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PERFORMANCE VERIFICATION PLAN
ON-PROPERTY RESIDUAL CONTAMINATION AT
1976 PRAIRIE AVENUE, PORT COQUITLAM, BC
(SITE IDENTIFICATION NO.: 5036)

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SLR Project No.: 201.00704.00014

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Prepared by
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for

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September 2014

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Distribution: 1 copy – Suncor Energy Products Partnership
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1 copy – Ministry of Environment

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1.0 INTRODUCTION

SLR Consulting (Canada) Ltd. (SLR) on behalf of Suncor Energy Products Partnership (Suncor) prepared this Performance Verification Plan (PVP) for the former fuel retail facility/current automotive repair facility at 1976 Prairie Avenue, Port Coquitlam, BC (the "Property").

This PVP was prepared to address residual contamination at the Property in excess of Contaminated Sites Regulation (CSR) numerical standards in support of an application for a risk-based Certificate of Compliance (CofC) for the Property. The PVP presents risk management measures to be implemented for the Property to ensure that the CofC remains valid. This report was prepared in accordance with BC Ministry of Environment (MOE) Procedure 12: *Procedures for Preparing and Issuing Contaminated Sites Legal Instruments* (MOE, 2012).

2.0 BACKGROUND

The Property operated as a service station from the late 1950s until 1999 when the fuel retail equipment was decommissioned and the gasoline underground storage tanks (USTs), propane aboveground storage tanks (AST), pump islands and fuel distribution piping were removed. In 2013, the underground waste oil tank was removed and replaced with an AST. The Property is currently operating as an automotive service garage and this land use is expected to continue into the future. Although overall site configuration will not change, one additional slab-on grade service bay is expected to be constructed on the Property (location and dimensions are unknown at the time of reporting).

The Human Health and Ecological Risk Assessment (HHERA) for the Property was completed by SLR Consulting (Canada) Ltd. (SLR) in July 2014 to estimate potential risk to human and ecological health from on- and off-Property residual contamination associated with the former gas bar and current service garage land use activities. This PVP addresses the results and risk management measures determined for the assessment of On-Property contamination.

Receptors of concern identified on the Property included commercial workers, general public, construction workers and utility workers based on current and future land use. However, no complete exposure pathways were identified for these receptors and quantification of potential human health risks were not warranted. The Property was not considered to pose unacceptable risks to human receptors.

Results of the Ecological Risk Assessment indicated no need for quantification of exposure of terrestrial or aquatic receptors on the basis that no complete/operable soil or groundwater-to-surface water exposure pathways for ecological receptors to come into contact with COPCs were identified.

Based on the assumptions used in the risk assessment, the principal risk management measures upon which the risk assessment was based include the following:

- Buildings on the Property will be slab-on-grade construction.
- A worker health and safety plan must be developed by a certified industrial hygienist and implemented in the event that subsurface work will be conducted at depths greater than 2.0 mbg in a trench that is deeper than wide.

- Soil vapour sampling must occur at SVP14-3 twice a year for a period of three years to ensure VPH concentrations decrease to below the BC CSR RL standards.

3.0 SUMMARY RATIONALE FOR SELECTING REQUIRED PVP ELEMENTS

The Property is classified as a Risk-Based Remediation Type 2 Site on the basis that the Property meets risk-based standards under current and future site circumstances and uses but, based on the assumptions made in the risk assessment, requires risk controls. Failure of risk management measures will not result in the imminent exposure of site contaminants to humans or terrestrial ecological receptors, or discharge of contaminant to aquatic receiving environment at concentrations above BC water quality guidelines, or contaminant spreading at concentrations above upper cap concentrations.

The risk assessment also assumed that only slab-on-grade buildings will be present on the Property. Considering that other building configurations were not assessed in the risk assessment, Schedule B of the CofC must state that all on Property buildings must remain slab-on-grade as a risk management measure.

The risk assessment was performed assuming that trench depths would be a maximum of 2.0 mbg based on the maximum utility depths on the Property and in the surrounding area (1.8 mbg). Therefore, based on the potential presence of VOCs in soil vapour at concentrations exceeding CSR vapour standards at depths below 2.0 mbg, protection of workers in a trench (deeper than wide) at depths greater than 2.0 mbg, must be included as a risk management measure in Schedule B of the CofC.

The risk assessment also assumed that the vapour barrier installed along the south, west and east limits of the excavation area to the southwest of the building prevents impacted vapour migration in the direction of the nearby residential properties to the south or east. As such, results from SVP14-3 were not expected to be representative of potential residential exposures. Furthermore, natural attenuation is expected to continue to reduce hydrocarbon concentrations in soil, groundwater and vapour. Therefore, considering that off-Property residential exposures were not quantified, soil vapour sampling must occur at SVP14-3 twice a year for a period of three years to ensure VPH concentrations decrease to below the BC CSR RL standards. If concentrations have not decreased, or are not indicating a decreasing trend, to below the numerical standards at the end of the three year period, the barrier efficacy and/or the lateral extent of the vapour plume should be quantified to ensure residential receptors continue to be adequately protected.

4.0 PERFORMANCE VERIFICATION PLAN

Based on consideration of current and future land use at the Property and the results of the HHERA (SLR, 2014), the following performance verification actions are recommended and will be the responsibility of the purchaser as referenced in a purchase and sale agreement between Suncor and purchaser (the Sale Agreement):

1. Inclusion of an advisory (as item (a) in clause 2 of Schedule B of any Certificate of Compliance issued for the site) that “All buildings on the Property will be of slab-on-grade construction”.

   Suncor to notify the purchaser (and purchaser, if the property is sold, will agree to take such contractual steps as are necessary to ensure any subsequent purchaser are notified) of this

PVP requirement as per the terms of the Sale Agreement. No associated inspection, monitoring/maintenance or other performance verification actions are required.

Notification to the Director is required if the subject of this advisory is breached. That obligation to notify the Director is the responsibility of the current Property owner. The Agreement will provide that this requirement will be incorporated into the terms and conditions of any sale agreement for this Property. The listing of the risk management measure in Schedule B of the CofC meets this requirement.

2. Inclusion of an advisory (as item (b) in clause 2 of Schedule B of any Certificate of Compliance issued for the site) that "A worker health and safety plan must be developed by a certified industrial hygienist and implemented to mitigate exposure to vapours in the event that subsurface work will be conducted at depths greater than 2.0 mbg in a trench that is deeper than it is wide".

   Pursuant to the Sale Agreement, Suncor is to notify the purchaser (and purchaser, if the property is sold, will agree to take such contractual steps as are necessary to ensure any subsequent purchaser are notified) of this PVP requirement. No associated inspection, monitoring/maintenance or other performance verification actions are required.

   Notification to the Director is required if the subject of this advisory is breached. That obligation to notify the Director is the responsibility of the current Property owner. The Agreement will provide that this requirement will be incorporated into the terms and conditions of any sale agreement for this Property. The listing of the risk management measure in Schedule B of the CofC meets this requirement.

3. Inclusion of an advisory (as item (c) in clause 2 of Schedule B of any Certificate of Compliance issued for the site) that "a soil vapour sampling must occur at SVP14-3 twice a year for a period of three years to ensure VPH concentrations decrease to below the BC CSR RL standards".

   Following conclusion of the final sampling event in each year, the results will be summarized in an annual performance monitoring report signed by an Approved Professional and submitted to the Ministry within 90 days of the anniversary of the COC issue date. Assuming that concentrations reach the CSR RL standards upon conclusion of the final sampling event in year three, the sampling program may be terminated. If after the three year period concentrations have not decreased to below the numerical standards or if an increasing trend is observed, the barrier efficacy and/or the lateral extent of the vapour plume should quantified to ensure residential receptors continue to be adequately protected.

   Pursuant to the Sale Agreement, Suncor to notify the purchaser (and purchaser, if the property is sold, will agree to take such contractual steps as are necessary to ensure any subsequent purchaser are notified) of this PVP requirement. No associated inspection, monitoring/maintenance or other performance verification actions are required.

   Notification to the Director is required if the subject of this advisory is breached (including any proposed changes to the monitoring or reporting schedule). That obligation to notify the Director is the responsibility of the current Property owner. The Agreement will provide that this requirement will be incorporated into the terms and conditions of any sale agreement for this Property. The listing of the 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 to ensure performance verification of the risk management measures required for this Property.

5.0 RECORD KEEPING

Up-to-date records of the above performance verification monitoring actions and results should be maintained by any purchaser as will be referenced in the Sale Agreement and must be provided to the BC MoE if requested by a Director designated under the Environmental Management Act.

Examples of the records to be kept on file include:

- Record/report documenting an event subject to PVP requirement such as conducting intrusive activity at the Property that involves excavation of soil. At a minimum, the start and end dates of the event and the type of activities performed should be recorded, and health and safety procedures, if any, implemented during subsurface work should be specified.
- Notification on file when a condition of the PVP has been breached.
- Notification on file and records related to when a breached condition has been rectified.
- Records, including copies of, communication with the site owner/operator related to performance verification actions undertaken for the site.
- Records of any notifications provided to the Director and any subsequent communication received from the Director related to a breach of a performance verification action.

6.0 REFERENCES

MOE. 2013. British Columbia Ministry of the Environment. Procedure 12: Procedures for Preparing and Issuing Contaminated Sites Legal Instruments. April, 2013. Version 1.0.

SLR, 2014. Human Health and Ecological Risk Assessment. 1976 Prairie Avenue, Port Coquitlam, British Columbia. SLR Consulting (Canada) Ltd. (SLR). September, 2014.

7.0 STATEMENT OF LIMITATIONS

This report has been prepared and the work referred to in this report has been undertaken by SLR for Suncor Energy Products Partnership (Suncor). Any use of, reliance on or decision made based on this report by any person other than Suncor for any purpose, or by Suncor for a purpose other than the purpose(s) set out in this report, is the sole responsibility of such other person or Suncor.

Suncor and SLR 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 investigation undertaken by SLR on which this report was based and any conclusions or recommendations made in this report reflect SLR's judgment based on the site conditions observed at the time of the site inspection on the date(s) set out in this report, on information available at the time of preparation of this report, on the interpretation of data collected from the

field investigation, and on the results of laboratory analyses, which were limited to the quantification in select samples of those substances specifically identified in 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 the 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. SLR expresses no warranty with respect to the accuracy of the laboratory analyses, methodologies used, or presentation of analytical results by the laboratory. Actual concentrations of the substances identified in the samples submitted may vary according to the extraction and testing procedures used.

As the evaluation and conclusions reported herein do not preclude the existence of other chemical compounds or that variations of conditions within the site may be possible, this report should be used for informational purposes only and should absolutely not be construed as a comprehensive hydrogeological or chemical characterization of the site. If site conditions 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.

Nothing in this report is intended to constitute or provide a legal opinion. SLR makes no representation as to the requirements of or compliance with environmental laws, rules, regulations or policies established by federal, provincial or local government bodies. Revisions to the regulatory standards referred to in this report may be expected over time. As a result, modifications to the findings, conclusions and recommendations in this report may be necessary.

Other than by Suncor and as set out herein, 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 SLR.

Suncor may submit this report to the British Columbia Ministry of Environment (BC MOE) and/or related British Columbia environmental regulatory authorities or persons for review and comment purposes. The BC MOE may rely on the information contained in this report regarding the Suncor Property, as described in this report. The BC MOE may copy the report as required to fulfill regulatory obligations.

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