

19890 - 92A Avenue • Langley, BC V1M 3A9 • (604) 513-1000 • Fax (604) 513-1040 • www.parsons.com

April 7, 2014

Imperial Oil #405, Metrotown Place III 5945 Kathleen Avenue Burnaby, British Columbia V5H 4J7

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Ref. No.: 10-2734T14

Attention:

**Environmental Services** 

Re:

Performance Verification Plan for

1859 Trans-Canada Highway Revelstoke, British Columbia Location No.: JF.00265/ 302053

Further to your request, Parsons Canada Ltd. (Parsons) is pleased to provide this Performance Verification Plan (PVP) in support of an application for a Certificate of Compliance (CofC) for the former Imperial Oil service station located at 1859 Trans-Canada Highway in Revelstoke, British Columbia (the subject property). The PVP presents the principal risk management measures that apply at the subject property to ensure the subject property CofC remains valid (i.e. the key risk management controls of Schedule B of the CofC which must remain in place at the subject property). The PVP was prepared in accordance with British Columbia Ministry of Environment (BCMOE) Procedure 12: Procedures for preparing and issuing contaminated sites legal instruments (Procedure 12).

A plan indicating the areal extent of the subject property, relevant to this PVP, is indicated in Schedule A of the CofC.

#### PRINCIPAL RISK ASSESSMENT MANAGEMENT CONTROLS

A human health and ecological risk assessment (HHERA) was conducted for the subject property, and the results presented in the Parsons report, "Preliminary Investigation/Detailed Site Investigation/Confirmation of Remediation/Detailed Assessment Report, 1859 Trans Canada Highway in Revelstoke, British Columbia (April 7,

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2014)". The principal risk management measures on which the risk assessment were based, as presented in Schedule B of the CofC, are as follows:

- (a) Deep rooting vegetation is not established on the subject property to depths greater than 1.0 metres below ground surface (mbgs) in the area identified on the attached figure.
- (b) Consistent with the future land use assumptions of the vapour assessment in the Detailed Site Investigation, the structures and locations of buildings at the subject property and at neighbouring parcels must remain consistent with the range of building structures currently in place (i.e. slab-on-grade). On the subject property no building should be constructed with a foundation deeper than 1.0 mbgs.
- (c) A worker health and safety plan to mitigate exposure to vapours must be implemented in the event that trench work at depths greater than 1.5 mbgs but less than 3 m in a trench deeper than it is wide, be required within the area identified on the figure below.
- (d) No drinking water wells will be installed within the subject property.

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

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

Under a Remediation Type 2 scenario, Procedure 12 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 management measures upon which the risk assessment is based are being met for the subject property.

This includes the performance verification actions outline below. If requested by the Director, responsible person(s) must provide a signed statement on whether conditions set out in Schedule B are being met.

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Performance verification actions for the subject property include the following:

(a) Communication with the subject property owner to ensure that future buildings on the subject property do not extend deeper than 1.0 mbgs.

The assumptions in the vapour assessment and the risk assessment regarding future development were based on, and consistent with, the surrounding commercial developments which consist of slab-on-grade buildings.

As such, an advisory for the subject property that: future buildings must not extend deeper than 1.0 mbgs is considered appropriate to meet this risk management measure. The listing of this risk management measure in Schedule B of the CofC meets this requirement.

(b) Communication with the subject property owner to ensure the trenching within the subject property boundary does not extend deeper than 1.5 mbgs in a trench deeper than it is wide in the area identified on the attached figure. If trench work were to extend deeper than 1.5 mbgs but less than 3 mbgs in a trench deeper than it is wide in the area identified on the figure, a worker health and safety plan to mitigate exposure to vapours must be implemented.

An advisory for the subject property that: trenching must not extend deeper than 1.5 mbgs in the area identified on the attached figure and a worker health and safety plan must be developed and implemented in the event that a trench (deeper than 1.5 mbgs; deeper than it is wide; and intended for human entry) is advanced in the area identified on the attached figure on the subject property is considered appropriate to meet this risk management measure. The listing of this risk management measure in Schedule B of the CofC meets this requirement.

(c) Communication with the subject property owner to ensure that deep rooting vegetation is not established on the subject property to depths greater than 1.0 mbgs in the area identified on the attached figure.

Based on the current absence of deep-rooting plants (vegetation is limited to grass in the area with 1.0 mbgs restriction), the anticipated future commercial development, and the considerable time (years) required to establish deep rooting vegetation, imminent risks to ecological receptors are not anticipated in the event that this risk management measure was not met.

As such, an advisory for the subject property that deep rooting vegetation must not be established in the identified area is considered sufficient to meet this risk management

measure. The listed of this risk management measure in Schedule B of the CofC meets this requirement.

(d) Communication with the subject property owner to ensure that drinking water wells are not constructed within the subject property boundaries.

Imminent risks to drinking water receptors are not anticipated based on the following:

- the absence of drinking water wells at the subject property and developments in the vicinity of the subject property;
- the existence of the Health Hazards Regulation of the Public Health Act which forbids the construction of a potable water well on the subject property due to the proximity of the cemetery;
- the land use at the subject property is commercial; and
- potable water within the City of Revelstoke is obtained from the Columbia River which would be used for future development(s) on the subject property; and

As such, an advisory for the subject property that drinking water wells must not be constructed within the subject property boundaries is considered sufficient to meet this risk management measure. The listing of this risk management measure in Schedule B of the CofC meets this requirement.

In summary, it is my opinion that the advisories listed in Schedule B of the CofC are sufficient to ensure performance verification of the risk management measures required for this subject property.

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I trust that the foregoing information is satisfactory for your present requirements. Should you have any questions, please do not hesitate to contact the undersigned.

Respectfully submitted,

PARSONS CANADA LTD.



B.A. King Ph.D, R.P.Bio, PChem.

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# LIMITATION OF LIABILITY, SCOPE OF REPORT AND THIRD PARTY RELIANCE

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The investigations undertaken by Parsons with respect to this report and any conclusions or recommendations made in this report reflect Parsons' judgment based on the site conditions observed at the time of the site inspection on the date(s) set out in this report and on information examined at the time of preparation of this report. This report has been prepared for specific application to this site and it is based, in part, upon visual observation of the site, subsurface investigation at discrete locations and depths, and specific analysis of specific chemical parameters and materials during a specific time interval, all as described in this report. Unless otherwise stated, the findings cannot be extended to previous or future site conditions, portions of the site which were unavailable for direct investigation, subsurface locations which were not investigated directly, or chemical parameters, materials or analysis which were not addressed. Substances other than those addressed by the investigation described in this report may exist within the site, substances addressed by this investigation may exist in areas of the site not investigated and concentrations of substances addressed which are different than those reported may exist in areas other than the locations from which samples were taken.

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#### **BRITISH COLUMBIA MINISTRY OF ENVIRONMENT'S RELIANCE**

Notwithstanding the above, the British Columbia Ministry of Environment is permitted to rely on this report and the information contained herein to the extent necessary to confirm that Imperial Oil has met their statutory obligations with respect to the Performance Verification Plan.

