

MVLWB Registry

From: Tyree Mullaney <tyree@mvlwb.com>
Sent: Thursday, December 11, 2014 8:59 AM
To: 'MVLWB Registry'
Subject: FW: Giant Working Group - Action - provide additional details for the MSA

Not too sure if you have this already. If not please post to the registry.

Thanks

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From: kevin o'reilly [mailto:kor@theedge.ca]
Sent: December 11, 2014 1:01 AM
To: Jane Amphlett
Cc: Natalie.Plato@aandc-aadnc.gc.ca; bslater@bslater.ca; Morag.McPherson@DFO-MPO.GC.CA; Stuart.Niven@DFO-MPO.GC.CA; Amy.Sparks@EC.gc.ca; gordon.hamre@gmail.com; Erika_Nyyssonen@gov.nt.ca; asish.mohapatra@hc-sc.gc.ca; shin.shiga@nsma.net; Linda.Pickett@pwgsc-tpsgc.gc.ca; wyu@yellowknife.ca; jblack@ykdene.com; tslack@ykdene.com; Katherine.Ross@aadnc-aandc.gc.ca; Miguel.Lariviere@aadnc-aandc.gc.ca; Lisa.Colas@aandc-aadnc.gc.ca; krista.amey@dpra.com; jpotten@mvlwb.com; tyree@mvlwb.com
Subject: Re: Giant Working Group - Action - provide additional details for the MSA

Thanks Jane. It looks like I should be able to attend the afternoon portion of the meeting tomorrow.

I'd like to be there for the discussion of this item and the proposal to tarp waste again this winter. I remain very concerned about the ability to manage these wastes over the next 5-8 years until there is some sort of a plan for final disposal.

Kevin

----- Original Message -----

From: Jane Amphlett <Jane.Amphlett@aandc-aadnc.gc.ca>
Date: Tuesday, December 9, 2014 14:19
Subject: Giant Working Group - Action - provide additional details for the MSA
To: Natalie Plato <Natalie.Plato@aandc-aadnc.gc.ca>, bslater@bslater.ca, Morag McPherson <Morag.McPherson@DFO-MPO.GC.CA>, Stuart Niven <Stuart.Niven@DFO-MPO.GC.CA>, Amy Sparks <Amy.Sparks@EC.gc.ca>, Gordon Hamre <gordon.hamre@gmail.com>, Erika_Nyyssonen@gov.nt.ca, asish.mohapatra@hc-sc.gc.ca, shin.shiga@nsma.net, Linda Pickett <Linda.Pickett@pwgsc-tpsgc.gc.ca>, kevin o'reilly <kor@theedge.ca>, Wenyan Yu <wyu@yellowknife.ca>, jblack@ykdene.com, tslack@ykdene.com
Cc: Katherine Ross <Katherine.Ross@aadnc-aandc.gc.ca>, Miguel Larivière <Miguel.Lariviere@aadnc-aandc.gc.ca>, Lisa Colas <Lisa.Colas@aandc-aadnc.gc.ca>, Krista Amey <krista.amey@dpra.com>, Jen Potten <jpotten@mvlwb.com>, Tyree <tyree@mvlwb.com>

> Hi working group members,

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> Please find below additional information requested at the last meeting on the roaster Material Storage Area (MSA).

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> ***Snow removal from the bags***

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> An effort was made to limit the amount of snow (and other sources of moisture) introduced into the waste bags. However, given the setting and nature of the project, it is impossible to eliminate all sources of moisture. Many of the bags were filled in open air, where the introduction of rain/snow is inevitable. Further, much of the waste was wetted for dust suppression during demolition and processing/segregation. The TDG-compliant bags used to containerize the arsenic waste can handle dry, moist and wet materials, but are not designed to hold liquids. No saturated waste or waste in liquid form was placed inside TDG-compliant bags in 2014 and so leaks of that nature are unlikely to occur.

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> It is worth noting that the MSA investigation report as referenced with respect to snow on the bags may be misleading. Melting snow that has accumulated on the exterior of the bags may be the source of "leaks" from the steel shipping containers, but these "leaks" are not a cause for concern since they do not contain arsenic from the waste bags.

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> In the investigation report it is inferred that some of the "interstitial moisture in the bagged material" may also escape the bags and lead to water leaking from the containers. This process, as inferred in the leak investigation report, would not result in a significant quantity of water, and that water would not be contaminated with arsenic.

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> ***Double bagging and clarification of differences between 2013 and 2014.***

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> All arsenic and asbestos waste was placed in TDG compliant containers. In both the 2013 and 2014 seasons, arsenic waste in the form of dust and sediment removed from equipment and building interiors, and asbestos insulation impacted with arsenic dust from inside buildings was first placed in small 6-mil poly bags and then placed in TDG compliant bags. The TDG compliant bags consist of two separate means of containment: an inner 6 mil polyethylene liner and outer woven polypropylene fabric.

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> In 2013, later in the season, wetter arsenic waste (from the Cottrell mainly) started getting bagged into a second TDG bag – so it was first placed in small inner 6-mil bags, then placed into a TDG bag, and then placed into another TDG bag. This continued for all wetter material in 2014.

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> ***When is further action required, will additional measures be taken to address leaks in the MSA.***

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> Action has been taken to address any leaks and this will continue. Any observed leakage is documented and mitigated. As mentioned, a small fraction of the 2013 bags may have leaked and it is anticipated that the number of leaks from the 2014 bags will be insignificant. Action would be taken in the future as well for any observed leaks.

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> The Roaster Complex Stabilization was completed to mitigate very real risks to the environment, to Giant Mine workers and to neighbouring residents due to arsenic, asbestos and other hazardous materials releases resulting from a structural failure of one or more of the Roaster Complex' structures. The waste generated by this endeavour was segregated and each waste stream was managed in accordance with the approved waste management plan. In the case of arsenic waste, a temporary storage location (i.e. the MSA) was selected and designed as a system to provide protection and safe containment of this waste stream until a final disposal plan is designed and implemented.

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> The entire system is designed to contain such leaks should they occur. In the unlikely event that leakage from the containerized waste goes undetected during inspections and is not contained to the MSA, it would report to the mine water pool, which is then treated at the Effluent Treatment Plant prior to being discharged into the environment.

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> The MSA is inspected on a weekly basis during active Roaster Complex deconstruction and monthly during inactive periods. Any observed leakage is documented and mitigated. The project team is confident that this approach is protective of the environment, of Giant Mine workers and of the neighbouring residents and is actively working at developing a final disposal plan for this waste stream. In the meantime, no further action beyond what is being done is anticipated to be required by the project team unless a catastrophic failure of the entire containment system occurs (i.e., failed containers, plus failed inspections, plus enough material released to migrate beyond the MSA pad, plus failure of the mine site water treatment system).

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> ***Procedure for lower containers***

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> Leaks were noticed from containers both on the upper level (where leaks were observed running down the lower container) and the lower level. On the lower level, leaks were noted and cleaned up based on the following observations: noticeable liquid or wet conditions on the ground adjacent to the container, or discoloured soil (yellow-orange colour). All containers on the lower level that were observed to be leaking were opened up. Some leakage was observed on the floor of the container around specific bag(s) but it typically consisted of a minor volume (i.e. observed wet conditions but not standing water), with no ongoing liquid migration.

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> ***Condensation in the containers***

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> The condensation forming on the interior of the metal shipping containers was only present temporarily during the onset of warmer temperatures. The moisture is thought to be derived from melted ice and snow that had been on waste bags or tracked into containers during loading and that subsequently became vapour as the containers got heated by the sun. This is an unforeseen condition and an assessment of its implications is being contemplated. If this condensation is deemed to be deleterious, then mitigation measures will be developed and implemented.

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> ***Lessons learned***

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> The following lessons were learned that have resulted in changes to the standard operating procedures:

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> - Saturated wastes tend to separate into solids and water during freeze-thaw events. Overly wet waste should not be placed in TDG-compliant bags.

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> - In 2013, later in the season, wetter arsenic waste (from the Cottrell mainly) started getting bagged into a second TDG complaint bag – so it was first placed in small inner 6-mil bags, then placed into a TDG bag, and then placed into another TDG bag. This continued for all wetter material in 2014.

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> Jane Amphlett

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