

Cobble Hill Holdings (CHH)/South Island Aggregates (SIA) Questions & Answers Updated August 2015

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PERMIT AND SITE INFORMATION

1. What permits are in place on Lots 21 and 23?

There are two separate permitted areas related to the Cobble Hill Holdings/South Island Aggregates operation. On Lot 21, South Island Aggregates Ltd. holds a permit from the Ministry of Energy and Mines for 5.4 hectares of land to store fill material that meets residential land use soil standards for future use in the closure of the quarry site on Lot 23.

On Lot 23, South Island Aggregates Ltd. holds a permit from the Ministry of Energy and Mines for operating the quarry on Lot 23 and Cobble Hill Holdings Ltd. holds a permit from the Ministry of Environment for the management, treatment and discharge of waste (contaminated soil).

2. What material has been deposited onto Lot 21?

The Ministry of Environment (MOE) understands that soil has been received and deposited onto Lot 21 for a number of years, as per the Contaminated Sites Regulation and the *Mines Act* permit issued by the Ministry of Energy and Mines. MOE staff recently conducted a historical records review and on-site soil sampling to determine if soils on the site were in compliance with legal requirements.

A review of historical records for Lot 21 was conducted in May and June of 2015 and a report was produced and is available online at http://www.env.gov.bc.ca/epd/regions/vanc_island/env-mgt/sia_holdings.htm. This review did not raise any concerns about contaminated soils on this property. However, the review concluded that the historical records on their own are not sufficient to characterize overall site conditions and definitively confirm whether or not the quality of all soils were deposited according to the requirements for the specific deposit location.

On May 13, 2015, soil sampling was also conducted in order to verify compliance with the Contaminated Site Regulation (CSR). The results are summarized in a report that is available online at http://www.env.gov.bc.ca/epd/regions/vanc_island/env-mgt/sia_holdings.htm. Results suggest that soils on Lot 21 are within applicable CSR standards, although there may be isolated and infrequent locations where the soil would need to have been brought to the site under a Soil Relocation Agreement. Because of this, Ministry staff recommend prior to any soil relocation from the site, an assessment of soil quality standards for metals should be conducted for each shipment of soil off the site.

3. How is the financial security for the Cobble Hill Holdings (CHH) site calculated? Is it adequate?

Financial security is held to ensure compliance with the conditions of a waste discharge authorization and/or to meet any costs or expenses incurred by the administering authority in taking action to prevent or minimize environmental harm or remediate the environment in relation to the activity for which financial security has been given. It is normal practice for technical experts and the statutory decision maker to assess technical, safety, environmental and engineering risks as part of a waste discharge application. This information is considered in the permitting process and is used to inform a decision regarding financial security. In this case, the permittee is required to provide a financial security as set by an independent third party accountant who estimates the costs associated with closure and post closure activities for a minimum of 25 years. The amount of the security is subject to the Director's approval, and is required to be reviewed at least once every five years. The ministry can apply the security to correct any inadequacy of the works, to correct any non-compliance, and for remediation.

The Environmental Appeal Board considered the issue of financial security, and found that the existing security of \$220,000, combined with the requirement to review and update closure costs on an ongoing basis, was reasonable and appropriate (paragraphs 639 to 654 in the decision which can be found online at http://www.eab.gov.bc.ca/ema/2013ema015c_019d_020b_021b.pdf).

4. Can the landfill liner technology be expected to provide the necessary protections into the future?

The Environmental Appeal Board (EAB) specifically considered the landfill liner including construction, installation, puncture, failure, longevity, and reliability (paragraphs 504 to 527 in the decision which can be found online at http://www.eab.gov.bc.ca/ema/2013ema015c_019d_020b_021b.pdf). The EAB found that the evidence establishes that the synthetic liner approved for the site uses the most reliable material available (paragraph 516), and that the encapsulation cells and liner system will protect the environment and human health (paragraph 527). To further protect the environment, the EAB also issued directions to prohibit blasting during landfill liner installation and to preclude the reuse of liners. Paragraphs 601 to 669 of the EAB decision contain detailed information about the permit's ability to protect the environment and human health into the future.

There is a lot of information regarding landfill liner effectiveness available online. Examples include:

- <http://www.nap.edu/catalog/11930/assessment-of-the-performance-of-engineered-waste-containment-barriers>
- <http://www.epa.state.il.us/land/regulatory-programs/permits-and-management/alternate-landfill-liner-study/alternate-landfill-liner-study.pdf>
- http://www.epa.gov/region5/waste/clintonlandfill/PDFClintonLFChemicalWaste_USEPAApplication/cl_044.pdf
- <http://www.epa.gov/osw/nonhaz/municipal/landfill/geosyn.pdf>

To further ensure protection of the environment into the far future, the permit (Section 4.1 & 4.2) requires the submission of a closure plan and the posting of security. The closure plan must include investigations of soil, sediments, surface water and groundwater quality and treatment, identification and assessment of any residual contamination. If any residual contamination is identified, the permittee will be required to remediate the site to meet the applicable soil, surface water and groundwater standards and objectives, as determined by the director. The closure plan must be reviewed at least every five years. The permittee must also submit a cost estimate for maintenance, monitoring, remediation and closure of the landfill for the active life of the site and a minimum 25 year post-closure period based on the current updated closure plan. An updated cost estimate must be reassessed and submitted at least every five years and the security adjusted accordingly. The ministry has authority to require amendment of the closure plan; to specify the amount of security; and to apply the security to

correct any inadequacy of the works, to correct any non-compliance, and for remediation. The ministry also has authority to impose additional requirements in response to a notice of permit abandonment and to issue orders.

5. Why does the permitting process not take into consideration the petition signed by residents in opposition to the CHH/SIA permits?

Like other *Environmental Management Act* (EMA) decisions, the decision to issue a permit to Cobble Hill Holdings Ltd. was made in accordance with the EMA by a ministry statutory decision maker who is required to make decisions that consider a variety of factors including risk to the environment, human health or public safety, use of technology to mitigate pollution and potential for community impact. The Ministry is legally obligated to consider all applications received, and decisions are made independent of any political processes.

In making this decision, a large volume of scientific assessments, technical information, First Nations input, community feedback and other information was considered. Concerns raised by residents were taken into consideration, and in many instances these concerns led to additional assessment work and new environmental protection requirements. At the end of the permitting process the decision maker was satisfied there was sufficient information to set requirements that will protect human health and the environment into the future.

A copy of the permit is available on the Ministry's website, along with all other permits issued under EMA. In addition, copies of the Technical Assessment Report are also available online at http://www.env.gov.bc.ca/epd/regions/vanc_island/env-mgt/pdf/technical_assessment_aug%202013.pdf.

6. What contaminated soil has been brought onto Lot 23?

During the appeal process the stay on the permit was amended to allow for limited works to be undertaken. The amendment to the stay allowed for four projects to be undertaken by Cobble Hill Holdings; however, only two of these projects went ahead. In February and March of 2014, a total of 3,342 tonnes of soil was received to the site before operations were put on hold until May 2015.

According to the Quarterly Report submitted by Cobble Hill Holdings Ltd. on July 31 2015, a total of 4,997 tonnes of new soil was received to the Soil Management Area since May 2015, for a total of 8,339 tonnes to date. However, no soil has been placed into the Permanent Encapsulation Area (landfill) to date.

On July 29, 2015 the engineering details for the landfill were submitted to the Ministry and Cobble Hill Holdings can continue to receive and manage contaminated soil on Lot 23 in accordance with their EMA permit. MOE is carefully monitoring Cobble Hill Holdings' activities on this site to ensure the company adheres to the permit conditions.

7. The community is seeking the cancellation of the EMA permit. What are the triggers for considering cancellation of a permit? What is the process?

An EMA permit may be suspended or cancelled for a variety of justified reasons such as failure to complete construction of works specified in the permit; failure to pay fees owing to the government; failure to comply with the terms of the permit; or failure to comply with other conditions of the *Environmental Management Act*, to name a few. Before a decision is reached, the principles of

administrative fairness must be adhered to. Please refer to Section 18 of the [Environmental Management Act](#) for a complete list of circumstances where the authority to suspend or cancel a permit may be exercised.

8. What about the possibility of an earthquake in the area?

Permit requirements include preparation of an emergency response plan, including contingency measures, and immediate reporting of any spills in accordance with the Spill Reporting Regulation. The emergency response plan addresses natural disasters, including earthquake, hurricane and fire.

9. What is the compliance status at Lot 23?

On May 13, 2015, 15 provincial government staff conducted inspection and sampling activities on Lots 21 and 23. The inspection activities focussed on requirements related to the Ministry of Environment and not the Ministry of Energy and Mines. The waste management facility on Lot 23 had not appreciably changed since the last inspection in May 2014. The previously-accepted contaminated soil was still deposited in the lined asphalt paved soil management area. The landfill facility was not yet constructed or in operation.

The inspection of Lot 23 assessed 45 permit clauses and found 5 non-compliances, most of which were related to monitoring and reporting. The specific non-compliances were: not conducting groundwater monitoring during the appeal period (and having one groundwater monitoring well that was not operational); surface water monitoring not being conducted during the appeal period; receiving environment monitoring not being conducted during the appeal period; not assigning tracking numbers according to the soil acceptance plan; and not submitting the quarterly report. A full copy of the inspection report is available online at http://www.env.gov.bc.ca/epd/regions/vanc_island/env-mgt/sia_holdings.htm. As per Ministry of Environment Policy, inspection results were provided to the company and a compliance advisory was issued.

A follow-up site visit on July 10, 2015 revealed that most non-compliance items had been addressed and significant site improvements have been implemented. As of this date, all concerns noted on the permit inspection were either fully resolved or in the process of resolution.

10. When was the compliance information provided to CHH? Why did they receive this information before the community?

The compliance findings were provided to the company on June 22, 2015, following completion of the written compliance report.

When compliance issues are identified, it is important to provide that information to the permittee in a timely manner so that they can take immediate action to correct the non-compliance and ensure protection of the environment and it is standard practice to provide the permittee with results as soon as possible following an inspection.

All results were shared with the community during a July 16, 2015 open house, with the results then made available publically on July 17 on the Ministry's website:

http://www.env.gov.bc.ca/epd/regions/vanc_island/env-mgt/sia_holdings.htm.

11. When will the Ministry undertake further compliance activities on Lot 23?

CHH is required to maintain compliance with their permits and the Ministry will continue to monitor the activities at this site in accordance with approved Ministry Policies and Procedures, in order to ensure compliance. Ministry Officers have the authority under EMA to enter the property to inspect or take samples for assessing compliance.

CONTAMINATED SOIL STANDARDS

12. What are the standards for relocation of contaminated soil?

Contaminated soil is a result of human activity and the Province has developed legislation to regulate its treatment and discharge. The relocation of soils from contaminated sites is governed by Section 55 of the *Environmental Management Act*, Part 8 of the Contaminated Sites Regulation (CSR), the Hazardous Waste Regulation, and, for sites within the Agricultural Land Reserve, the *Agricultural Land Commission Act*.

More information about the process and requirements around the relocation of soils and their receiving environments is available in the “Relocation of Soils from Contaminated Sites” fact sheet at http://www.env.gov.bc.ca/epd//remediation/fact_sheets/pdf/fs41.pdf.

MONITORING AND SAMPLING RESULTS

13. What sampling was conducted on the CHH/SIA properties?

On May 13, 2015, provincial government staff visited the properties and collected samples of groundwater, surface water and soil, as well as stream sediments and surface water in Shawnigan Creek. The Cowichan Valley Regional District was consulted on the sampling plan and had a staff representative in attendance while samples were taken.

- a. Groundwater and surface water sampling on and around Lot 23 was conducted to augment datasets and as an audit of the company’s sampling efforts
- b. Surface water sampling adjacent to Lot 21 was conducted as a follow-up to sampling conducted by MLA Andrew Weaver in April 2015, and in response to community concerns
- c. Soil sampling on Lot 21 was conducted to verify that the soils on this property are below the levels allowed for this property given the zoning
- d. Shawnigan Creek water quality and sediment sampling was conducted to augment existing datasets from Ministry Water Quality Objectives monitoring stations in the watershed.

Results of the sampling are summarized in reports published on the Ministry’s website:

http://www.env.gov.bc.ca/epd/regions/vanc_island/env-mgt/sia_holdings.htm.

14. Why were only surface soil samples collected on Lot 21?

The Ministry had no compelling evidence to suggest that contaminated soils were buried on Lot 21, but in response to questions raised by the public, the Ministry took steps to conduct a reconnaissance-level examination of the site. Based upon the review of the historical records and historical sampling at the site, there was limited evidence to warrant an intensive core sampling program on Lot 21. In addition, surface soil sampling results from May 13, 2015 were consistent with sampling results contained in the records, and surface water sampling on the same date did not suggest that further soil sampling is warranted on Lot 21.

15. Why isn't MOE concerned about the orange precipitate near where MLA Weaver sampled – isn't this pollution?

The orange precipitate is formed when iron in groundwater reaches the surface, comes in contact with oxygen, and precipitates out in an orange-colored flocculant. This precipitate is in small localized areas only. This form of iron precipitate has little or no effect on aquatic life as it is not bioavailable (that is, not readily available to be taken up by the organism). Furthermore, water sample results immediately downstream from area with precipitate did not reveal any water quality concerns.

16. MLA Weaver has detected thorium in his results. What is thorium?

Thorium is a naturally-occurring, radioactive metal that is present in small amounts in all rocks, soil, surface and ground water, plants, and animals. Soil commonly contains an average of about 6 parts of thorium per million parts (ppm) of soil.

Thorium can be found in various forms. Thorium-232 exists in the environment in combinations with other minerals such as silica. Most thorium compounds do not dissolve easily in water therefore are not bioavailable. They do not evaporate from soil or water into the air.

Since thorium is found almost everywhere, you will be exposed to small amounts of it in the air you breathe and in the food and water you eat and drink. Once in the body, thorium does not accumulate but generally leaves the body in feces and urine within days.

17. How can CHH be in compliance when they do not meet the zoning requirements?

The EMA permit authorizes the discharge and management of waste. It does not authorize land use and, therefore, zoning requirements do not affect compliance. This is a matter that is within the local government jurisdiction. All permittees are advised in the cover letter to the permit that it is the responsibility of the permittee to ensure that all activities conducted under this permit comply with other applicable legislation that may be in force.