



Stantec Consulting Ltd.
49 Frederick Street, Kitchener ON N2H 6M7

October 20, 2015
File: 1609-00795/10

Attention: Mr. Dan Joyner, Senior Environmental Officer
Ministry of the Environment and Climate Change
Belleville Area Office
345 College St. East
Belleville, ON, K8N 5S7

Dear Mr. Joyner,

**Reference: Well Abandonment and Contingency Planning
Quinte Pipeline Replacement, Union Gas Ltd**

On behalf of Union Gas Ltd. (Union Gas), Stantec Consulting Ltd. (Stantec) has prepared the following letter in response to the Ministry of the Environment and Climate Change (MOECC) comments and recommendations from their e-mail dated October 15, 2015 regarding the Union Gas Drilling for the Quinte Pipeline replacement project.

The letter presents the review of potential unused wells along the Union Gas borehole route and details the proposed actions and timelines moving forward.

1.0 REVIEW OF POTENTIAL UNUSED WELLS

Stantec reviewed the initial details provided by each of the residents at the time of pre-construction sampling, the MOECC Water Well Records (WWR) in the area, site observations and updated descriptions provided by residents following the observed seepage. Based on this review, the following summary is presented.

1.1 13 GUSSY LANE

Mr. Tom Green confirmed that, approximately 40 years ago, his father retained Chalk Drilling to drill a water supply well at 13 Gussy Lane. The initial 2 boreholes were dry with Well 1 located adjacent to the house and Well 2 located to the south within the yard. The third borehole had adequate water for residential usage and is the current active well (Residential Well 12 (RW12)).

Based on this additional information, Stantec reviewed the MOECC WWR with the following observations:

- Well 1 is interpreted as MOECC WWR No. 2904198 drilled by Chalk Drilling on May 6, 1969 to 60 ft (18 m). The well was noted as dry at the time of drilling. MOECC e-mail indicated that Well 1 was measured at 17 m deep during the site visit on October 13, 2015. This measured depth is similar to the depth on the interpreted well log.



October 20, 2015
Mr. Dan Joyner, Senior Environmental Officer
Page 2 of 4

**Reference: Well Abandonment and Contingency Planning
Quinte Pipeline Replacement, Union Gas Ltd**

- Well 2 is interpreted as MOECC WWR No. 2904197 drilled by Chalk Drilling on May 8, 1969 to 80 ft (24 m). The well was also noted as dry at the time of drilling. The well is not currently visible at ground surface. Union Gas has tried to locate the well using a metal detector and historical photo provided by Mr. Tom Green, but have not been successful. During discussions on October 19, 2015 with Mr. Tom Green, he suggested that the well may have been decommissioned. Union Gas has indicated that they will continue to try and locate the well to the best of their abilities.
- Stantec was not able to locate the MOECC WWR for the active well (RW12) at 13 Gussy's Lane.

1.2 53 GUSSY LANE

During initial discussions with the property owner, the resident indicated that there was an unused drilled well to the south of the house. The water had a sulphur odour and was replaced with a shallow shore well, which is the current active well (RW20). The drilled well is a 6 inch well extending above ground surface. The WWR could not be identified and the depth of this well is unknown.

1.3 34 SERO ROAD

There is an unused dug well on the property. It is located approximately 140 m northwest of the Union Gas borehole exit pit. This well is not located along the borehole route and there are four (4) active wells located in closer proximity to the exit pit and Union Gas borehole. Based on the location and construction details, it is Stantec's opinion that well abandonment at this location is not required by Union Gas. During discussions with the resident on October 18, 2015, the resident indicated that they did not want Union Gas to abandon the unused dug well.

1.4 Other Locations Along The Borehole Route

Discussions with residents and review of MOECC WWR did not indicate any other unused wells within 100 m of the Union Gas borehole route. The residential well monitoring program includes six (6) active wells within 100 m of the borehole including RW20, RW16, RW12, RW18, RW21, RW13.

1.5 SUMMARY

Based on the review of wells in the area, well abandonment of Well 1 at 13 Gussy Lane and the drilled well at 53 Gussy Lane is proposed. Well 2 at 13 Gussy Lane should also be abandoned, if Union Gas is able to locate the well.



October 20, 2015
Mr. Dan Joyner, Senior Environmental Officer
Page 3 of 4

**Reference: Well Abandonment and Contingency Planning
Quinte Pipeline Replacement, Union Gas Ltd**

2.0 PROPOSED ACTIONS

The proposed actions and timing for well inspection and timing are detailed below.

October 19, 2015	Union Gas confirmed permission from the residents and attempted to locate/expose Well 2 at 13 Gussy Lane
October 20/21, 2015	Lotowater Technical Services Inc. (Lotowater), a licensed well contractor, will complete well inspection and well video at the three (3) wells. Depending on the visibility at Well 1 at 13 Gussy Lane, additional testing may be completed as determined by Stantec. Inspection will be observed by a Professional Geoscientist from Stantec.
October 20/21, 2015	Stantec will provide the MOECC with an update based on the well video and recommendations for well abandonment.
October 21, 2015	Following the well video, Marathon Well Drilling, a licensed well contractor, will abandon the wells in accordance with O.Reg.903. The wells will be cement grouted using positive displacement methods. GPS coordinates will be provided on the individual abandonment well logs.
October 22, 2015	Union Gas has requested that the well abandonment log be provided within 24 hours and will be forwarded to the MOECC immediately. The abandonment log is considered documentation of well abandonment.
October 23, 2015	Michels Drilling has prepared a contingency plan for the borehole drilling. The contingency plan will be provided to the MOECC under separate cover.
October 23, 2015	Stantec will prepare a summary letter detailing the results of the WWR review, efforts to locate Well 2 at 13 Gussy Lane, results of the well video/inspection and abandonment.



October 20, 2015
Mr. Dan Joyner, Senior Environmental Officer
Page 4 of 4

**Reference: Well Abandonment and Contingency Planning
Quinte Pipeline Replacement, Union Gas Ltd**

We trust that this review and action items adequately addresses the MOECC comments regarding the unused well. Please contact Union Gas or the undersigned for any additional information.

Regards,

STANTEC CONSULTING LTD.

Lesley Veale, M.Sc., P.Geo.
Senior Hydrogeologist
Phone: (519) 585-7377
Fax: (519) 579-4239
lesley.veale@stantec.com

c. Amry Al-Amry – Union Gas

\\w:\active\160900795\planning\correspondence\let_151019_well abandonment_v2.docx