TECHNICAL MEMORANDUM

DATE October 4, 2022 **Project No.** 21493887

TO City of Ottawa
Public Works Department

FROM Caitlin Cooke **EMAIL ccooke@golder.com**

SEPTEMBER 30, 2022 COLOUR MEASUREMENT, WELL PW11-1
HYDRO ONE ORLEANS OC, PHASE 2
3440 FRANK KENNY ROAD, OTTAWA, ONTARIO

Golder Associates Ltd. (WSP Golder) was retained by J.L. Richards & Associates Ltd. (JLR) to provide hydrogeological services for the proposed Hydro One Operations Centre (OC), Phase 2, located at 3440 Frank Kenny Road in Ottawa, Ontario. The purpose of the work was to evaluate the water quality at water supply well PW11-1, which is currently being used to supply the temporary building on the site.

Two water samples were collected earlier in 2022 from PW11-1. The analytical results of these samples were compared to the Ontario Drinking-Water Quality Standards (ODWQS, Ontario Regulation 169/03) and to the standards (MAC), objectives (AO) and guidelines (OG) of the "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines" (Ontario Ministry of the Environment, Conservation and Parks (MECP); Revised June, 2006). Analytical results of the groundwater sample collected from PW11-1 on March 9, 2022 indicated an AO exceedance for colour, which was measured to be 96 TCU, above the AO of 5 TCU (MECP, 2006). This colour result from the lab is not consistent with the observations in the field at the time of sampling (i.e., the sample was described as being clear and colourless when collected). The sample collected from PW11-1 on August 30, 2022 for volatile organic compounds (VOC) analysis was also described as clear and colourless.

To confirm that the colour of the water supplied by well PW11-1 meets the treatability limit of 7 TCU under Procedure D-5-5, another confirmation sample was collected on September 30, 2022 from the same tap using the same sampling and purging methods as used for the previous samples. The water sample was collected in laboratory supplied bottles, packed in a cooler with ice packs and delivered to Eurofins in Ottawa, Ontario for analysis of true colour. The colour of the water sample was also measured in the field using a calibrated Hach 900 colour meter. The laboratory certificate of analysis for the September 30, 2022 sample is included in Attachment 1.

The September 30, 2022 field measurement of colour was below 5 TCU, the minimum level that can be measured using the Hach 900 colour meter. The lab measurement of true colour was 2 TCU (i.e., below to AO for colour and below the treatability limit of 7 TCU under Procedure D-5-5). Based on the field observations during sampling (consistently clear and colourless), the field measured colour and laboratory result for the confirmation sample

Golder Associates Ltd.
1931 Robertson Road, Ottawa, Ontario, K2H 5B7, Canada T: +1 613 592 9600 F: +1 613 592 9601

collected on September 30, 2022, it is concluded that the water from PW11-1 is below to AO for colour and below the treatability limit of 7 TCU under Procedure D-5-5.

Closure

Should you have any questions or require further information, please do not hesitate to contact the undersigned.

Golder Associates Ltd.

Caitlin Cooke, M.Sc., P.Geo.
Lead Hydrogeologist

Jaime Oxtobee, M.Sc., P.Geo.
Senior Hydrogeologist/Associate

CAMC/JPAO/rk

Attachments: Attachment 1 – Lab Report 1987084

https://golderassociates.sharepoint.com/sites/152302/project files/6 deliverables/well sampling/colour sampling 2022-09-30/21493887-tm-rev0-well colour_2022-10-04.docx

Certificate of Analysis

Client: Golder Associates Ltd. (Ottawa)
1931 Robertson Road
Ottawa, ON
K2H 5B7
Attention: Ms. Caitlin Cooke
PO#:
Invoice to: Golder Associates Ltd. (Ottawa)

Report Number: 1987084
Date Submitted: 2022-09-30
Date Reported: 2022-10-03
Project: 21493887
COC #: 212766

Dear Caitlin Cooke:

Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).

Report Comments:

APPROVAL: _____
Addrine Thomas, Inorganics Supervisor

All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise indicated.

Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accreditation. The scope is available at: https://directory.cala.ca/.

Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) is licensed by the Ontario Ministry of the Environment, Conservation, and Parks (MECP) for specific tests in drinking water (license #2318). A copy of the license is available upon request.

Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) is accredited by the Ontario Ministry of Agriculture, Food, and Rural Affairs for specific tests in agricultural soils.

Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline values listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official provincial or federal guideline as required. Unless otherwise stated, measurement uncertainty is not taken into account when determining guideline or regulatory exceedances.

Certificate of Analysis

eurofins | Environment Testing

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				Lab I.D.	1653930
				Sample Matrix	GW
				Sample Type	
				Sampling Date	2022-09-30
				Sample I.D.	S-1
Group	**Analyte**	**MRL**	**Units**	**Guideline**	
General Chemistry	Colour (True)	2	TCU		2

Guideline = ODWSOG *** = Guideline Exceedence**

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 430741 **Analysis/Extraction Date** 2022-10-03 **Analyst** ACG **Method** C SM2120C			
Colour (True)	<2 TCU	100	90-110

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