

Indian and Northern Affairs Canada
16 Yellowknife Airport
Yellowknife, NT X1A 3T2

September 18, 2007

Attention: Mr. Bill Mitchell;
Manager, Giant Mine Remediation Project
Indian and Northern Affairs Canada
Contaminated Sites Directorate

RE: Unauthorised discharge of treated minewater at Giant Mine

Dear Mr. Mitchell;

An Inspection of the Giant Mine property on September 7th, 2007 revealed that treated mine water was unlawfully being discharged at Surveillance Network Program station 43-1. The discharge was a result of improper valve shut off on the siphon line exiting the polishing pond for treated effluent. According to the Giant Mine Remediation team discharge of treated minewater had been halted on August 27th, 2007 because of elevated arsenic levels in the Effluent Treatment Plant. The latest sample results suggest that the effluent is within the discharge criteria authorised by the Mackenzie Valley Land and Water Board, nevertheless, the discharge had not been authorised by the Inspector nor was the Giant Remediation Team aware that the discharge was occurring.

In the course of the Inspection water was observed flowing out of the discharge pipe at SNP 43-1. According to Ron Connell the vacuum created by the siphon action of the discharge line had not been broken when the discharge valve was closed. As a result, water was still flowing out of the discharge pipe. Once the vacuum had been broken, the discharge was reduced to a trickle in approximately 45 minutes.

The discharge of arsenic contaminated effluent is a very serious matter with the potential for significant adverse environmental impacts. The Inspector is concerned that arsenic contaminated water may have been discharged unlawfully in the past under similar circumstances. The Giant Mine Remediation team must satisfy the Inspector that unauthorized discharges of effluent will not occur in the future. Unlawful discharges of effluent will leave the Inspector no choice but to explore enforcement action. Given the objective of the Giant Remediation Project team the Inspector would prefer to avoid such a scenario.

If you have any questions or concerns please contact me.

Yours truly,

Original Signed

Scott Stewart
Water Resource Officer
DIAND, South Mackenzie District

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cc. Darnell McCurdy; District Manager - DIAND - SMD
Annette Hopkins; Director of Operations - DIAND - NWT Region
Angela Plautz; Regulatory Officer - Mackenzie Valley Land and Water Board

MVLWB Registry

From: Kathleen Graham [kgraham@mvlwb.com]
Sent: Tuesday, September 18, 2007 10:14 AM
To: Registry (permits)
Subject: FW: Unauthorised effluent discharge at Giant Mine



GIANT_REMEDIATI
IN_PROJECT-UNAU.

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

From: Scott Stewart [mailto:stewarts@inac-ainc.gc.ca]
Sent: Tuesday, September 18, 2007 10:14 AM
To: Bill Mitchell
Cc: Annette Hopkins; Darnell McCurdy; Kathleen Graham; Ron Connell
Subject: Unauthorised effluent discharge at Giant Mine

Dear Mr. Mitchell;

Please find attached a copy of a letter from the Inspector detailing concerns about the unauthorized discharge of treated effluent at Giant Mine on September 7th, 2007. If you have any questions or concerns please contact me.

Scott

Scott Stewart
Water Resource Officer
Indian and Northern Affairs Canada
South Mackenzie District

140 Bristol Avenue
Yellowknife, NT
X1A 3T2
Phone: (867) 669-2764
Fax: (867) 669-2720



P.O. Box 1500
Yellowknife, NT X1A 2R3

September 20, 2007

Your file - Votre référence

Attention: Mr. Scott Stewart
Water Resource Officer
Indian and Northern Affairs Canada
South Mackenzie District

Our file - Notre référence

Mackenzie Valley Land
& Water Board

File

SEP 20 2007

RE: Unauthorized discharge of treated minewater at Giant Mine

Application # NIL2-0043
Copied To KG/Reg

Dear Mr. Stewart:

Mr. Ron Connell has prepared a response to your letter of September 18, 2007 on behalf of Deton'cho / Nuna, the Giant Mine Care and Maintenance contractor. The response letter is appended.

As noted in Mr. Connell's response, the discharge of treated effluent at the Carbon Columns (SNP 31) was shut down on August 27, 2007 as a precautionary measure because of concerns about rising arsenic level in the polishing pond. Unfortunately, for reasons described in Mr. Connell's letter, there continued to be small discharge of treated water after the operator shut the knife valve in the discharge siphon. Upon becoming aware of the situation during the inspection, Mr. Connell shut off the flow completely by activating the vacuum breaker on the siphon.

To prevent a similar incident from happening again, the contractor will implement a Standard Operating Procedure that requires the vacuum breaker to be activated, in addition to closing the knife gate valve when shutting down the discharge at SNP 43-1. This procedure has been brought to the attention of the ETP operators and it will be incorporated in the ETP Operators Manual. In addition, whenever the discharge is shut down in the future, INAC and/or PWGSC staff will monitor the discharge point to ensure that there is no continuing flow.

I concur with Mr. Connell's view that similar circumstances have not likely occurred in the past. Normally, the discharge is never shut down during the treatment and discharge period. This year, there were abnormal and significantly higher arsenic discharges from the underground mine that would have exceeded the capacity of the Effluent Treatment Plant had we not implemented a recirculation of treated water from the polishing pond to the treatment plant. Because of this changed situation, the contractor monitored the arsenic levels in the polishing pond very carefully.

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Towards the end of August, concerns were raised about rising albeit still compliant arsenic levels in the polishing pond and the decision was made to temporarily shut down the discharge as a precautionary measure until we were sure that the arsenic levels in the polishing pond would not exceed discharge criteria. Presumably, the operator believed that closing the knife valve would stop the flow and he did not break the vacuum because of the expectation that discharge would be resumed within a short time period. Subsequently, arsenic levels in the polishing pond dropped back down to normal levels and as you know, discharge was resumed and will be shut down completely by September 28, 2007 using the procedures outlined.

Sincerely,

A handwritten signature in black ink, appearing to read "Bill Mitchell". The signature is fluid and cursive, with a period at the end.

Bill Mitchell
Manager, Giant Mine Remediation Project Team
DIAND, Contaminants and Remediation Directorate

cc. Darnell Mc Curdy; District Manager – DIAND - SMD
Annette Hopkins; Director of Operations – DIAND – NWT Region
Kathleen Graham; Regulatory Officer – Mackenzie Valley Land and Water Board

Encl.



DETON'CHO / NUNA JOINT VENTURE

Giant Minesite
Box 2951, Yellowknife, NT

Tel 867 669-3725 Fax 867 669-3701
E-mail RonC@nunalogistics.com

September 18, 2007

Giant Mine Remediation Project
PO Box 1500
Yellowknife, NT X1A 2R3

Attention: Scott Stewart, INAC Water Resources Officer

Re: Unauthorized Discharge of Treated Minewater at Giant Mine

Dear Mr. Stewart:

Deton'Cho/Nuna Joint Venture (DCNJV) is in receipt of a copy of your letter, dated September 18, 2007. As the Care and Maintenance operators of Giant Mine, under contract to Public Works and Government Services, DCNJV would like to reply to your concerns, as follows.

Giant Mine has been operated under various care and maintenance contracts since Royal Oak Mines went into receivership in 1999. During the ensuing years the mine has been operated in full compliance with all applicable environmental regulations, including former Water License N1L2-0043 and the federal Metal Mining Effluent Regulations (MMER). The Effluent Treatment Plant (ETP) has been operated without incident during the summer months of each year. There have been very few occasions on which it has been necessary to shut off the discharge from SNP 43-1 (the Carbon Columns), other than at the end of the treatment season. As such, the current ETP operators are not experienced in non-routine shutdown of the discharge at SNP 43-1.

In late 2006 and much of 2007 there has been an unusual influx of arsenic from the underground workings to the Northwest Pond. This has resulted in arsenic concentrations significantly higher than the ETP has historically been required to treat. This problem was recognized in the fall of 2006, and a number of steps were taken in an effort to upgrade the ETP to handle the higher concentrations of arsenic. These included addition of a number of sampling points, increased frequency of sampling, and design and implementation of a treated effluent recycle system to effectively dilute the concentration of arsenic treated at the ETP. All of these steps were implemented in 2007, with the last step being the effluent "retreatment" system.

The results of these efforts have been closely monitored, with samples being taken daily and sent to two laboratories, ALS Environmental laboratories in Yellowknife, and Vancouver. ALS Yellowknife has supplied DCNJV with "Rush" analyses that are utilized to maintain control of the ETP operation. These results are ultimately confirmed by ALS Vancouver. When the initial analytical results from ALS Yellowknife for the time period in question (August 27th) were received, they indicated that the level of arsenic in the

treated effluent was climbing. Rather than take a chance of having the level of arsenic exceed the regulatory limit of 0.50 mg/l, a precautionary order to cease discharge was issued to the ETP operator. At that time the operator closed the knife gate valve that effectively shuts off the discharge to the Carbon Columns at SNP 43-1, however he did not activate the vacuum breaker that eliminates the hydraulic head to the discharge at the Carbon Columns. The result was a low flow bypass of the knife gate valve, allowing an estimated 5 to 10 litres per minute of treated effluent to flow past the valve.

This was the situation that was encountered by the Inspectors during the site tour on September 7th. In simple terms, it was an operator error that was the result of not having to shut off the flow of treated effluent during routine operations over the past several years. The operator was not aware that it was necessary to activate the vacuum breaker, in addition to shutting off the knife gate valve.

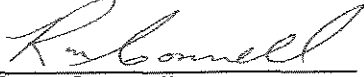
Fortunately, the treated effluent did meet the discharge criteria under the former Water License, as well as that of the MMER. Only a small amount of treated effluent was unofficially discharged to the environment. To avoid a repeat of this incident, the ETP Operators Manual will be revised to reflect the proper procedure for shutting down the flow at SNP 43-1. This procedure will include closing the knife gate valve, as well as activating the vacuum breaker.

DCNJV deeply appreciates the Inspector's concerns that arsenic contaminated water may have been discharged under similar circumstances in the past. However, we are quite certain that this is not the case. This is an unusual incident, prompted by circumstances that have not been experienced in the past eight years of effluent treatment at Giant Mine. At this time DCNJV wishes to assure you that every possible effort will be made to ensure that an incident of this nature is not repeated. A copy of the updated draft ETP operators Manual will be forwarded to you for review as soon as it is ready for distribution. Your comments and concerns will be incorporated into the final document.

It is anticipated that the ETP will be shut down for the season at the end of September. A review of the ETP operating efficiency will be carried out by various consulting firms over the next several months, and changes will be implemented prior to the 2008 effluent treatment season.

As part of the monthly SNP reports, you will be kept abreast of these changes as they are developed. In the interim, if you have any questions, please do not hesitate to contact me. I can be reached by phone at 867-444-8093, or by e-mail at ronc@nunalogistics.com.

Sincerely,



Ron Connell,
Environmental Superintendent

Distribution:

Bill Mitchell, Manager – Giant Mine Remediation Project
Mark Cronk, P. Eng., Senior Project Manager – PWGSC
Bob Gilroy, VP Operations, Nuna Logistics
Ted Bienias, Mine Manager – DCNJV, Giant Mine
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