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January 23, 2015

Project 134085

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**ATTENTION:** John Driedger, P.Eng.  
Senior Program Manager – Soil and Groundwater FDG

**REFERENCE:** **Performance Verification Plan, Former Payless Service Station,  
4450 Trans Canada Highway, Cobble Hill, BC, Location Code: 47049,  
Site ID: 1938**

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The Environment & Water business unit of SNC-Lavalin Inc. (SNC-Lavalin) has prepared this Performance Verification Plan (PVP) in support of an application for a Certificate of Compliance (CofC) for the Former Payless Service Station located at 4450 Trans Canada Highway, Cobble Hill, BC, BC Ministry of Environment (MoE) Site ID: 1938 (herein referred to as the "Site"). The PVP presents the principal risk controls that apply at the Site to ensure the Site CofC remains valid (i.e., the key risk controls of Schedule B). The PVP was prepared in accordance with MoE Procedure 12: Procedures for preparing and issuing contaminated sites legal instruments (2013) and Administrative Guidance 14: Performance Verification Plans, Contingency Plans and Operations and Maintenance Plans (2014).

### **PRINCIPAL RISK CONTROLS**

A Human Health and Ecological Risk Assessment (HHERA) was conducted for the Site, and the results presented in the SNC-Lavalin report, *Human Health and Ecological Risk Assessment, Former Payless Service Station and Management Area Adjacent 4450 Trans Canada Highway, Cobble Hill BC, Location Code: 47049*, prepared by SNC-Lavalin (SNC-Lavalin, 2015a). The HHERA was prepared based on the findings and conclusions presented in the SNC-Lavalin report, *Stage 1 & 2 Preliminary Site Investigation, Detailed Site Investigation and Decommissioning, Former Payless Station and Management Area Located Adjacent 4450 Trans Canada Highway, Cobble Hill, BC* (SNC-Lavalin, 2015b).



The principal risk controls on which the SNC-Lavalin (2015a) risk assessment was based, as presented in Schedule B of the CofC, are as follows:

- (a) *Contaminated groundwater must not be used as a drinking water source; and*
- (b) *A worker health and safety plan with provisions to prevent vapour inhalation exposures must be developed in the event that trenches (excavations that are deeper than they are wide, > 1.5 m below grade and suitable for human entry) are advanced at the Site.*

Although not a basis for SNC-Lavalin (2015a), and subsequently not required or included as a risk control in Schedule B of the CofC, the following recommendation is considered reasonable for the Site:

- (c) *Current and future buildings at the Site must be slab on grade, built anywhere on the Site except in the area of the building exclusion zone defined in the SNC-Lavalin (2015b).*

## **DETERMINATION OF PROCEDURE 12 REMEDIATION TYPE**

Based on the principal risk controls for the Site (i.e., the use of institutional controls to mitigate/eliminate risks at the Site and lack of imminent risks in the event that controls were either not implanted or were rendered ineffective), the Remediation Type applicable at the Site is considered to be Type 2.

Under a Remediation Type 2 scenario, MoE (2013; 2014) indicates that a PVP is required, while an operations and maintenance plan may be required.

## **PERFORMANCE VERIFICATION PLAN**

A PVP is required to ensure that the principal risk controls upon which the HHERA is based are being met at the Site.

This includes the maintenance of up-to-date records of performance verification actions and results for the Site being maintained by the responsible person (or their agents). If requested by the Director, the responsible person (or their agents) will provide these records to the MoE. As well, if requested by the Director, responsible person(s) will provide a signed statement on whether conditions set out in this Schedule B are being met.

Performance verification actions for the Site include the following:

- a) Communication with the owner/operator that Contaminated groundwater at the Site must not be used for drinking water purposes. Contaminated groundwater at the Site is located at depths of < 7 m bgs, limited to the shallow aquifer, with the deeper aquifer not being impacted. Groundwater conditions at the Site are at minimum stable and delineated to within the shallow aquifer (SNC-Lavalin, 2015b). Groundwater is not currently used as a drinking water source at the Site. Drinking water wells are present in the general area, however, wells are installed at depths of approximately 27 m bgs to 41 m bgs, much deeper than the



depth of Contaminated groundwater. Given the depth of Contaminated groundwater being relatively shallow with Contamination delineated and stable, and the presence of a deeper aquifer more suitable for drinking water present at the Site, it is considered unlikely that Contaminated groundwater at depths of < 7 m bgs will be used as a potential drinking water source in the event that a future drinking water well was to be installed at the Site.

Based on the above, an advisory for the Site that Contaminated groundwater must not be used for drinking water purposes is considered appropriate to meet this risk control. The listing of this risk control in Schedule B of the CofC meets this requirement.

- b) Communication with the Site owner/operator that a worker health and safety plan must be developed in the event that trenches (defined as excavations that are deeper than they are wide, > 1.5 m bgs and suitable for human entry) are advanced at the Site. The worker health and safety plan will include measures to mitigate trench vapour inhalation exposures. It is unknown if trench work is required at the Site, and if any such work will be undertaken in the future.

Based on the above, an advisory for the Site that a worker health and safety plan must be developed and implemented in the event that trenches (as per the above definition) are advanced at the Site is considered appropriate to meet this risk control. The listing of this risk control in Schedule B of the CofC meets this requirement.

Although not a basis for SNC-Lavalin (2015a), and subsequently not required or included in Schedule B of the CofC, the following recommendation is considered reasonable for the Site:

- c) Current and future buildings at the Site must be slab on grade, built anywhere on the Site except in the area of the building exclusion zone defined in the SNC-Lavalin (2015b).

In summary, it is our opinion that the advisories in Schedule B of the CofC are sufficient for addressing the principal risk controls at the Site.

## REFERENCES

MoE. 2013. Procedure 12. Procedures for preparing and issuing contaminated sites legal instruments. BC Ministry of Environment, Victoria, BC, February, 2013.

MoE. 2014. Administrative Guidance 14: Performance Verification Plans, Contingency Plans and Operations and Maintenance Plans. BC Ministry of Environment, Victoria, BC, February, 2014.

SNC-Lavalin. 2015a. *Human Health and Ecological Risk Assessment, Former Payless Service Station and Management Area Adjacent 4450 Trans Canada Highway, Cobble Hill, BC, Location Code: C47049*, prepared by SNC-Lavalin Inc., Environment & Water, dated January 23, 2015.



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SNC-Lavalin. 2015b. *Stage 1 & 2 Preliminary Site Investigation, Detailed Site Investigation and Decommissioning, Former Payless Service Station and Management Area Adjacent 4450 Trans Canada Highway, Cobble Hill, BC, Location Code: C47049*, prepared by SNC-Lavalin Inc., Environment & Water, dated January 22, 2015.

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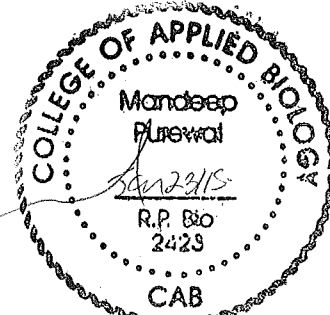


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