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March 8, 2016

Project 132814

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

REFERENCE: **Performance Verification Plan,
460 Birch Avenue, Near the Former Shell Service Station,
465 South Highway 97, 100 Mile House, BC, Location Code: C44020,
Site ID: 11307**

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 460 Birch Avenue Management Area associated with the Former Shell Service Station located at 465 South Highway 97, 100 Mile House, BC, BC Ministry of Environment (MoE) Site ID: 11307 (herein referred to as the "MA"). The MA is owned and managed by the Cariboo Regional District. The PVP presents the principal risk controls that apply at the MA to ensure the CofC for the MA 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 (2015a) and Administrative Guidance 14: Performance Verification Plans, Contingency Plans and Operations and Maintenance Plans (2015b).

PRINCIPAL RISK CONTROLS

A Human Health and Ecological Risk Assessment (HHERA) was conducted for the MA, and the results are presented in the SNC-Lavalin report, *Human Health and Ecological Risk Assessment, Former Shell Service Station and Management Area, 465 South Highway 97, 100 Mile House, BC, Location Code: C44020*, prepared by SNC-Lavalin, (SNC-Lavalin, 2016a). 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, Decommissioning, and Confirmation of Remediation, Former Shell Service Station and Management Area, 465 South Highway 97, 100 Mile House, BC* (SNC-Lavalin, 2016b).



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The principal risk controls for the MA on which the SNC-Lavalin (2016a) risk assessment was based, as presented in Schedule B of the CofC, are as follows:

- a) *The current building will remain in place, and no other buildings will be constructed at the 460 Birch Avenue MA in the future.*
- b) *Groundwater must not be used as a drinking water source.*

Other assumptions have been made throughout the HHERA (SNC-Lavalin, 2016a), but are not considered risk controls. These assumptions include that the overall grade at the MA will remain consistent with current grade. Given that this assumption was used to determine the presence of Contamination at the Site (i.e., an assumption used in the Site investigation), they are not considered to be risk controls and are not further discussed in the PVP.

DETERMINATION OF PROCEDURE 12 REMEDIATION TYPE

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

Under a Remediation Type 2 scenario, MoE (2015a; 2015b) 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 MA.

This includes the maintenance of up-to-date records of performance verification actions and results for the MA 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 MA include the following:

- a) Communication with the owner/operator that the current building must remain in place and that no additional buildings can be constructed at the MA in the future. This requirement was previously communicated to the owner of the MA in a letter from Shell dated March 7, 2016 (Shell, 2016). The owner has not expressed concerns regarding this requirement, nor have they indicated that they have plans to redevelop the MA. As such, it is considered unlikely that the current building will be demolished and that new buildings will be constructed at the MA in the foreseeable future.



Based on the above, an advisory that the current building must remain in place and that no additional buildings can be constructed at the MA in the future 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 owner/operator that Contaminated groundwater at the MA must not be used for drinking water purposes. The current/future use of the MA is commercial outdoor, with the potential for a future slab-on-grade commercial building built anywhere on the MA. Groundwater at the MA is not used for drinking water purposes (including bathing/showering, cooking, gardening, drinking, etc.) and is not anticipated to be used for these purposes in the future, with drinking water supplied by a municipal water distribution system. It is considered unlikely that groundwater will be used for drinking water purposes in the future.

Based on the above, an advisory that groundwater at the MA 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.

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 MA.

REFERENCES

- MoE. 2015a. Procedure 12. Procedures for preparing and issuing contaminated sites legal instruments. BC Ministry of Environment, Victoria, BC, December, 2015.
- MoE. 2015b. Administrative Guidance 14: Performance Verification Plans, Contingency Plans and Operations and Maintenance Plans. BC Ministry of Environment, Victoria, BC, December, 2015.
- Shell Canada Products, 2016. Summary of Communication in Regards to the CofC Application for Off-Site Management Areas and Properties associated with the Former Shell Service Station (Turbo Branded) at 465 South Highway 97, 100 Mile House, British Columbia, Location Code: C44020 (MoE Site No. 11307). March 7, 2016.
- SNC-Lavalin. 2016a. *Human Health and Ecological Risk Assessment, Former Shell Service Station and Management Area, 465 South Highway 97, 100 Mile House, BC, Location Code: C44020*, prepared by SNC-Lavalin Inc., Environment & Water, dated January 7, 2016.
- SNC-Lavalin. 2016b. *Stage 1 PSI Update, Stage 2 Preliminary Site Investigation, Detailed Site Investigation, and Remedial Excavation, Former Shell Service Station and Management Area, 465 South Highway 97, 100 Mile House, BC. Location Code #C44020*, prepared by SNC-Lavalin Inc., Environment & Water, dated January 4, 2016.



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Reviewed by:

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