

December 21, 2016

Ref. No.: 10-3245T06

Imperial Oil Limited  
505 Quarry Park Blvd SE  
Calgary, British Columbia  
T2C 5N1

Attention: Environmental Services

Re: Performance Verification Plan for  
33321 1<sup>st</sup> Avenue  
Mission, British Columbia  
Location No.: 88002741/JF.00185

These documents and the information contained in them are confidential - property of Imperial Oil and any disclosure of same is governed by the provisions of each of the applicable provincial or territorial Freedom of Information legislation, the Privacy Act (Canada) 1980-81-82-83, c.111, Sch. II "1", and the Access to Information Act (Canada) 1980-81-82-83, c.111, Sch. I "1", as such legislation may be amended or replaced from time to time.

Further to your request, Parsons Inc. (Parsons) is pleased to provide this Performance Verification Plan (PVP) in support of an application for a risk-based Certificate of Compliance (CofC) for the property located at 33321 1<sup>st</sup> Avenue in Mission, British Columbia (the subject property). The PVP presents the principal risk management measures that apply at the subject property for the CofC to remain valid (i.e. the key risk management controls of Schedule B of the CofC which must remain in place within 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 MANAGEMENT CONTROLS**

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A human health and ecological risk assessment (HHERA) was conducted for the subject property, and the results presented in the Parsons reports, "Supplemental Preliminary Site Investigation/Detailed Site Investigation/Confirmation of Remediation, 33321 1<sup>st</sup> Avenue, Mission, British Columbia (December 21, 2016)" and "Detailed Risk Assessment, 33321 1<sup>st</sup> Avenue, Mission, British Columbia (December 21, 2016)". The principal risk management measures on which the risk assessment were based, as presented in Schedule B of the CofC, are as follows:

- (a) Drinking water wells must not be installed on the subject property.
- (b) Plants with roots expected to extend to below 1.2 mbgs must not be planted within the area presented on Figure 1.
- (c) The grade of the subject property must remain approximately at the same elevation as the current conditions (i.e. at least 1 m of clean soil must remain above the shallowest depth of soil impacts on the subject property).

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

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Based on the risk management measures on the subject property, (i.e. the use of institutional controls to mitigate/eliminate risks on the subject property and lack of imminent risks in the event that controls were not implemented) the Remediation Type applicable on 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**

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A PVP is required to document that the principal risk management measures upon which the risk assessment is based are met on the subject property.

If requested by the Director, the responsible person(s) must provide a signed statement on whether the principle risk management controls outlined in (a) through (c) above are being met.

Performance verification actions for the subject property include the following:

- (a) Communication with the subject property owner that drinking water wells must not be constructed on the subject property.

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; and
- potable water within the District of Mission is sourced from Cannel Lake and Norrish Creek. To our knowledge, there are no plans to install water wells in the area of the subject property.

As such, an advisory for the subject property that drinking water wells must not be constructed on the subject property 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.

- (b) Communication with the subject property owner that plants with roots expected to extend to below 1.2 mbgs must not be planted on the subject property within the area presented on Figure 1.

Based on the current absence of deep-rooting plants with the exception of the northern property boundary located outside of the area presented on Figure 1 (vegetation is limited to grass/small plants on the formerly developed area of the subject property), the anticipated future commercial developments, 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: “plants with roots expected to extend to below 1.2 mbgs shall not be planted within the area presented on Figure 1” 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 that the grade of the subject property must remain at approximately the same elevation as the current conditions (i.e. at least 1 m of clean soil must remain above the shallowest depth of soil impacts on the subject property).

The assumptions in the risk assessment regarding no direct exposure pathway to the residual contamination in soil was based on the depth of the remaining soil, and consistent with the elevation of the subject property and surrounding properties which are at approximately the same elevations.

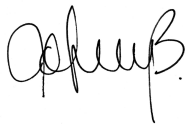
As such, an advisory for the subject property that: “the grade of the subject property must remain at approximately the same elevation as the current conditions (i.e. at least 1 m of clean soil must remain above the shallowest depth of soil impacts on the subject property)” is considered appropriate to meet this risk management measure. The listing of this risk management measure in Schedule B of the CofC meets this requirement.

In summary, it is our opinion that the advisories listed in Schedule B of the CofC are sufficient for the risk management measures required for the subject property.

We 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 INC.

A handwritten signature in black ink, appearing to read 'J.A. Bright', with a stylized flourish at the end.

J.A. Bright, P.Eng.

JAB/cer

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

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This report has been prepared and the work referred to in this report has been undertaken by Parsons for Imperial Oil Limited. It is intended for the sole and exclusive use of Imperial Oil Limited, its affiliated companies and partners and their respective agents, employees and advisors (collectively, "Imperial Oil"). Any use, reliance on or decision made by any person other than Imperial Oil based on this report is the sole responsibility of such other person. Imperial Oil and Parsons make no representation or warranty to any other person with regard to this report and the work referred to in this report and they accept no duty of care to any other person or any liability or responsibility whatsoever for any losses, expenses, damages, fines, penalties or other harm that may be suffered or incurred by any other person as a result of the use of, reliance on, any decision made or any action taken based on this report or the work referred to in this report.

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.

If site conditions or applicable standards change or if any additional information becomes available at a future date, modifications to the findings, conclusions and recommendations in this report may be necessary. Other than by Imperial Oil, copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted without the express written permission of Parsons. Nothing in this report is intended to constitute or provide a legal opinion.

### **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.

