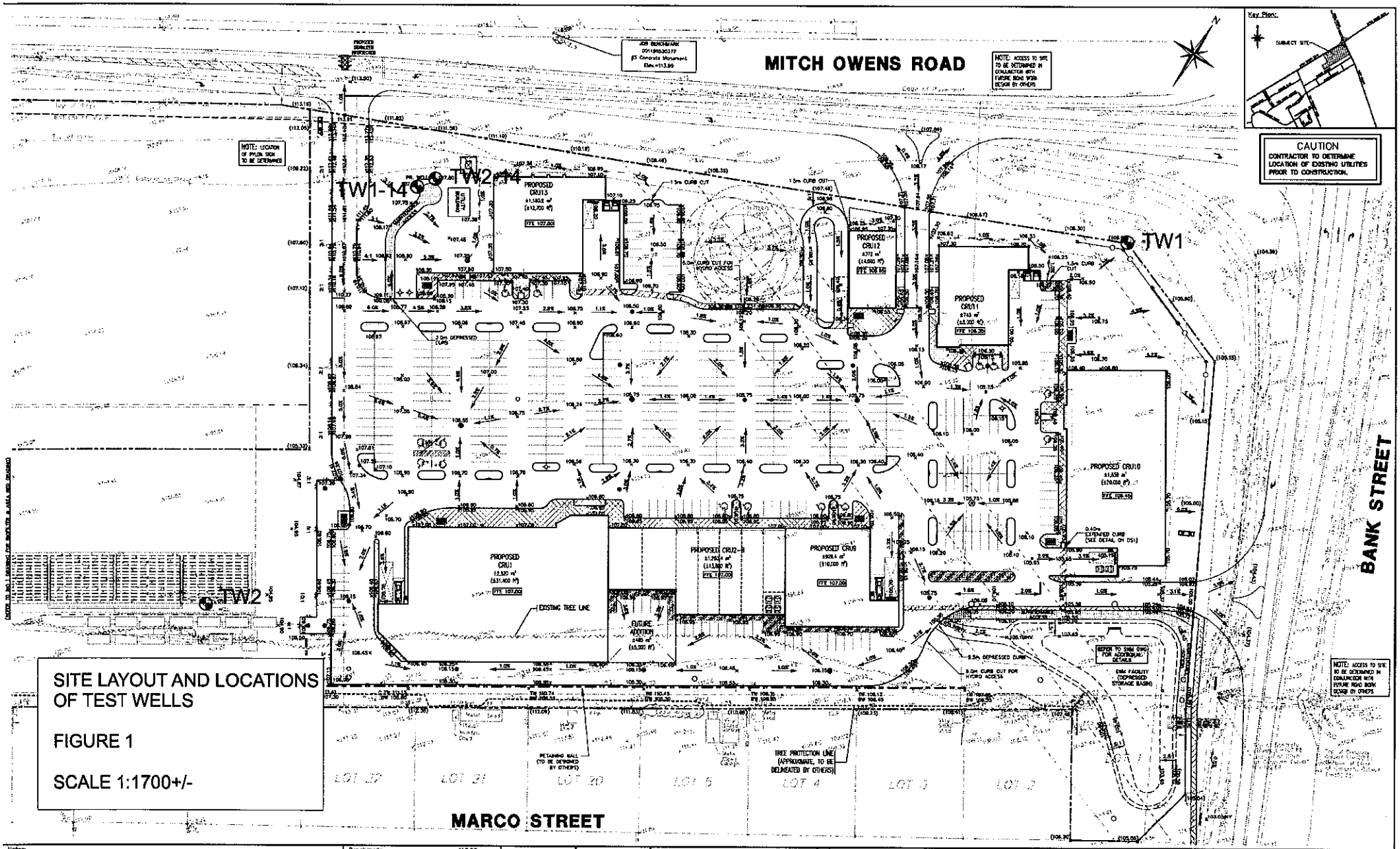
7. TW1, TW2 and TW3 must be abandoned in accordance with Ontario Regulation 903 if no further use is proposed for these wells.

IAN D. WILSON ASSOCIATES LIMITED

Geoffrey Rether, B.Sc., P.Geo.

July 22, 2015

FIGURES AND APPENDIX



SITE LAYOUT AND LOCATIONS OF TEST WELLS

FIGURE 1

SCALE 1:1700+/-

Notes:

1. Unless noted otherwise, the measurements and distances shown on this drawing are shown in metres.
2. Do not scale drawings.
3. It is the contractor's responsibility to verify all dimensions, levels and datums on site and report any discrepancies or omissions to WM A Associates Ltd. prior to construction.
4. This drawing is to be read and understood in conjunction with all other relevant documents applicable to this project.
5. This drawing is the exclusive property of WM A Associates Ltd. and the reproduction of any part of this document without prior written consent is strictly prohibited.

Benchmark: 113.98

#3 CONCRETE MONUMENT (0011965303777). NORTH SIDE OF MITCH OWENS ROAD APPROXIMATELY 250m WEST OF THE INTERSECTION OF MITCH OWENS ROAD AND BANK STREET.

DRAFT

No.	Issue / Revision	Date
1	City Pre-Consultation Meeting	July 5, 2013
2	1st Submission	Feb. 4, 2014
3	1st Submission (updated)	May 14, 2014
4	2nd Submission	xxx

Gravely Commercial Center

GRADING PLAN

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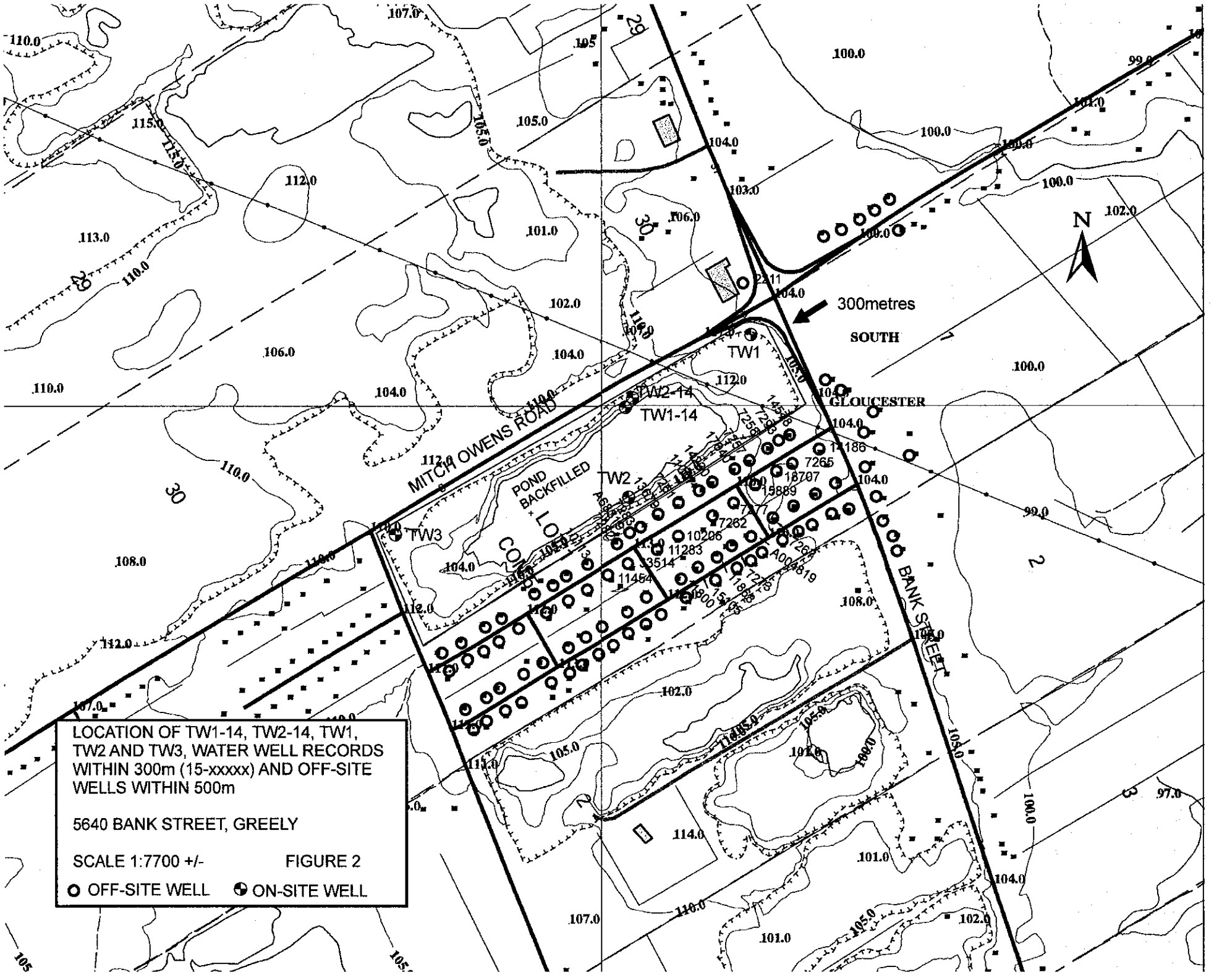
www.wmaengineering.ca

Drawn By	Checked By	Drawing No.
TG	JWL	GR
Scale: 1:500	Project No. 11-183	


MITCH OWENS ROAD
BANK STREET
POND BACKFILLED
TW1
TW1-14
TW2
TW2-14
TW3
300metres
SOUTH
GLOUCESTER
N
LOCATION OF TW1-14, TW2-14, TW1, TW2 AND TW3, WATER WELL RECORDS WITHIN 300m (15-xxxxx) AND OFF-SITE WELLS WITHIN 500m
5640 BANK STREET, GREELY
SCALE 1:7700 +/-
FIGURE 2
OFF-SITE WELL
ON-SITE WELL

5640 BANK STREET, GREELY
Test Well 1-14 Pumping Test

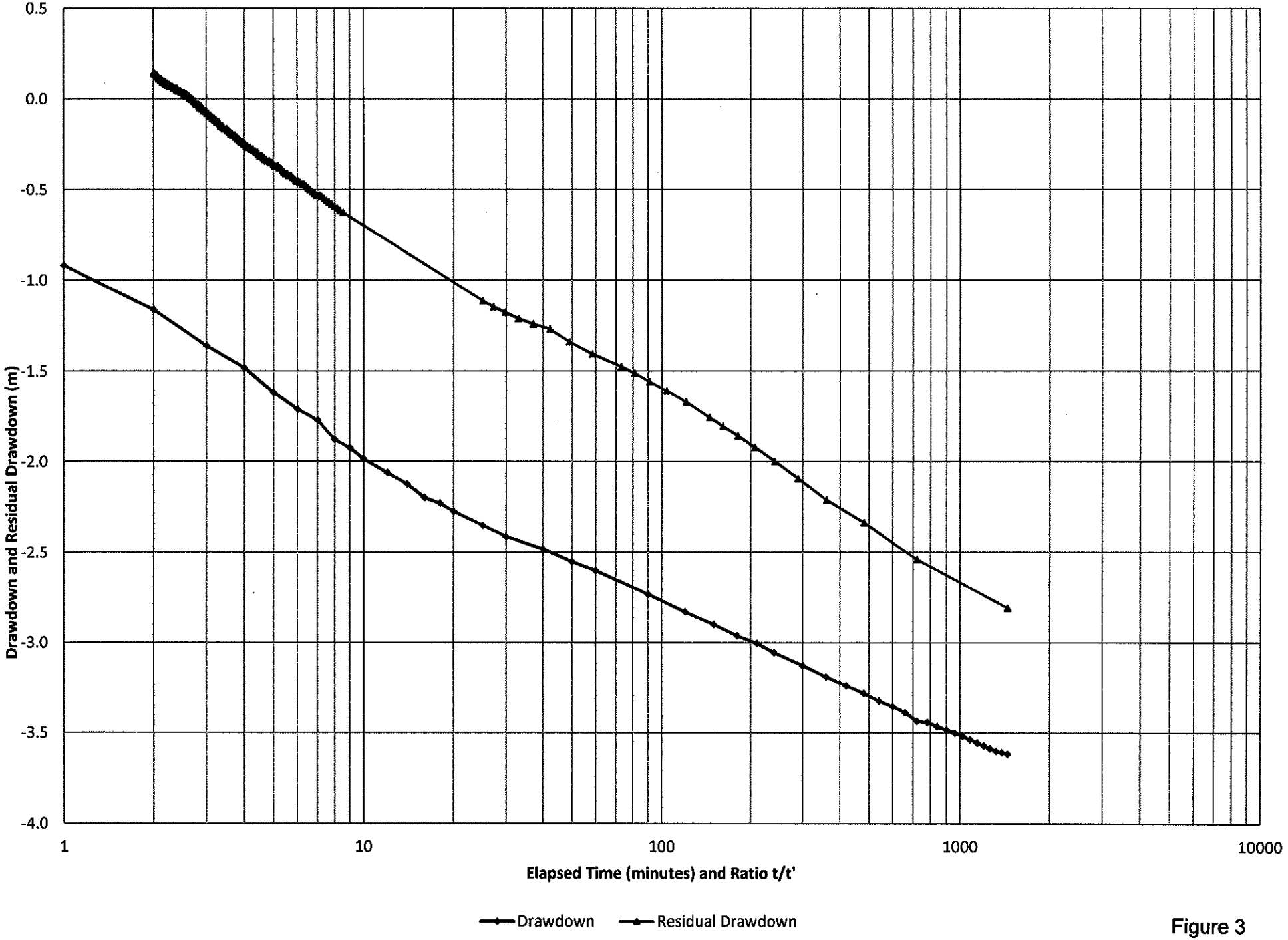


Figure 3

5640 BANK STREET, GREELY
Test Well 1-14 Pumping Test

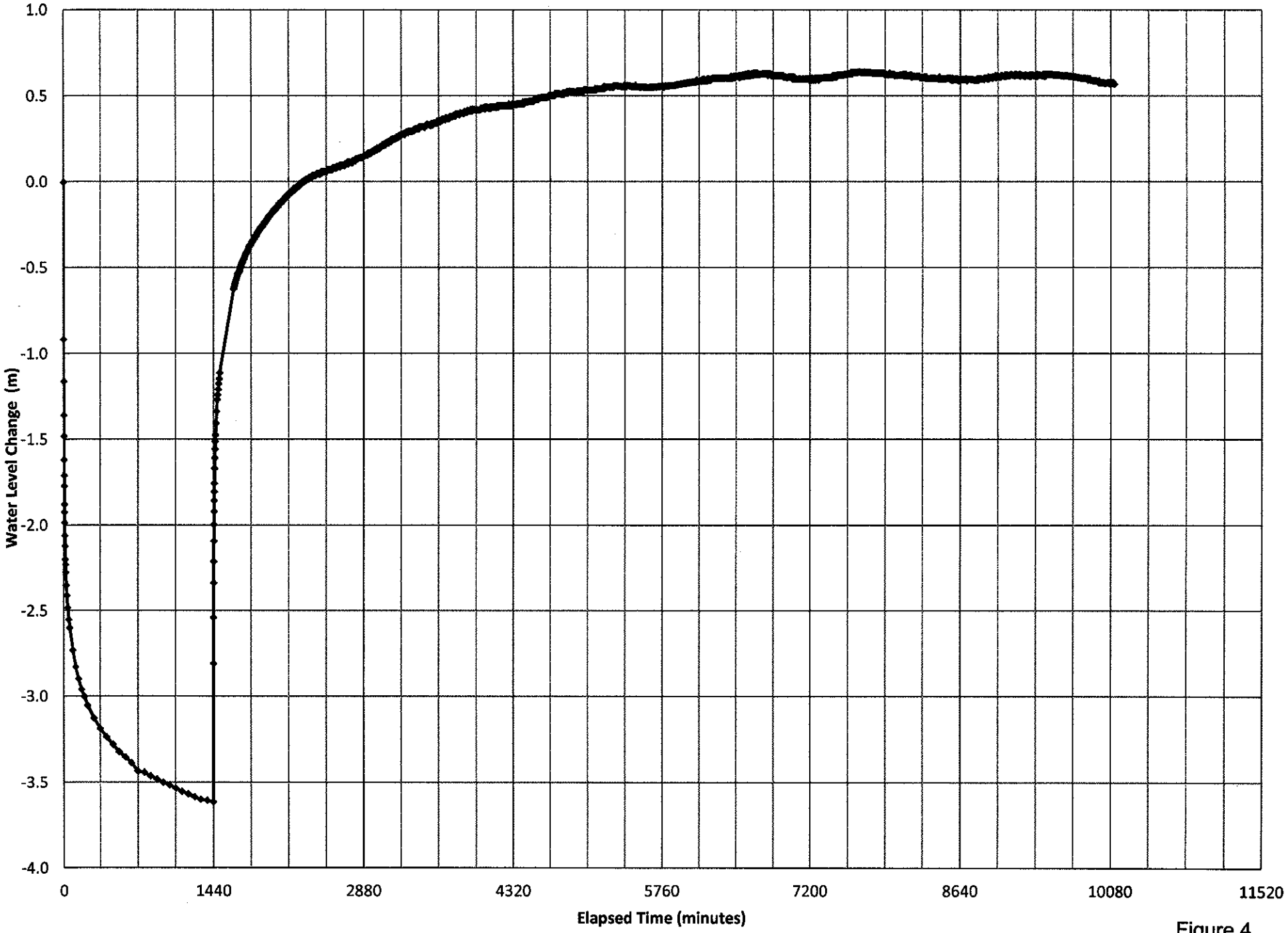


Figure 4

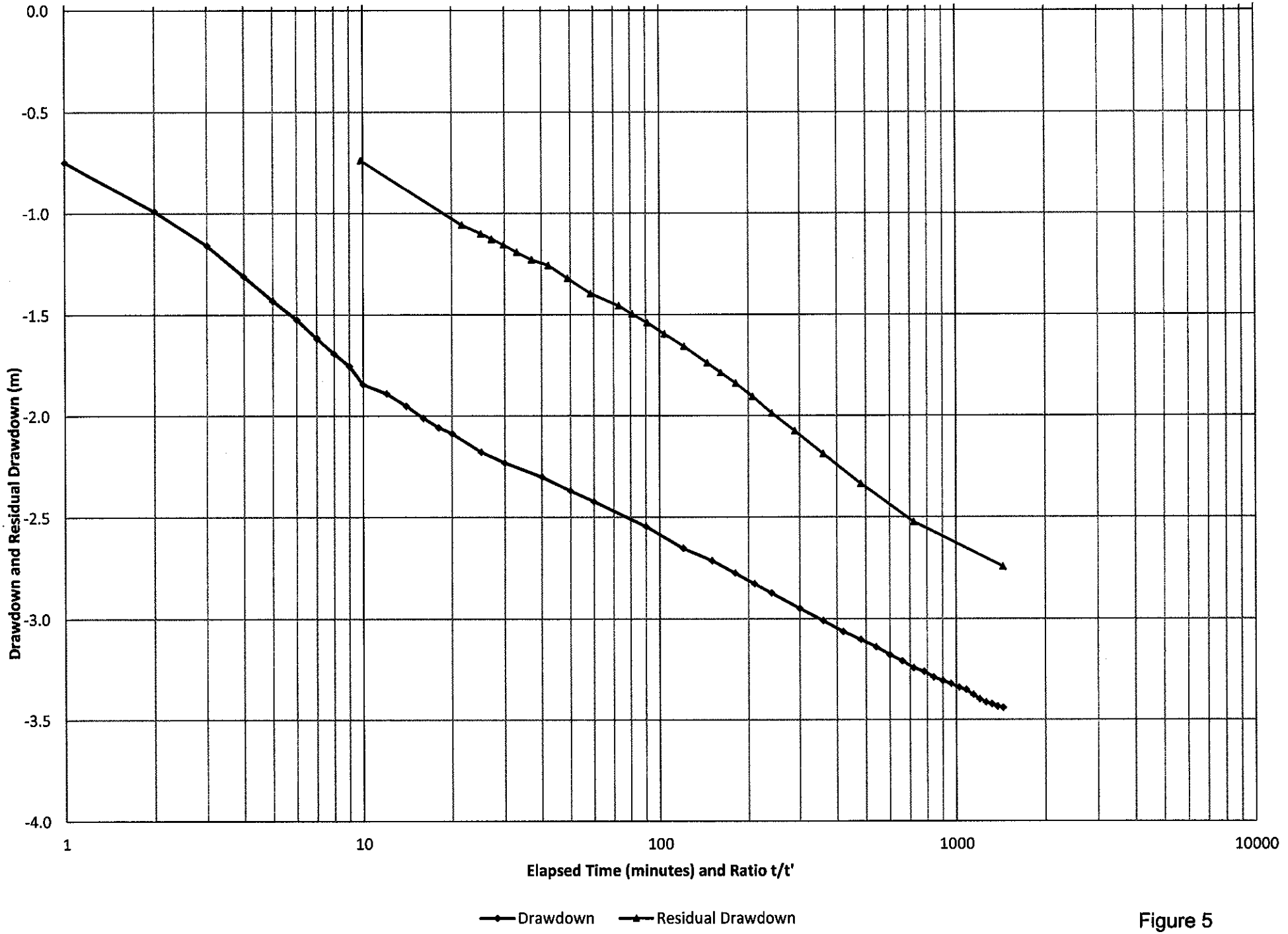

5640 BANK STREET, GREELY
Test Well2-14 as Observation Well
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-4.0
Drawdown and Residual Drawdown (m)
1
10
100
1000
10000
Elapsed Time (minutes) and Ratio t/t'
Drawdown
Residual Drawdown

Figure 5

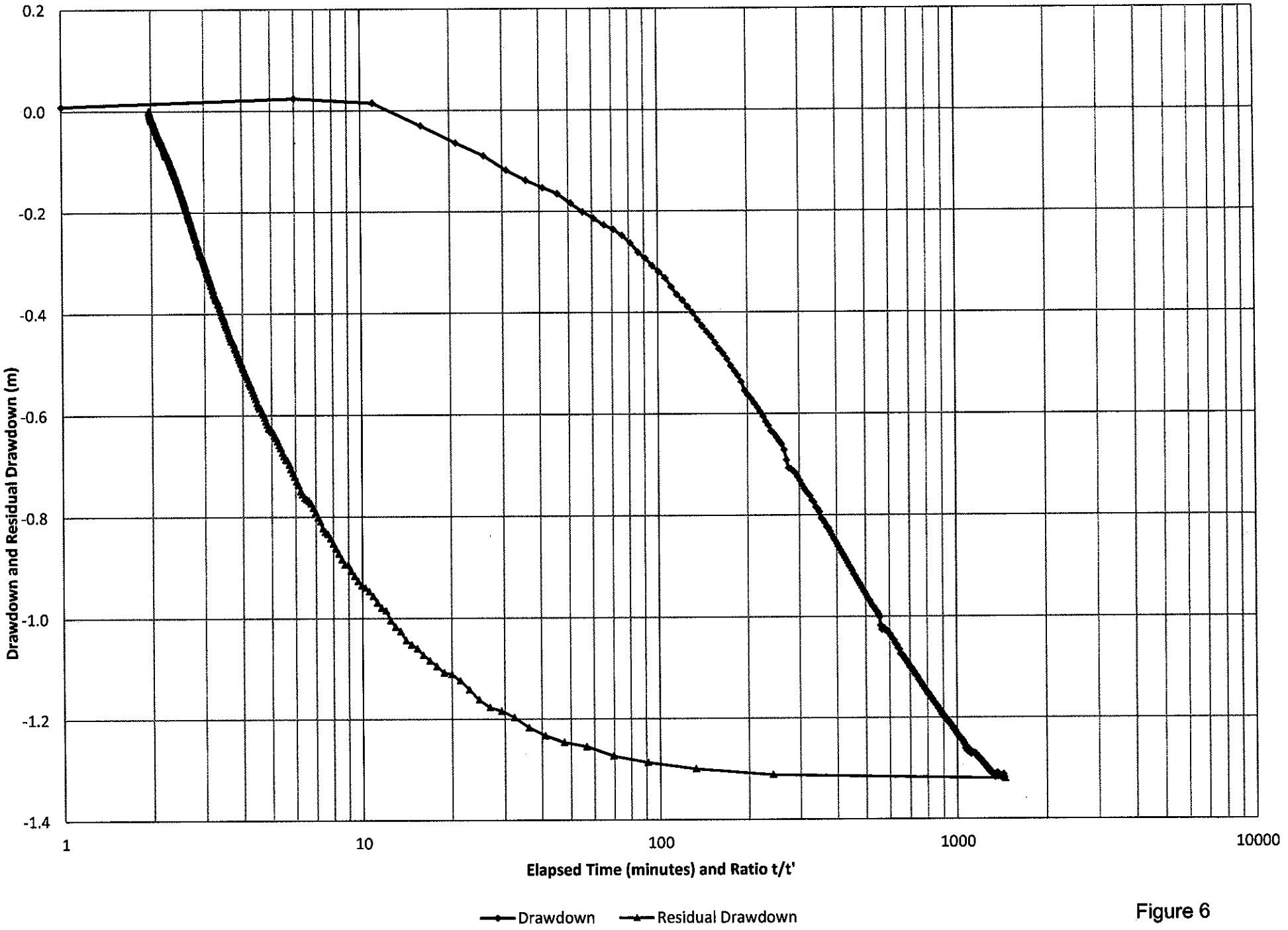

5640 BANK STREET, GREELY
Test Well 1 as Observation Well
0.2
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
Drawdown and Residual Drawdown (m)
1
10
100
1000
10000
Elapsed Time (minutes) and Ratio t/t'
Drawdown
Residual Drawdown

Figure 6

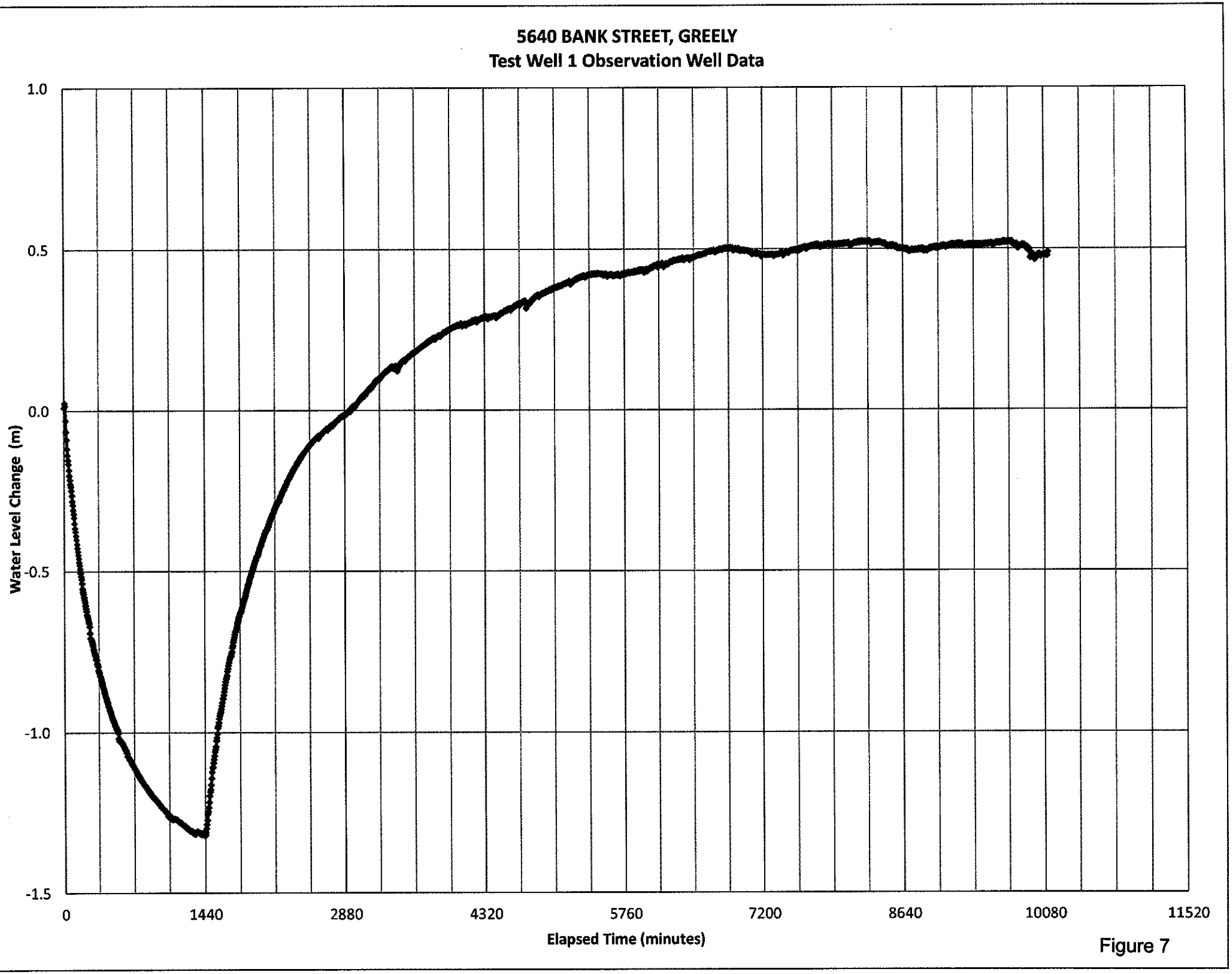

5640 BANK STREET, GREELY
Test Well 1 Observation Well Data
1.0
0.5
0.0
-0.5
-1.0
-1.5
Water Level Change (m)
0
1440
2880
4320
5760
7200
8640
10080
11520
Elapsed Time (minutes)

Figure 7

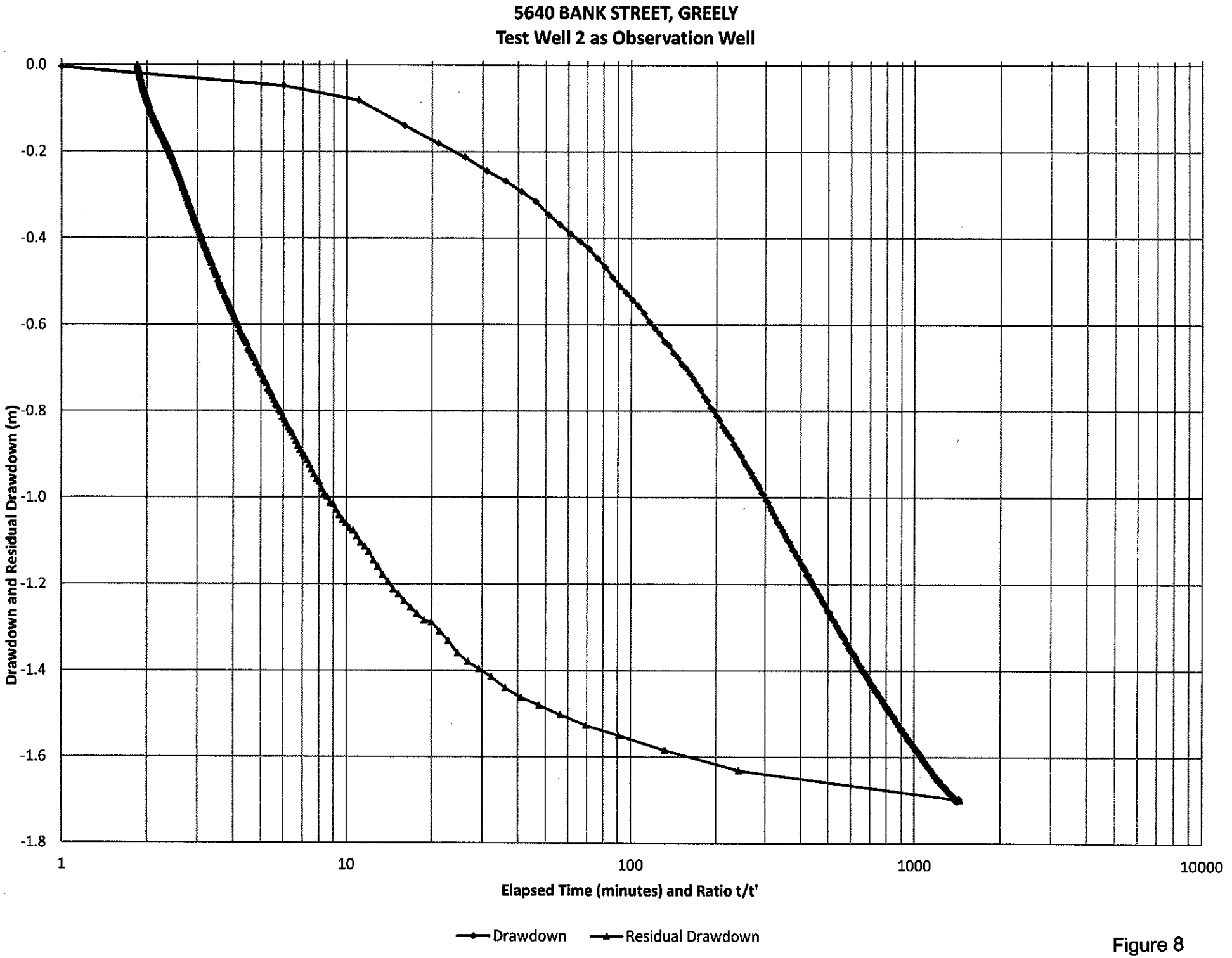

5640 BANK STREET, GREELY
Test Well 2 as Observation Well
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
-1.6
-1.8
Drawdown and Residual Drawdown (m)
1
10
100
1000
10000
Elapsed Time (minutes) and Ratio t/t'
Drawdown
Residual Drawdown

Figure 8

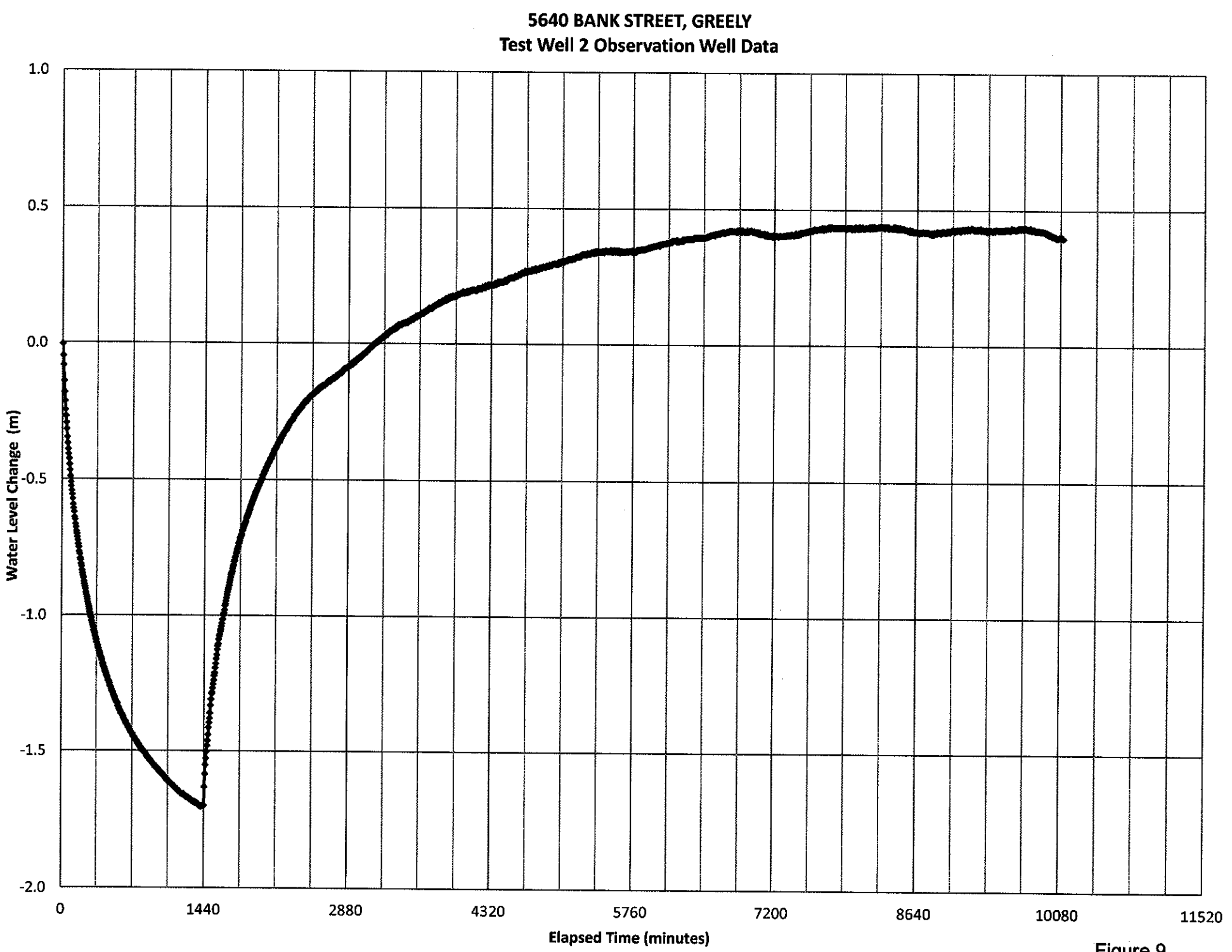

5640 BANK STREET, GREELY
Test Well 2 Observation Well Data
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
Water Level Change (m)
0
1440
2880
4320
5760
7200
8640
10080
11520
Elapsed Time (minutes)

Figure 9

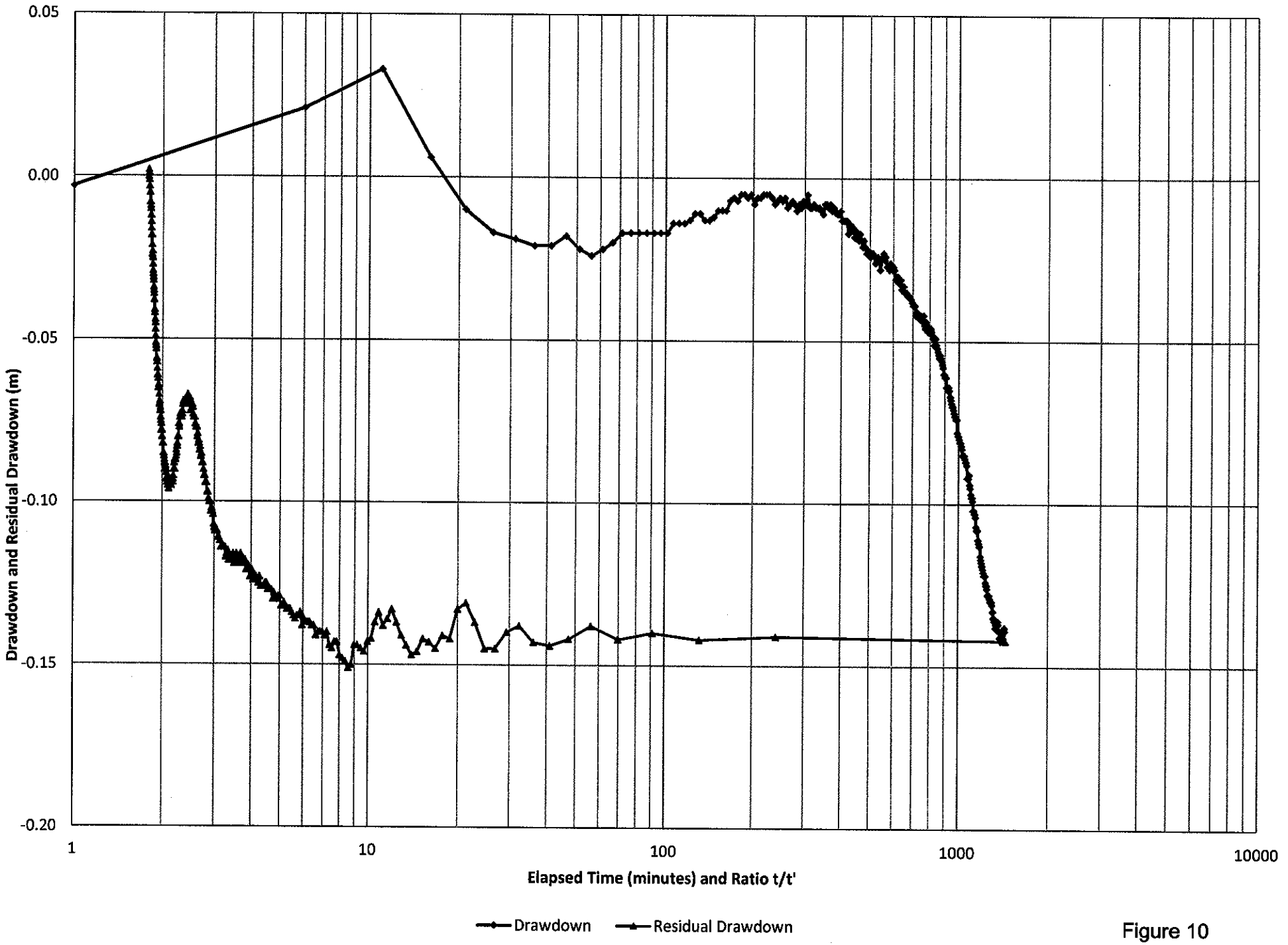

5640 BANK STREET, GREELY
Test Well 3 as Observation Well
0.05
0.00
-0.05
-0.10
-0.15
-0.20
Drawdown and Residual Drawdown (m)
1
10
100
1000
10000
Elapsed Time (minutes) and Ratio t/t'
Drawdown
Residual Drawdown

Figure 10

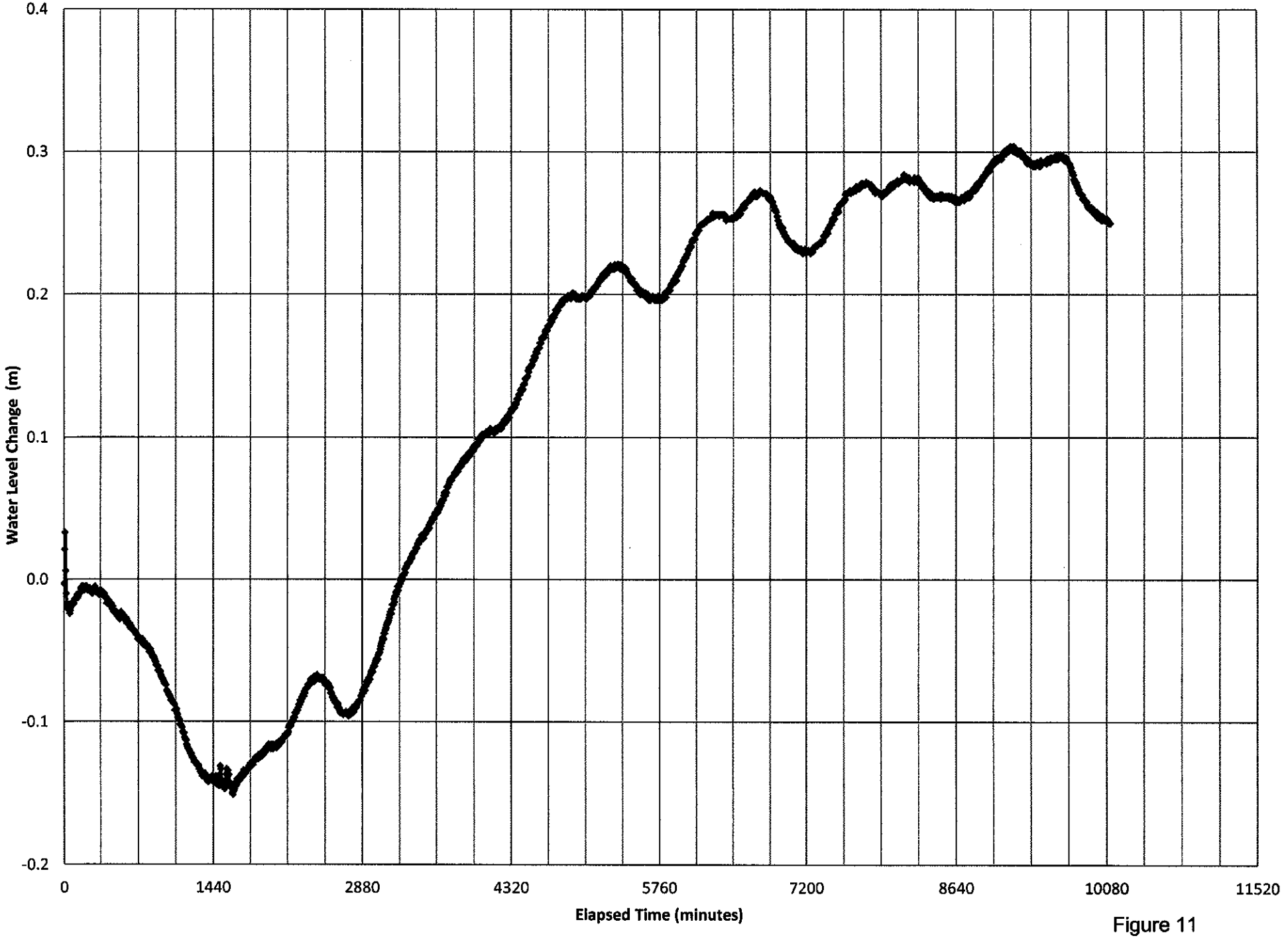

5640 BANK STREET, GREELY
Test Well 3 Observation Well Data
0.4
0.3
0.2
0.1
0.0
-0.1
-0.2
Water Level Change (m)
0
1440
2880
4320
5760
7200
8640
10080
11520
Elapsed Time (minutes)

Figure 11

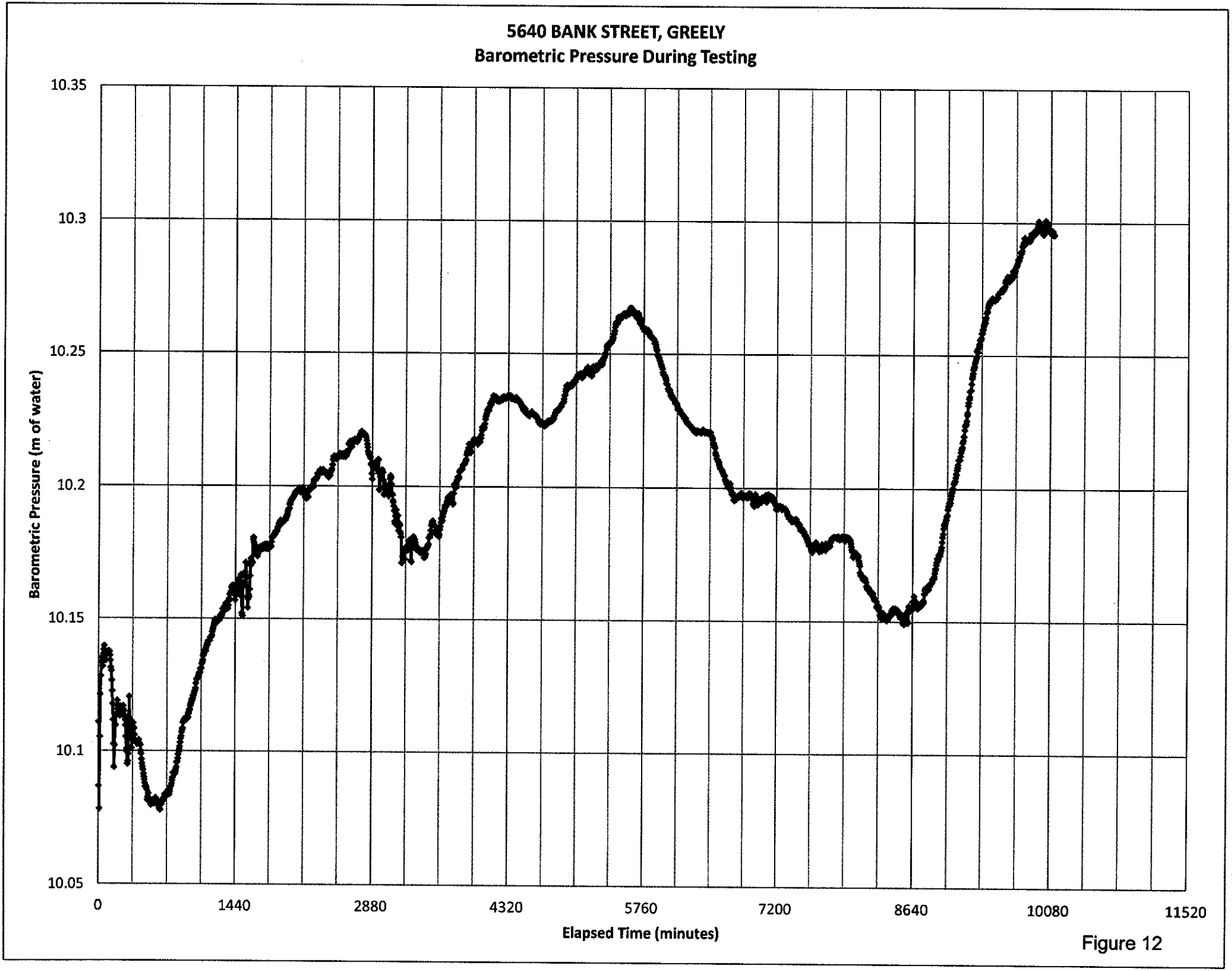
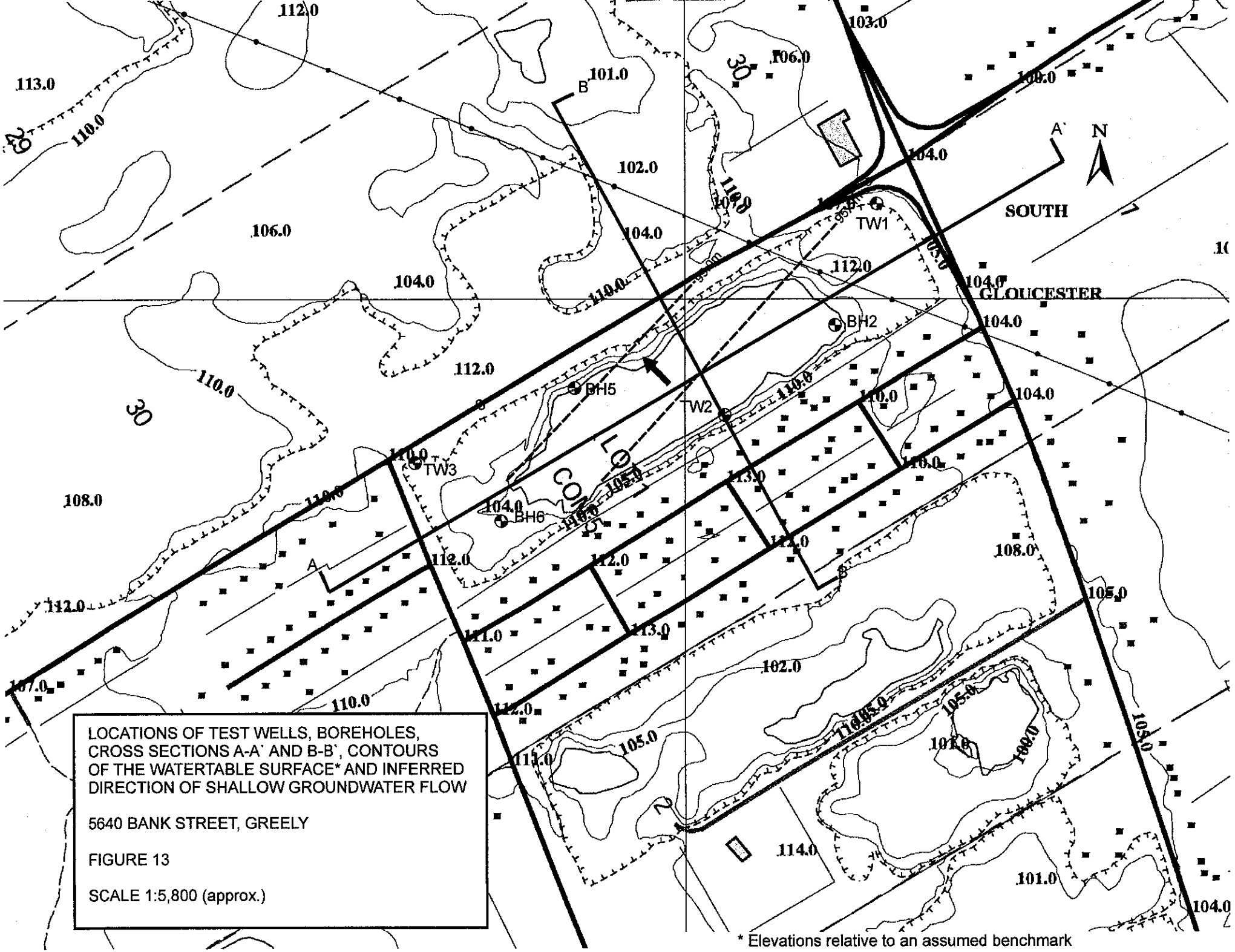

5640 BANK STREET, GREELY
Barometric Pressure During Testing
Barometric Pressure (m of water)
10.35
10.3
10.25
10.2
10.15
10.1
10.05
0
1440
2880
4320
5760
7200
8640
10080
11520
Elapsed Time (minutes)

Figure 12


LOCATIONS OF TEST WELLS, BOREHOLES, CROSS SECTIONS A-A` AND B-B`, CONTOURS OF THE WATERTABLE SURFACE* AND INFERRED DIRECTION OF SHALLOW GROUNDWATER FLOW
5640 BANK STREET, GREELY
FIGURE 13
SCALE 1:5,800 (approx.)
* Elevations relative to an assumed benchmark
SOUTH
GLOUCESTER
CONCESSION
TW1
TW2
TW3
BH2
BH5
BH6
A
A`
B
B`
N

Pumping Test Data
Test Well 1-14
Alium Investments (Greely) Limited
City of Ottawa

Dates of Test: June 10 and 11, 2015
Static Water Level: 15.19m below top of casing
Measuring Point Elevation: 1.04m (top of casing)
Pumping Rate: 225L/min
* Recovery shown as Ratio t/t'

		225L/min			
Elapsed	Recovery	Pumping	Water Level	Recovery	Residual
Time (minutes)*	Elapsed Time	Water Level	Drawdown	Water Level	Drawdown
	(minutes)	(m btoc)	(m)	(m btoc)	(m)
0		15.19	0.00		
1		16.11	-0.92		
2		16.35	-1.16		
3		16.55	-1.36		
4		16.67	-1.48		
5		16.81	-1.62		
6		16.90	-1.71		
7		16.96	-1.77		
8		17.07	-1.88		
9		17.11	-1.92		
10		17.18	-1.99		
12		17.25	-2.06		
14		17.31	-2.12		
16		17.39	-2.20		
18		17.42	-2.23		
20		17.47	-2.28		
25		17.54	-2.35		
30		17.60	-2.41		
40		17.67	-2.48		
50		17.74	-2.55		
60		17.79	-2.60		
90		17.92	-2.73		
120		18.02	-2.83		
150		18.09	-2.90		
180		18.15	-2.96		
210		18.19	-3.00		
240		18.25	-3.06		
300		18.32	-3.13		
360		18.38	-3.19		
420		18.43	-3.24		
480		18.47	-3.28		
540		18.51	-3.32		
600		18.54	-3.35		

660		18.58	-3.39		
720		18.62	-3.43		
780		18.63	-3.44		
840		18.65	-3.46		
900		18.67	-3.48		
960		18.69	-3.50		
1020		18.71	-3.52		
1080		18.73	-3.54		
1140		18.75	-3.56		
1200		18.76	-3.57		
1260		18.78	-3.59		
1320		18.79	-3.60		
1380		18.80	-3.61		
1440		18.81	-3.62		
1441	1			18.00	-2.81
721	2			17.73	-2.54
481	3			17.53	-2.34
361	4			17.40	-2.21
289	5			17.28	-2.09
241	6			17.19	-2.00
206.71	7			17.11	-1.92
181.00	8			17.05	-1.86
161.00	9			17.00	-1.81
145.00	10			16.95	-1.76
121.00	12			16.86	-1.67
103.86	14			16.80	-1.61
91.00	16			16.75	-1.56
81.00	18			16.70	-1.51
73.00	20			16.67	-1.48
58.60	25			16.60	-1.41
49.00	30			16.53	-1.34
42.14	35			16.46	-1.27
37.00	40			16.43	-1.24
33.00	45			16.40	-1.21
29.80	50			16.37	-1.18
27.18	55			16.34	-1.15
25.00	60			16.30	-1.11

Pumping Test Data
Test Well 2-14 as Observation Well
Alium Investments (Greely) Limited
City of Ottawa

Dates of Test: June 10 and 11, 2015
Static Water Level: 14.79m below top of casing
Measuring Point Elevation: 0.56m (top of casing)
Distance From TW1-14: 5.89m
* Recovery shown as Ratio t/t'

Elapsed Time (minutes)*	Recovery Elapsed Time (minutes)	Pumping Water Level (m btoc)	Water Level Drawdown (m)	Recovery Water Level (m btoc)	Residual Drawdown (m)
0		14.80	0.00		
1		15.54	-0.75		
2		15.79	-0.99		
3		15.96	-1.16		
4		16.11	-1.31		
5		16.23	-1.43		
6		16.32	-1.52		
7		16.41	-1.62		
8		16.49	-1.69		
9		16.55	-1.75		
10		16.64	-1.84		
12		16.69	-1.89		
14		16.75	-1.95		
16		16.81	-2.01		
18		16.86	-2.06		
20		16.89	-2.09		
25		16.98	-2.18		
30		17.03	-2.23		
40		17.10	-2.30		
50		17.17	-2.37		
60		17.22	-2.42		
90		17.34	-2.55		
120		17.45	-2.65		
150		17.51	-2.71		
180		17.57	-2.77		
210		17.63	-2.83		
240		17.67	-2.87		
300		17.75	-2.95		
360		17.81	-3.01		
420		17.86	-3.06		
480		17.90	-3.10		
540		17.94	-3.14		
600		17.98	-3.18		

660		18.01	-3.21		
720		18.04	-3.24		
780		18.06	-3.26		
840		18.09	-3.29		
900		18.11	-3.31		
960		18.12	-3.32		
1020		18.14	-3.34		
1080		18.15	-3.35		
1140		18.18	-3.38		
1200		18.20	-3.40		
1260		18.21	-3.41		
1320		18.22	-3.42		
1380		18.23	-3.44		
1440		18.24	-3.44		
1441	1			17.54	-2.74
721	2			17.32	-2.52
481	3			17.13	-2.33
361	4			16.99	-2.19
289	5			16.87	-2.08
241	6			16.79	-1.99
206.7	7			16.70	-1.91
181.0	8			16.64	-1.84
161.0	9			16.58	-1.79
145.0	10			16.54	-1.74
121.0	12			16.45	-1.66
103.9	14			16.39	-1.59
91.0	16			16.34	-1.54
81.0	18			16.29	-1.50
73.0	20			16.25	-1.46
58.6	25			16.19	-1.40
49.0	30			16.12	-1.32
42.1	35			16.05	-1.26
37.0	40			16.03	-1.23
33.0	45			15.99	-1.19
29.8	50			15.95	-1.16
27.2	55			15.93	-1.13
25.0	60			15.90	-1.10
21.6	70			15.86	-1.06
9.8	163			15.54	-0.74

TABLE 1
Water Well Record Summary
Off-Site Wells Plotted in MOECC Water Well Record Database Within 300m of TW1-14
Alium Investments (Greely) Limited, 5640 Bank Street, Ottawa

All Off-Site Wells between 170m and 300m from TW1-14

Well Record/ Well Tag Number	Year	Well Depth (m)	Static Water Level (m)	Pumping Water Level (m)	Drawdown (m)	Available Drawdown (m)	Test Yield (L/min)	Comment
Wells To North								
15-2241	1963	29.9	7.6	9.4	1.8	22.3	38	Upper bedrock (limestone) well
Wells To South								
15-7257	1957	31.4	12.2	13.7	1.5	19.2	11	Upper bedrock (limestone) well
15-7258	1957	30.2	12.2	27.4	15.2	18.0	11	Upper bedrock (shale) well
15-7262	1958	24.4	9.1	12.2	3.1	15.3	25	Upper bedrock (limestone) well
15-7265	1960	28.0	11.3	15.2	3.9	16.7	16	Overburden well
15-7267	1961	21.9	10.7	13.7	3.0	11.2	38	Upper bedrock (limestone) well
15-7277	1963	25.3	11.0	19.5	8.5	14.3	23	Upper bedrock (rock) well
15-7278	1962	30.5	5.5	13.4	7.9	25.0	11	Upper bedrock (limestone) well
15-7282	1965	27.4	12.5	12.5	0	14.9	38	Upper bedrock (limestone) well
15-7283	1966	27.8	12.5	16.8	4.3	15.3	23	Upper bedrock (limestone) well
15-7293	1967	15.8	7.0	9.1	2.1	6.7	38	Overburden Well
15-10206	1969	23.5	10.7	15.8	5.1	12.8	19	Overburden Well
15-11007	1970	24.4	10.7	15.2	4.5	13.7	38	Overburden Well
15-11283	1971	26.8	10.7	13.7	3.0	16.1	38	Upper bedrock (rock shaly) well

15-11454	1971	23.5	10.7	17.4	6.7	12.8	30?	Upper bedrock (limestone) well
15-11800	1972	22.9	7.6	9.1	1.5	15.3	45	Overburden Well
15-11868	1972	27.4	12.8	16.8	4.0	14.6	57	Overburden Well
15-13679	1973	30.5	14.3	16.8	2.5	16.2	76	Upper bedrock (limestone) well
15-14138	1974	68.6	21.3	53.3	32.0	47.3	30.3	Lower bedrock (sandstone) well
15-14186	1974	28.0	10.7	18.3	7.6	17.3	38	Upper bedrock (sandstone) well
15-14230	1974	21.9	1.5	6.1	4.6	20.4	76	Upper bedrock (limestone) well
15-14578	1975	24.4	12.2	18.3	6.1	12.2	189	Upper bedrock (limestone) well
15-15105	1975	31.4	9.1	18.3	9.2	22.3	95	Upper bedrock (limestone) well
15-15889	1977	27.4	12.2	12.2	0	15.2	30	Upper bedrock (limestone) well
15-18707	1983	32.0	10.7	18.3	7.6	21.3	189	Upper bedrock (limestone) well
15-33514	2002	36.6	11.1	18.3	7.2	25.5	57	Upper bedrock (limestone) well
A004819	2004	61.3	21.2	22.2	1.0	40.1	91	Lower bedrock (sandstone) well
A068319	2010	30.0	13.3	13.35	0.05	16.7	32	Upper bedrock (limestone) well

Ontario Ministry of the Environment

Well Tag No. (Place Sticker and/or Print Below) A162435

Well Record

Regulation 903 Ontario Water Resources Act

TW1-14

Measurements recorded in: ☐ Metric ☒ Imperial

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	ALIUM INVESTMENT LIMITED		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
3336 Dufferin Street	TORONTO	ON	M6A 3A4	416 4892833

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
5639 Bank Street	Osgoode	P/L 1	5

County/District/Municipality	City/Town/Village	Province	Postal Code
Ottawa-Carleton	Greely	Ontario	K4P1C3

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	455051	5014011		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
Brown	Clay ~~sand~~	sand/boulders	possibly fill material.	0	32'
brown	sand + gravel	boulders		32'	49'
grey	limestone	none		49'	148'
white	sandstone	grey limestone		148'	200'
white	sandstone	grey limestone	fracture	200'	287'

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
200	197	neat cement ~~-~~	3³
197	165	bentonite chips	650 lbs
165	50	neat cement	2 m³
50	0	bentonite slurry	2 m³

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft): 80'

Pumping rate (l/min / GPM): 10

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 53.45'

If flowing give rate (l/min / GPM): NA

Recommended pump depth (m/ft):

Recommended pump rate (l/min / GPM):

Well production (l/min / GPM):

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Water Level (m/ft)	Recovery Time (min)	Water Level (m/ft)
Static Level	52.3'		
1	52.8'	1	53.1
2	52.9	2	53.8
3	53.0	3	52.75
4	53.1	4	52.65
5	53.2	5	52.6
10	53.25	10	52.4
15	53.3	15	52.4
20	53.4	20	52.4
25	53.45	25	52.4
30	53.45	30	52.4
40	53.45	40	52.4
50	53.45	50	52.4
60	53.45	60	52.4

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting NA ☐ Rotary (Reverse) ☐ Driving ☐ Boring ☐ Digging ☒ Air percussion ☒ Other, specify dual rotary

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
6¼	Steel	.209	↑	200'
6"	open Hole		200'	287'

Status of Well

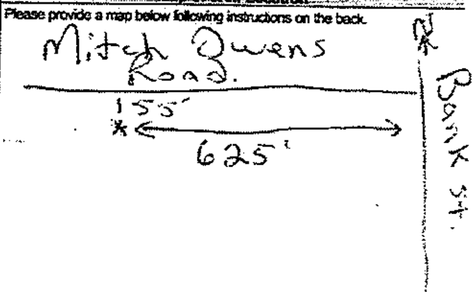
☒ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, specify ☐ Other, specify

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To
	NA			

Map of Well Location

Please provide a map below following instructions on the back.



Water Details

Water found at Depth	Kind of Water
120' (m/ft) ☐ Gas	☐ Fresh ☒ Untested ☐ Other, specify
170' (m/ft) ☐ Gas	☐ Fresh ☒ Untested ☐ Other, specify
200' (m/ft) ☐ Gas	☐ Fresh ☒ Untested ☐ Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	200'	10"
200'	287'	6"

Well Contractor and Well Technician Information

Business Name of Well Contractor: Canadian Well Drilling

Well Contractor's Licence No.: 7075

Business Address (Street Number/Name): 12493 Highway 27 North

Municipality: [illegible]

Province: ON Postal Code: L0H 1X0 Business E-mail Address: [illegible]@gmail.com

Bus. Telephone No. (inc. area code): 7057307645 Name of Well Technician (Last Name, First Name): Jamie [illegible]

Well Technician's Licence No.: 2 2 3 1 3 Signature of Technician and/or Contractor: [signature] Date Submitted: 20140830

Comments:

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered:

Date Work Completed: 20140820

Ministry Use Only — Audit No. Z144483

Received

TW2-14

Ontario — Ministry of the Environment

Measurements recorded in: ☐ Metric ☐ Imperial

Well Tag No. (Place Sticker and/or Print Below): A135710

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 3

Well Owner's Information

First Name: | Last Name / Organization: ALIUM INVESTMENT LIMITED | E-mail Address: | ☐ Well Constructed by Well Owner

Mailing Address (Street Number/Name): 3338 Dufferin Street | Municipality: Toronto | Province: ON | Postal Code: M6A 3A4 | Telephone No. (inc. area code): 416 469 2633

Well Location

Address of Well Location (Street Number/Name): 5639 Bank Street | Township: Osgoode | Lot: PL 1 | Concession: 5

County/District/Municipality: | City/Town/Village: Greely | Province: Ontario | Postal Code:

UTM Coordinates: Zone: 18 | Easting: 454510 | Northing: 5035140 16 | Municipal Plan and Sublot Number: | Other:

NAD 8 3

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
Brown	clay	sand + boulders	possibly fill material	0	32'
Brown	sand + gravel	boulders		32'	49'
grey	limestone	NONE		49'	148'
White	sandstone	grey limestone		200'	287'
White	sandstone	grey limestone	fracture		

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
198'	164'	Bentonite chips	650 lbs
164'	650'	Neat cement	2m³
650'	0'	Bentonite slurry	2m³

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Boring ☐ Digging ☐ Air percussion ☒ Other, specify: dual rotary

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
8"	steel	.209	1	198
	open hole		198	287

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To
	NA			

Status of Well

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

Water Details

Water found at Depth (m/ft)	Kind of Water	Hole Diameter Depth From	To	Diameter (cm/in)
120 (m/ft)	☐ Fresh ☒ Untested ☐ Gas ☐ Other, specify	0	198	10"
170 (m/ft)	☐ Fresh ☒ Untested ☐ Gas ☐ Other, specify	198	287	6"
198 (m/ft)	☐ Fresh ☒ Untested ☐ Gas ☐ Other, specify			

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft): 45'

Pumping rate (l/min / GPM): 25

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 54.4

If flowing give rate (l/min / GPM): NA

Recommended pump depth (m/ft):

Recommended pump rate (l/min / GPM):

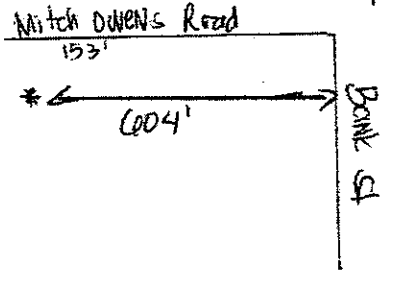
Well production (l/min / GPM):

Disinfected? ☒ Yes ☐ No

	Draw Down Time (min)	Water Level (m/ft)	Recovery Time (min)	Water Level (m/ft)
Static Level	50.7			
1	51.9	1	53.2	
2	52.3	2	52.8	
3	52.3	3	52.5	
4	52.8	4	52.3	
5	53.0	5	52.5	
10	53.5	10	52.6	
15	53.7	15	52.0	
20	53.9	20	51.25	
25	54.0	25	51.20	
30	54.1	30	51.15	
40	54.2	40	51.1	
50	54.3	50	51.05	
60	54.4	60	51.6	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor: Canadian Well Drilling | Well Contractor's Licence No.: 7075

Business Address (Street Number/Name): 12493 Hwy 27 North | Municipality: Stroudwater

Province: ON | Postal Code: L0L 1X0 | Business E-mail Address: Canadiansoil@gmail.com

Bus. Telephone No. (inc. area code): 7057307695 | Name of Well Technician (Last Name, First Name): Archer Jamie

Well Technician's Licence No.: 2232 | Signature of Technician and/or Contractor: | Date Submitted: 2014 08 31

Well owner's information package delivered: ☐ Yes ☐ No | Date Package Delivered: | Date Work Completed: 2014 08 20

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TW1

Ontario Ministry of the Environment

Tag#: A128072

Well Tag No. A128072

Well Record

Regulation 903 Ontario Water Resources Act

Page ___ of ___

Measurements recorded in: ☐ Metric ☒ Imperial

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	
	Eastview Sand & Gravel Limited	(Canadian Soil Drilling)	☒ Well Constructed by Well Owner

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
Box 190, R.R. # 1	Greely	ON	K4P 1N5	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
5639 Bank Street	Osgoode	Pt. 1	5

County/District/Municipality	City/Town/Village	Province	Postal Code
Ottawa-Carleton	Greely	Ontario	

UTM Coordinates Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83 18	455253	5014126		

Overburden and Bedrock Materials/Abandonment Sealing Record

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
	Sand & Gravel	+ Boulders		0'	49'
				49'	156'
Grey	Limestone			156'	164'
White	Sandstone w/Grey	Limestone		164'	181'
White	Sandstone w/Grey	Limestone		181'	192'
White	Sandstone w/Grey	Limestone		191'	192'
White	Sandstone w/Grey	Limestone		192'	200'

WOO#1

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
62'	59'	[illegible]	16.8
62'	0'	Bentonite slurry	37.8

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth From	Depth To
6"	Steel	.188"	+2'	62'
5 15/16"	Open Hole		62'	200'

Status of Well

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

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth From	Depth To

Water Details

Water found at Depth	Kind of Water
164 ft	Fresh ☒ Untested
181 ft	Fresh ☒ Untested
192 ft	Fresh ☒ Untested

Hole Diameter

Depth From (m/ft)	To	Diameter (cm/in)
0'	62'	8"
62'	200'	5 15/16"

Results of Well Yield Testing

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

If pumping discontinued, give reason: X

Pump intake set at (m/ft): 180

Pumping rate (l/min / GPM): 20

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 80.6'

If flowing give rate (l/min / GPM): X

Recommended pump depth (m/ft): [illegible]

Recommended pump rate (l/min / GPM): 20

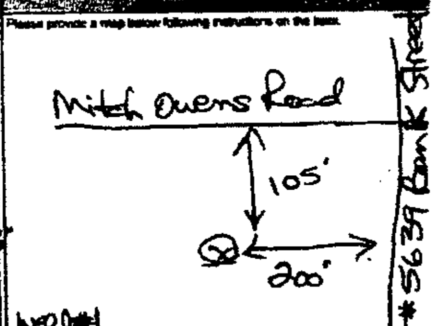
Well production (l/min / GPM): 20

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Water Level (m/ft)	Recovery Time (min)	Water Level (m/ft)
Static Level	34.4'		80.6'
1	42.8	1	59.6
2	49	2	50.5
3	58.7	3	45.5
4	67.1	4	41.5
5	59.6	5	38.5
10	67.9	10	34.4
15	70.6	15	34.4
20	73.2	20	34.4
25	74	25	34.4
30	76	30	34.4
40	77	40	34.4
50	79	50	34.4
60	80.6	60	34.4

Map of Well Location

Please provide a map below following instructions on the back.



WOO#1

Comments: 1/2 HP - 10 GPM set @ 140 ft.

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
CANADIAN SOIL DRILLING	2233

Business Address (Street Number/Name)	Municipality
12493 HWY 27 NORTH	Springwater

Province	Postal Code	Business E-mail Address
ON	L0L 1X0	Canadiansoil@gmail.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
705 730 7645	JAMIE ARCHER

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
T 3632	[signature]	2012 05 31

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

Date Package Delivered: [illegible]

Date Work Completed: 2012 05 01

Ministry Use Only: [illegible] 128558

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Ministry's Copy

TW2

Ontario Ministry of the Environment

Tag#: A128073

A128973

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: Metric Imperial

Well Owner's Information

First Name | Last Name / Organization: Eastview Sand & Gravel Limited

Email Address: Canadian Soil Drilling

Mailing Address (Street Number/Name): Box 190, R.R. # 1

Municipality: Greely | Province: ON | Postal Code: K4P 1N5

Well Location

Address of Well Location (Street Number/Name): 5639 Bank Street

Township: Osgoode | Lot: Plt 1 | Concession: 5

County/District/Municipality: Ottawa-Carleton | City/Town/Village: Greely | Province: Ontario

UTM Coordinates: Zone | Easting | Northing | Municipal Plan and Sublot Number | Other

NAD 8 3 18 455953 5013959

Overburden and Bedrock

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
	Clay	Boulders		0'	16'
	Sand & Gravel	Boulders		16'	48'
Grey	Limestone			48'	170'
Grey	Limestone w/white	Sandstone		170'	171'
Grey	Limestone w/white	Sandstone		171'	178'
Grey	Limestone w/white	Sandstone		178'	180'

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³)
60'	59'	Neat cement	10.9
50'	0'	Bentonite slurry	33.8

Method of Construction

Cable Tool | Diamond | Public | Commercial | Not used
Rotary (Conventional) | Jetting | Domestic | Municipal | Dewatering
Rotary (Reverse) | Driving | Livestock | Test Hole | Monitoring
Boring | Digging | Irrigation | Cooling & Air Conditioning
Air percussion | | Industrial
Other, specify | | Other, specify

Well Use

Construction Record - Casing

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

Construction Record - Screen

Outside Diameter (cm/in) | Material (Plastic, Galvanized, Steel) | Slot No. | Depth (m/ft) From | To

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

Water Supply

Water found at Depth: 131 (m/ft) | Kind of Water: Fresh | Unknown | Gas | Other, specify

Water found at Depth: 178 (m/ft) | Kind of Water: Fresh | Unknown | Gas | Other, specify

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

Depth (m/ft) From	To	Diameter (cm/in)
0'	60'	6"
60'	180'	5 15/16"

Pumping Test

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

Pumping discontinued, give reason

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

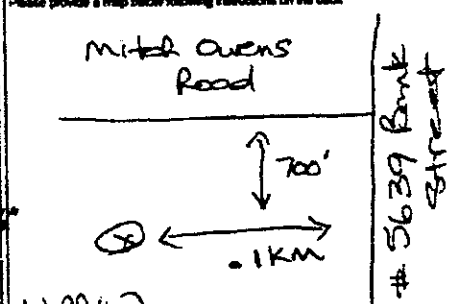
Recommended pump rate

Recommended water level

Disinfected? Yes | No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static	28.2		84.8
1	36.8	1	44.8
2	40.8	2	39.5
3	44.8	3	36
4	48.7	4	34
5	48.8	5	33
10	64	10	30
15	68	15	27.8
20	69.8	20	28.2
25	69.8	25	28.2
30	69.8	30	28.2
40	69.8	40	28.2
50	69.8	50	28.2
60	69.8	60	28.2

Please provide a map below following instructions on the back



Comments

Well Contractor and Well Technician Information

Business Name of Well Contractor: CANADIAN SOIL DRILLING | Well Contractor's Licence No.: 2233

Business Address (Street Number/Name): 12493 HWY 27 NORTH | Municipality: Springwater

Province: ON | Postal Code: L4L1X0 | Business E-mail Address: canadiansoil@gmail.com

Bus. Telephone No. (inc. area code): 705 720 7645 | Name of Well Technician (Last Name, First Name): JAMIE ARCHER

Well Technician's Licence No.: T2122 | Signature of Technician and/or Contractor | Date Submitted: 2012 05 31

Well Owner's Information Package Delivered

Yes | No | Date Work Completed: 2012 05 01

Ministry's Copy

TW3

Ontario — Ministry of the Environment

Tag#: A128074 (Print Below) A128074

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Measurements recorded in: ☐ Metric ☒ Imperial

Well Owner's Information

First Name | Last Name / Organization: Eastvalley Sand & Gravel Limited | E-mail Address | ☐ Well Constructed by Well Owner

Mailing Address (Street Number/Name): Box 190 R R # 1 | Municipality: Greely | Province: ON | Postal Code: K4P 1N5 | Telephone No. (inc. area code)

Well Location

Address of Well Location (Street Number/Name): 5630 Bank Street | Township: Osgoode | Lot: Pt. 1 | Concession: 5

County/District/Municipality: Ottawa-Carleton | City/Town/Village: Greely | Province: Ontario | Postal Code

UTM Coordinates: Zone | Easting | Northing | NAD 8 3 | Municipal Plan and Sublot Number | Other

Overburden and Bedrock

General Colour	Most Common Material	Other Materials	General Description	Depth (ft) From	To
	Clay	&	Boulders	0	20
	Sand & Gravel	&	Boulders	20	62
Grey	Limestone			62	100
Grey	Limestone			100	144
Grey	Limestone	& White	Sand Stone Layer	144	169
White	Sandstone			169	174
White	Sandstone			174	180

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
64	54	Neat cement	10.0
54	0	Bentonite slurry	37.8

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
6"	Steel	188	+2'	65'
5 1/16"	Open Hole		64'	180'

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

Construction Record - Screen

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

Water Details

Water found at Depth (m/ft)	Kind of Water: Fresh / Untested / Gas / Other, specify	Depth (m/ft) From	To	Diameter (cm/in)
108	☒ Fresh ☐ Untested	0	64	6"
174	☒ Fresh ☐ Untested	64	180	5 1/16"
	Kind of Water: Fresh / Untested / Gas / Other, specify			

Pumping Test

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

If pumping discontinued, give reason: X

Pump intake set at (m/ft): 170'

Pumping rate (l/min / GPM): 10

Duration of pumping: ___ hrs + ___ min

Final water level end of pumping (m/ft): 70'

If flowing give rate (l/min / GPM): X

Recommended pump depth (m/ft): 140' (Should)

Recommended pump rate: 10

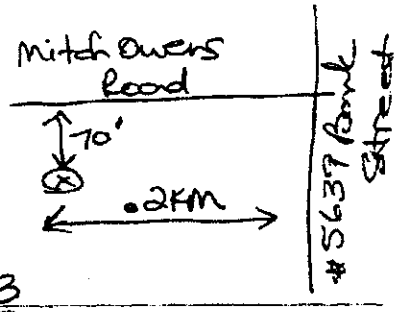
Well production (l/min / GPM): 10

Disinfected? ☒ Yes ☐ No

Time (min)	Draw Down: Water Level (m/ft)	Time (min)	Recovery: Water Level (m/ft)
Static Level	42'		70'+
1	48.0	1	65
2	51.3	2	53
3	53.3	3	47.0
4	54.0	4	47.0
5	53.3	5	43
10	50.4	10	42
15	54.0	15	42
20	53.	20	42
25	54.	25	42
30	55	30	42
40	50.0	40	42
50	50.0	50	42
60	50.0	60	42

Map of Well Location

Please provide a map below following instructions on the back.



Contractor and Well Technician Information

Business Name of Well Contractor: CANADIAN SOIL DRILLING | Well Contractor's Licence No.: #233

Business Address (Street Number/Name): 12493 HWY 27 NORTH | Municipality: Springwater

Province: ON | Postal Code | Business E-mail Address: LOLIXO canadiansoil@gmail.com

Bus. Telephone No. (inc. area code): 705 730 1645 | Name of Well Technician (Last Name, First Name): JAMIE ARCHER

Well Technician's Licence No.: T2122 | Signature of Technician and/or Contractor | Date Submitted: 2012 05 31

Comments: 1.92 HR - 10 GPM - WL @ 140 ft

Well Owner's information package delivered: ☒ Yes ☐ No | Date Package Delivered | Date Work Completed: 2012 05 31

Ministry's Copy

Government of Canada / Gouvernement du Canada

Canada

Climate

Home > Data

Daily Data Report for May 2015

OTTAWA INTL A ONTARIO					
Latitude:	45°19'00.000" N	**Longitude:**	75°40'00.000" W	**Elevation:**	114.90 m
Climate ID:	6106001	**WMO ID:**	71628	**TC ID:**	YOW

	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10's deg	Spd of Max Gust km/h
DAY											
01 ‡	21.5	8.0	14.8	3.2	0.0	T	0.0	T		M	48
02 ‡	24.2	4.6	14.4	3.6	0.0	0.0	0.0	0.0		M	37
03 ‡	26.5	9.3	17.9	0.1	0.0	0.0	0.0	0.0		M	41
04 ‡	28.4	10.4	19.4	0.0	1.4	1.8	0.0	1.8		M	74
05 ‡	20.1	7.5	13.8	4.2	0.0	0.0	0.0	0.0		M	43
06 ‡	24.6	4.3	14.5	3.5	0.0	0.0	0.0	0.0		M	39
07 ‡	27.6	8.9	18.3	0.0	0.3	0.0	0.0	0.0		M	33
08 ‡	30.7	12.2	21.5	0.0	3.5	0.0	0.0	0.0		M	37
09 ‡	29.6	16.7	23.2	0.0	5.2	0.2	0.0	0.2		M	52
10 ‡	20.8	12.3	16.6	1.4	0.0	2.6	0.0	2.6		M	32
11 ‡	12.3	7.6	10.0	8.0	0.0	6.0	0.0	6.0		M	52
12 ‡	22.8	7.7	15.3	2.7	0.0	5.2	0.0	5.2		M	63
13 ‡	16.7	5.7	11.2	6.8	0.0	0.2	0.0	0.2		M	48
14 ‡	19.4	1.6	10.5	7.5	0.0	0.0	0.0	0.0		M	35
15 ‡	20.8	4.8	12.8	5.2	0.0	0.4	0.0	0.4		M	<31
16 ‡	21.1	13.0	17.1	0.9	0.0	0.0	0.0	0.0		M	<31
17 ‡	24.8	9.7	17.3	0.7	0.0	0.0	0.0	0.0		M	<31
18 ‡	29.4	10.7	20.1	0.0	2.1	1.6	0.0	1.6		M	50
19 ‡	26.6	9.1	17.9	0.1	0.0	T	0.0	T		M	69
20 ‡	15.3	4.1	9.7	8.3	0.0	0.0	0.0	0.0		M	52
21 ‡	20.6	6.2	13.4	4.6	0.0	T	0.0	T		M	44
22 ‡	11.6	-0.9	5.4	12.6	0.0	0.0	0.0	0.0		M	56
23 ‡	17.9	-2.8	7.6	10.4	0.0	0.0	0.0	0.0		M	48
24 ‡	28.9	9.1	19.0	0.0	1.0	0.0	0.0	0.0		M	54
25 ‡	18.9	14.2	16.6	1.4	0.0	23.8	0.0	23.8		M	<31
26 ‡	29.5	16.0	22.8	0.0	4.8	0.0	0.0	0.0		M	46
27 ‡	28.1	18.1	23.1	0.0	5.1	T	0.0	T		M	54
28 ‡	23.0	10.5	16.8	1.2	0.0	1.2	0.0	1.2		M	48
29 ‡	26.5	8.6	17.6	0.4	0.0	0.0	0.0	0.0		M	<31
30 ‡	29.4	10.4	19.9	0.0	1.9	17.4	0.0	17.4		M	65
31 ‡	13.8	7.4	10.6	7.4	0.0	1.8	0.0	1.8		M	43
Sum				94.2	25.3	62.2	0.0	62.2			
Avg	23.0	8.6	15.8								
Xtrm	30.7	-2.8									74

Summary, average and extreme values are based on the data above.

Government of Canada / Gouvernement du Canada

Canada

Climate

Home > Data

Daily Data Report for June 2015

OTTAWA INTL A ONTARIO					
Latitude:	45°19'00.000" N	**Longitude:**	75°40'00.000" W	**Elevation:**	114.90 m
Climate ID:	6106001	**WMO ID:**	71628	**TC ID:**	YOW

	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10's deg	Spd of Max Gust km/h
DAY											
01 ±	17.4	8.1	12.8	5.2	0.0	T	0.0	T		M	48
02 ±	16.5	5.8	11.2	6.8	0.0	0.6	0.0	0.6		M	<31
03 ±	20.8	5.0	12.9	5.1	0.0	0.0	0.0	0.0		M	32
04 ±	26.0	7.3	16.7	1.3	0.0	T	0.0	T		M	37
05 ±	23.4	12.6	18.0	0.0	0.0	0.8	0.0	0.8		M	43
06 ±	19.7	6.4	13.1	4.9	0.0	0.0	0.0	0.0		M	50
07 ±	24.1	3.5	13.8	4.2	0.0	3.0	0.0	3.0		M	35
08 ±	21.9	15.7	18.8	0.0	0.8	16.2	0.0	16.2		M	48
09 ±	19.0	12.9	16.0	2.0	0.0	3.6	0.0	3.6		M	<31
10 ±	23.6	12.8	18.2	0.0	0.2	12.4	0.0	12.4		M	39
11 ±	24.4	13.7	19.1	0.0	1.1	T	0.0	T		M	43
12 ±	18.9	12.5	15.7	2.3	0.0	16.6	0.0	16.6		M	<31
13 ±	26.4	11.3	18.9	0.0	0.9	0.0	0.0	0.0		M	39
14 ±	22.4	13.4	17.9	0.1	0.0	1.0	0.0	1.0		M	35
15 ±	26.8	14.3	20.6	0.0	2.6	T	0.0	T		M	<31
16 ±	25.7	12.3	19.0	0.0	1.0	16.6	0.0	16.6		M	52
17 ±	22.3	8.9	15.6	2.4	0.0	0.0	0.0	0.0		M	<31
18 ±	27.6	11.7	19.7	0.0	1.7	7.0	0.0	7.0		M	50
19 ±	20.7	9.4	15.1	2.9	0.0	0.0	0.0	0.0		M	48
20 ±	25.4	7.3	16.4	1.6	0.0	0.0	0.0	0.0		M	<31
21 ±	26.9	16.9	21.9	0.0	3.9	4.0	0.0	4.0		M	37
22 ±	27.8	15.4	21.6	0.0	3.6	T	0.0	T		M	<31
23 ±	28.3	14.8	21.6	0.0	3.6	1.8	0.0	1.8		M	80
24 ±	25.2	12.4	18.8	0.0	0.8	0.0	0.0	0.0		M	46
25 ±	23.3	10.7	17.0	1.0	0.0	0.0	0.0	0.0		M	33
26 ±	26.2	9.1	17.7	0.3	0.0	0.0	0.0	0.0		M	35
27 ±	23.1	11.0	17.1	0.9	0.0	T	0.0	T		M	<31
28 ±	15.7	12.7	14.2	3.8	0.0	9.4	0.0	9.4		M	48
29 ±	22.9	12.2	17.6	0.4	0.0	7.4	0.0	7.4		M	<31
30 ±	24.1	12.0	18.1	0.0	0.1	T	0.0	T		M	35
Sum				45.2	20.3	100.4	0.0	100.4			
Avg	23.2	11.1	17.2								
Xtrm	28.3	3.5									80

Summary, average and extreme values are based on the data above.

Legend

- A = Accumulated
- C = Precipitation occurred, amount uncertain
- E = Estimated
- F = Accumulated and estimated
- L = Precipitation may or may not have occurred
- M = Missing
- N = Temperature missing but known to be > 0

- S = More than one occurrence
- T = Trace
- Y = Temperature missing but known to be < 0
- [empty] = No data available
- ^ = The value displayed is based on incomplete data
- † = Data for this day has undergone only preliminary quality checking
- ‡ = Partner data that is not subject to review by the National Climate Archives

Date modified: 2015-02-11

Ministry of the Environment and Climate Change
Eastern Region
Technical Support Section
1259 Gardiners Rd, PO Box 22032
Kingston, ON
K7P 3J6
Tel: (613) 549-4000

Ministère de l'Environnement et de l'Action en matière de changement climatique
Direction régionale de l'Est
Secteur du Soutien Technique
Ressource en eau
1259 Chemin Gardiners, CP 22032
Kingston, ON
K7P 3J6
Tél:(613) 549-4000

Ontario

January 13, 2015

Mr. Philip Otis
Alium Investments (Greely) Limited
3338 Dufferin Street
Toronto, Ontario
M6A 3A4

Dear Mr. Otis:

RE: Pumping Test Permit To Take Water 3732-9RPKRR
Test Well 1-14
5640 Bank Street, Ottawa
Reference Number 2024-9PMRX4

Please find attached Permit to Take Water 3732-9RPKRR which authorizes the withdrawal of water in accordance with the application for this Permit to Take Water, dated October 1, 2014 and signed by Philip Otis.

Please note that the Permit expires December 12, 2015.

Ontario Regulation 387/04 (Water Taking) requires all water takers to report daily water taking amounts to the Water Taking Reporting System (WTRS) electronic database (https://www.lrcsde.lrc.gov.on.ca/wtrs/). Daily water taking must be reported on a calendar year basis. If no water is taken, then a "no taking" report must be entered. Please consult the Regulation and Section 4 of this Permit for monitoring requirements.

If you have questions about reporting requirements, please call the WTRS Help Desk at 416-235-6322 (toll free: 1-877-344-2011) or by email, WTRSHelpdesk@ontario.ca. It is preferred that you submit your data directly and electronically to the WTRS. Where this is impracticable, please use the Water Taking Submission Form (included as Appendix C of the *Technical Bulletin: Permit To Take Water (PTTW) - Monitoring and Reporting of Water Takings*) and fax your completed forms to 416-235-6549 or mail them to: Water User Reporting Section, 125 Resources Road, Toronto, Ontario M9P 3V6.

Take notice that in issuing this Permit, terms and conditions pertaining to the taking of water and to the results of the taking have been imposed. The terms and conditions have been designed to allow for the development of water resources, while providing reasonable protection to existing water uses and users.

Yours truly,

Peter Taylor

Peter Taylor
Director, Section 34, Ontario Water Resources Act, R.S.O. 1990

Eastern Region

File Storage Number: SI OT 3732 220 (TS)

c: Alium Investments (Greely) Limited, markeplett@rogers.com

Geoffrey Rether, Ian D. Wilson Associates Limited, grether@tcc.on.ca

Ottawa District Office

Ontario

Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement climatique

PERMIT TO TAKE WATER
Ground Water
NUMBER 3732-9RPKRR

Pursuant to Section 34 of the Ontario Water Resources Act, R.S.O. 1990 this Permit To Take Water is hereby issued to:

Alium Investments (Greely) Limited
3338 Dufferin Street
Toronto, Ontario
M6A 3A4
Canada

For the water taking from: Test Well 1-14

Located at: 5640 Bank St
Ottawa

For the purposes of this Permit, and the terms and conditions specified below, the following definitions apply:

DEFINITIONS

(a) "Director" means any person appointed in writing as a Director pursuant to section 5 of the OWRA for the purposes of section 34, OWRA.

(b) "Provincial Officer" means any person designated in writing by the Minister as a Provincial Officer pursuant to section 5 of the OWRA.

(c) "Ministry" means Ontario Ministry of the Environment and Climate Change.

(d) "District Office" means the Ottawa District Office.

(e) "Permit" means this Permit to Take Water No. 3732-9RPKRR including its Schedules, if any, issued in accordance with Section 34 of the OWRA.

(f) "Permit Holder" means Alium Investments (Greely) Limited.

(g) "OWRA " means the *Ontario Water Resources Act,* R.S.O. 1990, c. O. 40, as amended.

You are hereby notified that this Permit is issued subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. Compliance with Permit

1.1 Except where modified by this Permit, the water taking shall be in accordance with the application for this Permit To Take Water, dated October 1, 2014 and signed by Philip Otis, and all Schedules included in this Permit.

1.2 The Permit Holder shall ensure that any person authorized by the Permit Holder to take water under this Permit is provided with a copy of this Permit and shall take all reasonable measures to ensure that any such person complies with the conditions of this Permit.

1.3 Any person authorized by the Permit Holder to take water under this Permit shall comply with the conditions of this Permit.

1.4 This Permit is not transferable to another person.

1.5 This Permit provides the Permit Holder with permission to take water in accordance with the conditions of this Permit, up to the date of the expiry of this Permit. This Permit does not constitute a legal right, vested or otherwise, to a water allocation, and the issuance of this Permit does not guarantee that, upon its expiry, it will be renewed.

1.6 The Permit Holder shall keep this Permit available at all times at or near the site of the taking, and shall produce this Permit immediately for inspection by a Provincial Officer upon his or her request.

1.7 The Permit Holder shall report any changes of address to the Director within thirty days of any such change. The Permit Holder shall report any change of ownership of the property for which this Permit is issued within thirty days of any such change. A change in ownership in the property shall cause this Permit to be cancelled.

2. General Conditions and Interpretation

2.1 Inspections

The Permit Holder must forthwith, upon presentation of credentials, permit a Provincial Officer to carry out any and all inspections authorized by the OWRA, the *Environmental Protection Act* , R.S.O. 1990, the *Pesticides Act* , R.S.O. 1990, or the *Safe Drinking Water Act*, S. O. 2002.

2.2 Other Approvals

The issuance of, and compliance with this Permit, does not:

(a) relieve the Permit Holder or any other person from any obligation to comply with any other applicable legal requirements, including the provisions of the *Ontario Water Resources Act* , and the *Environmental Protection Act* , and any regulations made thereunder; or

(b) limit in any way any authority of the Ministry, a Director, or a Provincial Officer, including the authority to require certain steps be taken or to require the Permit Holder to furnish any further information related to this Permit.

2.3 Information

The receipt of any information by the Ministry, the failure of the Ministry to take any action or require any person to take any action in relation to the information, or the failure of a Provincial Officer to prosecute any person in relation to the information, shall not be construed as:

(a) an approval, waiver or justification by the Ministry of any act or omission of any person that contravenes this Permit or other legal requirement; or

(b) acceptance by the Ministry of the information's completeness or accuracy.

2.4 Rights of Action

The issuance of, and compliance with this Permit shall not be construed as precluding or limiting any legal claims or rights of action that any person, including the Crown in right of Ontario or any agency thereof, has or may have against the Permit Holder, its officers, employees, agents, and contractors.

2.5 Severability

The requirements of this Permit are severable. If any requirements of this Permit, or the application of any requirements of this Permit to any circumstance, is held invalid or unenforceable, the application of such requirements to other circumstances and the remainder of this Permit shall not be affected thereby.

2.6 Conflicts

Where there is a conflict between a provision of any submitted document referred to in this Permit, including its Schedules, and the conditions of this Permit, the conditions in this Permit shall take precedence.

3. Water Takings Authorized by This Permit

3.1 **Expiry**

This Permit expires on **December 12, 2015**. No water shall be taken under authority of this Permit after the expiry date.

3.2 Amounts of Taking Permitted

The Permit Holder shall only take water from the source, during the periods and at the rates and amounts of taking specified in Table A. Water takings are authorized only for the purposes specified in Table A.

Table A

	Source Name / Description:	Source: Type:	Taking Specific Purpose:	Taking Major Category:	Max. Taken per Minute (litres):	Max. Num. of Hrs Taken per Day:	Max. Taken per Day (litres):	Max. Num. of Days Taken per Year:	Zone/ Easting/ Northing:
1	Test Well 1-14	Well Drilled	Pumping Test	Miscellaneous	225	24	324,000	7	18 455051 5014011
						Total Taking:	324,000		

3.3 Water Taking And Use Limitation

Water taken by the Permit Holder shall be used solely for the pumping test purpose of determining the aquifer's characteristics and for no other purposes.

4. Monitoring

4.1 Field And Data Quality Assurance And Control

The Permit Holder shall ensure that all measurements, field investigations and assessments are conducted by qualified personnel using standard and approved procedures and methods.

4.2 Records of Water Taking

The Permit Holder shall maintain a record of all water takings. This record shall include the dates and times of water takings and the total measured amounts of water pumped per day for each day that water is taken under the authorization of this Permit. A separate record shall be maintained for each source. The Permit Holder shall keep all required records up to date and available at or near the site of the taking and shall produce the records immediately for inspection by a Provincial Officer upon his or her request. The total amounts of water pumped shall be measured using a flow meter and totalizer.

4.3 Well Owner Notification And Permission

Prior to commencement of the pumping test, the Permit Holder shall identify all wells within the area of the anticipated potential cone of influence, or within 300 metres of the test site, whichever is greater. At least 24 hours prior to beginning the pumping test, the Permit Holder shall provide written notification to the owners and seek written permission to access their wells for the purpose of monitoring groundwater characteristics for this pumping test. The notification shall include the expected date, time and duration of the pumping test and a contact telephone number that may be used to report any interference with water supplies.

4.4 Measuring Water Depths

Where written permission sought under Condition 4.3 has been obtained, the Permit Holder shall measure and record static water levels prior to the pumping test, pumping water levels at an appropriate frequency to allow for the calculation of aquifer conductivity and storativity values and water levels during the recovery period in the well(s) until 95% recovery occurs or for 24 hours, whichever is less.

5. Impacts of the Water Taking

5.1 Notification

The Permit Holder shall immediately notify the local District Office of any complaint arising from the taking of water authorized under this Permit and shall report any action which has been taken or is proposed with regard to such complaint. The Permit Holder shall immediately notify the local District Office if the taking of water is observed to have any significant impact on the surrounding waters. After hours, calls shall be directed to the Ministry's Spills Action Centre at 1-800-268-6060.

5.2 For Groundwater Takings

If the taking of water is observed to cause any negative impact to other water supplies obtained from any adequate sources that were in use prior to initial issuance of a Permit for this water taking, the Permit Holder shall take such action necessary to make available to those affected, a supply of water equivalent in quantity and quality to their normal takings, or shall compensate such persons for their reasonable costs of so doing, or shall reduce the rate and amount of taking to prevent or alleviate the observed negative impact. Pending permanent restoration of the affected supplies, the Permit Holder shall provide, to those affected, temporary water supplies adequate to meet their normal requirements, or shall compensate such persons for their reasonable costs of doing so.

If permanent interference is caused by the water taking, the Permit Holder shall restore the water supplies of those permanently affected.

5.3 Water Interference Contingency Plan

Prior to commencing the pumping test the Permit Holder shall develop a contingency plan to compensate other water users in the event that this water taking negatively impacts the area's water supply. The Permit Holder shall implement this contingency plan upon the validation of any water interference complaint and this plan shall remain in effect until the affected water supply recovers to a sustainable quality and quantity that may be considered usable for the normal use of the water.

5.4 Reporting of Issues

The Permit Holder must immediately report to the Director all interference and surface water discharge problems associated with the pumping test.

5.5 Prevention of Geotechnical Adverse Effects

The Permit Holder shall take all measures necessary to prevent damage to buildings, structures, roads and/or railway lines that may be impacted by this taking.

5.6 Water Discharge Control Measures
The discharge of water shall be controlled in such a way as to avoid erosion and sedimentation in the receiving stream.

5.7 The Permit Holder shall ensure that any water discharged to the natural environment does not result in scouring, erosion or physical alteration of stream channels or banks and that there is no flooding in the receiving area or water body, downstream water bodies, ditches or properties caused or worsened by this discharge.

5.8 Any discharge to the land surface shall use a multi-barrier approach to control erosion and runoff and the discharge shall be to a well vegetated area to promote infiltration prior to re-entering the watercourse.

5.9 Siltation control measures shall be installed at the discharge site(s) and shall be sufficient to control the volumes. Continuous care shall be taken to properly maintain the siltation control devices.

5.10 The Permit Holder shall not discharge turbid water to any watercourse. Turbid water shall be defined as any discharge water or diverted water with a maximum increase of 8 NTUs above the receiving water's background levels.

6. **Director May Amend Permit**
The Director may amend this Permit by letter requiring the Permit Holder to suspend or reduce the taking to an amount or threshold specified by the Director in the letter. The suspension or reduction in taking shall be effective immediately and may be revoked at any time upon notification by the Director. This condition does not affect your right to appeal the suspension or reduction in taking to the Environmental Review Tribunal under the *Ontario Water Resources Act* , Section 100 (4).

The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 is included to ensure that the conditions in this Permit are complied with and can be enforced.

2. Condition 2 is included to clarify the legal interpretation of aspects of this Permit.

3. Conditions 3 through 6 are included to protect the quality of the natural environment so as to safeguard the ecosystem and human health and foster efficient use and conservation of waters. These conditions allow for the beneficial use of waters while ensuring the fair sharing, conservation and sustainable use of the waters of Ontario. The conditions also specify the water takings that are authorized by this Permit and the scope of this Permit.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 101 of the Ontario Water Resources Act, R.S.O. 1990, as amended, provides that the Notice requiring the hearing shall state:

1. The portions of the Permit or each term or condition in the Permit in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

In addition to these legal requirements, the Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Permit to Take Water number;
6. The date of the Permit to Take Water;
7. The name of the Director;
8. The municipality within which the works are located;

This notice must be served upon:

The Secretary
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto ON
M5G 1E5
Fax: (416) 314-4506
Email: ERTTribunalsecretary@ontario.ca

AND

The Director, Section 34, Ministry of the Environment and Climate Change
1259 Gardiners Rd, PO Box 22032
Kingston, ON
K7P 3J6

Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal:

by telephone at (416) 314-4600 ***by fax at (416) 314-4506*** ***by e-mail at www.ert.gov.on.ca***

Dated at Kingston this 13th day of January, 2015.

Peter Taylor

Peter Taylor
Director, Section 34
Ontario Water Resources Act , R.S.O. 1990

Schedule A

This Schedule "A" forms part of Permit To Take Water 3732-9RPKRR, dated January 13, 2015.

Maxxam
A Bureau Veritas Group Company

Success Through Science®

Your Project #: GREELY
Your C.O.C. #: 64642

Attention:Geoff Rether

Ian D Wilson Associates Ltd
PO Box 299
76722 Airport Rd
Clinton, ON
N0M 1L0

Report Date: 2015/06/17
Report #: R3468373
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B5B1264
Received: 2015/06/10, 18:45

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Alkalinity	1	N/A	2015/06/12	CAM SOP-00448	SM 22 2320 B m
Carbonate, Bicarbonate and Hydroxide	1	N/A	2015/06/12	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	1	N/A	2015/06/15	CAM SOP-00463	EPA 325.2 m
Conductivity	1	N/A	2015/06/12	CAM SOP-00414	SM 22 2510 m
Dissolved Organic Carbon (DOC) (1)	1	N/A	2015/06/12	CAM SOP-00446	SM 22 5310 B m
Hardness (calculated as CaCO3)	1	N/A	2015/06/15	CAM SOP 00102/00408/00447	SM 2340 B
Lab Filtered Metals by ICPMS	1	2015/06/12	2015/06/15	CAM SOP-00447	EPA 6020A m
Ion Balance (% Difference)	1	N/A	2015/06/15		
Anion and Cation Sum	1	N/A	2015/06/15		
Total Coliforms/ E. coli, CFU/100mL	1	N/A	2015/06/11	CAM SOP-00551	MOE E3407
Total Ammonia-N	4	N/A	2015/06/15	CAM SOP-00441	EPA GS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (2)	4	N/A	2015/06/15	CAM SOP-00440	SM 22 4500-NO3I/NO2B
pH	1	N/A	2015/06/12	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	1	N/A	2015/06/15	CAM SOP-00461	EPA 365.1 m
Sat. pH and Langelier Index (@ 20C)	1	N/A	2015/06/15		
Sat. pH and Langelier Index (@ 4C)	1	N/A	2015/06/15		
Sulphate by Automated Colourimetry	1	N/A	2015/06/15	CAM SOP-00464	EPA 375.4 m
Total Dissolved Solids (TDS calc)	1	N/A	2015/06/15		
Total Kjeldahl Nitrogen in Water	3	2015/06/12	2015/06/16	CAM SOP-00938	OMOE E3516 m

Remarks:

Maxxam Analytics has performed all analytical testing herein in accordance with ISO 17025 and the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. All methodologies comply with this document and are validated for use in the laboratory. The methods and techniques employed in this analysis conform to the performance criteria (detection limits, accuracy and precision) as outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act.

The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following the 'Alberta Environment Draft Addenda to the CWS-PHC, Appendix 6, Validation of Alternate Methods'. Documentation is available upon request. Maxxam has made the following improvements to the CWS-PHC reference benchmark method: (i) Headspace for F1; and, (ii) Mechanical extraction for F2-F4. Note: F4G cannot be added to the C6 to C50 hydrocarbons. The

Your Project #: GREELY
Your C.O.C. #: 64642

Attention:Geoff Rether
Ian D Wilson Associates Ltd
PO Box 299
76722 Airport Rd
Clinton, ON
N0M 1L0

Report Date: 2015/06/17
Report #: R3468373
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B5B1264
Received: 2015/06/10, 18:45
extraction date for samples field preserved with methanol for F1 and Volatile Organic Compounds is considered to be the date sampled.

Maxxam Analytics is accredited for all specific parameters as required by Ontario Regulation 153/04. Maxxam Analytics is limited in liability to the actual cost of analysis unless otherwise agreed in writing. There is no other warranty expressed or implied. Samples will be retained at Maxxam Analytics for three weeks from receipt of data or as per contract.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Stephen McMillan
17 Jun 2015 12:54:35 -04:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephen McMillan, Project Manager
Email: smcmillan@maxxam.ca
Phone# (905)817-5700 Ext:5735

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B5B1264
Report Date: 2015/06/17

Ian D Wilson Associates Ltd
Client Project #: GREELY

RCAP - COMPREHENSIVE (LAB FILTERED)

Maxxam ID		AKS585		
Sampling Date		2015/06/10 13:00		
COC Number		64642		
	Units	I HOUR	RDL	QC Batch
Calculated Parameters				
Anion Sum	me/L	8.18	N/A	4062172
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	210	1.0	4061770
Calculated TDS	mg/L	440	1.0	4062175
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.1	1.0	4061770
Cation Sum	me/L	7.86	N/A	4062172
Hardness (CaCO3)	mg/L	270	1.0	4061458
Ion Balance (% Difference)	%	2.01	N/A	4062171
Langelier Index (@ 20C)	N/A	0.703		4062173
Langelier Index (@ 4C)	N/A	0.455		4062174
Saturation pH (@ 20C)	N/A	7.32		4062173
Saturation pH (@ 4C)	N/A	7.56		4062174
Inorganics				
Total Ammonia-N	mg/L	0.10	0.050	4064330
Conductivity	umho/cm	810	1.0	4063176
Dissolved Organic Carbon	mg/L	1.2	0.20	4063448
Orthophosphate (P)	mg/L	ND	0.010	4064328
pH	pH	8.02	N/A	4063175
Dissolved Sulphate (SO4)	mg/L	51	1	4064327
Alkalinity (Total as CaCO3)	mg/L	220	1.0	4063172
Dissolved Chloride (Cl)	mg/L	99	1	4064322
Nitrite (N)	mg/L	ND	0.010	4064344
Nitrate (N)	mg/L	ND	0.10	4064344
Metals				
Dissolved Aluminum (Al)	ug/L	ND	5.0	4064289
Dissolved Antimony (Sb)	ug/L	ND	0.50	4064289
Dissolved Arsenic (As)	ug/L	ND	1.0	4064289
Dissolved Barium (Ba)	ug/L	150	2.0	4064289
Dissolved Beryllium (Be)	ug/L	ND	0.50	4064289
Dissolved Boron (B)	ug/L	71	10	4064289
Dissolved Cadmium (Cd)	ug/L	ND	0.10	4064289
Dissolved Calcium (Ca)	ug/L	64000	200	4064289
Dissolved Chromium (Cr)	ug/L	ND	5.0	4064289
Dissolved Cobalt (Co)	ug/L	ND	0.50	4064289

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
ND = Not detected

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B5B1264
Report Date: 2015/06/17

Ian D Wilson Associates Ltd
Client Project #: GREELY

RCAP - COMPREHENSIVE (LAB FILTERED)

Maxxam ID		AKS585		
Sampling Date		2015/06/10 13:00		
COC Number		64642		
	Units	I HOUR	RDL	QC Batch
Dissolved Copper (Cu)	ug/L	ND	1.0	4064289
Dissolved Iron (Fe)	ug/L	ND	100	4064289
Dissolved Lead (Pb)	ug/L	ND	0.50	4064289
Dissolved Magnesium (Mg)	ug/L	26000	50	4064289
Dissolved Manganese (Mn)	ug/L	40	2.0	4064289
Dissolved Molybdenum (Mo)	ug/L	3.9	0.50	4064289
Dissolved Nickel (Ni)	ug/L	ND	1.0	4064289
Dissolved Phosphorus (P)	ug/L	ND	100	4064289
Dissolved Potassium (K)	ug/L	4100	200	4064289
Dissolved Selenium (Se)	ug/L	ND	2.0	4064289
Dissolved Silicon (Si)	ug/L	5100	50	4064289
Dissolved Silver (Ag)	ug/L	ND	0.10	4064289
Dissolved Sodium (Na)	ug/L	56000	100	4064289
Dissolved Strontium (Sr)	ug/L	1100	1.0	4064289
Dissolved Thallium (Tl)	ug/L	ND	0.050	4064289
Dissolved Titanium (Ti)	ug/L	ND	5.0	4064289
Dissolved Uranium (U)	ug/L	0.46	0.10	4064289
Dissolved Vanadium (V)	ug/L	ND	0.50	4064289
Dissolved Zinc (Zn)	ug/L	ND	5.0	4064289

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not detected

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Maxxam Job #: B5B1264
Report Date: 2015/06/17

Ian D Wilson Associates Ltd
Client Project #: GREELY

RESULTS OF ANALYSES OF WATER

Maxxam ID		AKS586		AKS587	AKS588		
Sampling Date		2015/06/10 14:00		2015/06/10 14:45	2015/06/10 14:57		
COC Number		64642		64642	64642		
	Units	BH2	RDL	BH5	BH6	RDL	QC Batch
Inorganics							
Total Ammonia-N	mg/L	6.6	0.25	1.2	0.51	0.050	4063575
Total Kjeldahl Nitrogen (TKN)	mg/L	10	1.0	1.8	1.2	0.50	4063729
Nitrite (N)	mg/L	ND	0.010	0.022	0.032	0.010	4064344
Nitrate (N)	mg/L	ND	0.10	ND	0.68	0.10	4064344

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not detected

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Maxxam Job #: B5B1264
Report Date: 2015/06/17

Ian D Wilson Associates Ltd
Client Project #: GREELY

MICROBIOLOGY (WATER)

Maxxam ID		AKS585	
Sampling Date		2015/06/10 13:00	
COC Number		64642	
	Units	**I HOUR**	**QC Batch**
Microbiological			
Background	CFU/100mL	38	4062605
Total Coliforms	CFU/100mL	0	4062605
Escherichia coli	CFU/100mL	0	4062605
QC Batch = Quality Control Batch			

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Maxxam Job #: B5B1264
Report Date: 2015/06/17

Ian D Wilson Associates Ltd
Client Project #: GREELY

TEST SUMMARY

Maxxam ID: AKS585
Sample ID: I HOUR
Matrix: Water

Collected: 2015/06/10
Shipped:
Received: 2015/06/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	4063172	N/A	2015/06/12	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	4061770	N/A	2015/06/12	Automated Statchk
Chloride by Automated Colourimetry	KONE	4064322	N/A	2015/06/15	Alina Dobreanu
Conductivity	AT	4063176	N/A	2015/06/12	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	4063448	N/A	2015/06/12	Elsamma Alex
Hardness (calculated as CaCO3)		4061458	N/A	2015/06/15	Automated Statchk
Lab Filtered Metals by ICPMS	ICP/MS	4064289	2015/06/12	2015/06/15	Arefa Dabhad
Ion Balance (% Difference)	CALC	4062171	N/A	2015/06/15	Automated Statchk
Anion and Cation Sum	CALC	4062172	N/A	2015/06/15	Automated Statchk
Total Coliforms/ E. coli, CFU/100mL	PL	4062605	N/A	2015/06/11	Kavita Verma
Total Ammonia-N	LACH/NH4	4064330	N/A	2015/06/15	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	4064344	N/A	2015/06/15	Chandra Nandlal
pH	AT	4063175	N/A	2015/06/12	Surinder Rai
Orthophosphate	KONE	4064328	N/A	2015/06/15	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	4062173	N/A	2015/06/15	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4062174	N/A	2015/06/15	Automated Statchk
Sulphate by Automated Colourimetry	KONE	4064327	N/A	2015/06/15	Deonarine Ramnarine
Total Dissolved Solids (TDS calc)	CALC	4062175	N/A	2015/06/15	Automated Statchk

Maxxam ID: AKS585 Dup
Sample ID: I HOUR
Matrix: Water

Collected: 2015/06/10
Shipped:
Received: 2015/06/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	4063172	N/A	2015/06/12	Surinder Rai
Conductivity	AT	4063176	N/A	2015/06/12	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	4063448	N/A	2015/06/12	Elsamma Alex
Total Ammonia-N	LACH/NH4	4064330	N/A	2015/06/15	Charles Opoku-Ware
pH	AT	4063175	N/A	2015/06/12	Surinder Rai

Maxxam ID: AKS586
Sample ID: BH2
Matrix: Water

Collected: 2015/06/10
Shipped:
Received: 2015/06/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Ammonia-N	LACH/NH4	4063575	N/A	2015/06/15	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	4064344	N/A	2015/06/15	Chandra Nandlal
Total Kjeldahl Nitrogen in Water	SKAL	4063729	2015/06/12	2015/06/16	Louise Harding

Maxxam ID: AKS587
Sample ID: BH5
Matrix: Water

Collected: 2015/06/10
Shipped:
Received: 2015/06/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Ammonia-N	LACH/NH4	4063575	N/A	2015/06/15	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	4064344	N/A	2015/06/15	Chandra Nandlal

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Maxxam Job #: B5B1264
Report Date: 2015/06/17

Ian D Wilson Associates Ltd
Client Project #: GREELY

TEST SUMMARY

Maxxam ID: AKS587
Sample ID: BH5
Matrix: Water

Collected: 2015/06/10
Shipped:
Received: 2015/06/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Kjeldahl Nitrogen in Water	SKAL	4063729	2015/06/12	2015/06/16	Louise Harding

Maxxam ID: AKS588
Sample ID: BH6
Matrix: Water

Collected: 2015/06/10
Shipped:
Received: 2015/06/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Ammonia-N	LACH/NH4	4063575	N/A	2015/06/15	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	4064344	N/A	2015/06/15	Chandra Nandlal
Total Kjeldahl Nitrogen in Water	SKAL	4063729	2015/06/12	2015/06/16	Louise Harding

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Maxxam Job #: B5B1264
Report Date: 2015/06/17

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Client Project #: GREELY

GENERAL COMMENTS

Revised Report (2015/06/17): Nitrite analysis now included on the report as per client request.

Results relate only to the items tested.

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Maxxam Job #: B5B1264
Report Date: 2015/06/17

Ian D Wilson Associates Ltd
Client Project #: GREELY

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
4063172	SAU	Spiked Blank	Alkalinity (Total as CaCO3)	2015/06/12		98	%	85 - 115
4063172	SAU	Method Blank	Alkalinity (Total as CaCO3)	2015/06/12	ND, RDL=1.0		mg/L	
4063172	SAU	RPD [AKS585-01]	Alkalinity (Total as CaCO3)	2015/06/12	0.42		%	25
4063175	SAU	Spiked Blank	pH	2015/06/12		102	%	98 - 103
4063175	SAU	RPD [AKS585-01]	pH	2015/06/12	0.16		%	N/A
4063176	SAU	Spiked Blank	Conductivity	2015/06/12		102	%	85 - 115
4063176	SAU	Method Blank	Conductivity	2015/06/12	1.2, RDL=1.0		umho/cm	
4063176	SAU	RPD [AKS585-01]	Conductivity	2015/06/12	0.13		%	25
4063448	EAX	Matrix Spike [AKS585-01]	Dissolved Organic Carbon	2015/06/12		95	%	80 - 120
4063448	EAX	Spiked Blank	Dissolved Organic Carbon	2015/06/12		96	%	80 - 120
4063448	EAX	Method Blank	Dissolved Organic Carbon	2015/06/12	ND, RDL=0.20		mg/L	
4063448	EAX	RPD [AKS585-01]	Dissolved Organic Carbon	2015/06/12	3.8		%	20
4063575	COP	Matrix Spike	Total Ammonia-N	2015/06/15		90	%	80 - 120
4063575	COP	Spiked Blank	Total Ammonia-N	2015/06/15		100	%	85 - 115
4063575	COP	Method Blank	Total Ammonia-N	2015/06/15	ND, RDL=0.050		mg/L	
4063575	COP	RPD	Total Ammonia-N	2015/06/15	NC		%	20
4063729	LHA	Matrix Spike	Total Kjeldahl Nitrogen (TKN)	2015/06/16		103	%	80 - 120
4063729	LHA	QC Standard	Total Kjeldahl Nitrogen (TKN)	2015/06/16		100	%	80 - 120
4063729	LHA	Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2015/06/16		102	%	80 - 120
4063729	LHA	Method Blank	Total Kjeldahl Nitrogen (TKN)	2015/06/16	ND, RDL=0.10		mg/L	
4063729	LHA	RPD	Total Kjeldahl Nitrogen (TKN)	2015/06/16	NC		%	20
4064289	ADA	Matrix Spike	Dissolved Aluminum (Al)	2015/06/15		98	%	80 - 120
			Dissolved Antimony (Sb)	2015/06/15		104	%	80 - 120
			Dissolved Arsenic (As)	2015/06/15		98	%	80 - 120
			Dissolved Barium (Ba)	2015/06/15		96	%	80 - 120
			Dissolved Beryllium (Be)	2015/06/15		98	%	80 - 120
			Dissolved Boron (B)	2015/06/15		98	%	80 - 120
			Dissolved Cadmium (Cd)	2015/06/15		101	%	80 - 120
			Dissolved Calcium (Ca)	2015/06/15		NC	%	80 - 120
			Dissolved Chromium (Cr)	2015/06/15		96	%	80 - 120
			Dissolved Cobalt (Co)	2015/06/15		94	%	80 - 120
			Dissolved Copper (Cu)	2015/06/15		99	%	80 - 120
			Dissolved Iron (Fe)	2015/06/15		98	%	80 - 120
			Dissolved Lead (Pb)	2015/06/15		96	%	80 - 120
			Dissolved Magnesium (Mg)	2015/06/15		NC	%	80 - 120
			Dissolved Manganese (Mn)	2015/06/15		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2015/06/15		103	%	80 - 120
			Dissolved Nickel (Ni)	2015/06/15		94	%	80 - 120
			Dissolved Phosphorus (P)	2015/06/15		105	%	80 - 120
			Dissolved Potassium (K)	2015/06/15		98	%	80 - 120
			Dissolved Selenium (Se)	2015/06/15		100	%	80 - 120
			Dissolved Silicon (Si)	2015/06/15		95	%	80 - 120
			Dissolved Silver (Ag)	2015/06/15		98	%	80 - 120
			Dissolved Sodium (Na)	2015/06/15		NC	%	80 - 120
			Dissolved Strontium (Sr)	2015/06/15		NC	%	80 - 120
			Dissolved Thallium (Tl)	2015/06/15		96	%	80 - 120
			Dissolved Titanium (Ti)	2015/06/15		96	%	80 - 120
			Dissolved Uranium (U)	2015/06/15		98	%	80 - 120
			Dissolved Vanadium (V)	2015/06/15		97	%	80 - 120

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Maxxam Job #: B5B1264
Report Date: 2015/06/17

Ian D Wilson Associates Ltd
Client Project #: GREELY

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Dissolved Zinc (Zn)	2015/06/15		95	%	80 - 120
4064289	ADA	Spiked Blank	Dissolved Aluminum (Al)	2015/06/15		103	%	80 - 120
			Dissolved Antimony (Sb)	2015/06/15		106	%	80 - 120
			Dissolved Arsenic (As)	2015/06/15		103	%	80 - 120
			Dissolved Barium (Ba)	2015/06/15		100	%	80 - 120
			Dissolved Beryllium (Be)	2015/06/15		104	%	80 - 120
			Dissolved Boron (B)	2015/06/15		104	%	80 - 120
			Dissolved Cadmium (Cd)	2015/06/15		104	%	80 - 120
			Dissolved Calcium (Ca)	2015/06/15		101	%	80 - 120
			Dissolved Chromium (Cr)	2015/06/15		101	%	80 - 120
			Dissolved Cobalt (Co)	2015/06/15		100	%	80 - 120
			Dissolved Copper (Cu)	2015/06/15		104	%	80 - 120
			Dissolved Iron (Fe)	2015/06/15		103	%	80 - 120
			Dissolved Lead (Pb)	2015/06/15		101	%	80 - 120
			Dissolved Magnesium (Mg)	2015/06/15		102	%	80 - 120
			Dissolved Manganese (Mn)	2015/06/15		102	%	80 - 120
			Dissolved Molybdenum (Mo)	2015/06/15		105	%	80 - 120
			Dissolved Nickel (Ni)	2015/06/15		101	%	80 - 120
			Dissolved Phosphorus (P)	2015/06/15		107	%	80 - 120
			Dissolved Potassium (K)	2015/06/15		103	%	80 - 120
			Dissolved Selenium (Se)	2015/06/15		104	%	80 - 120
			Dissolved Silicon (Si)	2015/06/15		101	%	80 - 120
			Dissolved Silver (Ag)	2015/06/15		103	%	80 - 120
			Dissolved Sodium (Na)	2015/06/15		101	%	80 - 120
			Dissolved Strontium (Sr)	2015/06/15		102	%	80 - 120
			Dissolved Thallium (Tl)	2015/06/15		100	%	80 - 120
			Dissolved Titanium (Ti)	2015/06/15		99	%	80 - 120
			Dissolved Uranium (U)	2015/06/15		102	%	80 - 120
			Dissolved Vanadium (V)	2015/06/15		101	%	80 - 120
			Dissolved Zinc (Zn)	2015/06/15		102	%	80 - 120
4064289	ADA	Method Blank	Dissolved Aluminum (Al)	2015/06/15	ND, RDL=5.0		ug/L	
			Dissolved Antimony (Sb)	2015/06/15	ND, RDL=0.50		ug/L	
			Dissolved Arsenic (As)	2015/06/15	ND, RDL=1.0		ug/L	
			Dissolved Barium (Ba)	2015/06/15	ND, RDL=2.0		ug/L	
			Dissolved Beryllium (Be)	2015/06/15	ND, RDL=0.50		ug/L	
			Dissolved Boron (B)	2015/06/15	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2015/06/15	ND, RDL=0.10		ug/L	
			Dissolved Calcium (Ca)	2015/06/15	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2015/06/15	ND, RDL=5.0		ug/L	
			Dissolved Cobalt (Co)	2015/06/15	ND, RDL=0.50		ug/L	
			Dissolved Copper (Cu)	2015/06/15	ND, RDL=1.0		ug/L	

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Report Date: 2015/06/17

Ian D Wilson Associates Ltd
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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Dissolved Iron (Fe)	2015/06/15	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2015/06/15	ND, RDL=0.50		ug/L	
			Dissolved Magnesium (Mg)	2015/06/15	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2015/06/15	ND, RDL=2.0		ug/L	
			Dissolved Molybdenum (Mo)	2015/06/15	ND, RDL=0.50		ug/L	
			Dissolved Nickel (Ni)	2015/06/15	ND, RDL=1.0		ug/L	
			Dissolved Phosphorus (P)	2015/06/15	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2015/06/15	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2015/06/15	ND, RDL=2.0		ug/L	
			Dissolved Silicon (Si)	2015/06/15	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2015/06/15	ND, RDL=0.10		ug/L	
			Dissolved Sodium (Na)	2015/06/15	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2015/06/15	ND, RDL=1.0		ug/L	
			Dissolved Thallium (Tl)	2015/06/15	ND, RDL=0.050		ug/L	
			Dissolved Titanium (Ti)	2015/06/15	ND, RDL=5.0		ug/L	
			Dissolved Uranium (U)	2015/06/15	ND, RDL=0.10		ug/L	
			Dissolved Vanadium (V)	2015/06/15	ND, RDL=0.50		ug/L	
			Dissolved Zinc (Zn)	2015/06/15	ND, RDL=5.0		ug/L	
4064289	ADA	RPD	Dissolved Antimony (Sb)	2015/06/15	NC		%	20
			Dissolved Arsenic (As)	2015/06/15	NC		%	20
			Dissolved Barium (Ba)	2015/06/15	3.6		%	20
			Dissolved Beryllium (Be)	2015/06/15	NC		%	20
			Dissolved Boron (B)	2015/06/15	NC		%	20
			Dissolved Cadmium (Cd)	2015/06/15	NC		%	20
			Dissolved Chromium (Cr)	2015/06/15	NC		%	20
			Dissolved Cobalt (Co)	2015/06/15	NC		%	20
			Dissolved Copper (Cu)	2015/06/15	NC		%	20
			Dissolved Lead (Pb)	2015/06/15	NC		%	20
			Dissolved Molybdenum (Mo)	2015/06/15	1.4		%	20
			Dissolved Nickel (Ni)	2015/06/15	NC		%	20
			Dissolved Selenium (Se)	2015/06/15	NC		%	20
			Dissolved Silver (Ag)	2015/06/15	NC		%	20
			Dissolved Sodium (Na)	2015/06/15	5.6		%	20
			Dissolved Thallium (Tl)	2015/06/15	NC		%	20

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Dissolved Uranium (U)	2015/06/15	4.1		%	20
			Dissolved Vanadium (V)	2015/06/15	NC		%	20
			Dissolved Zinc (Zn)	2015/06/15	NC		%	20
4064322	ADB	Matrix Spike	Dissolved Chloride (Cl)	2015/06/15		110	%	80 - 120
4064322	ADB	Spiked Blank	Dissolved Chloride (Cl)	2015/06/15		103	%	80 - 120
4064322	ADB	Method Blank	Dissolved Chloride (Cl)	2015/06/15	ND,RDL=1		mg/L	
4064322	ADB	RPD	Dissolved Chloride (Cl)	2015/06/15	NC		%	20
4064327	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2015/06/15		NC	%	75 - 125
4064327	DRM	Spiked Blank	Dissolved Sulphate (SO4)	2015/06/15		106	%	80 - 120
4064327	DRM	Method Blank	Dissolved Sulphate (SO4)	2015/06/15	ND,RDL=1		mg/L	
4064327	DRM	RPD	Dissolved Sulphate (SO4)	2015/06/15	3.6		%	20
4064328	ADB	Matrix Spike	Orthophosphate (P)	2015/06/15		109	%	75 - 125
4064328	ADB	Spiked Blank	Orthophosphate (P)	2015/06/15		99	%	80 - 120
4064328	ADB	Method Blank	Orthophosphate (P)	2015/06/15	ND, RDL=0.010		mg/L	
4064328	ADB	RPD	Orthophosphate (P)	2015/06/15	NC		%	25
4064330	COP	Matrix Spike [AKS585-02]	Total Ammonia-N	2015/06/15		101	%	80 - 120
4064330	COP	Spiked Blank	Total Ammonia-N	2015/06/15		99	%	85 - 115
4064330	COP	Method Blank	Total Ammonia-N	2015/06/15	ND, RDL=0.050		mg/L	
4064330	COP	RPD [AKS585-02]	Total Ammonia-N	2015/06/15	NC		%	20
4064344	C_N	Matrix Spike	Nitrite (N)	2015/06/15		97	%	80 - 120
			Nitrate (N)	2015/06/15		105	%	80 - 120
4064344	C_N	Spiked Blank	Nitrite (N)	2015/06/15		88	%	80 - 120
			Nitrate (N)	2015/06/15		102	%	80 - 120
4064344	C_N	Method Blank	Nitrite (N)	2015/06/15	ND, RDL=0.010		mg/L	
			Nitrate (N)	2015/06/15	ND, RDL=0.10		mg/L	
4064344	C_N	RPD	Nitrite (N)	2015/06/15	NC		%	25
			Nitrate (N)	2015/06/15	NC		%	25

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

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Maxxam Job #: B5B1264
Report Date: 2015/06/17

Ian D Wilson Associates Ltd
Client Project #: GREELY

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Brad Newman, Scientific Specialist

Cristina Carriere

Cristina Carriere, Scientific Services

Kavita Verma

Kavita Verma, Analyst I

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Maxxam
A Bureau Veritas Group Company

Success Through Science®

Your Project #: GREELY
Your C.O.C. #: 56813

Attention:Geoff Rether

Ian D Wilson Associates Ltd
PO Box 299
76722 Airport Rd
Clinton, ON
N0M 1L0

Report Date: 2015/06/17
Report #: R3469139
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B5B3166
Received: 2015/06/12, 13:12

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Alkalinity	1	N/A	2015/06/15	CAM SOP-00448	SM 22 2320 B m
Carbonate, Bicarbonate and Hydroxide	1	N/A	2015/06/16	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	1	N/A	2015/06/16	CAM SOP-00463	EPA 325.2 m
Conductivity	1	N/A	2015/06/15	CAM SOP-00414	SM 22 2510 m
Dissolved Organic Carbon (DOC) (1)	1	N/A	2015/06/15	CAM SOP-00446	SM 22 5310 B m
Hardness (calculated as CaCO3)	1	N/A	2015/06/16	CAM SOP 00102/00408/00447	SM 2340 B
Lab Filtered Metals by ICPMS	1	2015/06/15	2015/06/16	CAM SOP-00447	EPA 6020A m
Ion Balance (% Difference)	1	N/A	2015/06/16		
Anion and Cation Sum	1	N/A	2015/06/16		
Total Coliforms/ E. coli, CFU/100mL	1	N/A	2015/06/12	CAM SOP-00551	MOE E3407
Total Ammonia-N	1	N/A	2015/06/16	CAM SOP-00441	EPA GS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (2)	1	N/A	2015/06/17	CAM SOP-00440	SM 22 4500-NO3I/NO2B
pH	1	N/A	2015/06/15	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	1	N/A	2015/06/16	CAM SOP-00461	EPA 365.1 m
Sat. pH and Langelier Index (@ 20C)	1	N/A	2015/06/16		
Sat. pH and Langelier Index (@ 4C)	1	N/A	2015/06/16		
Sulphate by Automated Colourimetry	1	N/A	2015/06/16	CAM SOP-00464	EPA 375.4 m
Total Dissolved Solids (TDS calc)	1	N/A	2015/06/16		

Remarks:

Maxxam Analytics has performed all analytical testing herein in accordance with ISO 17025 and the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. All methodologies comply with this document and are validated for use in the laboratory. The methods and techniques employed in this analysis conform to the performance criteria (detection limits, accuracy and precision) as outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act.

The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following the 'Alberta Environment Draft Addenda to the CWS-PHC, Appendix 6, Validation of Alternate Methods'. Documentation is available upon request. Maxxam has made the following improvements to the CWS-PHC reference benchmark method: (i) Headspace for F1; and, (ii) Mechanical extraction for F2-F4. Note: F4G cannot be added to the C6 to C50 hydrocarbons. The extraction date for samples field preserved with methanol for F1 and Volatile Organic Compounds is considered to be the date sampled.

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CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B5B3166
Received: 2015/06/12, 13:12

Maxxam Analytics is accredited for all specific parameters as required by Ontario Regulation 153/04. Maxxam Analytics is limited in liability to the actual cost of analysis unless otherwise agreed in writing. There is no other warranty expressed or implied. Samples will be retained at Maxxam Analytics for three weeks from receipt of data or as per contract.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Hina Siddiqui
18 Jun 2015 17:46:06 -04:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephen McMillan, Project Manager
Email: smcmillan@maxxam.ca
Phone# (905)817-5700 Ext:5735

==========

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Maxxam Job #: B5B3166
Report Date: 2015/06/17

Ian D Wilson Associates Ltd
Client Project #: GREELY

RCAP - COMPREHENSIVE (LAB FILTERED)

Maxxam ID		ALB693		
Sampling Date		2015/06/11 11:30		
COC Number		56813		
	Units	24 HOURS	RDL	QC Batch
Calculated Parameters				
Anion Sum	me/L	7.81	N/A	4064316
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	210	1.0	4064314
Calculated TDS	mg/L	430	1.0	4064319
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.7	1.0	4064314
Cation Sum	me/L	7.94	N/A	4064316
Hardness (CaCO3)	mg/L	280	1.0	4063719
Ion Balance (% Difference)	%	0.790	N/A	4064315
Langelier Index (@ 20C)	N/A	0.636		4064317
Langelier Index (@ 4C)	N/A	0.387		4064318
Saturation pH (@ 20C)	N/A	7.31		4064317
Saturation pH (@ 4C)	N/A	7.56		4064318
Inorganics				
Total Ammonia-N	mg/L	0.079	0.050	4065686
Conductivity	umho/cm	790	1.0	4065136
Dissolved Organic Carbon	mg/L	1.1	0.20	4064984
Orthophosphate (P)	mg/L	ND	0.010	4065807
pH	pH	7.94	N/A	4065135
Dissolved Sulphate (SO4)	mg/L	49	1	4065808
Alkalinity (Total as CaCO3)	mg/L	210	1.0	4065133
Dissolved Chloride (Cl)	mg/L	92	1	4065800
Nitrite (N)	mg/L	ND	0.010	4065605
Nitrate (N)	mg/L	ND	0.10	4065605
Metals				
Dissolved Aluminum (Al)	ug/L	ND	5.0	4066427
Dissolved Antimony (Sb)	ug/L	ND	0.50	4066427
Dissolved Arsenic (As)	ug/L	ND	1.0	4066427
Dissolved Barium (Ba)	ug/L	150	2.0	4066427
Dissolved Beryllium (Be)	ug/L	ND	0.50	4066427
Dissolved Boron (B)	ug/L	70	10	4066427
Dissolved Cadmium (Cd)	ug/L	ND	0.10	4066427
Dissolved Calcium (Ca)	ug/L	66000	200	4066427
Dissolved Chromium (Cr)	ug/L	ND	5.0	4066427
Dissolved Cobalt (Co)	ug/L	ND	0.50	4066427

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
ND = Not detected

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Maxxam Job #: B5B3166
Report Date: 2015/06/17

Ian D Wilson Associates Ltd
Client Project #: GREELY

RCAP - COMPREHENSIVE (LAB FILTERED)

Maxxam ID		ALB693		
Sampling Date		2015/06/11 11:30		
COC Number		56813		
	Units	24 HOURS	RDL	QC Batch
Dissolved Copper (Cu)	ug/L	ND	1.0	4066427
Dissolved Iron (Fe)	ug/L	ND	100	4066427
Dissolved Lead (Pb)	ug/L	ND	0.50	4066427
Dissolved Magnesium (Mg)	ug/L	27000	50	4066427
Dissolved Manganese (Mn)	ug/L	42	2.0	4066427
Dissolved Molybdenum (Mo)	ug/L	3.8	0.50	4066427
Dissolved Nickel (Ni)	ug/L	ND	1.0	4066427
Dissolved Phosphorus (P)	ug/L	ND	100	4066427
Dissolved Potassium (K)	ug/L	4200	200	4066427
Dissolved Selenium (Se)	ug/L	ND	2.0	4066427
Dissolved Silicon (Si)	ug/L	5100	50	4066427
Dissolved Silver (Ag)	ug/L	ND	0.10	4066427
Dissolved Sodium (Na)	ug/L	53000	100	4066427
Dissolved Strontium (Sr)	ug/L	1200	1.0	4066427
Dissolved Thallium (Tl)	ug/L	ND	0.050	4066427
Dissolved Titanium (Ti)	ug/L	ND	5.0	4066427
Dissolved Uranium (U)	ug/L	0.40	0.10	4066427
Dissolved Vanadium (V)	ug/L	ND	0.50	4066427
Dissolved Zinc (Zn)	ug/L	ND	5.0	4066427

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not detected

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MICROBIOLOGY (WATER)

Maxxam ID		ALB693	
Sampling Date		2015/06/11 11:30	
COC Number		56813	
	Units	24 HOURS	QC Batch
Microbiological			
Background	CFU/100mL	0	4064754
Total Coliforms	CFU/100mL	0	4064754
Escherichia coli	CFU/100mL	0	4064754
QC Batch = Quality Control Batch			

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Maxxam Job #: B5B3166
Report Date: 2015/06/17

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TEST SUMMARY

Maxxam ID: ALB693
Sample ID: 24 HOURS
Matrix: Water

Collected: 2015/06/11
Shipped:
Received: 2015/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	4065133	N/A	2015/06/15	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	4064314	N/A	2015/06/16	Automated Statchk
Chloride by Automated Colourimetry	KONE	4065800	N/A	2015/06/16	Alina Dobreanu
Conductivity	AT	4065136	N/A	2015/06/15	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	4064984	N/A	2015/06/15	Elsamma Alex
Hardness (calculated as CaCO3)		4063719	N/A	2015/06/16	Automated Statchk
Lab Filtered Metals by ICPMS	ICP/MS	4066427	2015/06/15	2015/06/16	Arefa Dabhad
Ion Balance (% Difference)	CALC	4064315	N/A	2015/06/16	Automated Statchk
Anion and Cation Sum	CALC	4064316	N/A	2015/06/16	Automated Statchk
Total Coliforms/ E. coli, CFU/100mL	PL	4064754	N/A	2015/06/12	Vimukthi Gunawardhan
Total Ammonia-N	LACH/NH4	4065686	N/A	2015/06/16	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	4065605	N/A	2015/06/17	Chandra Nandlal
pH	AT	4065135	N/A	2015/06/15	Surinder Rai
Orthophosphate	KONE	4065807	N/A	2015/06/16	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	4064317	N/A	2015/06/16	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4064318	N/A	2015/06/16	Automated Statchk
Sulphate by Automated Colourimetry	KONE	4065808	N/A	2015/06/16	Deonarine Ramnarine
Total Dissolved Solids (TDS calc)	CALC	4064319	N/A	2015/06/16	Automated Statchk

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Maxxam Job #: B583166
Report Date: 2015/06/17

Ian D Wilson Associates Ltd
Client Project #: GREELY

GENERAL COMMENTS

Results relate only to the items tested.

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Maxxam Job #: B5B3166
Report Date: 2015/06/17

Ian D Wilson Associates Ltd
Client Project #: GREELY

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
4064984	EAX	Matrix Spike	Dissolved Organic Carbon	2015/06/15		90	%	80 - 120
4064984	EAX	Spiked Blank	Dissolved Organic Carbon	2015/06/15		95	%	80 - 120
4064984	EAX	Method Blank	Dissolved Organic Carbon	2015/06/15	0.37, RDL=0.20		mg/L	
4064984	EAX	RPD	Dissolved Organic Carbon	2015/06/15	NC		%	20
4065133	SAU	Spiked Blank	Alkalinity (Total as CaCO3)	2015/06/15		95	%	85 - 115
4065133	SAU	Method Blank	Alkalinity (Total as CaCO3)	2015/06/15	ND, RDL=1.0		mg/L	
4065133	SAU	RPD	Alkalinity (Total as CaCO3)	2015/06/15	0.80		%	25
4065135	SAU	Spiked Blank	pH	2015/06/15		101	%	98 - 103
4065135	SAU	RPD	pH	2015/06/15	0.10		%	N/A
4065136	SAU	Spiked Blank	Conductivity	2015/06/15		101	%	85 - 115
4065136	SAU	Method Blank	Conductivity	2015/06/15	ND, RDL=1.0		umho/cm	
4065136	SAU	RPD	Conductivity	2015/06/15	0		%	25
4065605	C_N	Matrix Spike	Nitrite (N)	2015/06/17		NC	%	80 - 120
			Nitrate (N)	2015/06/17		NC	%	80 - 120
4065605	C_N	Spiked Blank	Nitrite (N)	2015/06/17		101	%	80 - 120
			Nitrate (N)	2015/06/17		107	%	80 - 120
4065605	C_N	Method Blank	Nitrite (N)	2015/06/17	ND, RDL=0.010		mg/L	
			Nitrate (N)	2015/06/17	ND, RDL=0.10		mg/L	
4065605	C_N	RPD	Nitrite (N)	2015/06/17	3.0		%	25
			Nitrate (N)	2015/06/17	2.5		%	25
4065686	COP	Matrix Spike	Total Ammonia-N	2015/06/16		NC	%	80 - 120
4065686	COP	Spiked Blank	Total Ammonia-N	2015/06/16		99	%	85 - 115
4065686	COP	Method Blank	Total Ammonia-N	2015/06/16	ND, RDL=0.050		mg/L	
4065686	COP	RPD	Total Ammonia-N	2015/06/16	0.64		%	20
4065800	ADB	Matrix Spike	Dissolved Chloride (Cl)	2015/06/16		NC	%	80 - 120
4065800	ADB	Spiked Blank	Dissolved Chloride (Cl)	2015/06/16		103	%	80 - 120
4065800	ADB	Method Blank	Dissolved Chloride (Cl)	2015/06/16	ND,RDL=1		mg/L	
4065800	ADB	RPD	Dissolved Chloride (Cl)	2015/06/16	2.4		%	20
4065807	ADB	Matrix Spike	Orthophosphate (P)	2015/06/16		105	%	75 - 125
4065807	ADB	Spiked Blank	Orthophosphate (P)	2015/06/16		100	%	80 - 120
4065807	ADB	Method Blank	Orthophosphate (P)	2015/06/16	ND, RDL=0.010		mg/L	
4065807	ADB	RPD	Orthophosphate (P)	2015/06/16	NC		%	25
4065808	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2015/06/16		NC	%	75 - 125
4065808	DRM	Spiked Blank	Dissolved Sulphate (SO4)	2015/06/16		104	%	80 - 120
4065808	DRM	Method Blank	Dissolved Sulphate (SO4)	2015/06/16	ND,RDL=1		mg/L	
4065808	DRM	RPD	Dissolved Sulphate (SO4)	2015/06/16	0.94		%	20
4066427	ADA	Matrix Spike	Dissolved Aluminum (Al)	2015/06/16		101	%	80 - 120
			Dissolved Antimony (Sb)	2015/06/16		102	%	80 - 120
			Dissolved Arsenic (As)	2015/06/16		99	%	80 - 120
			Dissolved Barium (Ba)	2015/06/16		97	%	80 - 120
			Dissolved Beryllium (Be)	2015/06/16		99	%	80 - 120
			Dissolved Boron (B)	2015/06/16		99	%	80 - 120
			Dissolved Cadmium (Cd)	2015/06/16		102	%	80 - 120
			Dissolved Calcium (Ca)	2015/06/16		102	%	80 - 120
			Dissolved Chromium (Cr)	2015/06/16		99	%	80 - 120
			Dissolved Cobalt (Co)	2015/06/16		98	%	80 - 120
			Dissolved Copper (Cu)	2015/06/16		100	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Dissolved Iron (Fe)	2015/06/16		99	%	80 - 120
			Dissolved Lead (Pb)	2015/06/16		98	%	80 - 120
			Dissolved Magnesium (Mg)	2015/06/16		100	%	80 - 120
			Dissolved Manganese (Mn)	2015/06/16		100	%	80 - 120
			Dissolved Molybdenum (Mo)	2015/06/16		102	%	80 - 120
			Dissolved Nickel (Ni)	2015/06/16		99	%	80 - 120
			Dissolved Phosphorus (P)	2015/06/16		100	%	80 - 120
			Dissolved Potassium (K)	2015/06/16		100	%	80 - 120
			Dissolved Selenium (Se)	2015/06/16		101	%	80 - 120
			Dissolved Silicon (Si)	2015/06/16		103	%	80 - 120
			Dissolved Silver (Ag)	2015/06/16		99	%	80 - 120
			Dissolved Sodium (Na)	2015/06/16		99	%	80 - 120
			Dissolved Strontium (Sr)	2015/06/16		99	%	80 - 120
			Dissolved Thallium (Tl)	2015/06/16		98	%	80 - 120
			Dissolved Titanium (Ti)	2015/06/16		100	%	80 - 120
			Dissolved Uranium (U)	2015/06/16		98	%	80 - 120
			Dissolved Vanadium (V)	2015/06/16		99	%	80 - 120
			Dissolved Zinc (Zn)	2015/06/16		99	%	80 - 120
4066427	ADA	Spiked Blank	Dissolved Aluminum (Al)	2015/06/16		104	%	80 - 120
			Dissolved Antimony (Sb)	2015/06/16		105	%	80 - 120
			Dissolved Arsenic (As)	2015/06/16		101	%	80 - 120
			Dissolved Barium (Ba)	2015/06/16		101	%	80 - 120
			Dissolved Beryllium (Be)	2015/06/16		102	%	80 - 120
			Dissolved Boron (B)	2015/06/16		102	%	80 - 120
			Dissolved Cadmium (Cd)	2015/06/16		105	%	80 - 120
			Dissolved Calcium (Ca)	2015/06/16		105	%	80 - 120
			Dissolved Chromium (Cr)	2015/06/16		101	%	80 - 120
			Dissolved Cobalt (Co)	2015/06/16		100	%	80 - 120
			Dissolved Copper (Cu)	2015/06/16		102	%	80 - 120
			Dissolved Iron (Fe)	2015/06/16		101	%	80 - 120
			Dissolved Lead (Pb)	2015/06/16		100	%	80 - 120
			Dissolved Magnesium (Mg)	2015/06/16		102	%	80 - 120
			Dissolved Manganese (Mn)	2015/06/16		101	%	80 - 120
			Dissolved Molybdenum (Mo)	2015/06/16		104	%	80 - 120
			Dissolved Nickel (Ni)	2015/06/16		101	%	80 - 120
			Dissolved Phosphorus (P)	2015/06/16		109	%	80 - 120
			Dissolved Potassium (K)	2015/06/16		102	%	80 - 120
			Dissolved Selenium (Se)	2015/06/16		105	%	80 - 120
			Dissolved Silicon (Si)	2015/06/16		106	%	80 - 120
			Dissolved Silver (Ag)	2015/06/16		103	%	80 - 120
			Dissolved Sodium (Na)	2015/06/16		101	%	80 - 120
			Dissolved Strontium (Sr)	2015/06/16		102	%	80 - 120
			Dissolved Thallium (Tl)	2015/06/16		100	%	80 - 120
			Dissolved Titanium (Ti)	2015/06/16		104	%	80 - 120
			Dissolved Uranium (U)	2015/06/16		101	%	80 - 120
			Dissolved Vanadium (V)	2015/06/16		101	%	80 - 120
			Dissolved Zinc (Zn)	2015/06/16		101	%	80 - 120
4066427	ADA	Method Blank	Dissolved Aluminum (Al)	2015/06/16	ND, RDL=5.0		ug/L	
			Dissolved Antimony (Sb)	2015/06/16	ND, RDL=0.50		ug/L	
			Dissolved Arsenic (As)	2015/06/16	ND, RDL=1.0		ug/L	

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Maxxam Job #: B5B3166
Report Date: 2015/06/17

Ian D Wilson Associates Ltd
Client Project #: GREELY

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Dissolved Barium (Ba)	2015/06/16	ND, RDL=2.0		ug/L	
			Dissolved Beryllium (Be)	2015/06/16	ND, RDL=0.50		ug/L	
			Dissolved Boron (B)	2015/06/16	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2015/06/16	ND, RDL=0.10		ug/L	
			Dissolved Calcium (Ca)	2015/06/16	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2015/06/16	ND, RDL=5.0		ug/L	
			Dissolved Cobalt (Co)	2015/06/16	ND, RDL=0.50		ug/L	
			Dissolved Copper (Cu)	2015/06/16	ND, RDL=1.0		ug/L	
			Dissolved Iron (Fe)	2015/06/16	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2015/06/16	ND, RDL=0.50		ug/L	
			Dissolved Magnesium (Mg)	2015/06/16	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2015/06/16	ND, RDL=2.0		ug/L	
			Dissolved Molybdenum (Mo)	2015/06/16	ND, RDL=0.50		ug/L	
			Dissolved Nickel (Ni)	2015/06/16	ND, RDL=1.0		ug/L	
			Dissolved Phosphorus (P)	2015/06/16	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2015/06/16	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2015/06/16	ND, RDL=2.0		ug/L	
			Dissolved Silicon (Si)	2015/06/16	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2015/06/16	ND, RDL=0.10		ug/L	
			Dissolved Sodium (Na)	2015/06/16	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2015/06/16	ND, RDL=1.0		ug/L	
			Dissolved Thallium (Tl)	2015/06/16	ND, RDL=0.050		ug/L	
			Dissolved Titanium (Ti)	2015/06/16	ND, RDL=5.0		ug/L	
			Dissolved Uranium (U)	2015/06/16	ND, RDL=0.10		ug/L	
			Dissolved Vanadium (V)	2015/06/16	ND, RDL=0.50		ug/L	

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B5B3166
Report Date: 2015/06/17

Ian D Wilson Associates Ltd
Client Project #: GREELY

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Dissolved Zinc (Zn)	2015/06/16	ND, RDL=5.0		ug/L	

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

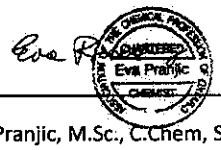
Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B5B3166
Report Date: 2015/06/17

Ian D Wilson Associates Ltd
Client Project #: GREELY

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

Vimukthi Gunawardhan

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

OFF-SITE WELL RECORDS WITHIN 300m

F-9

316/58

UTM | 18 | 4515/1410 | E

Register | Foot | 1410/10 | N

Elev. 94 | Ft | 013/318 |

Basin | 25 | Lot 30

County or District Carl

Township, Village, Town or City Gloucester

Con. 1V R.F. Lot 30

Date completed 18 (day) Sept (month) 63 (year)

Owner St Marys Separate School (Print in block letters)

Address RR #4 Ottawa Ont

GROUND WATER BRANCH
15 No. 2201
DEC 3 1963
ONTARIO WATER RESOURCES COMMISSION

The Ontario Water Resources Commission Act

WATER WELL RECORD

Casing and Screen Record

Inside diameter of casing 5"

Total length of casing 37'

Type of screen

Length of screen

Depth to top of screen

Diameter of finished hole 5"

Pumping Test

Static level 25

Test-pumping rate 10 G.P.M.

Pumping level 31

Duration of test pumping 1 hr

Water clear or cloudy at end of test cloudy

Recommended pumping rate 10 G.P.M.

with pump setting of 70 feet below ground surface

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Water Record: Kind of water (fresh, salty, sulphur)
gravely sand & boulders	0	33	70	fresh
Blue limestone	33	100	98	"

For what purpose(s) is the water to be used? school

Is well on upland, in valley, or on hillside? hillside

Drilling or Boring Firm Capital Water Supply

Address 1243 Heron Rd Ottawa

Licence Number 976

Name of Driller or Borer M Kavanagh

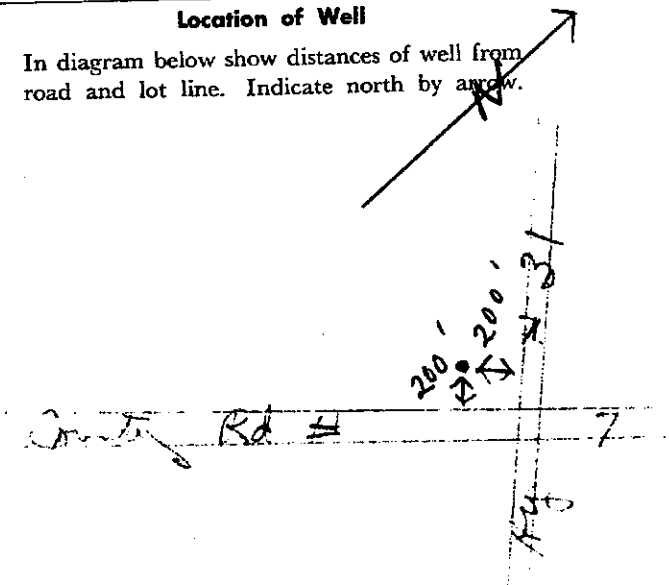
Address

Date 18 Sept 1963

Walter Kavanagh
(Signature of Licensed Drilling or Boring Contractor)

Location of Well

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



Form 7 15M-60-4138

VRC COPY

31G/5a "B"

UTM 1 18 E 4 5 5 2 1 5 E
5 R 5 0 1 3 8 6 0 N
Elev. 4 R 0 3 5 0
Basin 2 5

Con V
lot 1

ONTARIO

15 № 7257

The Water-well Drillers Act, 1954

Department of Mines

Water-Well Record

County or Territorial District Carlton Township, Village, Town or City Osgoode
[redacted] Village, ~~Town or City~~ Gloucester
[redacted] Address Marco St
[redacted] (day) (month) (year)

Pipe and Casing Record	
Casing diameter(s)	5"
Length(s)	76' of 5" and 15' of 4"
Type of screen	Nil
Length of screen	

Pumping Test	
Static level	40'
Pumping rate	180 GPH
Pumping level	45'
Duration of test	1/2 HOUR

Well Log / Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
Clay	0'	76'			
Shale	76'	80'			
Limestone	80'	103'	76'	36'	fresh

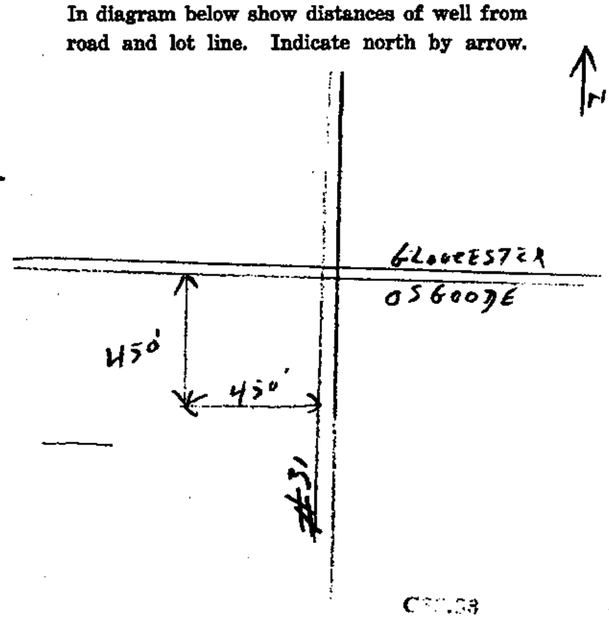
For what purpose(s) is the water to be used? domestic
Is water clear or cloudy? clear
Is well on upland, in valley, or on hillside? Upland
Drilling firm Blair Phillips
Address 1119 Falaise Rd Ottawa 5 Ont
Name of Driller Leo Vachon
Address 356 Montreal Rd Eastview
Licence Number 1219

I certify that the foregoing statements of fact are true.

Date 26 Mar 57 J. G. Vachon
Signature of Licensee

Location of Well

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



Form 5

3/6/50 "B"

UTM 18 [redacted] 5 5 2 1 0 E
15 5 0 1 3 7 1 5 N
Elev. 4 0 3 5 0
Basin 2 5 W 1 1

ONTARIO

15 No. 7958

GROUND WATER BRANCH
MAY 28 1957
ONTARIO WATER RESOURCES COMMISSION

The Water-well Drillers Act, 1954
Department of Mines

Water-Well Record

County or Territorial District Carleton Township, Village, Town or City Osgoode

[redacted] Village, Town or City) South Gloucester

Address Marco St.

(day) (month) (year)

Pipe and Casing Record

Casing diameter(s) 5"
Length(s) 80' of 5" & 10' of 4"
Type of screen Nil
Length of screen

Pumping Test

Static level 40'
Pumping rate ml80 GPH
Pumping level 90'
Duration of test 15 Minutes

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
Clay	0'	80'			
Shale	80'	99'	99'	59'	fresh

Water Record

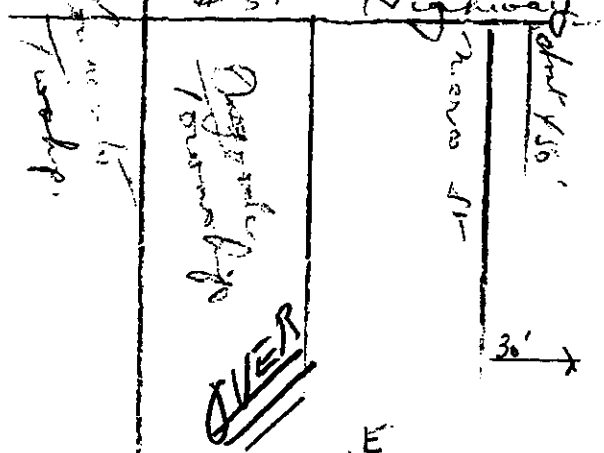
For what purpose(s) is the water to be used?
Domestic
Is water clear or cloudy? clear
Is well on upland, in valley, or on hillside?
upland
Drilling firm BLAIR PHILLIPS
Address 1119 Falaise Rd.,
Ottawa, Ont.
Name of Driller M. Sutton
Address 90 Grove. Ave.
Ottawa, Ont.
Licence Number 594

I certify that the foregoing statements of fact are true.

Date 29 Mar.57 M. Sutton
Signature of Licensee

Location of Well

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



Form 5

E
L S

CSS.58

316/50 "B"

UTM 1 8 Z 4 5 5 1 5 0 E
5 R 5 0 1 3 5 8 0 N
Elev. (4R) 0 3 8 8
Basin 2057 1

GROUND WATER BRANCH
15 JUL 21 1958 No 4262
ONTARIO WATER RESOURCES COMMISSION

ONTARIO

The Water-well Drillers Act, 1954
Department of Mines

Water-Well Record

County or Territorial District *Carleton* Township, Village, Town or City *Osgood*
Con. *5* Lot *1* Street and Number (if in Village, Town or City)
Owner [redacted] Address *Manotick R.R. 2 Ont.*
Date completed *5* (day) *July* (month) *1958* (year)
[redacted]

Pipe and Casing Record		Pumping Test	
Casing diameter(s)	*4 inch*	Static level	*30 feet*
Length(s)	*76 feet*	Pumping rate	*400 GPH*
Type of screen		Pumping level	*No*
Length of screen		Duration of test	*1 hour*

Well Log / **Water Record**

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
sand	*0*	*60*	*80 feet*	*50 feet*	*fresh*
Quick sand	*60*	*70*			
gravel	*70*	*76*			
rock LIMESTONE	*76*	*80*			

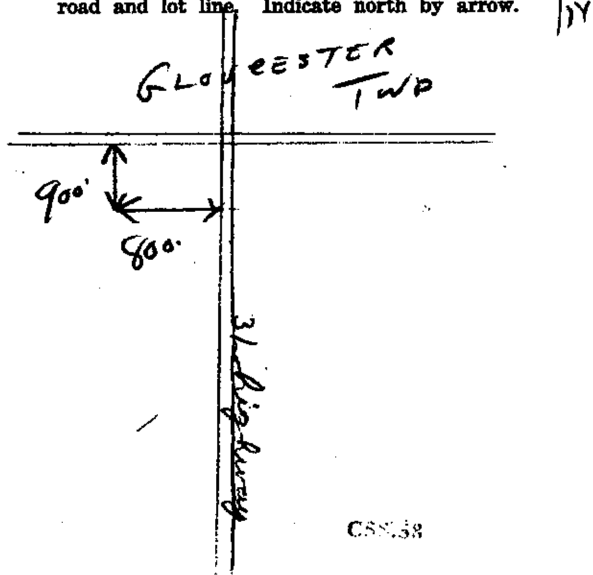
For what purpose(s) is the water to be used?
house
Is water clear or cloudy? *clear*
Is well on upland, in valley, or on hillside?
in valley
Drilling firm *A. Cayer M. Cayer*
Address *St. Albert*
Ont.
Name of Driller *A. Cayer M. Cayer*
Address *St. Albert*
Ont.
Licence Number *474*

I certify that the foregoing statements of fact are true.

Date *July 5th* *Maurice Cayer*
Signature of Licensee

Location of Well

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



Form 5

CSS.58

3/9/60 "B"

C

UTM | 18 | 4 5 5 1 1 9 5 E
| 5 | 5 0 1 3 6 0 5 N

Elev. | 4 | 0 3 4 0

Basin | 2 5 | | |

The Ontario Water Resources Commission Act, 1957

GROUND WATER BRANCH
JUN 27 1960
ONTARIO WATER RESOURCES COMMISSION

25 No. 7265

WATER WELL RECORD

County or District Carleton Township, Village, Town or City OSGOODE

Date completed 26 (day) May (month) 60 (year)

[redacted] ress 535 Alester Ottawa

Casing and Screen Record

Inside diameter of casing 2
Total length of casing 72
Type of screen —
Length of screen —
Depth to top of screen
Diameter of finished hole 2

Pumping Test

Static level 37
Test-pumping rate 250 G.P.H
Pumping level 70
Duration of test pumping 2 hrs
Water clear or cloudy at end of test Clear
Recommended pumping rate Same G.P.M.
with pumping level of

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, sulphur)
Clay	0	20	92	55	Fresh
Gravel & Sand	20	70			
Lime stone	70	92			

For what purpose(s) is the water to be used? Home

Is well on upland, in valley, or on hillside? Upland

Drilling Firm J R Corsette

Address 1510 Baseline Rd Ottawa

Licence Number 457

Name of Driller Same

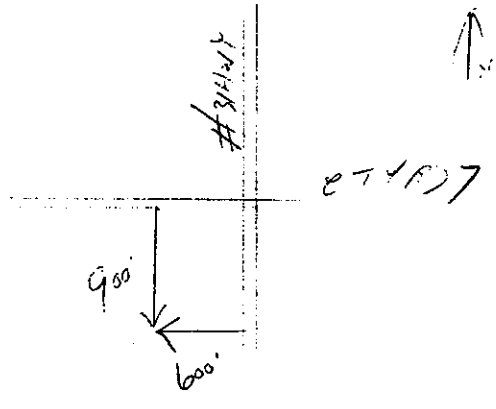
Address

Date June 14 - 60

J R Corsette
(Signature of Licensed Drilling Contractor)

Location of Well

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



314/50 "B"

UTM 1 18 Z 4 5 5 2 4 0 E
5 R 5 0 1 3 5 2 5 N
Elev. 4 0 3 4 2
Basin 2 5 1

The Ontario Water Resources Commission Act, 1957

GROUND WATER BRANCH
MAY 9 1961
ONTARIO WATER RESOURCES COMMISSION

WATER WELL RECORD

County or District Carleton Township, Village, ~~Town or City~~ Osgoode

[redacted] e completed 19 (day) april (month) 1961 (year)

[redacted] ress Manotick Ont.

Casing and Screen Record

Inside diameter of casing 4 inch

Total length of casing 70 feet

Type of screen

Length of screen

Depth to top of screen

Diameter of finished hole 4 inch

Pumping Test

Static level 35

Test-pumping rate 10 G.P.M.

Pumping level 45

Duration of test pumping 2 hours

Water clear or cloudy at end of test clear

Recommended pumping rate 5 G.P.M.

with pumping level of 40

Well Log / Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, sulphur)
sand and stone	0	10	72	37	fresh
sand	10	65			
water gravel	65	70			
limestone grey	70	72			

For what purpose(s) is the water to be used? house

Is well on upland, in valley, or on hillside? upland

Drilling Firm Cayer Cayer

Address St Albert Ont.

Licence Number 404

Name of Driller Cayer Welldriller

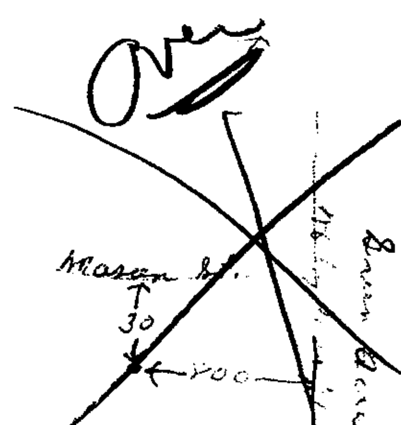
Address St Albert Ont.

Date april 19/61

Marcel Cayer
(Signature of Licensed Drilling Contractor)

Location of Well

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



Form 5
15M-58-4149

CSS.58

310/50 "B"

GROUND WATER BRANCH
15 No. 7[illegible]
JUL 17 1963
ONTARIO WATER RESOURCES COMMISSION

UTM 1 8 Z 4 5 5 1 7 0 E
5 R 5 0 1 3 5 9 4 N
Elev. 4 R 0 3 4 0

The Ontario Water Resources Commission Act

WATER WELL RECORD

Basin 2 5
County or District Carleton — Township, Village, Town or City Osgoode
Con. 5 Lot Lot 1 — Date completed 10 (day) 7 (month) 1963 (year)
Owner [redacted] (print in block letters) — Address Manotick

Casing and Screen Record ([redacted])

Inside diameter of casing 4
Total length of casing 82
Type of screen
Length of screen
Depth to top of screen
Diameter of finished hole 4

Pumping Test

Static level 36
Test-pumping rate 6 G.P.M.
Pumping level 64
Duration of test pumping 1 hours
Water clear or cloudy at end of test clear
Recommended pumping rate 5 G.P.M.
with pump setting of 56 feet below ground surface

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Water Record: Kind of water (fresh, salty, sulphur)
Gravel	0	15	83	fresh
Sand	15	65		
Gravel	65	82		
Rock?	82	83		

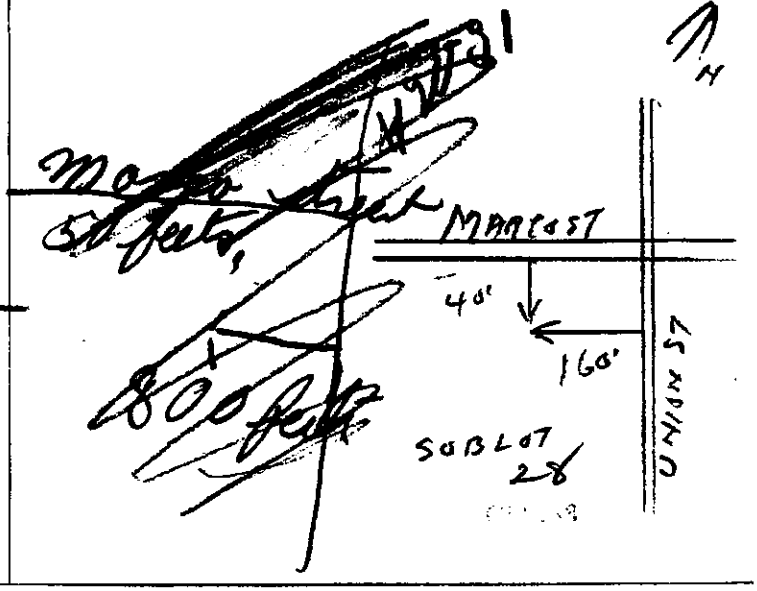
For what purpose(s) is the water to be used? New home
Is well on upland, in valley, or on hillside? upland
Drilling or Boring Firm Alcide Cayen
Address St Albert
Licence Number 920
Name of Driller or Borer A Albert
Address [illegible]
Date
Alcide Cayen
(Signature of Licensed Drilling or Boring Contractor)

Form 7 10M-62-1152

OWRC COPY

Location of Well

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



3/6/50 "8"

UTM 17 | 18 | Z | 4 | 5 | 5 | 1 | 8 | 5 | E
5 | R | 5 | 0 | 1 | 3 | 5 | 0 | 0 | N

Elev. 4 | R | 0 | 3 | 3 | 8

Basin 2 | 5

The Ontario Water Resources Commission Act

WATER WELL RECORD

GROUND WATER BRANCH
SEP 5 1962
ONTARIO WATER RESOURCES COMMISSION

15 N. 7278

County or District CARLETON Township, Village, Town or City GOULBOURN

Con. 5 Lot I Date completed 31 (day) may (month) 62 (year)

[redacted] dress GREELY

Casing and Screen Record

Inside diameter of casing 4 inch
Total length of casing 73
Type of screen
Length of screen
Depth to top of screen
Diameter of finished hole 4 inch

Pumping Test

Static level 18
Test-pumping rate 3 G.P.M.
Pumping level 44
Duration of test pumping 3 hours
Water clear or cloudy at end of test clear
Recommended pumping rate 3 G.P.M.
with pump setting of 70 feet below ground surface

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Water Record: Kind of water (fresh, salty, sulphur)
coarse gravel	0	60		
fine sand	60	72		
gray lime rock	72	100	90	fresh

For what purpose(s) is the water to be used? House

Is well on upland, in valley, or on hillside?

Drilling or Boring Firm W. E. CHRISTY

Address VARS

Licence Number 610

Name of Driller or Borer Storms

Address

Date May 31

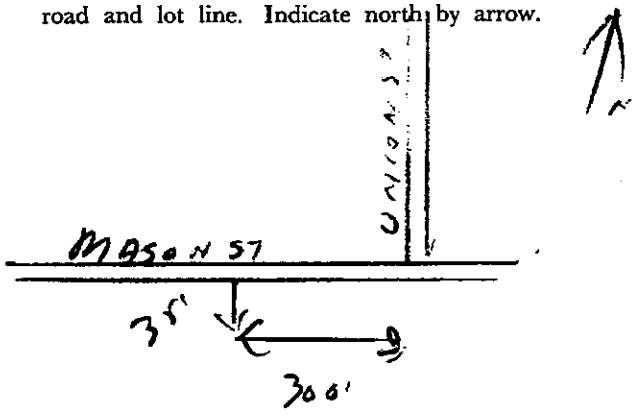
(Signature of Licensed Drilling or Boring Contractor)

Form 7 15M Sets 60-5930

OWRC COPY

Location of Well

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



MAPLE SUBDIV
LOT 38

CSS.55

316/50 "B"

UTM 1 1 8 Z 4 5 4 9 5 5 E

Con 5 W 5 0 1 3 5 4 5 N

Elev Lot 4 k 0 3 3 2

Basin 2 5

No 7282

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District Carl Township, Village, Town or City Osgoode

Con. 5 Lot 1 Date completed 29 (day) Mar. (month) 65 (year)

[redacted]ress Box 69 RR #2 Manotick

Casing and Screen Record

Inside diameter of casing 5"

Total length of casing 77'

Type of screen

Length of screen

Depth to top of screen

Diameter of finished hole 5"

Pumping Test

Static level 41'

Test-pumping rate 10 G.P.M.

Pumping level 41'

Duration of test pumping 1 hr.

Water clear or cloudy at end of test cloudy

Recommended pumping rate 5 G.P.M.

with pump setting of 70 feet below ground surface

Well Log / Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
sand	0	65	88	fresh
hardpan + gravel	65	75		
limestone	75	90		

For what purpose(s) is the water to be used? old house

Is well on upland, in valley, or on hillside? upland

Drilling or Boring Firm Capital Water Supply

Address 1243 Heron Rd. Ottawa 733-0600

Licence Number 1687

Name of Driller or Borer H. Mains

Address

Date Mar 29 1965

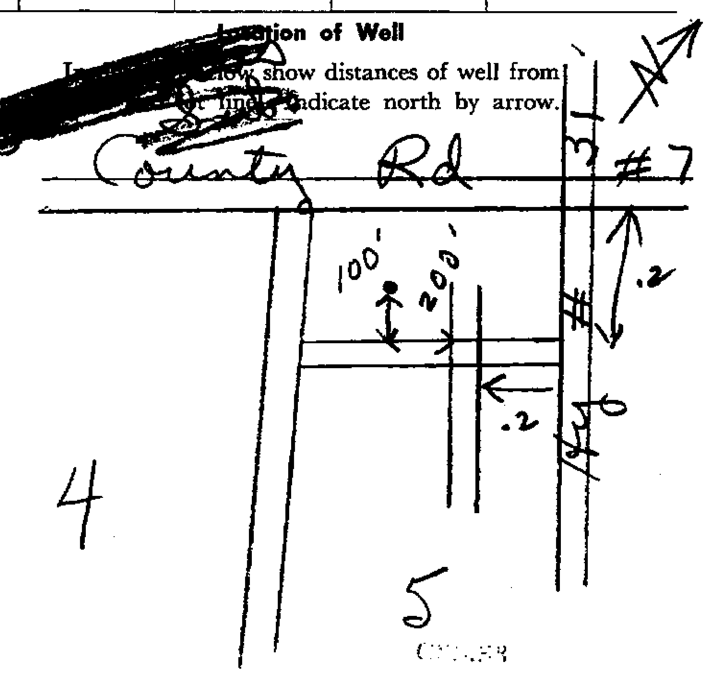
Walter Kavanagh
(Signature of Licensed Drilling or Boring Contractor)

Form 7 15M-60-4138

OWRC COPY

Location of Well

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



319/50 "B"

UTM 1/18 Z 4/5/5/0/4/0 E

5 R 5/0/1/3/5/8/0 N

Elev. 4 R 0/3/3/5

Basin 2/5

DIVISION 15 № 7283
MAY 17 1966
ONTARIO WATER RESOURCES COMMISSION

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District: Carleton — Township, Village, Town or City: Osgoode

Con. V — Lot I — Date completed: 2 (day) Feb (month) 1966 (year)

[redacted] ress: RR 2 Manotick Box 66

Casing and Screen Record

Inside diameter of casing	3
Total length of casing	79
Type of screen	—
Length of screen	—
Depth to top of screen	—
Diameter of finished hole	2

Pumping Test

Static level	41
Test-pumping rate	6 G.P.M.
Pumping level	55
Duration of test pumping	1 hr
Water clear or cloudy at end of test	Clear
Recommended pumping rate	6 G.P.M.
with pump setting of	68 feet below ground surface

Well Log / Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
Sand & Bolders	0	6	91	Fresh
Sand & Gravel	6	70		
Gravel sand & Bolders	70	77		
Lime Stone	77	91		

For what purpose(s) is the water to be used? House

Is well on upland, in valley, or on hillside? Upland

Drilling or Boring Firm: F. R. Cossette

Address: 1510 Baseline Rd, Ottawa

Licence Number: 2146

Name of Driller or Borer: Same

Address:

Date: Feb 3 - 1966

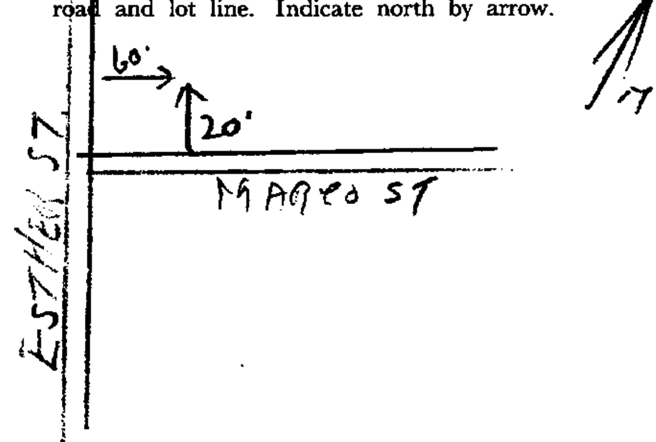
F. R. Cossette
(Signature of Licensed Drilling or Boring Contractor)

Form 7 10M-62-1152

OWRC COPY

Location of Well

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



MARCO SUBDIV
LOT 24

CSS.S8

31G/50 "B"

UTM 18 Z 4 5 5 2 3 0 E
9 R 5 0 1 3 7 0 0 N

Elev. 9 R 0 3 5 0

The Ontario Water Resources Commission Act

WATER WELL RECORD

WATER RESOURCES DIVISION
15 JUN 1967 No 7293
ONTARIO WATER RESOURCES COMMISSION

County or District Carleton Township, Village, Town or City Osgood

Con. 5 Lot 31 Date completed 13 (day) May (month) 1967 (year)

[redacted] ress R.R.1 Manotick

Casing and Screen Record

Inside diameter of casing 5 inch
Total length of casing 52
Type of screen
Length of screen
Depth to top of screen
Diameter of finished hole 5 inch

Pumping Test

Static level 23
Test-pumping rate 10 G.P.M.
Pumping level 30
Duration of test pumping 30 min
Water clear or cloudy at end of test cloudy
Recommended pumping rate 5 G.P.M.
with pump setting of 45 feet below ground surface

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Water Record: Kind of water (fresh, salty, sulphur)
Sandy soil and stone	0	20	51	fresh
	20	48		
gravel	48	52		

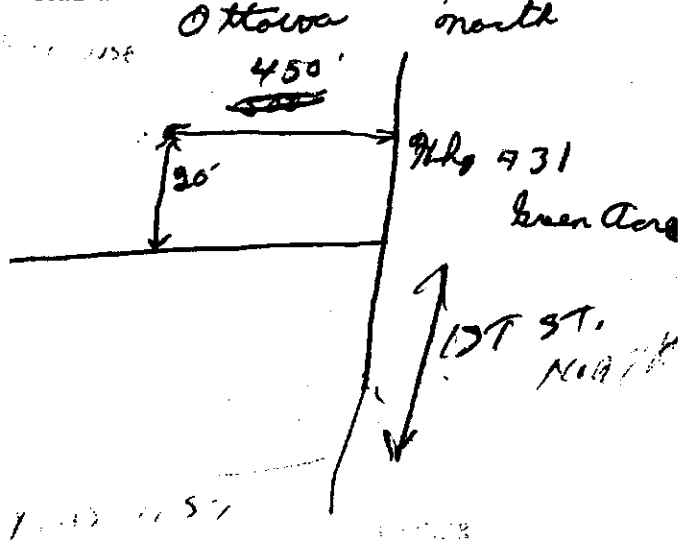
For what purpose(s) is the water to be used?
house
Is well on upland, in valley, or on hillside? upland
Drilling or Boring Firm Maurice Cayen
Address Carsonman Ont.
Licence Number 2530
Name of Driller or Borer
Address
Date 23 May 1967
Maurice Cayen
(Signature of Licensed Drilling or Boring Contractor)

Form 7 15M-60-4138

OWRC COPY

Location of Well

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



The Ontario Water Resources Commission Act

WATER WELL RECORD

316/5a

Water management in Ontario 1. PRINT ONLY IN SPACES PROVIDED 2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 1510206 | MUNICIP 150.09 | CON. C.ON. 06

COUNTY OR DISTRICT: Carleton | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Osgoods | CON., BLOCK, TRACT, SURVEY, ETC.: 5 | LOT: 25

[redacted] 82 Manotick Ont | DATE COMPLETED: DAY 19 MO 08 YR 69

RNG 0135900 | RC. 4 | ELEVATION 0365 | RC. 5 | BASIN CODE 25

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	DEPTH – FEET TO
Brown	sand	stone		0	15
grey	sand		fine	15	75
black	sand	gravel		75	77

31 | 0015 6091 12 | 0075 208 | 0077 8091 11

32

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
0076	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	DEPTH – FEET TO
4" 04	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE		0	0077
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT – FEET FROM	DEPTH SET AT – FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☒ BAILER | PUMPING RATE: 0005 GPM | DURATION OF PUMPING: 09 HOURS 00 MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
035 FEET	052 FEET	045 FEET	048 FEET	050 FEET	052 FEET

1 ☒ PUMPING 2 ☐ RECOVERY

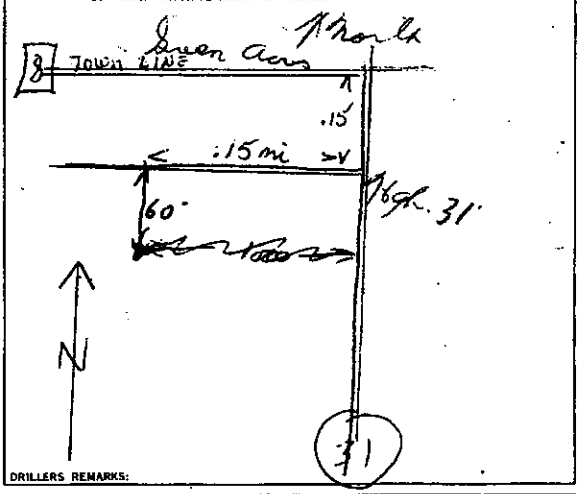
IF FLOWING, GIVE RATE: 000 GPM. | PUMP INTAKE SET AT: 065 FEET | WATER AT END OF TEST: 1 ☐ CLEAR 2 ☒ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING: 0656[illegible] FEET | RECOMMENDED PUMPING RATE: GPM.

GPM./FT. SPECIFIC CAPACITY: 000.3

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL: 1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 01: 1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING: 1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Maurice Cayen | LICENCE NUMBER: 3328

ADDRESS: Corpleman Ont.

NAME OF DRILLER OR BORER | LICENCE NUMBER

SIGNATURE OF CONTRACTOR: Maurice Cayen | SUBMISSION DATE: DAY 19 MO 08 YR 69

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR: 1517 | DATE RECEIVED: 101069

DATE OF INSPECTION | INSPECTOR

REMARKS:

OWRC COPY

The Ontario Water Resources Commission Act

WATER WELL RECORD

3165a

Water management in Ontario

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 1511007 MUNICIP. 15009 CON. Gbdl AS

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Carleton	Osgoode	5	~~XX~~ 001

[redacted] R.R.2 Greely Ont. DATE COMPLETED DAY 30 MO ~~12~~ 12 YR. 70

UTM ZONE 0153630 RC. 4 ELEVATION 9360 RC. ~~4~~ BASIN CODE 25

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	DEPTH – FEET TO
Brown	sand	fine		0	70
Brown	~~sand~~	gravel		70	80

31 0078608 0080609 11

32

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
0079	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	DEPTH – FEET TO
05	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	244	0	~~80~~ 0080
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT – FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☒ BAILER

PUMPING RATE: 0010 GPM. DURATION OF PUMPING: 01 HOURS 00 MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
035 FEET	~~30~~ 050 FEET	040 FEET	043 FEET	045 FEET	~~30~~ 050 FEET

1 ☐ PUMPING 2 ☐ RECOVERY

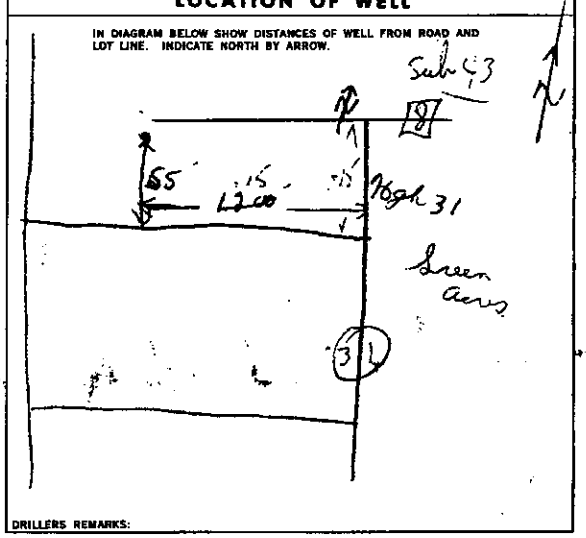
IF FLOWING, GIVE RATE: ~~00~~ GPM. PUMP INTAKE SET AT: 70 FEET. WATER AT END OF TEST: 1 ☐ CLEAR 2 ☒ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP. RECOMMENDED PUMP SETTING: 070 FEET. RECOMMENDED PUMPING RATE: ~~0~~ 005 GPM.

SPECIFIC CAPACITY: 000.7 GPM./FT.

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL: 1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED

WATER USE 01: 1 ☒ DOMESTIC; 2 ☐ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; 5 ☐ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; ☐ OTHER; 9 ☐ NOT USED

METHOD OF DRILLING: 1 ☒ CABLE TOOL; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☐ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Cayer Well drilling | LICENCE NUMBER: 1517

ADDRESS: Casselman Ont.

NAME OF DRILLER OR BORER | LICENCE NUMBER

SIGNATURE OF CONTRACTOR: Maurice Cayer | SUBMISSION DATE: DAY 30 MO Dec YR 70

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 1517 | DATE RECEIVED 080171

DATE OF INSPECTION | INSPECTOR

REMARKS:

OWRC COPY

The Ontario Water Resources Commission Act

WATER WELL RECORD

3195a

Water management in Ontario

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 1511283 | MUNICIP. 1.5009 | CON. GAN | LOT 25

COUNTY OR DISTRICT: Carleton | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Osgoode | CON., BLOCK, TRACT, SURVEY, ETC.: Plan 641 V | LOT 26 H

ADDRESS OF WELL LOCATION: [redacted] Green Acres | DATE COMPLETED: DAY 15 MO 07 YR 71

21 | UTM: ZONE 18 | EASTING 455080 | NORTHING 5013560 | RC. 4 | ELEVATION 0365 | RC. 5 | BASIN CODE 25

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	TO
			brown	0	3
			sand	3	78
			Gravel	78	82
			Rock shly	82	88

31 | 0003 | 11 | 0078 | 25 | 0082 | 11 | 0088 | 26

32

41 WATER RECORD

WATER FOUND AT FEET	KIND OF WATER
0088	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	TO
05	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	0082
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0088
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER	LENGTH
	INCHES	FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN	FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT – FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☐ PUMP 2 ☒ BAILER	0010 GPM	HOURS MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
035 FEET	045 FEET	1 ☐ PUMPING 2 ☒ RECOVERY	045 FEET	045 FEET	045 FEET	045 FEET

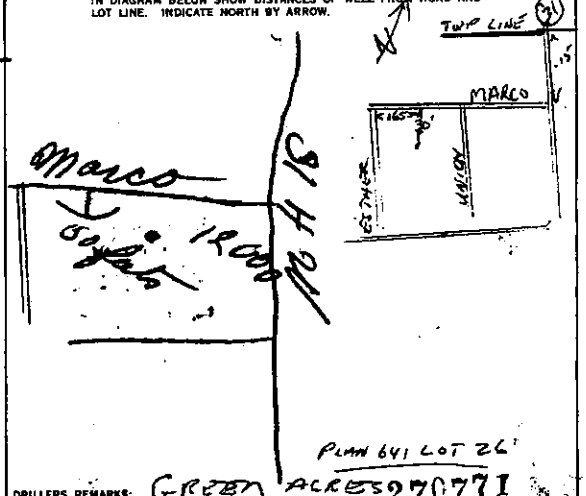
IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: 21 FEET | WATER AT END OF TEST: 1 ☐ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING: 070 FEET | RECOMMENDED PUMPING RATE: 0010 GPM

0010 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS: GREEN ACRES 27.771

FINAL STATUS OF WELL: 1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 01: 1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING: 1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Maurice Cayen | LICENCE NUMBER: 1517

ADDRESS: Casselman

NAME OF DRILLER OR BORER: Alcide Cayen | LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: Maurice Cayen | SUBMISSION DATE: DAY MO YR

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 1517 | DATE RECEIVED 27 07 71

DATE OF INSPECTION | INSPECTOR hm

REMARKS: PK WI

OWRC COPY

The Ontario Water Resources Commission Act

WATER WELL RECORD

Water management in Ontario

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11

1511454 | MUNICIP. 15099 | CON. Canal | 05

COUNTY OR DISTRICT: Carleton | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Osgoode | CON., BLOCK, TRACT, SURVEY, ETC.: 5 | LOT: PT LOT 1

[redacted] Green Acres

DATE COMPLETED: DAY 26 MO. 05 YR. 71

0123450 | RC. 14 | ELEVATION 0365 | RC. 15 | BASIN CODE 125

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	TO
Grey			Gravel	1	13
grey			Lycheard	13	75
grey			Limestone	75	77

31 0015211 | 0075202 | 0077215

32

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
0076	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	TO
05	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE		0	55 0055
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0077
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT – FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER | PUMPING RATE GPM: 01 | DURATION OF PUMPING HOURS: 00 MINS.

1 ☐ PUMPING 2 ☐ RECOVERY

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING 15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
035 FEET	057 FEET	050 FEET	057 FEET	057 FEET	057 FEET

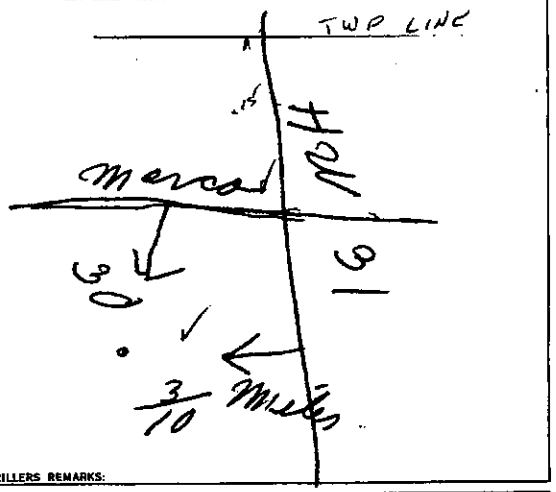
IF FLOWING, GIVE RATE: GPM. | PUMP INTAKE SET AT: 70 FEET | WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING: 070 FEET | RECOMMENDED PUMPING RATE: 008 GPM.

GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL
1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 01
1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING
1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Maurice | LICENCE NUMBER: 1517

ADDRESS: Casselman

NAME OF DRILLER OR BORER: Alcide Cayen | LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: Maurice Cayen | SUBMISSION DATE DAY MO YR

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 1517 | DATE RECEIVED 20 10 71

DATE OF INSPECTION | INSPECTOR

REMARKS: P WI

OWRC COPY

The Ontario Water Resources Commission Act

WATER WELL RECORD

Water management in Ontario

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 1511800 MUNICIP. 15 0269 CON. CON 105

COUNTY OR DISTRICT: Cochrane
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Osgoode
CON., BLOCK, TRACT, SURVEY, ETC.: 5 V
LOT: 22
DATE COMPLETED: DAY 29 MO 06 YR 72
[redacted] 2 Streets
RC. 6 ELEVATION 1361 RC. 4 BASIN CODE 26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	DEPTH – FEET TO
	Gravel			0	25
	Quicksand			25	72
	Gravel			72	73

31 DA25 V/I DA72 07 DA76 V/I

32

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
0075	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	DEPTH – FEET TO
5	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	188	0	0075
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET
MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT – FEET FROM	DEPTH SET AT – FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

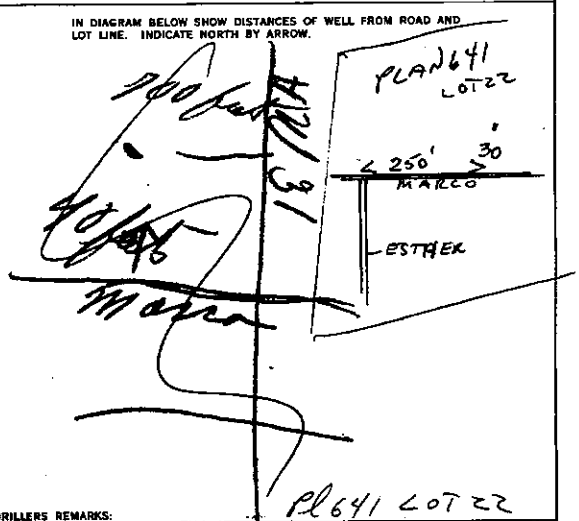
PUMPING TEST METHOD: 1 ☐ PUMP 2 ☒ BAILER
PUMPING RATE: 0012 GPM
DURATION OF PUMPING: 01 HOURS 30 MINS.
1 ☒ PUMPING 2 ☐ RECOVERY

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
25 FEET	080 FEET	030 FEET	080 FEET	030 FEET	080 FEET

IF FLOWING, GIVE RATE: 0008 GPM
PUMP INTAKE SET AT: 30 FEET
WATER AT END OF TEST: 1 ☐ CLEAR 2 ☒ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP
RECOMMENDED PUMP SETTING: 078 FEET
RECOMMENDED PUMPING RATE: 0010 GPM
0024 GPM/FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL
1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 01
1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING
1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Maurice Cayen — LICENCE NUMBER: 1517
ADDRESS: Casselman
NAME OF DRILLER OR BORER: Claude Cayen — LICENCE NUMBER:
SIGNATURE OF CONTRACTOR: Maurice Cayen — SUBMISSION DATE: DAY MO YR

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 1517 | DATE RECEIVED 60772
DATE OF INSPECTION | INSPECTOR
REMARKS: P K
WI

OWRC COPY

The Ontario Water Resources Commission Act

WATER WELL RECORD

3165a

Water management in Ontario

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 1511868 | MUNICIP. 7509 | CON CON | 05

COUNTY OR DISTRICT: Carleton | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Osgoode | CON., BLOCK, TRACT, SURVEY, ETC.: 5 | LOT: 001/2

[redacted] Greely

DATE COMPLETED: DAY 27 MO 06 YR 72

UTM ZONE 18 | 0135/10 | RC. 6 | ELEVATION 0361 | RC. | BASIN CODE 26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	DEPTH – FEET TO
	Gravel	Stones		0	25
	sand	Boulders		25	70
	Gravel	Boulders		70	90

31: 0025 1/1 1/2 | 0070 1 8 1/3 | 0090 1 1 1/3

32:

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
090	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	DEPTH – FEET TO
05	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	1.88	0	90 0090
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT – FEET FROM	DEPTH SET AT – FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☒ BAILER | PUMPING RATE: 015 GPM | DURATION OF PUMPING: 01 HOURS 30 MINS | 1 ☒ PUMPING 2 ☐ RECOVERY

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
042 FEET	055 FEET	050 FEET	050 FEET	035 FEET	035 FEET

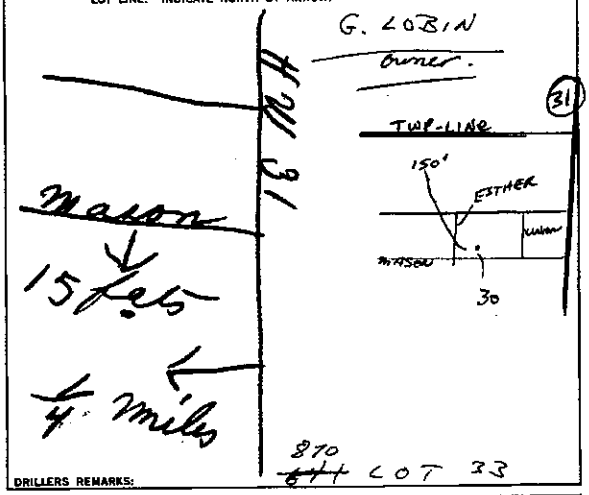
IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: 1 ☐ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING: 075 FEET | RECOMMENDED PUMPING RATE: 0010 GPM.

0012 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 01

1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING

1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Maurice Cayen | LICENCE NUMBER: 1517

ADDRESS: Casselman

NAME OF DRILLER OR BORER: Aloysius Cayen | LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: Maurice Cayen | SUBMISSION DATE: DAY MO YR

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 1517 | DATE RECEIVED 270972

DATE OF INSPECTION | INSPECTOR

REMARKS: P K. WI

OWRC COPY

MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

Ontario

WATER WELL RECORD

South Gloucester 2-18
3 1 G / 5a

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 1513679 MUNICIP. 15009 CON. CON 06

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Ottawa Carleton	Gloucester	5	C

[redacted] Box 259 RR#4 Ottawa Ont. DATE COMPLETED DAY 22 MO. 11 YR. 73

UTM 13 622 [4] ELEVATION 0360 [4] BASIN CODE 26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	Sand			0	20
	Sand & gravel			20	81
dark grey	Limestone			81	100

31 D070 28 | 0081 2811 | 0100 2115

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0095	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
66	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	0665
96	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0100
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	0020 GPM	00 HOURS 30

STATIC LEVEL	WATER LEVEL END OF PUMPIN	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
047 FEET	055 FEET	055 FEET	055 FEET	FEET	FEET

WATER LEVELS DURING: 1 ☐ PUMPING 2 ☒ RECOVERY

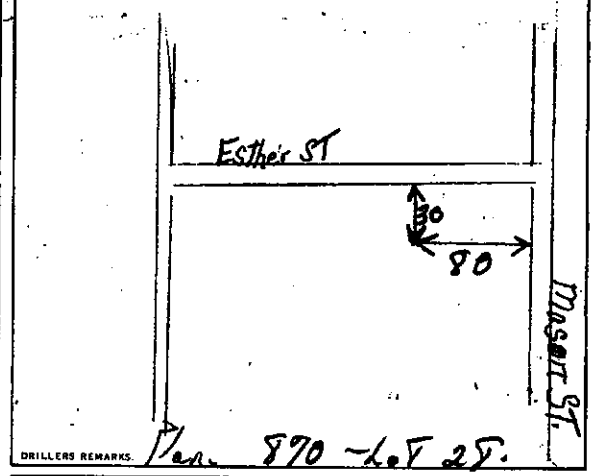
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	070 FEET	0020 GPM

RECOMMENDED PUMP RATE 002.5

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS: Elev. 870 - Lot 25.

FINAL STATUS OF WELL 1
1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 01
1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING 2
1 ☐ CABLE TOOL 2 ☒ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Air-Rock Drilling Co LTD — LICENCE NUMBER: 1119
ADDRESS: RR #2 Jasper Ont.
NAME OF DRILLER OR BORER: Wilfred Desaulniers — LICENCE NUMBER: 1119
SIGNATURE OF CONTRACTOR: Wilfred Desaulniers — SUBMISSION DATE: DAY 10 MO. 12 YR. 73

OFFICE USE ONLY

DATA SOURCE 1 — CONTRACTOR 1119 — DATE RECEIVED 13 12 73
DATE OF INSPECTION — INSPECTOR
REMARKS:

MINISTRY OF THE ENVIRONMENT COPY

FORM 7 07-091

MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

Ontario

WATER WELL RECORD

South Gloucester 2-18
316/5a

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2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 1514138 MUNICIP. 15009 CON. CON 05

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Carleton	Osgoode	5	001

OWNER (SURNAME FIRST) [redacted]

ADDRESS: 2 Flr. 117 Pamilla OTTAWA, Ontario

DATE COMPLETED: DAY 20 MO. 06 YR. 74

21 UTM ZONE 18 EASTING 455348 NORTHING 5013723 RC 4 ELEVATION 0340 RC 4 BASIN CODE 26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
brown	gravel	boulders		0	60
black	limestone			60	140
grey	sandstone			140	173
grey	sandstone			173	225

31 0060 0114 0140 0815 0173 0218 0225 0218

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0090	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
0170	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☒ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
06	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	188	0	0062
~~6~~	~~1 ☒ STEEL~~		~~62~~	~~173~~
06	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0173
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

PUMPING TEST

71 PUMPING TEST METHOD 1 ☒ PUMP 2 ☐ BAILER

PUMPING RATE 0008 GPM. DURATION OF PUMPING 01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING 1 ☒ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
070 FEET	175 FEET		175 FEET	175 FEET	175 FEET	175 FEET

IF FLOWING GIVE RATE ... GPM

PUMP INTAKE SET AT ... FEET

WATER AT END OF TEST 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE ☐ SHALLOW ☒ DEEP

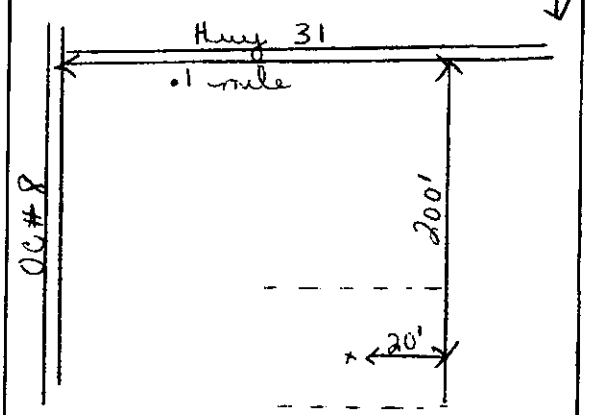
RECOMMENDED PUMP SETTING 200 FEET

RECOMMENDED PUMPING RATE 0005 GPM.

200.1 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL 1355

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL 1 — 1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 01 — 1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED ☐ OTHER

METHOD OF DRILLING 5 — 1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☒ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Capital Water Supply Ltd. LICENCE NUMBER: 1558

ADDRESS: Box 490 Stittsville, Ontario

NAME OF DRILLER OR BORER: G. Hamilton LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: Walter Kavanagh SUBMISSION DATE: DAY 21 MO. 6 YR. 74

OFFICE USE ONLY

DATA SOURCE 1 CONTRACTOR 1558 DATE RECEIVED 080774

DATE OF INSPECTION INSPECTOR

REMARKS: CRS 88 P ✓ WI

MINISTRY OF THE ENVIRONMENT COPY

FORM 7 07-091

MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

South Gloucester Z-18

WATER WELL RECORD 316/52

Ontario

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 1514186

MUNICIP. 150.09 CON. CON 05

COUNTY OR DISTRICT: Carleton Ottawa | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Osgoode | CON., BLOCK, TRACT, SURVEY, ETC.: V | LOT

[redacted] acres

DATE COMPLETED: DAY 27 MO. 05 YR. 74

UTM ZONE 18 | EASTING 0 13677 | NORTHING 4 | ELEVATION 0345 | TC 4 | BASIN CODE 26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	sandy soil			0	8
	sand fine			8	80
	brown			80	86
	sand stone	Rock		86	92

31 0008 0025 0080 081 0086 11 0092 18

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0090	1 ☐ FRESH 3 ☐ SULPHUR 5 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
5	1 ☒ STEEL	1.58		86
06	2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			0086
05	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0092
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET	

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER | PUMPING RATE: 0010 GPM | DURATION OF PUMPING: 01 HOURS 30 MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
035 FEET	060 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	040 FEET	050 FEET	055 FEET	060 FEET

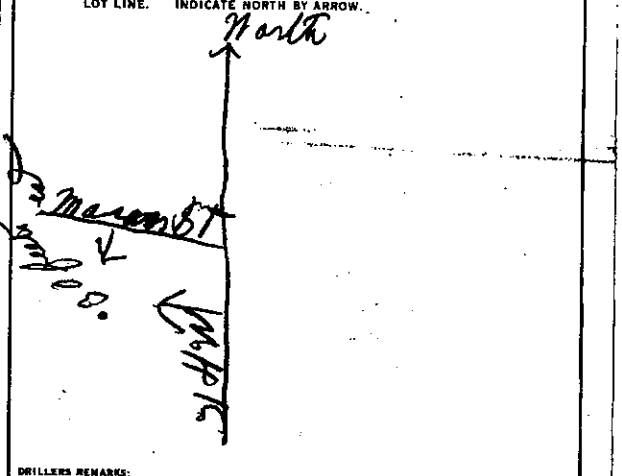
IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: 75 FEET | WATER AT END OF TEST: ☒ CLEAR ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING: 075 FEET | RECOMMENDED PUMPING RATE: 0008 GPM

000.4 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL 1355

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL 1: 1 ☐ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 01: 1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED ☐ OTHER

METHOD OF DRILLING 1: 1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Maurice Cayen | LICENCE NUMBER: 1377

ADDRESS: Casselman

NAME OF DRILLER OR BORER: Alcide Cayen | LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: Maurice Cayen | SUBMISSION DATE: DAY ____ MO. ____ YR. ____

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 1517 | DATE RECEIVED 120874

DATE OF INSPECTION | INSPECTOR K

REMARKS: P ✓ WI

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FORM 7 07-691

MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

Ontario

WATER WELL RECORD

South Gloucester 2-18
316/5a

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 — 1514230 — MUNICIP. 15009 — CON. CON — 05

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Carleton	Osgoode	5	001

[redacted] 87 Goth Ottawa, Ontario

DATE COMPLETED: DAY 24 MO. 07 YR. 74

UTM ZONE 18 — 0,13,660 — RC 4 — ELEVATION 0360 — RC 4 — BASIN CODE 26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
brown	sand	gravel & boulders		0	61
black	limestone			61	72

31 — D06162811113 0072816

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0068	1 ☒ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
06	1 ☒ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☒ OPEN HOLE	188	0	0063
			63	72
06	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☒ OPEN HOLE			0072
	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE — DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER — PUMPING RATE: 0020 GPM — DURATION OF PUMPING: 01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
005 FEET	020 FEET		020 FEET	020 FEET	020 FEET	020 FEET

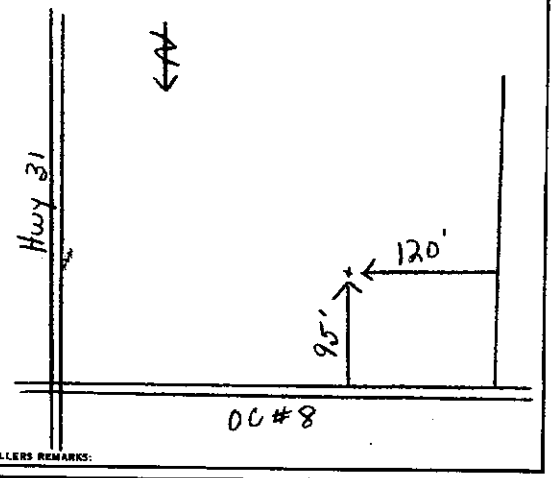
IF FLOWING, GIVE RATE: — GPM — PUMP INTAKE SET AT: — FEET — WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☒ SHALLOW ☐ DEEP — RECOMMENDED PUMP SETTING: 025 FEET — RECOMMENDED PUMPING RATE: 0005 GPM

601.3 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL 1353'

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL 1
1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED

WATER USE 01
1 ☒ DOMESTIC; 2 ☐ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; 5 ☐ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; 9 ☐ NOT USED; 0 ☐ OTHER

METHOD OF DRILLING 5
1 ☐ CABLE TOOL; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☒ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Capital Water Supply Ltd. — LICENCE NUMBER: 1558

ADDRESS: Box 480 Stittsville, Ontario

NAME OF DRILLER OR BORER: M. Hamilton — LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: [signature] — SUBMISSION DATE: DAY 25 MO. 7 YR. 74

OFFICE USE ONLY

DATA SOURCE 1 — CONTRACTOR 1558 — DATE RECEIVED 22 08 74

DATE OF INSPECTION — INSPECTOR

REMARKS: P ✓ WI

MINISTRY OF THE ENVIRONMENT COPY

FORM 7 07-091

MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act
WATER WELL RECORD

South Gloucester 2-18
316/5a

Ontario

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2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 1514578 | MUNICIP. 15009 | CON. CON | 05

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Carleton	Osgoode	5	001

[redacted] 85 Ravenhill St. Ottawa, Ontario — DATE COMPLETED: DAY 16 MO. 01 YR. 75

013760 | RC. 4 | ELEVATION 0345 | RC. 4 | BASIN CODE 26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	gravel	boulders & sand	packed	0	76
black	limestone		broken	76	80

31 | 0076 L11328 00808 15
32 |

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0079	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
06	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE	188	0	0079
~~5 7/8~~	~~OPEN HOLE~~		~~79~~	~~80~~
06	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0080
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET
MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER
PUMPING RATE: 0050 GPM.
DURATION OF PUMPING: 01 HOURS 00 MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
040 FEET	060 FEET	060 FEET	060 FEET	060 FEET	060 FEET

WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY

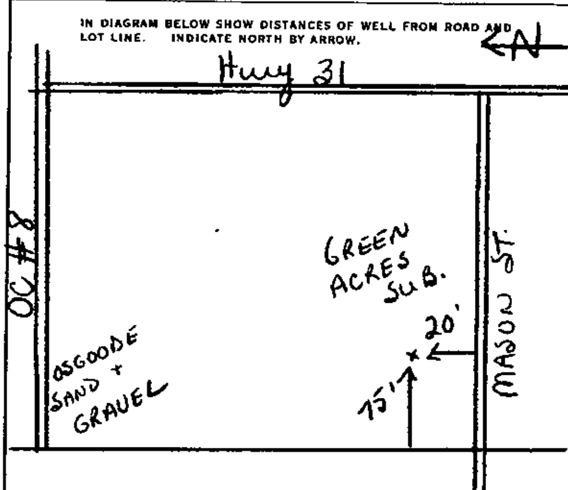
IF FLOWING, GIVE RATE: GPM. | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING: 070 FEET | RECOMMENDED PUMPING RATE: 0005 GPM.

002.5 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL 1355

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL 1
1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 01
1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING ☐ NOT USED

METHOD OF DRILLING 5
1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☒ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Capital Water Supply Ltd. | LICENCE NUMBER: 1558
ADDRESS: Box 490 Stittsville, Ontario
NAME OF DRILLER OR BORER: M. Hamilton | LICENCE NUMBER:
SIGNATURE OF CONTRACTOR: [signature] | SUBMISSION DATE: DAY 21 MO. 1 YR. 75

OFFICE USE ONLY

DATA SOURCE: 1 | CONTRACTOR: 1558 | DATE RECEIVED: 110375
DATE OF INSPECTION | INSPECTOR
REMARKS:
P ✓
WI

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FORM 7 MOE 07-091

MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

WATER WELL RECORD

Ontario

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 — 1515105 — MUNICIP. 15009 — CON. CON — 05 — 21/5a

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
[redacted]	Osgoode	5	001

[redacted] Greeley, Ontario.

DATE COMPLETED: DAY 19 MO. 09 YR. 75

ZONE / NORTHING	RC.	ELEVATION	RC.	BASIN CODE
013510	4	0362	4	26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	Fill		Loose, packed	0	2
Brown	Sand		Fine, packed	2	75
Brown	Sand	Gravel	Coarse, packed	75	82
Grey	Limestone	Rock	Hard	82	103

31 0002601779 0075608779 0082628 1163 0103215 73

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0094	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
06	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	0082
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.) — DIAMETER INCHES — LENGTH FEET
MATERIAL AND TYPE — DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER — PUMPING RATE 0025 GPM. — DURATION OF PUMPING 01 HOURS 00 MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
030 FEET	060 FEET	060 FEET	060 FEET	060 FEET	060 FEET

WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY

IF FLOWING, GIVE RATE: GPM. — PUMP INTAKE SET AT: FEET — WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP — RECOMMENDED PUMP SETTING 050 FEET — RECOMMENDED PUMPING RATE 0010 GPM.

Set ejector at 50 ft. with 35 ft. of tailpipe.

FINAL STATUS OF WELL: 1

1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE: 12

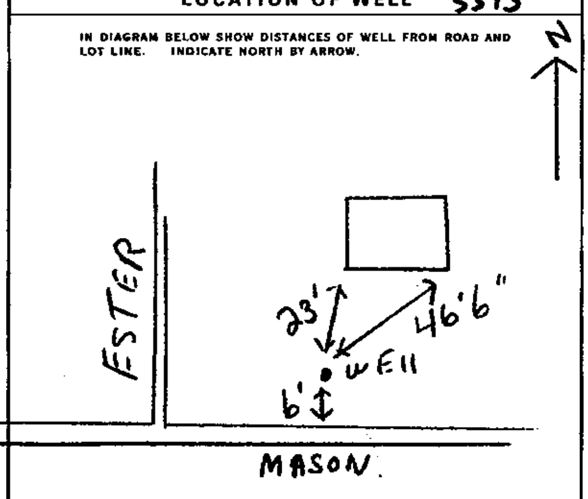
1 ☒ DOMESTIC 2 ☒ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING: 4

1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☒ ROTARY (REVERSE) 4 ☒ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

LOCATION OF WELL 5513

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

CONTRACTOR

NAME OF WELL CONTRACTOR: Ramon H. Casselman — LICENCE NUMBER: 1505
ADDRESS: Williamsburg, Ontario
NAME OF DRILLER OR BORER: Dalton Gow. — LICENCE NUMBER:
SIGNATURE OF CONTRACTOR: Ramon H Casselman — SUBMISSION DATE: DAY 19 MO. Sept. YR. 75

OFFICE USE ONLY

DATA SOURCE: 1 — CONTRACTOR: 1505 — DATE RECEIVED: 311275
DATE OF INSPECTION: 30 Cyn 76 — INSPECTOR: Kan P/R. Dgl
REMARKS: — P — WI

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MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

Ontario

WATER WELL RECORD

S.P.H. 3/9/79

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2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 1515889 | L5009 | CON | 05

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	SON., BLOCK, TRACT, SURVEY, ETC.
Carleton	Osgoode 3	5

[redacted] R. # 2 Box 81 Greely, Ontario

DATE COMPLETED: DAY 13 MO 04 YR 77

UTM ZONE | ELEVATION | ELEVATION RELIABILITY | DRILLING METHOD CODE
18 | 0213600 | 4 | 0360 | 4 | 26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
brown	gravel	stones & sand	loose	0	20
grey	gravel	sand	packed	20	45
grey	sand	stones	packed	45	65
grey	gravel	boulders	packed	65	75
grey	hardpan	boulders	packed	75	79
grey	limestone		medium	79	83
grey	gravel		loose	83	85
grey	limestone		medium	85	90

31 00206 1 1 12128 | 00452 1 1 28179 | 00652 2 8 12179 | 00752 1 1 1 3179 | 00792 1 4 1 3179 | 00832 1 5

32 00852 1 1 77 | 00902 1 5

41 **WATER RECORD**

WATER FOUND AT - FEET	KIND OF WATER
0084	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 **CASING & OPEN HOLE RECORD**

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	188	0	0080
06	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		80	90
06	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0090
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET	

61 **PLUGGING & SEALING RECORD**

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 **PUMPING TEST**

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER
PUMPING RATE: 0008 GPM
DURATION OF PUMPING: 20 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
0 40 FEET	0 40 FEET	0 40 FEET	0 40 FEET	0 40 FEET	0 40 FEET

IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: FEET
WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP
RECOMMENDED PUMP SETTING: 060 FEET
RECOMMENDED PUMPING RATE: 0005 GPM

GPM./FT. SPECIFIC CAPACITY

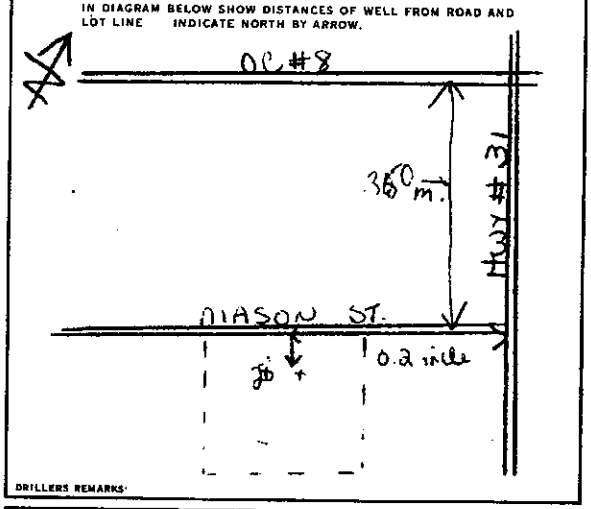
64 **FINAL STATUS OF WELL** 1
1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

65-66 **WATER USE** 01
1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

67 **METHOD OF DRILLING** 1
1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

CONTRACTOR

NAME OF WELL CONTRACTOR	LICENCE NUMBER
Capital Water Supply Ltd.	1558
ADDRESS: Box 490 Stittsville, Ontario	
NAME OF DRILLER OR BORER: J. Moore	LICENCE NUMBER
SIGNATURE OF CONTRACTOR	SUBMISSION DATE: DAY 15 MO. 4 YR. 77

OFFICE USE ONLY

DATA SOURCE	CONTRACTOR	DATE RECEIVED
1	1558	100577
DATE OF INSPECTION: Aug 2/77	INSPECTOR: T. [illegible]	
REMARKS:		P 95
		WI

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FORM 7 MOE 07-091

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

3/6 Sa

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

(11) 1518707 MUNICIP 15009 CON 105

COUNTY OR DISTRICT: Carleton | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Osgoode | CON., BLOCK, TRACT, SURVEY, ETC: Con. 5 | LOT: 001

[redacted] RR#2, Box 176, Greely KOA 1Z0 | DATE COMPLETED: DAY 20 MO 10 YR 83

WELL DEPTH: 135 99 | DEPTH BASIS CODE: 2 | ELEVATION: 0350 | ELEVATION BASIS CODE: 2 | MAPPED CODE: 26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
grey	sand			0	40
grey	gravel			40	84
grey	limestone			84	105

MOE VF-18

(31) 0090228 0088211 0105215

(32)

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
098	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

(51) CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	188	0	086
6	1 ☐ STEEL 2 ☒ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		86	105
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET | MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

(61) PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.)

PUMPING TEST

(71) PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER | PUMPING RATE: 0050 GPM | DURATION OF PUMPING: 01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 5 ☒ PUMPING 6 ☐ RECOVERY			
		10 MINUTES	20 MINUTES	30 MINUTES	40 MINUTES
035 FEET	060 FEET	060 FEET	060 FEET	060 FEET	060 FEET

IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: 1 ☐ CLEAR 2 ☒ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING: 060 FEET | RECOMMENDED PUMPING RATE: 0010 GPM

FINAL STATUS OF WELL: 1

1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED POOR QUALITY 7 ☐ UNFINISHED

WATER USE: 01

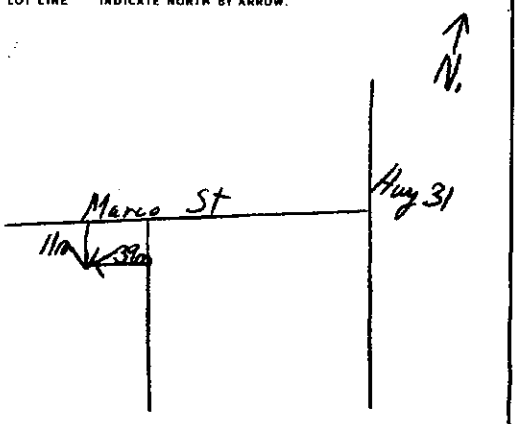
1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED ☐ OTHER

METHOD OF DRILLING: 5

1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☒ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS

CONTRACTOR

NAME OF WELL CONTRACTOR: Henry Mains Well Drilling | LICENCE NUMBER: 3644

ADDRESS: Box 326, Richmond Ont.

NAME OF DRILLER OR BORER: Henry Mains | LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: Henry Mains | SUBMISSION DATE: DAY 22 MO 10 YR 83

OFFICE USE ONLY

DATA SOURCE: 1 | CONTRACTOR: 3644 | RECEIVED: 08 11 83

DATE OF INSPECTION | INSPECTOR

REMARKS

CCS-82

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FORM NO. 0506—4—77 FORM 7

Ontario Ministry of the Environment

The Ontario Water Resources Act

WATER WELL RECORD

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

11 1533514 Municipality 15009 Con. CON 05

OTTAWA-CARLETON

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
Carleton	Osgoode	5	1

Address: 6994 Marco St. Greelyy Ontario K4P 1CH

Date completed: 11 day 12 month 02 year

21 UTM Northing RC Elevation RC Basin Code

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
brown	sand			0	64
grey	sand	stone		64	76
grey	limestone			76	120

31 32

41 WATER RECORD

Water found at - feet	Kind of water
95	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
115	not tested 1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	not tested 1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6 1/4	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	+1	81
5 7/8	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		81	±20
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

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

61 PLUGGING & SEALING RECORD

☐ Annular space ☐ Abandonment

Depth set at - feet From	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
81	0	bentonite bentonite (4)

71 PUMPING TEST

Pumping test method: 1 ☒ Pump 2 ☐ Bailer

Pumping rate: 15 GPM

Duration of pumping: 1 Hours ___ Mins

Static level	Water level end of pumping	Water levels during: 1 ☒ Pumping 2 ☐ Recovery			
36'4 feet	60 feet	15 minutes 115 feet	30 minutes 100 feet	45 minutes 75 feet	60 minutes 60 feet

If flowing give rate: ___ GPM

Pump intake set at: ___ feet

Water at end of test: ☐ Clear ☒ Cloudy

Recommended pump type: ☐ Shallow ☒ Deep

Recommended pump setting: 70 feet

Recommended pump rate: 5 GPM

FINAL STATUS OF WELL

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

WATER USE

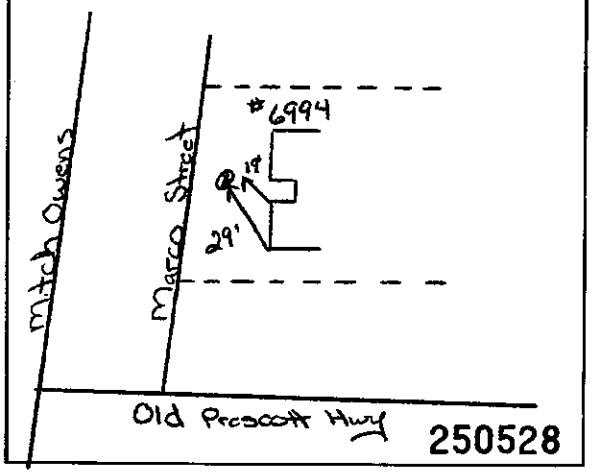
1 ☒ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not use 10 ☐ Other

METHOD OF CONSTRUCTION

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

LOCATION OF WELL

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



250528

Name of Well Contractor	Well Contractor's Licence No.
Miller Water Supply Ltd.	1558
Address: Box 490 Stittsville, Ontario K2S 1A6	
Name of Well Technician: S. Miller	Well Technician's Licence No.: T0097
Signature of Technician/Contractor	Submission date: day 12 mo 12 yr 02

MINISTRY USE ONLY

Data source 58 | Contractor 1558 59-62 | Date received FEB 0 3 2003 63-68 80

Date of inspection | Inspector

Remarks: CSS.ES3

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0506 (07/00) Front Form 9

Ontario Ministry of the Environment

Well Tag Number (P) A 004819

A004819

Well Record

Regulation 903 Ontario Water Resources Act

page ___ of ___

Instructions for Completing Form

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

Ministry Use Only

[redacted]

Address of Well Location (County/District/Municipality): Ottawa Carleton

Township: Osgoode

Lot: 6 Concession: 5

RR#/Street Number/Name: 7924 mason St

City/Town/Village: Greely

Site/Compartment/Block/Tract etc.: Sublot 39

GPS Reading: NAD 83 Zone 18 Easting 455253 Northing 5013743 Unit Make/Model: Magellan Mode of Operation: Undifferentiated / Averaged / Differentiated, specify

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Depth To (Metres)
	sand gravel boulders.			0	21.6
grey	limestone			21.6	40.5
grey	sandstone			40.5	61.3

Hole Diameter

Depth From	Depth To (Metres)	Diameter (Centimetres)
0	61.3	15.24

Water Record

Water found at Metres	Kind of Water			
55	☒ Fresh	☐ Sulphur	☐ Gas	☐ Other: Not
57.9	☐ Fresh	☐ Sulphur	☐ Gas	☐ Other: tested
m	☐ Fresh	☐ Sulphur	☐ Gas	☐ Other:

After test of well yield, water was: ☒ Clear and sediment free ☐ Other, specify: Not tested

Chlorinated ☒ Yes ☐ No

Construction Record

Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Depth To (Metres)
Casing				
15.88	☒ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	.48	0	24.1
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
Screen				
Outside diam	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	Slot No.		
No Casing or Screen				
	☒ Open hole		23.5	61.3

Test of Well Yield

Pumping test method: Subpump

	Draw Down Time min	Draw Down Water Level Metres	Recovery Time min	Recovery Water Level Metres
Pump intake set at - (metres)	Static Level	21.18		22.22
Pumping rate (litres/min) 91	1	21.8	1	21.19
Duration of pumping 1 hrs + ___ min	2	21.88	2	21.18
Final water level end of pumping 22 metres	3	21.89	3	21.18
Recommended pump type ☐ Shallow ☒ Deep	4	21.87	4	21.17
Recommended pump depth. ___ metres	5	21.85	5	21.16
Recommended pump rate. 91 (litres/min)	10	21.86	10	21.09
	15	21.89	15	21.07
If flowing give rate - (litres/min)	20	21.91	20	21.02
	25	21.92	25	21.00
If pumping discontinued, give reason. -	30	21.93	30	20.99
	40	21.95	40	20.99
	50	21.97	50	20.99
	60	22.22	60	20.99

Plugging and Sealing Record ☒ Annular space ☐ Abandonment

Depth set at - Metres From	To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
23.5	20.4	Cement Slurry	70 gallons
20.4	0	bentonite Slurry	300 gallons.

Method of Construction

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

Water Use

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

Final Status of Well

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

Well Contractor/Technician Information

Name of Well Contractor: A1 Rock Drilling Co Ltd — Well Contractor's Licence No.: 1119

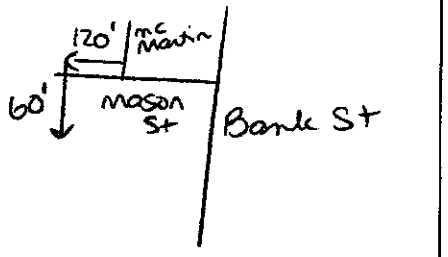
Business Address (street name, number, city etc.): RR#1 Richmond, Ont

Name of Well Technician (last name, first name): Shannon Turcell — Well Technician's Licence No.: 12122

Signature of Technician/Contractor: X [signature] — Date Submitted: 2004 05 07

Location of Well

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



Audit No. Z 04894 — Date Well Completed: 2004 (YYYY) 04 (MM) 28 (DD)

Was the well owner's information package delivered? ☒ Yes ☐ No — Date Delivered: 2004 10 08

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Data Source — Contractor: 1119

Date Received: JUN 07 2004 — Date of Inspection (YYYY MM DD)

Remarks: CSS.F... — Well Record Number: 1534634

Ontario — Ministry of the Environment

Well Tag No. (Place Sticker and/or Print Below): A068319 **A 068319**

Well Record

Regulation 903 Ontario Water Resources Act

Page ___ of ___

Measurements recorded in: [X] Metric [ ] Imperial

Well Owner's Information

[redacted]

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
7033 Marco Street	Osgoode	1	5

County/District/Municipality	City/Town/Village	Province	Postal Code
Ottawa Carleton	Greely	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 8 3	1 8	455024	5013762		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Brown	Sand & Gravel		Packed	0	1.52
Brown	Sand		Dry	1.52	19.20
Grey	Till		Packed	19.20	24.07
Grey	Limestone		Medium	24.07	29.86

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
25.60	0	Grouted Bentonite Slurry	.92m³

Method of Construction

[ ] Cable Tool [ ] Diamond [ ] Public [ ] Commercial [ ] Not used
[ ] Rotary (Conventional) [ ] Jetting [X] Domestic [ ] Municipal [ ] Dewatering
[X] Rotary (Reverse) [ ] Driving [ ] Livestock [ ] Test Hole [ ] Monitoring
[ ] Boring [ ] Digging [ ] Irrigation [ ] Cooling & Air Conditioning
[X] Air percussion [ ] Industrial
[ ] Other, specify [ ] Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fiberglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
15.86	Steel	.48	+.45	25.60

Construction Record - Screen

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

Status of Well

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

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas	Other, specify
28.34 m/ft	[ ] Fresh [X] Untested	[ ]	
Water found at Depth (m/ft)	Kind of Water: [ ] Fresh [ ] Untested	[ ] Gas	[ ] Other, specify
Water found at Depth (m/ft)	Kind of Water: [ ] Fresh [ ] Untested	[ ] Gas	[ ] Other, specify

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	25.60	15.86
25.60	29.86	15.23

Results of Well Yield Testing

After test of well yield, water was:
[X] Clear and sand free
[ ] Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft): 24.38

Pumping rate (l/min / GPM): 31.85

Duration of pumping: ___ hrs + ___ min

Final water level end of pumping (m/ft): 13.35

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

Recommended pump depth (m/ft): 24.38

Recommended pump rate (l/min / GPM): 31.85

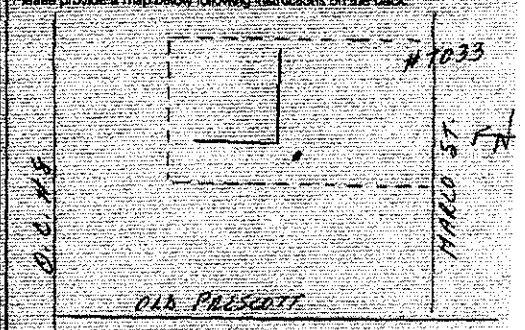
Well production (l/min / GPM):

Disinfected? [X] Yes [ ] No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	13.30		
1	13.35	1	
2	13.30	2	
3	13.35	3	
4	13.30	4	
5	13.35	5	
10	13.30	10	
15	13.35	15	
20	13.30	20	
25	13.35	25	
30	13.30	30	
40	13.35	40	
50	13.30	50	
60	13.35	60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor: Capital Water Supply Ltd.

Well Contractor's Licence No.: 1558

Business Address (Street Number/Name): Box 490

Municipality: Stittsville

Province: Ontario

Postal Code: K2S 1A6

Business E-mail Address: office@capitalwater.ca

Bus. Telephone No. (inc. area code): 613 836 1766

Name of Well Technician (Last Name, First Name): Miller, Stephen

Well Technician's Licence No.: 0097

Signature of Technician and/or Contractor

Date Submitted: 2010061 6

Well owner's information package delivered: [X] Yes [ ] No

Date Package Delivered: 2010061 6

Date Work Completed: 2010061 6

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Audit No.: Z 115557

AUG 04 2010

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