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REPORT ON

**PHASE I ENVIRONMENTAL SITE ASSESSMENT
OVERVIEW**

Submitted to:

Ministry of Forests
Chilliwack Forest District
46360 Airport Road
Chilliwack, BC
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EXECUTIVE SUMMARY

Golder Associates Ltd. (Golder) was retained by the Ministry of Forests (MoF) Chilliwack Forest District to conduct a Phase I Environmental Site Assessment Overview (Phase I ESA Overview) of three areas associated with Special Use Permits (SUP) including a log sort, a logging camp and a shop and log sort area.

The three SUPs included:

- NR
-
- S12927 – Western Forest Products Inc. (WFP) Shop and Log Sort Area.

The three above referenced SUPs are referred to as the “Sites”. The work undertaken included a review of MoF files and a site reconnaissance. The purpose of the work was to highlight areas of potential environmental concern (APECs) where contamination may be present and pose a financial liability. The Phase I ESA Overview provides a preliminary assessment of the likelihood that the former activities at the Sites had potentially contaminated soil, surface water and/or groundwater at the Sites.

Based on the findings of the Phase I ESA Overview, the former industrial operations at the SUPs may have impacted soil, surface water and groundwater quality. During the site reconnaissance, hydrocarbon odour and staining and the presence of debris was observed in several areas. Several landfills were also observed at the SUPs. A total of fifteen APECs were identified requiring further investigations.

Based on the findings, Golder recommends that:

1. A Stage 1 Preliminary Site Investigation (Stage 1 PSI) be undertaken to thoroughly document historical activities at the Sites. The Stage 1 PSI should be undertaken according to the BC Ministry of Environment (MoE) Contaminated Sites Regulations (CSR) and MoE guidelines including aerial photograph review, interviews with former personnel, detailed records search and review of existing reports. This review would document past activities and may identify additional APECs at the Sites.

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1.0 INTRODUCTION

Golder Associates Ltd. (“Golder”) was retained by the Ministry of Forests (MoF) Chilliwack Forest District to conduct a Phase I Environmental Site Assessment Overview (“Phase I ESA Overview”) of three areas associated with Special Use Permits (SUP) including a log sort, a logging camp and a shop and log sort area.

The three SUPs included:

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The three above referenced SUPs are referred to as the “Sites”. The work undertaken included a review of MoF files and a site reconnaissance. The purpose of the work was to highlight areas of potential environmental concern (APECs) where contamination may be present and pose a financial liability. The Phase I ESA Overview provides a preliminary assessment of the likelihood that the former activities at the Sites had potentially contaminated soil, surface water and/or groundwater at the Sites.

2.0 OBJECTIVES AND SCOPE OF WORK

The Phase I ESA Overview provides a preliminary assessment of potential environmental concerns associated with present and historical activities at the Sites and its immediate surroundings. The assessment consisted of a review of information in MoF files, a Site visit and discussion with MoF personnel. The scope of the Phase I ESA Overview is sufficient only to identify potential environmental liabilities which are apparent based on visual examination of surface features at the Sites, or from available information in MoF files reviewed during this assessment. The Phase I ESA Overview is a preliminary study and should not be considered a Phase I ESA or Stage 1 Preliminary Site Investigation.

The Phase I ESA Overview was conducted in general accordance with the Canadian Standards Association (CSA) document titled “*Phase I Environmental Site Assessment*” (CSA Document Z798-01) dated 2001, as applicable to local conditions, information and data resources. However, the report does not include all the requirements of a Phase I ESA including aerial photograph review, title search, directory search, fire insurance map review and discussion with former operators and owners. This report does not meet the requirements for a Stage 1 Preliminary Site Investigation (PSI) under BC Ministry of Environment (MoE) Contaminated Sites Regulation (CSR), and is not intended for regulatory submission.

Golder did not include a health and safety, engineering or structural evaluation or a hazardous materials survey of the Site. No soil, water, liquid, gas, product or chemical sampling and testing was conducted on or in the vicinity of the Site as part of the Phase I ESA Overview. The assessment included cursory observations of the neighbouring land uses, but did not constitute a rigorous evaluation of the adjacent properties.

2.1 Task 1 – Review of MoF Files and Evaluation

The first task of the Phase I ESA Overview included a review of information in MoF files to: a) investigate historical uses of the Site and properties immediately surrounding the Sites; and b) identify areas of potential environmental concern (APECs) at the Sites and adjoining properties.

2.2 Task 2 – Site Reconnaissance

The second task of the Phase I ESA Overview was to conduct a reconnaissance of the Sites to corroborate indications of potential environmental concern identified during the MoF file review. Golder also gathered visual evidence of other potential environmental issues that may exist at the Sites and, where applicable, on accessible adjacent properties.

2.3 Task 3 – Report Preparation

The final task of the Phase I ESA was the preparation of a report documenting the results and summarizing the Areas of Potential Environmental Concern (APECs) identified in the Phase I ESA.

3.0 SITE DESCRIPTION

3.1 Site Description, Location and History

NR

NR

3.1.3 SUP S12927 – Western Forest Products Log Sort – Silver River

The legal description for SUP S12927 is District Lot 458, Yale Div of Yale Land District. The SUP was for a logging camp, shop, office, located at Big Silver and storage tanks at Harrison Lake Victoria Plywood Campsite (formerly Larson Logging Camp). The SUP covers an area of 10.106 acres (approximately 4.09 hectares). The SUP area is located immediately to the north of Harrison Lake. The SUP area is also located adjacent SUP14134 area operated by Interfor.

The SUP was issued on January 1, 1987 for a dryland sort and shop to the Canadian International Paper Company. The SUP was transferred to Canadian Pacific Forest Products Ltd. on July 29, 1993. On January 19, 2004, the SUP was transferred from Doman to Western Forest Products. The SUP is set to expire on December 31, 2007.

The MoE issued permit (PR-08260) for the operation of the landfill at the Site. The landfill was reportedly used for the disposal of woodwaste and ash.

The SUP was amended on November 8, 2000 to include areas previously under lease 235798.

In an email dated August 23, 2005, the MoF identified the presence of bark and wood in the SUP area requiring clean up. The email also indicated that a waste permit was not in place (inferred to be for the disposal of domestic type refuse) and WFP may not be in compliance.

On November 2, 2005, WFP indicated that they planed to remove the current facilities in the SUP and grade the area. WFP asked MoF is there were any other closure requirements.

On January 16, 2006, the MoF file indicated that the creek above the Silver River log sort diverted itself through the log sort (SUP Area) and into Harrison Lake. The MoF indicated that a similar event occurred in 1999 and appeared to have been rain related.

The MoF indicated in an email on January 2006, that the SUP area was not adequately closed as large piles of wood waste remained on site.

On April 4, 2006, the MoF requested a summary of the clean up and restoration activities undertaken in the SUP.

On July 26, 2006, MoF indicated that the SUP will not be terminated until the fixtures (watchman and trailer) are removed.

3.2 MoE Site Inspection

The MoE undertook a reconnaissance of the Sites on August 23, 2005. Details of their findings were documented in their memo dated January 16, 2006 and summarized below.

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3.2.3 SUP 12927 – Western Forest Products Ltd.

The MoE observed a landfill (3 to 4 metres in height) north of the forestry service main road during the reconnaissance. A swale was present along the north and east perimeter of the landfill to prevent surface run off. A gravel access road was present in the centre of the landfill and the remainder was covered with hog fuel. Two wood waste stockpiles

were observed in the former dry land sort south of the forestry mainline. Three fuel tanks were observed in a containment bunker north of the forestry mainline at the western property boundary.

The MoE indicated that the landfill had not been adequately closed and there were concerns that the landfill and wood waste stockpiles could be impacting groundwater. There was also a concern that the former fueling operations may have impacted soil and groundwater quality. The MoE recommended that the fuel area be investigated and that the landfill be closed in accordance with MoE requirements.

4.0 SITE RECONNAISSANCE

Mr. Tim Whalen and Mitch Firman of Golder conducted a reconnaissance of the three SUP areas on August 15, 2006.

During the Site reconnaissance no soil, surface water or groundwater samples were collected.

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4.3 SUP12927 – Western Forest Products

During the site reconnaissance, the infrastructure in the former SUP was observed to have been decommissioned. The caretaker's trailer along with a tool and generator shed remained present in the eastern end of the SUP. The caretaker indicated that the former infrastructure (including buildings) was dismantled, removed from the area and sent to an offsite recycler.

- A former equipment storage area was observed between the caretaker's trailer and the forestry access road. Hydrocarbon sheen and odour was observed in the soil beneath the area.
- The former shop building area has been regraded. Golder understands that equipment repair and maintenance was undertaken in the buildings. Hydrocarbon odour and staining was observed in the area of the former buildings.
- A former UST, fuel drums and a trailer (former bunkhouse) were observed in the wooded area between the two SUPs. Some of the drums appeared to be partially filled. Wood debris and log sort waste were also observed in the treed area.
- The caretakers indicated that a former fueling area was located to the south of the watchman's trailer in a bermed area. The tanks have been decommissioned.
- A landfill was observed to the east of the SUP. The landfill was not visited during the reconnaissance but was reportedly filled with wood waste from log sort operations.

5.0 SUMMARY AND CONCLUSIONS

Based on the Phase I ESA Overview, the following areas of potential environmental concern were identified at the three SUPs reviewed.

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5.3 SUP12927 – Western Forest Products

Five APECs were identified at the site where the past operations and practices may have impacted soil, surface water or groundwater quality at the SUP. The APECs include:

APEC 11 – Former Shop Area

Hydrocarbon staining and odours were observed in the former shop area. The shop was likely used for the maintenance and repair of vehicles. The soil and groundwater quality adjacent to the shop is not known and may have been impacted by the former operations. Debris in the fill was also observed in the area around the former shop.

APEC 12 – Former Fueling Area

A former fuelling area was present in the northern portion of the SUP adjacent to the forestry mainline road. Infrastructure has been removed (tanks, piping) from the area. The soil and groundwater quality is not known and may have been impacted by the historical presence of the fueling area.

APEC 13 – Vehicle Storage Area

Hydrocarbon odor and staining was observed in the area formerly used for the storage of machinery. Soil and groundwater quality in the area is not known.

APEC 14 – Landfill

A landfill area was present in the eastern portion of the SUP. The landfill appeared to have been used for the disposal of wood debris. The landfill was not reportedly closed and capped. Soil and groundwater quality in the area of the landfill is not known.

APEC 15 – Drums, USTs and Miscellaneous Waste in Forested Area

Partially filled drums, USTs and other materials were observed in the forested area between the SUPs. The presence of these materials may have impacted soil and groundwater quality.

5.4 Recommendations

Based on the findings of the Phase I ESA Overview, the former industrial operations at the SUPs may have impacted soil, surface water and groundwater quality. During the site reconnaissance, hydrocarbon odour and staining and the presence of debris was observed in several areas. Several landfills were also observed at the SUPs. A total of fifteen APECs were identified requiring further investigations.

Based on the findings, Golder recommends that:

1. A Stage 1 Preliminary Site Investigation (Stage 1 PSI) be undertaken to thoroughly document historical activities at the Sites. The Stage 1 PSI should be undertaken according to the MoE Contaminated Sites Regulations and MoE guidelines including aerial photograph review, interviews with former personnel, detailed records search and review of existing reports. This review would document past activities and may identify additional APECs at the Sites.
2. A Stage 2 PSI should be undertaken in the APECs identified in the Phase I ESA Overview and the Stage 1 PSI (recommended above). The Stage 2 PSI should include the excavation of test pits, drilling of boreholes and installation of monitoring wells. The investigation should also include the analysis of soil and groundwater samples for the potential contaminants of concern associated with the historical operations.
3. A remedial plan should be developed and implemented to address the contamination identified at the Sites.

6.0 LIMITATIONS AND USE OF REPORT

This report was prepared for the exclusive use of the Ministry of Forests and is intended to provide a preliminary site assessment of potential environmental concerns associated with the subject Site. The inferences concerning the Site conditions contained in this report are based on information obtained during the environmental site assessment conducted by Golder personnel, and are based solely on the condition of the property at the time of the Site reconnaissance, supplemented by historical information obtained by Golder, as described in this report. No soil, sediment, water, gas, building material, or other chemical sampling and testing was conducted by Golder as part of this assessment. Therefore, the potential remains for the presence of unknown, unidentified or unforeseen surface or subsurface contamination.

This report was prepared, based in part, on information obtained from historic information sources and interviews. In evaluating the subject Site, Golder has relied in good faith on information provided. We accept no responsibility for any deficiency or inaccuracy contained in this report as a result of our reliance on the aforementioned information.

The findings and conclusions documented in this report have been prepared for the specific application to this project, and have been developed in a manner consistent with that level of care normally exercised by environmental professionals currently practising under similar conditions in the jurisdiction. Golder makes no other warranty, expressed or implied.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Golder accepts no responsibility for damages, if any, suffered by any third part as a result of decisions made or action based on this report.

If new information is discovered during future work, including excavations, soil boring, or other investigations, Golder should be requested to re-evaluate the conclusions of this report and to provide amendments, as required, prior to any reliance upon the information presented herein.

This report was not prepared for, and does not contain sufficient information for, the purpose of submission to MoE for review under the Contaminated Sites program. The report may not be relied upon by MoE or by others, without Golder's expressed written consent.

7.0 CLOSURE

We trust that the information presented in this report is sufficient for your immediate requirements. If you have any questions or concerns, please do not hesitate to contact us.

Yours very truly,

GOLDER ASSOCIATES LTD.

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