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September 3, 2008
File: 1609-00511/10

Enbridge Gas Distribution Inc.
3595 Tecumseh Road
Mooretown, ON, N0N 1M0

Attention: Mr. Paul Druet

Dear Mr. Druet:

Reference: Residential/Private Well Monitoring Program
2008 Tecumseh Storage Enhancement Project

Stantec Consulting Ltd. (Stantec) is pleased to provide Enbridge Gas Distribution Inc. (Enbridge) with the results of the residential/private well monitoring program completed in support of well construction for the 2008 Tecumseh storage enhancement project. The project involves the installation of two (2) new wells within the Kimball-Colinville Storage Pool. The monitoring program was completed to establish baseline groundwater conditions for comparative purposes should groundwater interference complaints arise as a result of the construction or operation of the proposed works.

RESIDENTIAL NOTIFICATION

Prior to commencement of the well construction, Stantec attempted to contact all residents located within 1 km of the proposed construction within the Kimball-Colinville Storage Pool for the residential well monitoring program. Contact information for the majority of these residents was provided by Enbridge. As part of the monitoring program, any resident with a private well who was interested in participating would be included in the program. The initial residential survey was completed in early June with an additional survey component in early July 2008. Table 1 (Attachment A) details the affected residents and indicates notification method and response.

In total, twenty-seven (27) residences were located within about a 1 km radius of the proposed well construction. The Tecumseh Compressor Station is also located within the 1 km radius. The results of the well survey are detailed in Table 1 and summarized below:

- One (1) residence (3%) is supplied by a water supply well (RW1) that is used for household usage;
- Fifteen (15) residences (56%) were confirmed to be supplied by municipal water. The majority of these residences previously had a well on their property but the well was no longer in use or had been abandoned. One (1) residence uses the well (RW2) as water supply for livestock. No other well was located with an active well pump;
- The water supply for the remaining eleven (11) residences (41%) was not confirmed. Based on the above survey results, municipal water servicing extends along Moore line, Tecumseh Road, Kimball Road and Rokeby Line. It is interpreted that the majority of these residences that could not be contacted directly are supplied by municipal water; and

- The Tecumseh Compressor Station is supplied by municipal water. Previous wells on the property have been abandoned.

METHODOLOGY

Stantec completed the initial residential survey in early June 2008. At that time, RW1 was the only water supply well located in the vicinity of the storage pool. Stantec collected a groundwater sample on June 11, 2008 from RW1. The resident did not know the location of the well on the property and therefore water level measurements could not be obtained.

In mid-July 2008, Enbridge received a water quality complaint from the resident at RW2. Stantec collected a groundwater sample on July 24, 2008 from RW2. The well was constructed with a sealed lid and as such, Stantec was not able to obtain water level measurements.

At the time of sampling in both June and July 2008, Stantec provided the residences with a notification letter detailing the proposed monitoring program and providing contact information for both Stantec and Enbridge. A copy of the notification letter is included in Attachment C.

The water quality samples were collected from an untreated raw water tap following 10 minutes of purging. The water samples were collected directly into laboratory supplied containers containing the following preservatives: HNO_3 for metal analysis; and H_2SO_4 for nutrient analysis. The samples were not filtered and results represent total concentrations. The samples were kept in a chilled containers and submitted for methane and RCAp Comprehensive (general chemistry, metals and nutrient) analysis. The samples were shipped in the chilled container to the laboratory (Maxxam Analytics Inc., Mississauga, ON) under Chain of Custody documentation.

RESULTS

The raw water quality results for RW1 and RW2 are presented in Table 2 and the laboratory certificates of analysis are provided in Attachment B. Raw water from residential well RW1 and RW2 did not exceed the MOE Ontario Drinking Water Standards (ODWS) (MOE, 2006[1]) Maximum Acceptable Concentration (MAC) for any health-related parameter. The following is a list of parameters that exceeded the ODWS Aesthetic Objective (AO), Operational Guideline (OG) or Medical Officer of Health reporting limit (MOH):

- Chloride (250 mg/L AO) within RW1 (330 mg/L) and RW2 (440 mg/L);
- Iron (0.3 mg/L AO) within RW1 (0.64 mg/L) and RW2 (2.9 mg/L);
- Manganese (0.05 mg/L AO) within RW2 (0.088 mg/L);
- Methane (3 L/m^3 AO) within RW1 (65 L/m^3) and RW2 (47 L/m^3);
- Sodium (20 mg/L MOH/200 mg/L AO) within RW1 (350 mg/L) and RW2 (390 mg/L);
- Hardness (80-100 mg/L OG) within RW1 (71 mg/L) and RW2 (240 mg/L); and
- TDS (500 mg/L AO) within RW1 (881 mg/L) and RW2 (1150 mg/L).

None of the above parameters are a health-related risk under the ODWS.

[1] MOE, 2006. Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines. Prepared June 2006.

The resident at RW2 indicated that the water supply is only used for livestock usage. As such, the water quality results for RW2 were also compared to the Canadian Water Quality Guidelines for Livestock Water (Canadian Council of Ministers of the Environment (CCME), 1987[2]). The water quality results from RW2 did not exceed the CCME Livestock criteria for any tested parameter.

The regional geology and hydrogeology within Lambton County was detailed in the Lambton County Groundwater Study completed by Dillon (2004[3]). The report summarized available water quality results for various wells throughout the county. The results indicated that chloride and sodium concentrations increased to the western extent of the county with maximum recorded concentrations of 2010 mg/L and 1220 mg/L. Within the county approximately 55% and 65% of available water quality results exceeded the ODWS AO for chloride of 250 mg/L and the AO for sodium of 200 mg/L, respectively. The Lambton County Groundwater Study also indicated that elevated iron and hardness were commonly noted within groundwater in this area. The elevated TDS is likely a function of the elevated sodium and chloride results.

Methane Concentration

Within RW1 and RW2, the aqueous methane concentration was 65 L/m^3 and 47 L/m^3, respectively, which exceeds the ODWS AO for methane of 3.0 L/m^3. The ODWS document indicates that the aesthetic objective is based on gas bubble release and violent spurting from taps for methane above 3 L/m^3. The ODWS indicates that if methane is allowed to accumulate in confined areas, the potential for explosive combustion exists.

Singer (2003[4]) summarized results of the MOE WWR which indicated that 1% to 3% of bedrock wells in the Lambton and Kent County area were defined as gas producing. These results are based on visual observations of the water at the time of drilling. No water quality analysis was preformed to confirm methane concentration and it is not known at what methane concentration, drillers would typically note the presence of gas. These results do indicate that methane can occur naturally within groundwater in the area.

The Ontario Water Well Regulation (Ontario Regulation 903) requires that all wells are vented to ensure that gases such as methane can escape the well. A basic vented cap will have a small air opening allowing gas exchange within the well and the environment. It is the well owners responsibility to ensure that the well meets the requirements of Ontario Regulation 903.

At the time of water quality sampling, the resident at RW1 indicated that the tap previously spurted gas or air. The resident indicated that on a previous occasion, a lighter was used to ignite the gas from the tap with the flame extending to the wall. During the June 2008 sampling, Stantec noted that the tap was spurting, suggesting entrapped gas or air. Well venting was not confirmed at RW1 during the sampling event as the well could not be located. Based on observations of spurting from the tap by Stantec and the previous observations by the resident, it is interpreted that RW1 is not vented to the atmosphere.

During the water quality sampling at RW2, Stantec confirmed that the well was vented outside of the well house meeting venting requirements of O.Reg. 903.

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[2] CCME, 1987. Canadian Water Quality Guidelines for the Protection of Agricultural Water Uses, Irrigation and Livestock Water.
[3] Dillon Consulting Limited. Lambton County Groundwater Study. Prepared for Lambton County, December 2004.
[4] Singer, S.N., Cheng, C.K., and Scafe, M.G., 2003. The Hydrogeology of Southern Ontario, second edition. Environmental Monitoring and Reporting Branch, Ministry of the Environment.

Reference: Residential/Private Well Monitoring Program
2008 Tecumseh Storage Enhancement Project

Summary

Water quality results from RW1 and RW2 did not exceed the MAC for any health related parameter under the ODWS and the water quality results are considered reasonable for water quality in Lambton County.

The water quality results from this testing were summarized in an individual letter to each resident (RW1 and RW2) as well as the property owner (RW1). Contact information for the County of Lambton Community Health Services was provided in the letter. The notification letter indicated that it was the well owners responsibility to ensure that the well was properly vented. A copy of the notification letter is included in Attachment C.

The above information is presented for documentation purposes. We trust that this information is suitable for your needs. Please do not hesitate to contact the undersigned should you have any questions or concerns.

Sincerely,

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Attachment:
- A — Table 1 – Residential/Private Well Details
  Table 2 – Groundwater Analytical Results
- B — Laboratory Certificates of Analysis
- C — Residential Notification

c. Mr. Terry Chupa – Enbridge Gas

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Stantec

ATTACHMENT A

TABLES

Table 1
Residential/Private Well Details

Well ID Number	Contact Name	Address		Phone	Notification		Water Supply	Well on Property	Well Usage	Well Access	Location	Comments
		911 Number										
Kimball-Colinville Storage Pool												
-	Mel Anderson	912	Moore Line	519-867-5278	11-Jun-08	Spoke with resident	Municipal	No	n/a	n/a	East of Ladysmith	Dairy Farm, Wells were decommisioned
-	Claire Robbins	1077	Moore Line	519-864-1275	5-Jun-08 9-Jun-08 11-Jun-08 21-July-08 22-July-08	No answer - left message with phone number No answer No one home 7:15 pm - No answer - did not leave message 11:00 am - spoke with resident	Municipal	No	n/a	n/a	West of Tecumseh	Within 100 m of Ladysmith Pipeline Previous well on property adjacent to pipeline Dwelling and well removed
-	Cyriel Braet	1090	Moore Line	519-431-0707	5-Jun-08 11-Jun-08 24-July-08	Phone disconnected No one home No one home	-	-	-	-	West of Tecumseh	Interpretted within 100 m of Ladysmith Pipeline
-	Donald and Geraldine Stewart	1107	Moore Line	519-867-5361	10-Jun-08	Spoke with resident	Municipal	Yes	Not Used	No Pump	West of Tecumseh	-
-	B&C Lang	1122	Moore Line	-	11-Jun-08	No one home	-	-	-	-	West of Tecumseh	-
-	Allan and Sharon Long	1130	Moore Line	519-867-2624	5-Jun-08 21-July-08	Spoke with resident Spoke with resident	Municipal	Yes Dug Well	Not Used	n/a	West of Tecumseh	Shallow well previously used for irrigation
-	Broumpton	1154	Moore Line	-	11-Jun-08	Spoke with resident	Municipal	-	-	-	West of Tecumseh	-
-	-	1171	Moore Line	-	11-Jun-08	No one home	-	-	-	-	West of Tecumseh	-
RW2	Eugene and Carine Robbins	1123 1193	Moore Line Moore Line	519-864-1412	5-Jun-08 18-July-08 23-July-08 24-July-08	No answer No answer Spoke with resident, confirmed timing and well details 9:30 am - collected samples	Municipal	Yes Bedrock Well	Livestock	Not Accessible for water levels	West of Tecumseh	-
-	Sixth Line United Church c/o Lois Miller	1201 1878	Moore Line Moore Line	519-864-1838	5-Jun-08	Spoke with church contact	Municipal	Yes	Not Used	-	East of Tecumseh	-
-	Chris Robbins	1221	Moore Line	519-864-4453	5-Jun-08 21-July-08	Spoke with resident Spoke with resident	Municipal	Yes	Not Used	Not Accessible	East of Tecumseh	Well not used and possibly capped.
-	Brian Starr	1237	Moore Line	519-864-4633	5-Jun-08 9-Jun-08 21-July-08 22-July-08	No answer No answer 7:30 pm - Call back midday tomorrow 11:30 am - Spoke with resident	Municipal	No	n/a	n/a	East of Tecumseh	Well never located on this property.
-	Mat and Louanne Starr	1259	Moore Line	519-864-4264	5-Jun-08 21-July-08 22-July-08	Spoke with resident 7:30 pm - call back tomorrow am 11:30 am - spoke with resident	Municipal	Yes	Not Used	Not Accessible	East of Tecumseh	-
-	Jim and Rachel Eyre	1270	Moore Line	519-864-1649	5-Jun-08 9-Jun-08 21 to 23-July-08	No answer - left message with phone number Spoke with resident No answer - repeated calls	Municipal	Yes Bedrock Well	Not Used	-	East of Tecumseh	-
-	Pat and Sue Starr	1320	Moore Line	-	11-Jun-08	No one home	-	-	-	-	Between Tecumseh and Kimball	-
-	Chad and Deborah Anderson	1327	Moore Line	519-864-1161	5-Jun-08	Spoke with resident	Municipal	Yes	Not Used	-	Between Tecumseh and Kimball	-
-	-	1343	Moore Line	-	11-Jun-08	Spoke with tenant	Municipal	Unknown	-	-	West of Kimball	-
-	Ken and Phyliss Kells	1373	Moore Line	519-864-1424	5-Jun-08	Spoke with resident	Municipal	Yes	Not Used	-	Between Tecumseh and Kimball	-
-	O. Kells	1417	Moore Line	-	11-Jun-08	No one home	-	-	-	-	-	-
-	Enbridge Station	3595	Tecumseh Road	519-862-1473	11-Jun-08	Spoke with Paul Druet	Municipal	No	n/a	n/a	-	Well abandoned 8 to 10 years ago
-	Oliver Smith	3742	Tecumseh Road	519-862-3354	10-Jun-08 11-Jun-08	Spoke with resident No one home	-	-	-	-	-	Resident indicated that a water quality sample was collected the previous week
-	-	3574	Kimball Road	-	11-Jun-08	No one home	-	-	-	-	Between Rokeby and Moore	-
-	-	3678	Kimball Road	-	11-Jun-08	No one home	-	-	-	-	Between Rokeby and Moore	-
-	Tom Wilson Farms Limited	- 894	Rokeby Line Petrolia Line	- 519-862-3662	5-Jun-08	Spoke with resident	Municipal	Yes	Not Used	-	-	-
-	-	1315	Rokeby Line	-	-	-	-	-	-	-	-	-
-	-	1342	Rokeby Line	-	-	-	-	-	-	-	-	-
-	R.W, White	1357	Rokeby Line	-	11-Jun-08	Spoke with resident	Municipal	-	-	-	-	-
-	-	1371	Rokeby Line	-	-	-	-	-	-	-	-	-
-	-	1389	Rokeby Line	-	-	-	-	-	-	-	-	-
RW1	Jayne Macrae (tenant) Harley White (property owner)	1451 1445	Rokeby Line Rokeby Line	- 519-864-1786	5-Jun-08 9-Jun-08 11-Jun-08	No answer Left message including phone number Collected Sample	Well	Yes	Household	Unknown Location	-	-

TABLE 2
GROUNDWATER ANALYTICAL RESULTS

Sample Location	Units	ODWS	RW1
Sample Date			**11-Jun-08**
Sample ID			**WG-160900511-20080611 LJ01**
Laboratory			**MAXX**
Laboratory Work Order			**A861657**
Laboratory Sample ID			**Z23339**
Metals			
Antimony	mg/L	0.006[A]	< 0.0005
Arsenic	mg/L	0.025[A]	< 0.001
Barium	mg/L	1[B]	**0.11**
Boron	mg/L	5[A]	**1.5**
Cadmium	mg/L	0.005[B]	< 0.0001
Chromium (Total)	mg/L	0.05[B]	< 0.005
Lead	mg/L	0.01$_c$[B]	< 0.0005
Nitrate (as N)	mg/L	10.0$_d$[B]	< 0.1
Nitrite (as N)	mg/L	1.0$_d$[B]	< 0.01
Selenium	mg/L	0.01[B]	< 0.002
Uranium	mg/L	0.02[B]	< 0.0001
Aesthetic Parameters			
Chloride	mg/L	250[C]	**330[C]**
Copper	mg/L	1[C]	< 0.001
Iron	mg/L	0.3[C]	**0.64[C]**
Dissolved Organic Carbon (DOC)	mg/L	5[C]	**1.1**
Manganese	mg/L	0.05[C]	**0.014**
Methane	L/m3	3[C]	**65[C]**
Sodium	mg/L	200/20$_g$[C]	**350[C]**
Sulfate	mg/L	500$_h$[C]	< 1
Sulfide	mg/L	0.05[C]	< 0.02
Total Dissolved Solids (Calculated)	mg/L	500[C]	**881[C]**
Zinc	mg/L	5[C]	< 0.005
Operational Parameters			
Aluminum	mg/L	0.1[D]	< 0.005
Alkalinity, Total (As CaCO3)	mg/L	30-500[D]	**281**
Hardness (as CaCO3)	mg/L	80-100[D]	**71[D]**
pH, Lab	S.U.	6.5-8.5[D]	**8.4**
Other Parameters			
Beryllium	mg/L	n/v	< 0.0005
Calcium	mg/L	n/v	**18**
Cobalt	mg/L	n/v	< 0.0005
Magnesium	mg/L	n/v	**6.7**
Molybdenum	mg/L	n/v	**0.013**
Nickel	mg/L	n/v	< 0.001
Phosphorus	mg/L	n/v	< 0.1
Potassium	mg/L	n/v	**1.8**
Silicon	mg/L	n/v	**4.6**
Silver	mg/L	n/v	< 0.0001
Strontium	mg/L	n/v	**0.46**
Thallium	mg/L	n/v	< 0.00005
Titanium	mg/L	n/v	< 0.005
Vanadium	mg/L	n/v	< 0.001
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	**274**
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	**7**
Ammonia(as N)	mg/L	n/v	**0.26**
Anion Sum	meq/L	n/v	**14.8**
Cation Sum	meq/L	n/v	**16.7**
Electrical Conductivity, Lab	µmhos/cm	n/v	**1630**
Ion Balance	%	n/v	**6.09**
Langelier Index (at 20 C)	none	n/v	**0.609**
Langelier Index (at 4 C)	none	n/v	**0.362**
Orthophosphate(as P)	mg/L	n/v	< 0.01
Saturation pH (at 20 C)	none	n/v	**7.84**
Saturation pH (at 4 C)	none	n/v	**8.09**
Gas			
Ethane	L/m3	n/v	**0.005**
Ethylene	L/m3	n/v	< 0.002
Propane	L/m3	n/v	< 0.002
Ethane(Calculated)	mg/L	n/v	**0.006**
Ethylene(Calculated)	mg/L	n/v	< 0.002
Methane(Calculated)	mg/L	n/v	**42**
Propane(Calculated)	mg/L	n/v	< 0.004

Notes:

ODWS	Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, June 2003, Revised June 2006
[A]	ODWS Table 2 - Chemical Standards, Interim Maximum Acceptable Concentration
[B]	ODWS Table 2 - Chemical Standards, Maximum Acceptable Concentration
[C]	ODWS Table 4 - Chemical/Physical Objectives and Guidelines, Aesthetic Objectives
[D]	ODWS Table 4 - Chemical/Physical Objectives and Guidelines, Operational Guidelines
6.5[A]	Concentration exceeds the indicated standard.
15.2	Concentration was detected but did not exceed applicable standards.
< 0.03	The analyte was not detected above the laboratory estimated quantation limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
c	This standard applies to water at the point of consumption. Since lead is a component in some plumbing systems, first flush water may contain higher concentrations of lead than water that has been flushed for five minutes.
d	Where both nitrate and nitrite are present, the total of the two should not exceed 10 mg/L (as nitrogen).
g	The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicans for their use with patients on sodium restricted diets.
h[C]	When sulfate levels exceed 500 mg/L, water may have a laxative effect on some people.

TABLE 2
GROUNDWATER ANALYTICAL RESULTS

Sample Location	Units	ODWS	CCME Livestock Water	RW2
Sample Date				24-Jul-08
Sample ID				WG-160900511-20080724-LJ01
Laboratory				MAXX
Laboratory Work Order				A881451
Laboratory Sample ID				AB0369
Metals				
Antimony	mg/L	0.006[A]	n/v	< 0.0005
Arsenic	mg/L	0.025[A]	0.025[F]	< 0.001
Barium	mg/L	1[B]	n/v	**0.23**
Boron	mg/L	5[A]	5[F]	**1.1**
Cadmium	mg/L	0.005[B]	0.08[F]	< 0.0001
Chromium (Total)	mg/L	0.05[B]	n/v	< 0.005
Lead	mg/L	0.01$_c$[B]	0.1[F]	**0.0019**
Nitrate (as N)	mg/L	10.0$_d$[B]	n/v	< 0.1
Nitrite (as N)	mg/L	1.0$_d$[B]	n/v	< 0.01
Selenium	mg/L	0.01[B]	0.05[F]	< 0.002
Uranium	mg/L	0.02[B]	0.2[F]	**0.0006**
Aesthetic Parameters				
Chloride	mg/L	250[C]	n/v	**440[C]**
Copper	mg/L	1[C]	0.5/5$_p$[F]	**0.001**
Iron	mg/L	0.3[C]	n/v	**2.9[C]**
Dissolved Organic Carbon (DOC)	mg/L	5[C]	n/v	**4.3**
Manganese	mg/L	0.05[C]	n/v	**0.088[C]**
Methane	L/m3	3[C]	n/v	**47[C]**
Sodium	mg/L	200/20$_g$[C]	n/v	**390[C]**
Sulfate	mg/L	500$_h$[C]	1000[F]	**22**
Sulfide	mg/L	0.05[C]	n/v	-
Total Dissolved Solids (Calculated)	mg/L	500[C]	3000[F]	**1150[C]**
Zinc	mg/L	5[C]	50[F]	**0.097**
Operational Parameters				
Aluminum	mg/L	0.1[D]	5[F]	**0.082**
Alkalinity, Total (As CaCO3)	mg/L	30-500[D]	n/v	**333**
Hardness (as CaCO3)	mg/L	80-100[D]	n/v	**240[D]**
pH, Lab	S.U.	6.5-8.5[D]	n/v	**8.2**
Other Parameters				
Beryllium	mg/L	n/v	0.1[F]	< 0.0005
Calcium	mg/L	n/v	1000[F]	**56**
Cobalt	mg/L	n/v	1[F]	< 0.0005
Magnesium	mg/L	n/v	n/v	**24**
Molybdenum	mg/L	n/v	0.5[F]	**0.001**
Nickel	mg/L	n/v	1[F]	< 0.001
Phosphorus	mg/L	n/v	n/v	< 0.1
Potassium	mg/L	n/v	n/v	**5.7**
Silicon	mg/L	n/v	n/v	**6.5**
Silver	mg/L	n/v	n/v	< 0.0001
Strontium	mg/L	n/v	n/v	**0.78**
Thallium	mg/L	n/v	n/v	< 0.00005
Titanium	mg/L	n/v	n/v	< 0.005
Vanadium	mg/L	n/v	0.1[F]	**0.001**
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	n/v	**328**
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	**4**
Ammonia(as N)	mg/L	n/v	n/v	**1.1**
Anion Sum	meq/L	n/v	n/v	**19.4**
Cation Sum	meq/L	n/v	n/v	**22.0**
Electrical Conductivity, Lab	µmhos/cm	n/v	n/v	**2110**
Ion Balance	%	n/v	n/v	**6.12**
Langelier Index (at 20 C)	none	n/v	n/v	**0.856**
Langelier Index (at 4 C)	none	n/v	n/v	**0.611**
Orthophosphate(as P)	mg/L	n/v	n/v	< 0.01
Saturation pH (at 20 C)	none	n/v	n/v	**7.30**
Saturation pH (at 4 C)	none	n/v	n/v	**7.54**
Gas				
Ethane	L/m3	n/v	n/v	-
Ethylene	L/m3	n/v	n/v	-
Propane	L/m3	n/v	n/v	-
Ethane(Calculated)	mg/L	n/v	n/v	-
Ethylene(Calculated)	mg/L	n/v	n/v	-
Methane(Calculated)	mg/L	n/v	n/v	**31**
Propane(Calculated)	mg/L	n/v	n/v	-

Notes:

ODWS	Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, June 2003, Revised June 2006
[A]	ODWS Table 2 - Chemical Standards, Interim Maximum Acceptable Concentration
[B]	ODWS Table 2 - Chemical Standards, Maximum Acceptable Concentration
[C]	ODWS Table 4 - Chemical/Physical Objectives and Guidelines, Aesthetic Objectives
[D]	ODWS Table 4 - Chemical/Physical Objectives and Guidelines, Operational Guidelines
CCME	Canadian Council of Ministers of the Environment
[F]	Canadian Water Quality Guidelines for Livestock Water
6.5[A]	Concentration exceeds the indicated standard.
15.2	Concentration was detected but did not exceed applicable standards.
< 0.03	The analyte was not detected above the laboratory estimated quantation limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
[c]	This standard applies to water at the point of consumption. Since lead is a component in some plumbing systems, first flush water may contain higher concentrations of lead than water that has been flushed for five minutes.
[d]	Where both nitrate and nitrite are present, the total of the two should not exceed 10 mg/L (as nitrogen).
[g]	The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicans for their use with patients on sodium restricted diets.
[h]	When sulfate levels exceed 500 mg/L, water may have a laxative effect on some people.
[p]	Copper guideline = 500 ug/L for sheep, 1000 ug/L for cattle, 5000 ug/L for swine and poultry.

Stantec

ATTACHMENT B

LABORATORY CERTIFICATES OF ANALYSIS

Your Project #: 1609-00511
Site: TECUMSETH
Your C.O.C. #: 84406-01

Attention: Lesley Veale
Stantec Consultants Ltd
49 Frederick St
Kitchener, ON
N2H 6M7

Report Date: 2008/06/20

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A861657
Received: 2008/06/12, 18:00

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Alkalinity	1	N/A	2008/06/18	CAM SOP-00448	SM 2320B
Carbonate, Bicarbonate and Hydroxide	1	N/A	2008/06/18		
Chloride by Automated Colourimetry	1	N/A	2008/06/19	CAM SOP-00463	SM 4500 Cl E
Conductivity	1	N/A	2008/06/18	CAM SOP-00448	SM 2510
Dissolved Organic Carbon (DOC)	1	N/A	2018/06/08	CAM SOP-00446	SM 5310 B
Dissolved Gases in Water (1)	1	N/A	2008/06/16	Modified combustible gas indicator method. Standards Method 6211B	GC/FID
Dissolved Gases in Water in mg/L units	1	N/A	2008/06/13		
Hardness (calculated as CaCO3)	1	N/A	2008/06/19	CAM SOP 0102	SM 2340 B
Metals Analysis by ICPMS (as received) (2)	1	2008/06/18	2008/06/18	CAM SOP-00447	EPA 6020
Ion Balance (% Difference)	1	N/A	2008/06/19		
Anion and Cation Sum	1	N/A	2008/06/19		
Ammonia-N	1	N/A	2008/06/19	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (1)	1	N/A	2008/06/17	CAM SOP-00440	SM 4500 NO3 I
pH	1	N/A	2008/06/18	CAM SOP-00448	SM 4500H
Orthophosphate	1	N/A	2008/06/19	CAM SOP-00461	SM 4500 P-F
Sat. pH and Langelier Index (@ 20C)	1	N/A	2008/06/19		
Sat. pH and Langelier Index (@ 4C)	1	N/A	2008/06/19		
Sulphate by Automated Colourimetry	1	N/A	2008/06/19	CAM SOP-00464	EPA 375.4
Sulphide	1	N/A	2008/06/18	CAM SOP-00455	SM 4500 G
Total Dissolved Solids (TDS calc)	1	N/A	2008/06/19		

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
* Results relate only to the items tested.

(1) Analysis completed at the Maxxam (Occupational Health) location
(2) Metals analysis was performed on the sample 'as received'.
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

../2

Maxxam Job #: A861657
Report Date: 2008/06/20

Stantec Consultants Ltd
Client Project #: 1609-00511
Project name: TECUMSETH

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

IVANA VUKOVIC, Env Project Manager
Email: ivana.vukovic@maxxamanalytics.com
Phone# (905) 817-5700

==========

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. SCC and CAEAL have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 2

6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel: 905-817-5700 Toll free:800-563-6266 Fax: 905-817-5777

Maxxam Job #: A861657
Report Date: 2008/06/20

Stantec Consultants Ltd
Client Project #: 1609-00511
Project name: TECUMSETH

RCAP - COMPREHENSIVE (DRINKING WATER)

Maxxam ID		Z23339		
		2008/06/11		
	Units	WG-160900511-20080611 LJ01	RDL	QC Batch
Calculated Parameters				
Anion Sum	me/L	14.8	N/A	1536929
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	274	1	1536925
Calculated TDS	mg/L	881	1	1536933
Carb. Alkalinity (calc. as CaCO3)	mg/L	7	1	1536925
Cation Sum	me/L	16.7	N/A	1536929
Hardness (CaCO3)	mg/L	71	1	1536927
Ion Balance (% Difference)	%	6.09	N/A	1536928
Langelier Index (@ 20C)	N/A	0.609		1536931
Langelier Index (@ 4C)	N/A	0.362		1536932
Saturation pH (@ 20C)	N/A	7.84		1536931
Saturation pH (@ 4C)	N/A	8.09		1536932
Inorganics				
Total Ammonia-N	mg/L	0.26	0.05	1539096
Conductivity	umho/cm	1630	2	1539474
Dissolved Organic Carbon	mg/L	1.1	0.1	1539164
Orthophosphate (P)	mg/L	<0.01	0.01	1540853
pH	pH	8.4		1539444
Dissolved Sulphate (SO4)	mg/L	<1	1	1540855
Alkalinity (Total as CaCO3)	mg/L	281	1	1539475
Dissolved Chloride (Cl)	mg/L	330	5	1540852
Nitrite (N)	mg/L	<0.01	0.01	1538775
Nitrate (N)	mg/L	<0.1	0.1	1538775

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

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Maxxam Job #: A861657
Report Date: 2008/06/20

Stantec Consultants Ltd
Client Project #: 1609-00511
Project name: TECUMSETH

RCAP - COMPREHENSIVE (DRINKING WATER)

Maxxam ID		Z23339		
		2008/06/11		
	Units	WG-160900511-20080611 LJ01	RDL	QC Batch
Metals				
. Aluminum (Al)	ug/L	<5	5	1540371
. Antimony (Sb)	ug/L	<0.5	0.5	1540371
. Arsenic (As)	ug/L	<1	1	1540371
. Barium (Ba)	ug/L	110	5	1540371
. Beryllium (Be)	ug/L	<0.5	0.5	1540371
. Boron (B)	ug/L	1500	10	1540371
. Cadmium (Cd)	ug/L	<0.1	0.1	1540371
. Calcium (Ca)	ug/L	18000	200	1540371
. Chromium (Cr)	ug/L	<5	5	1540371
. Cobalt (Co)	ug/L	<0.5	0.5	1540371
. Copper (Cu)	ug/L	<1	1	1540371
. Iron (Fe)	ug/L	640	100	1540371
. Lead (Pb)	ug/L	<0.5	0.5	1540371
. Magnesium (Mg)	ug/L	6700	50	1540371
. Manganese (Mn)	ug/L	14	2	1540371
. Molybdenum (Mo)	ug/L	13	1	1540371
. Nickel (Ni)	ug/L	<1	1	1540371
. Phosphorus (P)	ug/L	<100	100	1540371
. Potassium (K)	ug/L	1800	200	1540371
. Selenium (Se)	ug/L	<2	2	1540371
. Silicon (Si)	ug/L	4600	50	1540371
. Silver (Ag)	ug/L	<0.1	0.1	1540371
. Sodium (Na)	ug/L	350000	100	1540371
. Strontium (Sr)	ug/L	460	1	1540371
. Thallium (Tl)	ug/L	<0.05	0.05	1540371
. Titanium (Ti)	ug/L	<5	5	1540371
. Uranium (U)	ug/L	<0.1	0.1	1540371
. Vanadium (V)	ug/L	<1	1	1540371
. Zinc (Zn)	ug/L	<5	5	1540371

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A861657
Report Date: 2008/06/20

Stantec Consultants Ltd
Client Project #: 1609-00511
Project name: TECUMSETH

RESULTS OF ANALYSES OF WATER

Maxxam ID		Z23339		
		2008/06/11		
	Units	WG-160900511-20080611 LJ01	RDL	QC Batch
Inorganics				
Sulphide	mg/L	<0.02	0.02	1539300

PERMANENT GASES (WATER)

Maxxam ID		Z23339		
		2008/06/11		
	Units	WG-160900511-20080611 LJ01	RDL	QC Batch
Fixed Gases				
Ethane	L/m3	0.005	0.002	1538326
Calculated Ethane	mg/L	0.006	0.002	1537446
Ethene	L/m3	<0.002	0.002	1538326
Calculated Ethene	mg/L	<0.002	0.002	1537446
Methane	L/m3	65	0.005	1538326
Calculated Methane	mg/L	42	0.003	1537446
Propane	L/m3	<0.002	0.002	1538326
Calculated Propane	mg/L	<0.004	0.004	1537446

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A861657
Report Date: 2008/06/20

Stantec Consultants Ltd
Client Project #: 1609-00511
Project name: TECUMSETH

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
1538326	Ethane	2008/06/16 9:21:01 AM					<0.002	L/m3				
1538326	Ethene	2008/06/16 9:21:01 AM					<0.002	L/m3				
1538326	Methane	2008/06/16 9:21:01 AM					<0.005	L/m3				
1538326	Propane	2008/06/16 9:21:01 AM					<0.002	L/m3				
1538775	Nitrite (N)	2008/06/17 2:34:00 PM	97	75 - 125	100	80 - 120	<0.01	mg/L	NC	25		
1538775	Nitrate (N)	2008/06/17 2:34:00 PM	NC(1)	75 - 125	104	80 - 120	<0.1	mg/L	0.5	25		
1539096	Total Ammonia-N	2008/06/19 11:07:30 AM	NC(1)	80 - 120	103	80 - 120	<0.05	mg/L	1.2	25		
1539164	Dissolved Organic Carbon	2018/06/08	NC(2)	75 - 125	96	75 - 125	<0.1	mg/L	0.04	20		
1539300	Sulphide	2008/06/18 11:30:00 AM	94	75 - 125	94	85 - 115	<0.02	mg/L	NC	25		
1539474	Conductivity	2008/06/18 5:13:24 AM					<2	umho/cm	4.7	25	102	85 - 115
1539475	Alkalinity (Total as CaCO3)	2008/06/18 5:13:24 AM					<1	mg/L	12.6	25	100	85 - 115
1540371	. Aluminum (Al)	2008/06/18 6:21:37 PM	101	80 - 120	103	85 - 115	<5	ug/L	NC	25		
1540371	. Antimony (Sb)	2008/06/18 6:21:37 PM	104	80 - 120	104	85 - 115	<0.5	ug/L	NC	25		
1540371	. Arsenic (As)	2008/06/18 6:21:37 PM	101	80 - 120	102	85 - 115	<1	ug/L	NC	25		
1540371	. Barium (Ba)	2008/06/18 6:21:37 PM	96	80 - 120	96	85 - 115	<5	ug/L	1.6	25		
1540371	. Beryllium (Be)	2008/06/18 6:21:37 PM	98	80 - 120	101	85 - 115	<0.5	ug/L	NC	25		
1540371	. Boron (B)	2008/06/18 6:21:37 PM	99	80 - 120	103	85 - 115	<10	ug/L	4.8	25		
1540371	. Cadmium (Cd)	2008/06/18 6:21:37 PM	101	80 - 120	101	85 - 115	<0.1	ug/L	NC	25		
1540371	. Calcium (Ca)	2008/06/18 6:21:37 PM	NC	80 - 120	104	85 - 115	<200	ug/L	3.0	25		
1540371	. Chromium (Cr)	2008/06/18 6:21:37 PM	99	80 - 120	101	85 - 115	<5	ug/L	NC	25		
1540371	. Cobalt (Co)	2008/06/18 6:21:37 PM	96	80 - 120	98	85 - 115	<0.5	ug/L	NC	25		
1540371	. Copper (Cu)	2008/06/18 6:21:37 PM	92	80 - 120	97	85 - 115	<1	ug/L	6.1	25		
1540371	. Iron (Fe)	2008/06/18 6:21:37 PM	100	80 - 120	103	85 - 115	<100	ug/L	NC	25		
1540371	. Lead (Pb)	2008/06/18 6:21:37 PM	98	80 - 120	101	85 - 115	<0.5	ug/L	NC	25		
1540371	. Magnesium (Mg)	2008/06/18 6:21:37 PM	NC(1)	80 - 120	108	85 - 115	<50	ug/L	4.6	25		
1540371	. Manganese (Mn)	2008/06/18 6:21:37 PM	97	80 - 120	99	85 - 115	<2	ug/L	NC	25		
1540371	. Molybdenum (Mo)	2008/06/18 6:21:37 PM	103	80 - 120	101	85 - 115	<1	ug/L	NC	25		
1540371	. Nickel (Ni)	2008/06/18 6:21:37 PM	93	80 - 120	97	85 - 115	<1	ug/L	NC	25		
1540371	. Phosphorus (P)	2008/06/18 6:21:37 PM	114	80 - 120	106	85 - 115	<100	ug/L	NC	25		
1540371	. Potassium (K)	2008/06/18 6:21:37 PM	101	80 - 120	103	85 - 115	<200	ug/L	7.4	25		
1540371	. Selenium (Se)	2008/06/18 6:21:37 PM	98	80 - 120	100	85 - 115	<2	ug/L	NC	25		
1540371	. Silicon (Si)	2008/06/18 6:21:37 PM	102	80 - 120	104	85 - 115	<50	ug/L	4.8	25		
1540371	. Silver (Ag)	2008/06/18 6:21:37 PM	94	80 - 120	99	85 - 115	<0.1	ug/L	NC	25		
1540371	. Sodium (Na)	2008/06/18 6:21:37 PM	NC	80 - 120	107	85 - 115	<100	ug/L	3.9	25		
1540371	. Strontium (Sr)	2008/06/18 6:21:37 PM	NC	80 - 120	99	85 - 115	<1	ug/L	1.5	25		
1540371	. Thallium (Tl)	2008/06/18 6:21:37 PM	99	80 - 120	100	85 - 115	<0.05	ug/L	NC	25		
1540371	. Titanium (Ti)	2008/06/18 6:21:37 PM	103	80 - 120	102	85 - 115	<5	ug/L	NC	25		
1540371	. Uranium (U)	2008/06/18 6:21:37 PM	107	80 - 120	107	85 - 115	<0.1	ug/L	NC	25		
1540371	. Vanadium (V)	2008/06/18 6:21:37 PM	103	80 - 120	102	85 - 115	<1	ug/L	NC	25		

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Maxxam Job #: A861657
Report Date: 2008/06/20

Stantec Consultants Ltd
Client Project #: 1609-00511
Project name: TECUMSETH

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
1540371	. Zinc (Zn)	2008/06/18 6:21:37 PM	97	80 - 120	100	85 - 115	<5	ug/L	NC	25		
1540852	Dissolved Chloride (Cl)	2008/06/19 4:52:45 PM	NC(1)	75 - 125	101	80 - 120	<1	mg/L	4.2	20		
1540853	Orthophosphate (P)	2008/06/19 5:53:44 PM	99	75 - 125	96	80 - 120	<0.01	mg/L	NC	25		
1540855	Dissolved Sulphate (SO4)	2008/06/19 12:34:05 PM	NC(1)	75 - 125	100	80 - 120	<1	mg/L	3.4	25		

N/A = Not Applicable
NC = Non-calculable
RPD = Relative Percent Difference
(1) - The recovery in the matrix spike was not calculated (NC). Because of the high concentration of this analyte in the parent sample, the relative difference between the spiked and unspiked concentrations is not sufficiently significant to permit a reliable recovery calculation.
(2) - The recovery in the matrix spike was not calculated (NC). Spiked concentration was less than 2x that native to the sample.

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Maxxam — 6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8
Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

IMMEDIATE TEST

CHAIN OF CUS

12-Jun-08 18:00
IVANA VUKOVIC
A861657
S_A ENV-993

Page | of 1

INVOICE INFORMATION:		REPORT INFORMATION (if differs from Invoice):		PROJECT INFORMATION:	
Company Name:	#9197 Stantec Consultants Ltd	Company Name:		Quotation #:	A71284
Contact Name:	Lesley Veale	Contact Name:		P.O. #:	
Address:	49 Frederick St Kitchener ON N2H 6M7	Address:		Project #:	1609-00511
				Project Name:	
Phone:	(519)585-7377 Fax: (519)579-6733	Phone:	Fax:	Site Location:	Tecumseth
Email:	lesley.veale@stantec.com, gus.sukkurwala@stante	Email:	edd@stantec.com	Sampled By:	Luana Jo

Lab Use Only — BOTTLE ORDER #: 84406
C#84406-01-01
PROJECT MANAGER: IVANA VUKOVIC

REGULATORY CRITERIA:
- ☐ MISA — Reg. 153/04 — Sewer Use: ☐ Sanitary ☐ Storm ☐ Combined
- ☐ PWQO — ☐ Table 1 ☐ Table 2
- ☐ Reg. 558 — ☐ Table 3 ☐ Table 6 — Municipality: _____
- Other (specify): ODWS

SPECIAL INSTRUCTIONS:
- results are < not reportable
- analyze as received.

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: _____ Time Required: _____
Rush Confirmation Number: _____ (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	RCAp - Comprehensive	Sulphide	Dissolved Gases in Water	# of Bottles	Comments
1		WG-160900511-20080611-LJ	~~June 6/11~~ June 6/10	GW	N	M	X	X	X	6	analyze as received.
2			June 11 2008	GW							
3				GW							
4				GW							
5				GW							
6				GW							
7				GW							'08 JUN 12 18:00
8				GW							
9				GW							
10				GW							

RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:
	June 12 08.		FANG JIANG	08/06/12	18:00

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Condition of Sample on Receipt	Custody Seal Intact on Cooler?
X	11 2 14°	☐ OK ☐ SIF	☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel: 905-817-5700 Toll free:800-563-6266 Fax: 905-817-5777

Validation Signature Page

Maxxam Job #: A861657

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

BRAD NEWMAN, Scientific Specialist

TOM MITCHELL, B.Sc, Team Leader, Compressed Gas Section

==========

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. SCC and CAEAL have approved this reporting process and electronic report format.

6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel: 905-817-5700 Toll free:800-563-6266 Fax: 905-817-5777

Your Project #: 1609-00511
Site: TECUMSEH
Your C.O.C. #: 91050-01

Attention: Lesley Veale
Stantec Consultants Ltd
49 Frederick St
Kitchener, ON
N2H 6M7

Report Date: 2008/07/31

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A881451
Received: 2008/07/24, 15:20

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Alkalinity	1	N/A	2008/07/30	CAM SOP-00448	SM 2320B
Carbonate, Bicarbonate and Hydroxide	1	N/A	2008/07/30		
Chloride by Automated Colourimetry	1	N/A	2008/07/30	CAM SOP-00463	SM 4500 Cl E
Conductivity	1	N/A	2008/07/30	CAM SOP-00448	SM 2510
Dissolved Organic Carbon (DOC)	1	N/A	2027/07/20	CAM SOP-00446	SM 5310 B
Dissolved Gases in Water in mg/L units	1	N/A	2008/07/25		
Hardness (calculated as CaCO3)	1	N/A	2008/07/31	CAM SOP 0102	SM 2340 B
Metals Analysis by ICPMS (as received) (1)	1	2008/07/29	2008/07/31	CAM SOP-00447	EPA 6020
Ion Balance (% Difference)	1	N/A	2008/07/31		
Anion and Cation Sum	1	N/A	2008/07/31		
Dissolved Methane in Water	1	N/A	2008/07/29	CAM SOP-00219 Modified Combustible Gas Indicator Method	Std Methods 6211B
Ammonia-N	1	N/A	2008/07/31	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (2)	1	N/A	2008/07/30	CAM SOP-00440	SM 4500 NO3 I
pH	1	N/A	2008/07/30	CAM SOP-00448	SM 4500H
Orthophosphate	1	N/A	2008/07/30	CAM SOP-00461	SM 4500 P-F
Sat. pH and Langelier Index (@ 20C)	1	N/A	2008/07/31		
Sat. pH and Langelier Index (@ 4C)	1	N/A	2008/07/31		
Sulphate by Automated Colourimetry	1	N/A	2008/07/30	CAM SOP-00464	EPA 375.4
Total Dissolved Solids (TDS calc)	1	N/A	2008/07/31		

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
* Results relate only to the items tested.

(1) Metals analysis was performed on the sample 'as received'.
(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

../2

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Maxxam Job #: A881451
Report Date: 2008/07/31

Stantec Consultants Ltd
Client Project #: 1609-00511
Project name: TECUMSEH

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANDREA RIETH, Project Manager
Email: ANDREA.RIETH@maxxamanalytics.com
Phone# (905) 817-5787 Ext:5787

==========

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. SCC and CAEAL have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 2

Maxxam Job #: A881451
Report Date: 2008/07/31

Stantec Consultants Ltd
Client Project #: 1609-00511
Project name: TECUMSEH

RCAP - COMPREHENSIVE (DRINKING WATER)

Maxxam ID		AB0369		
Sampling Date		2008/07/24		
	Units	**WG-160900511-20080724-LJ01**	**RDL**	**QC Batch**
Calculated Parameters				
Anion Sum	me/L	19.4	N/A	1570495
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	328	1	1570491
Calculated TDS	mg/L	1150	1	1570500
Carb. Alkalinity (calc. as CaCO3)	mg/L	4	1	1570491
Cation Sum	me/L	22.0	N/A	1570495
Hardness (CaCO3)	mg/L	240	1	1570492
Ion Balance (% Difference)	%	6.12	N/A	1570494
Langelier Index (@ 20C)	N/A	0.856		1570498
Langelier Index (@ 4C)	N/A	0.611		1570499
Saturation pH (@ 20C)	N/A	7.30		1570498
Saturation pH (@ 4C)	N/A	7.54		1570499
Inorganics				
Total Ammonia-N	mg/L	1.1	0.05	1574320
Conductivity	umho/cm	2110	2	1573108
Dissolved Organic Carbon	mg/L	4.3	0.1	1571700
Orthophosphate (P)	mg/L	<0.01	0.01	1573497
pH	pH	8.2		1573107
Dissolved Sulphate (SO4)	mg/L	22	1	1573499
Alkalinity (Total as CaCO3)	mg/L	333	1	1573110
Dissolved Chloride (Cl)	mg/L	440	5	1573494
Nitrite (N)	mg/L	<0.01	0.01	1573423
Nitrate (N)	mg/L	<0.1	0.1	1573423

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

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Maxxam Job #: A881451
Report Date: 2008/07/31

Stantec Consultants Ltd
Client Project #: 1609-00511
Project name: TECUMSEH

RCAP - COMPREHENSIVE (DRINKING WATER)

Maxxam ID		AB0369		
Sampling Date		2008/07/24		
	Units	**WG-160900511-20080724-LJ01**	**RDL**	**QC Batch**
Metals				
. Aluminum (Al)	ug/L	82	5	1573518
. Antimony (Sb)	ug/L	<0.5	0.5	1573518
. Arsenic (As)	ug/L	<1	1	1573518
. Barium (Ba)	ug/L	230	5	1573518
. Beryllium (Be)	ug/L	<0.5	0.5	1573518
. Boron (B)	ug/L	1100	10	1573518
. Cadmium (Cd)	ug/L	<0.1	0.1	1573518
. Calcium (Ca)	ug/L	56000	200	1573518
. Chromium (Cr)	ug/L	<5	5	1573518
. Cobalt (Co)	ug/L	<0.5	0.5	1573518
. Copper (Cu)	ug/L	1	1	1573518
. Iron (Fe)	ug/L	2900	100	1573518
. Lead (Pb)	ug/L	1.9	0.5	1573518
. Magnesium (Mg)	ug/L	24000	50	1573518
. Manganese (Mn)	ug/L	88	2	1573518
. Molybdenum (Mo)	ug/L	1	1	1573518
. Nickel (Ni)	ug/L	<1	1	1573518
. Phosphorus (P)	ug/L	<100	100	1573518
. Potassium (K)	ug/L	5700	200	1573518
. Selenium (Se)	ug/L	<2	2	1573518
. Silicon (Si)	ug/L	6500	50	1573518
. Silver (Ag)	ug/L	<0.1	0.1	1573518
. Sodium (Na)	ug/L	390000	100	1573518
. Strontium (Sr)	ug/L	780	1	1573518
. Thallium (Tl)	ug/L	<0.05	0.05	1573518
. Titanium (Ti)	ug/L	<5	5	1573518
. Uranium (U)	ug/L	0.6	0.1	1573518
. Vanadium (V)	ug/L	1	1	1573518
. Zinc (Zn)	ug/L	97	5	1573518

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A881451
Report Date: 2008/07/31

Stantec Consultants Ltd
Client Project #: 1609-00511
Project name: TECUMSEH

PERMANENT GASES (WATER)

Maxxam ID		AB0369	AB0369		
Sampling Date		2008/07/24	2008/07/24		
	Units	**WG-160900511-20080724-LJ01**	**WG-160900511-20080724-LJ01 Lab-Dup**	**RDL**	**QC Batch**
Fixed Gases					
Methane	L/m3	47	47	0.005	1572923
Calculated Methane	mg/L	31		0.003	1570826

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A881451
Report Date: 2008/07/31

Stantec Consultants Ltd
Client Project #: 1609-00511
Project name: TECUMSEH

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
1571700	Dissolved Organic Carbon	2027/07/20	NC(1)	75 - 125	85	75 - 125	<0.1	mg/L	0.9	20		
1572923	Methane	2008/07/29					<0.005	L/m3	0.5	30		
1573108	Conductivity	2008/07/30					<2	umho/cm	0.7	25	101	85 - 115
1573110	Alkalinity (Total as CaCO3)	2008/07/30					<1	mg/L	0.4	25	100	85 - 115
1573423	Nitrite (N)	2008/07/30	97	75 - 125	102	80 - 120	<0.01	mg/L	NC	25		
1573423	Nitrate (N)	2008/07/30	94	75 - 125	100	80 - 120	<0.1	mg/L	NC	25		
1573494	Dissolved Chloride (Cl)	2008/07/30	NC(1)	75 - 125	102	80 - 120	<1	mg/L	0.6	20		
1573497	Orthophosphate (P)	2008/07/30	94	75 - 125	99	80 - 120	<0.01	mg/L	NC	25		
1573499	Dissolved Sulphate (SO4)	2008/07/30	NC(1)	75 - 125	104	80 - 120	<1	mg/L	1.3	25		
1573518	. Aluminum (Al)	2008/07/31	100	80 - 120	98	85 - 115	<5	ug/L				
1573518	. Antimony (Sb)	2008/07/31	104	80 - 120	104	85 - 115	<0.5	ug/L	NC	25		
1573518	. Arsenic (As)	2008/07/31	102	80 - 120	100	85 - 115	<1	ug/L				
1573518	. Barium (Ba)	2008/07/31	109	80 - 120	100	85 - 115	<5	ug/L	NC	25		
1573518	. Beryllium (Be)	2008/07/31	113	80 - 120	101	85 - 115	<0.5	ug/L				
1573518	. Boron (B)	2008/07/31	117	80 - 120	104	85 - 115	<10	ug/L	NC	25		
1573518	. Cadmium (Cd)	2008/07/31	101	80 - 120	106	85 - 115	<0.1	ug/L	NC	25		
1573518	. Calcium (Ca)	2008/07/31	NC(1)	80 - 120	101	85 - 115	<200	ug/L				
1573518	. Chromium (Cr)	2008/07/31	101	80 - 120	99	85 - 115	<5	ug/L	NC	25		
1573518	. Cobalt (Co)	2008/07/31	100	80 - 120	96	85 - 115	<0.5	ug/L				
1573518	. Copper (Cu)	2008/07/31	100	80 - 120	96	85 - 115	<1	ug/L	1.9	25		
1573518	. Iron (Fe)	2008/07/31	104	80 - 120	100	85 - 115	<100	ug/L	NC	25		
1573518	. Lead (Pb)	2008/07/31	104	80 - 120	98	85 - 115	<0.5	ug/L	NC	25		
1573518	. Magnesium (Mg)	2008/07/31	102	80 - 120	101	85 - 115	<50	ug/L				
1573518	. Manganese (Mn)	2008/07/31	101	80 - 120	98	85 - 115	<2	ug/L	NC	25		
1573518	. Molybdenum (Mo)	2008/07/31	101	80 - 120	102	85 - 115	<1	ug/L				
1573518	. Nickel (Ni)	2008/07/31	100	80 - 120	94	85 - 115	<1	ug/L				
1573518	. Phosphorus (P)	2008/07/31	104	80 - 120	95	85 - 115	<100	ug/L				
1573518	. Potassium (K)	2008/07/31	106	80 - 120	101	85 - 115	<200	ug/L				
1573518	. Selenium (Se)	2008/07/31	99	80 - 120	99	85 - 115	<2	ug/L	NC	25		
1573518	. Silicon (Si)	2008/07/31	110	80 - 120	99	85 - 115	<50	ug/L				
1573518	. Silver (Ag)	2008/07/31	98	80 - 120	102	85 - 115	<0.1	ug/L				
1573518	. Sodium (Na)	2008/07/31	101	80 - 120	100	85 - 115	<100	ug/L	4.6	25		
1573518	. Strontium (Sr)	2008/07/31	99	80 - 120	99	85 - 115	<1	ug/L				
1573518	. Thallium (Tl)	2008/07/31	104	80 - 120	98	85 - 115	<0.05	ug/L				
1573518	. Titanium (Ti)	2008/07/31	106	80 - 120	99	85 - 115	<5	ug/L				
1573518	. Uranium (U)	2008/07/31	112	80 - 120	102	85 - 115	<0.1	ug/L	NC	25		
1573518	. Vanadium (V)	2008/07/31	104	80 - 120	101	85 - 115	<1	ug/L				

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Stantec Consultants Ltd
Client Project #: 1609-00511
Project name: TECUMSEH

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
1573518	. Zinc (Zn)	2008/07/31	102	80 - 120	100	85 - 115	<5	ug/L	5.6	25		
1574320	Total Ammonia-N	2008/07/31	102	80 - 120	100	80 - 120	<0.05	mg/L	NC	25		

N/A = Not Applicable
NC = Non-calculable
RPD = Relative Percent Difference
(1) - The recovery in the matrix spike was not calculated (NC). Because of the high concentration of this analyte in the parent sample, the relative difference between the spiked and unspiked concentrations is not sufficiently significant to permit a reliable recovery calculation.

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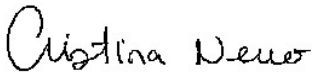
Validation Signature Page

Maxxam Job #: A881451

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

CATHY LI, Air Quality Services, Air Lab Analyst



CHRISTINA NERVO, Scientific Services

==========

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24-Jul-08 17:58
ANDREA RIETH
A881451
S_A ENV-802

CHAIN OF C... Page of

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION		Use Only:	
Company Name:	#9197 Stantec Consultants Ltd	Company Name:		Quotation #:		BOTTLE ORDER #:	91050
Contact Name:	Lesley Veale	Contact Name:		P.O. #:			
Address:	49 Frederick St Kitchener ON N2H 6M7	Address:		Project #:	1609-00511		
Phone:	(519)585-7377 Fax: (519)579-6733	Phone:	Fax:	Project Name:		CHAIN OF CUSTODY #:	PROJECT MANAGER:
Email:	lesley.veale@stantec.com, gus.sukkurwala@stante	Email:	edd@stantec.com	Site Location:	Tecumseh	C#91050-01-01	ANDREA RIETH
				Sampled By:			

REGULATORY CRITERIA:
- ☐ MISA — Reg. 153/04 — Sewer Use: ☐ Sanitary ☐ Storm ☐ Combined
- ☐ PWQO — ☐ Table 1 ☐ Table 2
- ☐ Reg. 558 — ☐ Table 3 ☐ Table 6 — Municipality: _____
- Other (specify): ODWS

SPECIAL INSTRUCTIONS:
- Analyzed as received
- results not reportable

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.
☒

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____ ☐
Rush Confirmation Number: _____ (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	RCAp - Comprehensive (Drinking Water)	Dissolved Methane in Water	# of Bottles	Comments
1		WG-160900511-20080724-LJ01	July 24/08	WT		N	X	X	5	Analyzed as received
2				WT						
3				WT						
4				WT						
5				WT						
6										
7										
8										
9										
10										

'08 JUL 24 17:58
7/7/7C

REC'D IN WATERLOO

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:
				2008/07/24	3:20

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Condition of Sample on Receipt	Custody Seal Intact on Cooler?
X	4° 4° 5°	☐ OK ☐ SIF	☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Page 9 of 9

NOSKAM 08/07/24 17:58

Stantec

ATTACHMENT C

RESIDENTIAL NOTIFICATION

Stantec Consulting Ltd.
49 Frederick Street
Kitchener ON N2H 6M7
Tel: (519) 579-4410

July 23, 2008
File: 1609-00511/10

1451 Rokeby Line
RR#1
Morretown ON N0N 1M0

Attention: Jayne Macrae

Dear Jayne Macrae:

Reference: Residential/Private Well Monitoring Program
Enbridge Storage Pool Project

On behalf of Enbridge Gas Distribution Inc. (Enbridge), Stantec Consulting Ltd. (Stantec) is pleased to provide you with the analytical results of the water sample collected from your residential well (RW1) on June 11, 2008. Table 1 provides a summary of your water quality results and compares the results to the Ontario Drinking Water Standards (ODWS).

Raw water from your residential well did not exceed the Ministry of the Environment (MOE) ODWS (MOE, 2006[1]) Maximum Acceptable Concentration (MAC) for any health-related parameter. The following is a list of parameters that exceeded the ODWS Aesthetic Objective (AO), Operational Guideline (OG) or Medical Officer of Health reporting limit (MOH):

- Chloride (250 mg/L AO) within RW1 (330 mg/L);
- Iron (0.30 mg/L AO) within RW1 (0.64 mg/L):
- Methane (3 L/m^3 AO) within RW1 (65 L/m^3);
- Sodium (20 mg/L MOH/200 mg/L AO) within RW1 (350 mg/L);
- Hardness (80-100 mg/L OG) within RW1 (71 mg/L); and,
- TDS (500 mg/L AO) within RW1 (881 mg/L).

None of the above parameters are a health-related risk under the ODWS.

The regional geology and hydrogeology within Lambton County was detailed in the Lambton County Groundwater Study completed by Dillon (2004[2]). The report summarized available water quality results for various wells throughout the county. The results indicated that chloride and sodium concentrations increased to the western extent of the county with maximum recorded concentrations of 2010 mg/L and 1220 mg/L. Within the county approximately 55% and 65% of available water quality results exceeded the ODWS AO for chloride of 250 mg/L and the AO for sodium of 200 mg/L, respectively. The Lambton County Groundwater Study also indicated that elevated iron and hardness were commonly noted within groundwater in this area.

[1] MOE, 2006. Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines. Prepared June 2006.
[2] Dillon Consulting Limited. Lambton County Groundwater Study. Prepared for Lambton County, December 2004.

Reference: Residential/Private Well Monitoring Program
Enbridge Storage Pool Project

Methane Concentration

The aqueous methane concentration from your residential well was 65 L/m^3, which exceeds the ODWS AO for methane of 3.0 L/m^3. The ODWS document indicates that the aesthetic objective is based on gas bubble release and violent spurting from taps for methane above 3 L/m3. The ODWS indicates that if methane is allowed to accumulate in confined areas, the potential for explosive combustion exists.

At the time of water quality sampling, you indicated that the tap regularly spurts gas or air and that on a previous occasion, a lighter was used to ignite the gas from the tap with the flame extending to the wall. During the June 2008 sampling, Stantec noted that the tap was spurting, suggesting entrapped gas or air.

Singer (2003[3]) summarized results of the MOE WWR which indicated that 1% to 3% of bedrock wells in the Lambton and Kent County area were defined as gas producing. These results are based on visual observations of the water at the time of drilling. No water quality analysis was preformed to confirm methane concentration and it is not known at what methane concentration, drillers would typically note the presence of gas. These results do indicate that methane can occur naturally within groundwater in the area.

The Ontario Water Well Regulation (Ontario Regulation 903) requires that all wells are vented to ensure that gases such as methane can escape the well. A basic vented cap will have a small air opening allowing gas exchange within the well and the environment. Well venting was not confirmed during the sampling events as the well could not be located. Based on observations of spurting from the tap by Stantec and your previous observations of spurting, it is interpreted that RW1 is not vented to the atmosphere. It is the well owners responsibility to ensure that the well meets the requirements of Ontario Regulation 903.

Additional information regarding water quality, well maintenance and well disinfection can be found at the County of Lambton, Community Health Services Department web page (www.lambtonhealth.on.ca) or call the health department directly at (519) 383-8331 or 1-800-667-1839.

Sincerely,

STANTEC CONSULTING LTD.

Lesley Veale, M.Sc., P.Geo.
Hydrogeologist
Tel: (519) 585-7377
lesley.veale@stantec.com

Attachment: Table 1 – Groundwater Analytical Results

c. Mr. Harley White, Well Owner
Mr. Terry Chupa – Enbridge Gas

lv w:\active\160900511_tecumseh\planning\report\ltr_080723_individual_final.doc

[3] Singer, S.N., Cheng, C.K., and Scafe, M.G., 2003. The Hydrogeology of Southern Ontario, second edition. Environmental Monitoring and Reporting Branch, Ministry of the Environment.

TABLE 1
GROUNDWATER ANALYTICAL RESULTS

Sample Location			RW1
Sample Date			11-Jun-08
Sample ID			WG-160900511-20080611 LJ01
Sampling Company			MAXX
Laboratory			A861657
Laboratory Work Order	Units	ODWS	Z23339
Health Related Parameters			
Antimony	µg/L	6[B]	< 0.5
Arsenic	µg/L	25[B]	< 1
Barium	µg/L	1000[C]	**110**
Boron	µg/L	5000[B]	**1500**
Cadmium	µg/L	5[C]	< 0.1
Chromium (Total)	µg/L	50[C]	< 5
Lead	µg/L	10$_c$[C]	< 0.5
Nitrate (as N)	mg/L	10.0$_d$[C]	< 0.1
Nitrite (as N)	mg/L	1.0$_d$[C]	< 0.01
Selenium	µg/L	10[C]	< 2
Sodium	µg/L	200000/20000$_g$[F]	**350000[F]$_g$**
Uranium	µg/L	20[C]	< 0.1
Aesthetic Parameters			
Chloride	mg/L	250[F]	**330[F]**
Copper	µg/L	1000[F]	< 1
Iron	µg/L	300[F]	**640[F]**
Dissolved Organic Carbon (DOC)	mg/L	5[F]	**1.1**
Manganese	µg/L	50[F]	**14**
Methane	l/m3	3[F]	**65[F]**
Sulfate	mg/L	500$_h$[F]	< 1
Sulfide	mg/L	0.05[F]	< 0.02
Total Dissolved Solids (Calculated)	mg/L	500[F]	**881[F]**
Zinc	µg/L	5000[F]	< 5
Operational Parameters			
Aluminum	µg/L	100[G]	< 5
Alkalinity, Total (As CaCO3)	mg/L	30-500[G]	**281**
Hardness (as CaCO3)	mg/L	80-100[G]	**71[G]**
pH, Lab	S.U.	6.5-8.5[G]	**8.4**
Other Parameters			
Beryllium	µg/L	n/v	< 0.5
Calcium	µg/L	n/v	**18000**
Cobalt	µg/L	n/v	< 0.5
Magnesium	µg/L	n/v	**6700**
Molybdenum	µg/L	n/v	**13**
Nickel	µg/L	n/v	< 1
Phosphorus	µg/L	n/v	< 100
Potassium	µg/L	n/v	**1800**
Silicon	µg/L	n/v	**4600**
Silver	µg/L	n/v	< 0.1
Strontium	µg/L	n/v	**460**
Thallium	µg/L	n/v	< 0.05
Titanium	µg/L	n/v	< 5
Vanadium	µg/L	n/v	< 1
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	**274**
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	**7**
Ammonia(as N)	mg/L	n/v	**0.26**
Anion Sum	meq/L	n/v	**14.8**
Cation Sum	meq/L	n/v	**16.7**
Electrical Conductivity, Lab	µmhos/cm	n/v	**1630**
Ion Balance	%	n/v	**6.09**
Langelier Index (at 20 C)	none	n/v	**0.609**
Langelier Index (at 4 C)	none	n/v	**0.362**
Orthophosphate(as P)	mg/L	n/v	< 0.01
Saturation pH (at 20 C)	none	n/v	**7.84**
Saturation pH (at 4 C)	none	n/v	**8.09**
Gas			
Ethane	l/m3	n/v	**0.005**
Ethylene	l/m3	n/v	< 0.002
Propane	l/m3	n/v	< 0.002
Ethane (Calculated)	mg/L	n/v	**0.006**
Ethylene (Calculated)	mg/L	n/v	< 0.002
Methane (Calculated)	mg/L	n/v	**42**
Propane (Calculated)	mg/L	n/v	< 0.004

Notes:

ODWS	Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, June 2003, Revised June 2006
A	ODWS Table 2 - Chemical Standards, Interim Maximum Acceptable Concentration
B	ODWS Table 2 - Chemical Standards, Maximum Acceptable Concentration
C	ODWS Table 4 - Chemical/Physical Objectives and Guidelines, Aesthetic Objectives
D	ODWS Table 4 - Chemical/Physical Objectives and Guidelines, Operational Guidelines
6.5[A]	Concentration exceeds the indicated standard.
15.2	Concentration was detected but did not exceed applicable standards.
< 0.50	Laboratory reportable detection limit exceeded standard.
< 0.03	The analyte was not detected above the laboratory reportable detection limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
c	This standard applies to water at the point of consumption. Since lead is a component in some plumbing systems, first flush water may contain higher concentrations of lead than water that has been flushed for five minutes.
d	Where both nitrate and nitrite are present, the total of the two should not exceed 10 mg/L (as nitrogen).
g	The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.
h	When sulfate levels exceed 500 mg/L, water may have a laxative effect on some people.
i	Applicable for all waters at the point of consumption.
j	The operational guidelines for filteration processes are provided as performance criteria in the Procedure for Disinfection of Drinking Water in Ontario.

Stantec Consulting Ltd.
49 Frederick Street
Kitchener ON N2H 6M7
Tel: (519) 579-4410

September 3, 2008
File: 1609-00511/10

1193 Moore Line
Mooretown ON N0N 1M0

Dear Mr. and Mrs. Robbins:

Reference: Residential/Private Well Monitoring Program
Enbridge Storage Pool Project

On behalf of Enbridge Gas Distribution Inc. (Enbridge), Stantec Consulting Ltd. (Stantec) is pleased to provide you with the analytical results of the water sample collected from your residential well (RW2) on July 24, 2008. Table 1 provides a summary of your water quality results and compares the results to the Ontario Drinking Water Standards (ODWS).

Raw water from your residential well did not exceed the Ministry of the Environment (MOE) ODWS (MOE, 2006[1]) Maximum Acceptable Concentration (MAC) for any health-related parameter. The following is a list of parameters that exceeded the ODWS Aesthetic Objective (AO), Operational Guideline (OG) or Medical Officer of Health reporting limit (MOH):

- Chloride (250 mg/L AO) within RW2 (440 mg/L);
- Iron (0.3 mg/L AO) within RW2 (2.9 mg/L);
- Manganese (0.05 mg/L AO) within RW2 (0.088 mg/L);
- Methane (3 L/m^3 AO) within RW2 (47 L/m^3);
- Sodium (20 mg/L MOH/200 mg/L AO) within RW2 (390 mg/L);
- Hardness (80-100 mg/L OG) within RW2 (240 mg/L); and
- TDS (500 mg/L AO) within RW2 (1150 mg/L).

None of the above parameters are a health-related risk under the ODWS.

As private well is also used for livestock, the water quality results were also compared to the Canadian Water Quality Guidelines for Livestock Water (Canadian Council of Ministers of the Environment (CCME), 1987[2]). The water quality results from RW2 did not exceed the CCME Livestock criteria for any tested parameter.

The regional geology and hydrogeology within Lambton County was detailed in the Lambton County Groundwater Study completed by Dillon (2004[3]). The report summarized available water quality results for various wells throughout the county. The results indicated that chloride and sodium concentrations increased to the western extent of the county with maximum recorded concentrations of 2010 mg/L and 1220 mg/L. Within the county approximately 55% and 65% of available water quality results exceeded the ODWS AO for

[1] MOE, 2006. Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines. Prepared June 2006.
[2] CCME, 1987. Canadian Water Quality Guidelines for the Protection of Agricultural Water Uses, Irrigation and Livestock Water.
[3] Dillon Consulting Limited. Lambton County Groundwater Study. Prepared for Lambton County, December 2004.

Reference: Residential/Private Well Monitoring Program
Enbridge Storage Pool Project

chloride of 250 mg/L and the AO for sodium of 200 mg/L, respectively. The Lambton County Groundwater Study also indicated that elevated iron and hardness were commonly noted within groundwater in this area. The elevated TDS is likely a function of the elevated sodium and chloride results.

The sodium concentration within your well exceeded the MOH reporting limit of 20 mg/L, which is only considered a concern for consumers on a sodium-restricted diet. As the water is not used for drinking, this exceedance is not interpreted to be a concern.

Methane Concentration

The aqueous methane concentration from your residential well was 47 L/m^3, which exceeds the ODWS AO for methane of 3.0 L/m^3. The ODWS document indicates that the aesthetic objective is based on gas bubble release and violent spurting from taps for methane above 3 L/m^3. The ODWS indicates that if methane is allowed to accumulate in confined areas, the potential for explosive combustion exists.

Singer (2003[4]) summarized results of the MOE WWR which indicated that 1% to 3% of bedrock wells in the Lambton and Kent County area were defined as gas producing. These results are based on visual observations of the water at the time of drilling. No water quality analysis was preformed to confirm methane concentration and it is not known at what methane concentration drillers would typically note the presence of gas. These results do indicate that methane can occur naturally within groundwater in the area.

The Ontario Water Well Regulation (Ontario Regulation 903) requires that all wells are vented to ensure that gases such as methane can escape the well. During the water quality sampling at RW2, Stantec confirmed that the well was vented outside of the well house meeting venting requirements of O.Reg. 903.

Additional information regarding water quality, well maintenance and well disinfection can be found at the County of Lambton, Community Health Services Department web page (www.lambtonhealth.on.ca) or call the health department directly at (519) 383-8331 or 1-800-667-1839.

Sincerely,

STANTEC CONSULTING LTD.

Lesley Veale, M.Sc., P.Geo.
Hydrogeologist
Tel: (519) 585-7377
lesley.veale@stantec.com

Attachment: Table 1 – Groundwater Analytical Results

c. Mr. Terry Chupa – Enbridge Gas

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[4] Singer, S.N., Cheng, C.K., and Scafe, M.G., 2003. The Hydrogeology of Southern Ontario, second edition. Environmental Monitoring and Reporting Branch, Ministry of the Environment.

TABLE 1
GROUNDWATER ANALYTICAL RESULTS

Sample Location	Units	ODWS	CCME Livestock Water	RW2
Sample Date				24-Jul-08
Sample ID				WG-160900511-20080724-LJ01
Laboratory				MAXX
Laboratory Work Order				A881451
Laboratory Sample ID				AB0369
Metals				
Antimony	mg/L	0.006[A]	n/v	< 0.0005
Arsenic	mg/L	0.025[A]	0.025[F]	< 0.001
Barium	mg/L	1[B]	n/v	**0.23**
Boron	mg/L	5[A]	5[F]	**1.1**
Cadmium	mg/L	0.005[B]	0.08[F]	< 0.0001
Chromium (Total)	mg/L	0.05[B]	n/v	< 0.005
Lead	mg/L	0.01$_c$[B]	0.1[F]	**0.0019**
Nitrate (as N)	mg/L	10.0$_d$[B]	n/v	< 0.1
Nitrite (as N)	mg/L	1.0$_d$[B]	n/v	< 0.01
Selenium	mg/L	0.01[B]	0.05[F]	< 0.002
Uranium	mg/L	0.02[B]	0.2[F]	**0.0006**
Aesthetic Parameters				
Chloride	mg/L	250[C]	n/v	**440[C]**
Copper	mg/L	1[C]	0.5/5$_p$[F]	**0.001**
Iron	mg/L	0.3[C]	n/v	**2.9[C]**
Dissolved Organic Carbon (DOC)	mg/L	5[C]	n/v	**4.3**
Manganese	mg/L	0.05[C]	n/v	**0.088[C]**
Methane	L/m3	3[C]	n/v	**47[C]**
Sodium	mg/L	200/20$_g$[C]	n/v	**390[C]**
Sulfate	mg/L	500$_h$[C]	1000[F]	**22**
Sulfide	mg/L	0.05[C]	n/v	-
Total Dissolved Solids (Calculated)	mg/L	500[C]	3000[F]	**1150[C]**
Zinc	mg/L	5[C]	50[F]	**0.097**
Operational Parameters				
Aluminum	mg/L	0.1[D]	5[F]	**0.082**
Alkalinity, Total (As CaCO3)	mg/L	30-500[D]	n/v	**333**
Hardness (as CaCO3)	mg/L	80-100[D]	n/v	**240[D]**
pH, Lab	S.U.	6.5-8.5[D]	n/v	**8.2**
Other Parameters				
Beryllium	mg/L	n/v	0.1[F]	< 0.0005
Calcium	mg/L	n/v	1000[F]	**56**
Cobalt	mg/L	n/v	1[F]	< 0.0005
Magnesium	mg/L	n/v	n/v	**24**
Molybdenum	mg/L	n/v	0.5[F]	**0.001**
Nickel	mg/L	n/v	1[F]	< 0.001
Phosphorus	mg/L	n/v	n/v	< 0.1
Potassium	mg/L	n/v	n/v	**5.7**
Silicon	mg/L	n/v	n/v	**6.5**
Silver	mg/L	n/v	n/v	< 0.0001
Strontium	mg/L	n/v	n/v	**0.78**
Thallium	mg/L	n/v	n/v	< 0.00005
Titanium	mg/L	n/v	n/v	< 0.005
Vanadium	mg/L	n/v	0.1[F]	**0.001**
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	n/v	**328**
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	**4**
Ammonia(as N)	mg/L	n/v	n/v	**1.1**
Anion Sum	meq/L	n/v	n/v	**19.4**
Cation Sum	meq/L	n/v	n/v	**22.0**
Electrical Conductivity, Lab	µmhos/cm	n/v	n/v	**2110**
Ion Balance	%	n/v	n/v	**6.12**
Langelier Index (at 20 C)	none	n/v	n/v	**0.856**
Langelier Index (at 4 C)	none	n/v	n/v	**0.611**
Orthophosphate(as P)	mg/L	n/v	n/v	< 0.01
Saturation pH (at 20 C)	none	n/v	n/v	**7.30**
Saturation pH (at 4 C)	none	n/v	n/v	**7.54**
Gas				
Ethane	L/m3	n/v	n/v	-
Ethylene	L/m3	n/v	n/v	-
Propane	L/m3	n/v	n/v	-
Ethane(Calculated)	mg/L	n/v	n/v	-
Ethylene(Calculated)	mg/L	n/v	n/v	-
Methane(Calculated)	mg/L	n/v	n/v	**31**
Propane(Calculated)	mg/L	n/v	n/v	-

Notes:

ODWS	Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, June 2003, Revised June 2006
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CCME	Canadian Council of Ministers of the Environment
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C h	When sulfate levels exceed 500 mg/L, water may have a laxative effect on some people.
p	Copper guideline = 500 ug/L for sheep, 1000 ug/L for cattle, 5000 ug/L for swine and poultry.