



November 28, 2014

Mr. Dallyn Willis
Western Forest Products Inc.
Suite 510 – 700 West Georgia Street
Vancouver, BC V7Y 1A1

Dear Sir/Madame:

**Re: Performance Verification Plan for Certificate of Compliance at
Former Squamish Pulp Mill, Woodfibre, BC (Sediment Portion)
MOE Site ID: #9930
Keystone Environmental Project No. 11644**

Keystone Environmental Ltd. (Keystone Environmental) has prepared this Performance Verification Plan (PVP) in support of an application for a risk-based Certificate of Compliance (CofC) for the sediment portion of the property located at the Former Squamish Pulp and Paper Mill, Woodfibre, BC (herein referred to as the "Site"). The Site has MOE Site ID: 9930.

The PVP presents the principal risk management measures that apply at the Site to ensure the Site CofC remains valid (i.e., the key risk management controls of Schedule B of the Site CofC which must remain in place at the Site). The PVP was prepared in accordance with BC Ministry of Environment (MOE) Administrative Guidance 14: Performance Verification Plans, Contingency Plans, and Operations and Maintenance Plans (MoE, 2014). The PVP was based on the findings of the reports titled "Addendum to Howe Sound Sediment Human Health and Ecological Risk Assessment – Former Squamish Pulp Mill, Woodfibre, BC"¹, "Howe Sound Sediment Human Health and Ecological Risk Assessment – Former Squamish Pulp Mill, Woodfibre, BC"², and a Confirmation of Remediation report³ for the Site.

DETERMINATION OF REMEDIATION TYPE

Based on the risk management measures 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 implemented or were implemented but were rendered ineffective) the Remediation Type applicable at the Site is considered to be Type 2 (Case 2).

¹ Keystone Environmental (2014a).

² Keystone Environmental (2014b).

³ Keystone Environmental (2014c).

Under a Remediation Type 2 (Case 2) scenario, MOE (2014) indicates that a PVP is required and an operations and maintenance plan may be required. A contingency plan is not required.

REQUIRED RISK CONTROLS

The principal risk controls which must be maintained at the Site include the following items:

- The owner/operator of the site must complete by January 1, 2016 all elements specified for the “Fish and Shellfish Tissue Assessment Program” as detailed in the PVP for the site.

REQUIRED ACTIONS TO IMPLEMENT THE REQUIRED RISK CONTROLS

A PVP is required to ensure that the identified risk controls for the Site are present or implemented, and maintained.

Performance verification actions for the Site which must be implemented immediately, along with supporting documentation which may be requested by the Director at any given time, include the following:

By January 1, 2016 the owner/operator of the site must complete the following requirements:

1. Determine the agency or agencies, having jurisdiction for the issuance of fishery advisories within the boundaries of the water lot comprising the site.
2. Conduct a “Fish and Shellfish Tissue Assessment Program” within the water lot comprising the site. Data collected under the Shellfish Tissue Assessment Program must be adequate to accurately quantify human health risks which might be associated with consumption of PAH contaminated shellfish harvested within the boundaries of the water lot comprising the site.
3. In the case that quantified human health risks associated with consumption of PAH contaminated shellfish obtained for the site exceed the Regulation’s risk-based standards either:
 - a. have prepared, submitted and obtained from the appropriate agency or agencies having jurisdiction for the issuance of fishery advisories, a fishery advisory prohibiting or limiting the harvesting of shellfish within the boundaries of the water lot comprising the site, or
 - b. have implemented and be prepared to maintain a “Mandatory Exclusion Zone” to preclude public access and use, including a prohibition on the harvesting of shellfish, within the boundaries of the water lot comprising the site; until such time as an appropriate fishery advisory prohibiting or limiting the harvesting of shellfish within the boundaries of the water lot comprising the site is issued by the appropriate agency or agencies having jurisdiction for the issuance of fishery advisories.

Other reporting requirements for performance verification records include the following:

- The Director must be notified promptly by the person(s) responsible for the Site if performance verification actions indicate that any of the required risk controls are not being met. The following information must be submitted to the Director with the notification, or as soon as practicable thereafter:

- The time period over which risk controls were not in place or implemented
- The nature of the excursion(s)
- The temporary or permanent corrective measures implemented or to be implemented
- An implementation schedule
- Supporting documentation
- A statement signed by an Approved Professional on whether the required risk controls have been implemented and are being met must be submitted to the Director every 5 years within 90 days of the anniversary of the date of issuance of the Certificate of Compliance for the Site or as otherwise approved by the Director.
- If requested by the Director, a report signed by an Approved Professional must be submitted for review to the Director and must include the following:
 - An evaluation of the performance of the risk controls
 - Recommendations for modification of the performance verification plan, along with supporting rationale
 - Interpretation of current and cumulative results of the performance verification actions undertaken
 - Supporting documentation

SUMMARY RATIONALE AND CONCLUSION

Human Receptors

The Howe Sound Sediment HHERA identified potential risks for human receptors from consumption of fish and crab based on elevated detection limits in tissue. Confirmation that an actual risk exists from consumption of fish and crab is required.

If actual risks to human receptors from consumption of fish and crab from the Site are identified based on collection of tissue sample of fish and crab then under the current/future scenarios institutional controls to prevent risk are required, including the implementation and maintenance of a maritime exclusion zone to prevent Site access for fish and crab harvesting by the general public or issuance of a fisheries advisory for the Site by the appropriate agencies having jurisdiction.

CONCLUSION

In summary, it is our opinion that the actions identified above are sufficient to ensure performance verification of the risk controls required for this Site.

GENERAL LIMITATIONS AND CONFIDENTIALITY

Findings presented in this report are based upon the results of a field investigation including a chemical injection remediation plan, the drilling of boreholes, construction of monitoring wells, collection and analysis of soil, water, and vapour samples. Geologic observations and analytical results reflect conditions encountered at a specific test location. Site conditions (geologic,

hydrogeologic, and chemical characterization) may vary from that extrapolated from the data collected during this investigation. Consequently, while findings and conclusions documented in this report have been prepared in a manner consistent with that level of care and skill normally exercised by other members of the environmental science and engineering profession practising under similar circumstances in the area at the time of the performance of the work, this report is not intended, nor is it able to provide a totally comprehensive review of present or past site environmental conditions.

This report has been prepared solely for the internal use of Western Forest Products Inc. and for review by the BC Ministry of Environment, the Contaminated Sites Approved Professionals (CSAP) Society, Patrick Allard, and Reidar Zapf-Gilje, pursuant to the agreement between Keystone Environmental Ltd. and Western Forest Products Inc. By using this report, Keystone Environmental Ltd., Western Forest Products Inc., CSAP, Mr. Allard, and Mr. Zapf-Gilje agree that they will review and use the report in its entirety. Any use which other parties make of this report, or any reliance on or decisions made based on it, are the responsibility of such parties. Keystone Environmental Ltd. accepts no responsibility for damages, if any, suffered by other parties as a result of decisions made or actions based on this report.

If you should have any questions, please do not hesitate to contact the signatories below.

Sincerely,

Keystone Environmental Ltd.

Original signed by

Michael Geraghty, M.Sc., P. Geo., A.P., PMP
Department Head
Contaminated Sites Group

Original signed by

Andrew Wan, M.ET., R.P.Bio.
Senior Risk Assessor

Original signed by

Shannon Bard, Ph.D., R.P.Bio.
Department Head
Risk Assessment and Biological Services

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ATTACHMENTS:

- References

REFERENCES

REFERENCES

- Keystone Environmental, 2014a. Addendum to Howe Sound Sediment Human Health and Ecological Risk Assessment – Former Squamish Pulp Mill, Woodfibre, BC, dated October, 2014.
- Keystone Environmental, 2014b. Howe Sound Sediment Human Health and Ecological Risk Assessment – Former Squamish Pulp Mill, Woodfibre, BC, dated October, 2014.
- Keystone Environmental, 2014c. Confirmation of Remediation Former Squamish Pulp Mill Site, Woodfibre. Dated November, 2014.
- MoE. 2014. Administrative Guidance 14. Performance Verification Plans, Contingency Plans, and Operations and Maintenance Plans. BC Ministry of Environment, February 2014.

GeoEnviroLogic Consulting Ltd

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December 1, 2014

DELIVERED VIA E-MAIL: mgeraghty@keystoneenvironmental.ca

Michael Geraghty, M.Sc., P. Geo., PMP

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**RE: PERFORMANCE VERIFICATION PLAN FOR CERTIFICATE OF COMPLIANCE
FORMER SQUAMISH PULP MILL, WOODFIBRE SITE (SEDIMENT PORTION),
SQUAMISH, BC**

Dear Michael:

I have reviewed the Performance Verification Plan (PVP), as part of my risk AP review for a COC application for the above referenced site. Based on my review, I conclude that the the PVP adequately address the risk-related conditions of the COC. Please attach a copy of this letter to the PVP.

If you have any questions, please call.

Yours truly,



Reidar Zapf-Gilje, Ph.D., P.Eng.
Contaminated Site Approved Professional