Tawanis Testart

From: Perry,Lisa [Yel] [Lisa.Perry@EC.GC.CA]
Sent: June 25, 2009 2:15 PM
To: Tawanis Testart
Subject: FW: FW: Taltson Hydroelectric Expansion Rock testing

Hi Tawanis,

For the board's information, please see the emails below regarding questions EC asked on acid rock generation, and the consultant's response.

Regards,

Lisa Perry
Sr Environmental Assessment Coordinator
Environmental Protection Operations
Prairie & Northern Region

Environment Canada
5019 52nd Street, 4th Floor
P.O. Box 2310
Yellowknife, NT X1A 2P7

Tel: (867) 669-4707
Fax: (867) 873-8185
Email: Lisa.Perry@ec.gc.ca

From: SHANE E [mailto:suren@shaw.ca]
Sent: Wednesday, June 17, 2009 2:51 PM
To: Perry,Lisa [Yel]
Cc: lindaz@cambriagordon.com; Groskopf,Glenn [Reg]; Smith, Clair; tvernon@telus.net
Subject: Re: FW: Taltson Hydroelectric Expansion Rock testing

Hi Lisa, apologies for the delay.
Deze is committed to developing a Metal Leaching and Acid Rock Drainage management plan. This plan will include additional ABA test work for each rock type, as well as shake flask tests (with analysis of total metals) for each rock type. Deze's initial plan for management of waste rock is to store PAG and metal leaching rock in a location well away from any surface water source. If necessary, further management will be considered depending on the potential risks. For example, the area only experiences a limited amount of precipitation and thus locating waste rock a set minimum distance away from any surface water courses may be all that is necessary to minimize risk to the environment.
The above are Deze's initial thoughts on waste rock management. Deze is looking to develop a more detailed plan with all Parties as we progress through the review of the DAR.
I hope that provides sufficient direction on the management of waste rock at this time. If you have any further question or require clarification please so not hesitate to contact me.

Regards,
Shane

----- Original Message -----
From: "Perry,Lisa [Yel]" <Lisa.Perry@EC.GC.CA>
Date: Thursday, June 11, 2009 4:02 pm
Subject: FW: Taltson Hydroelectric Expansion Rock testing

To: SHANE E <suren@shaw.ca>, lindaz@cambriagordon.com
Cc: "Groskopf,Glenn [Reg]" <Glenn.Groskopf@EC.GC.CA>

> Hello Shane & Linda,
>
> I am not 100% sure of who to direct these email questions to
> regarding the excavated rock and potential for acid-generation
> and leaching of contaminants. If either of you are not the
> correct person to contact please direct me or my email to the
> best person.
>
> Our mining expert in Regina, Glen Groskopf, reviewed the
> material on acid rock generation in the DAR. Below are his
> comments and suggestion for more work with respect to contaminants.
>
> I have the following questions:
>
> 1) The DAR indicates that further confirmatory testing will be
> conducted on the 'drill hole materials' and that 'rock
> excavation materials would be monitored to ensure the ARD
> potential remains very low.' Could you please provide
> further details regarding this proposal to test and monitor
> (i.e. where, how often etc.)? Also, please explain the
> proposed remedial measures that would be put in place if after
> testing an area of rock to be excavated indication is it will be
> an issue for acid-generation.
>
> 2) Please advise if you will plan to conduct the leach testing
> proposed below, and if so when? If you do not agree with
> this testing please explain why.
>
> Please feel free to contact Glen to discuss any of his
> interpretations or myself for further information regarding my
> questions.
> Best regards,
>
> Lisa Perry
> Sr Environmental Assessment Coordinator
> > Environmental Protection Operations
> Prairie & Northern Region
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> P.O. Box 2310
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> Tel: (867) 669-4707
> Fax: (867) 873-8185
> Email: Lisa.Perry@ec.gc.ca
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>
> > _____
> > From: Groskopf,Glenn [Reg]
> > Sent: Thursday, June 11, 2009 11:15 AM
> > To: Perry,Lisa [Yel]
> > Subject: Taltson Hydroelectric Expansion Rock testing
> >
> > Lisa, I hope in this email to address your questions in your
> email of June 4.
> >
> > The Acid-Base Accounting (ABA) testing on the granite gneiss
> rock to be excavated is consistent with that done in hard-rock
> mining operations. This static test provides a relatively quick
> inexpensive measure of net acid-generating potential. The
> samples exhibit very low acid-generating potential with measured
> sulphide concentrations in the rock are at or near detection
> limits. The rock also has relatively low acid neutralizing
> potential. The "fizz" test affirms the presence of carbonate, a
> acid-neutralizing constituent, in some of the samples. The paste
> pH values of greater than 8 again supporting the conclusion of
> the presence of neutralizing constituents. There is some
> uncertainty in the character of the rock behaviour when the net
> neutralizing potential (excessive neutralizing capacity) is
> relatively low, as it is in the case of the testing rock. The
> ratio of the neutralizing to acid potential is consistently
> above the 3 to 1 mining-industry guideline. The conclusion that
> the rock to be excavated as being classified as non-acid
> generating is reasonable and supported by the information
> provided.
> >
> > In terms of the validity of the tests conducted, the two
> duplicate samples are in somewhat agreement. Most variation in
> duplicates values relates to variations in the neutralizing
> capacity. Concentrations however remain very low.
> >
> > Based on mining-industry practise, the ten samples used in the
> analysis are somewhat un-representative sampling of the some 1 M
> m3 (about 2.6 M tonnes) of material that would come to be
> excavated. The number of samples based on the mass
> to be excavated is recommended at about 35. Environment
> Canada supports the recommendation in the Klohn Crippen Berger
> memorandum dated September 8, 2008 for sampling to be performed
> during excavation. Such confirmatory sampling should be
> conducted to address the uncertainty associated with
> interpreting the test results. By testing drill-hole cores in
> advance of blasting, the proponent is able to assess the results
> and implement any appropriate mitigation measures. Continued
> similar results as in the first ten samples would indicate no
> remedial measures are necessary in terms of acid-generation.>
> >
> > Excavated rock can also leach contaminants. These neutral-pH

> metal leaching can be problematic for some rock types.
> Typically, gneiss granite is not such a rock unit; however, it
> appears that such evaluation has not been conducted. Environment
> Canada recommends that kinetic or leach testing be undertaken to
> evaluate the character of any drainages from the granite.
> Depending on the nature of the test, some can be conducted quick
> and inexpensively. One example of such a simple leach test is
> the distilled water or site-water shake flask extraction.
> >
> > The triggers for more intensive investigation of the character
> of the excavated rock should be when potentially large volumes
> of altered or differing rock type is encountered. None is
> described or has been tested.
> >
> > If you have any additional questions o need more
> clarification, please do not hesitate to contact me.
> >
> > Glenn
> 306-780-6078
>
>
>