

From: [Wendy Bidwell](#)
To: [Susan Varve](#)
Cc: [Jacqueline Ho](#); [Jayda Robillard](#); [Leslie Wiltzen](#); [Robert Walker](#); [Norman McCowan](#)
Subject: RE: Proposal - Drill cuttings disposal downhole
Date: Monday, August 19, 2019 4:46:08 PM
Attachments: [image001.png](#)
[Pine Point Mining Limited - Drill Cuttings Disposal Proposal.pdf](#)
Importance: High

Good afternoon Sue,

The MVLWB Regulatory Specialist on the file has reviewed PPML's proposal (attached) for down hole disposal of drill cuttings and based on provisions in the approved Waste Management Plan, the decision has been left to Inspector discretion. Hence, I approve this method of disposing drill cuttings as long as cuttings remain contained in the overburden area (at a depth of 6-60 m) and do not migrate below the plug and cement casings where they could potentially impact natural aquifers.

If you have any questions regarding the above, please don't hesitate to contact me.

Regards,

Wendy

Mársi | Kinanaskomitin | Thank you | Merci | Hą́ı' | Quana | Qujannamiik | Quyanainni | Máhsı | Máhsı | Mahsi
Wendy Bidwell
Water Resource Officer
South Slave Region
Department of Environment and Natural Resources
Government of the Northwest Territories

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From: Wendy Bidwell
Sent: Wednesday, August 14, 2019 5:48 PM
To: Susan Varve
Subject: RE: Proposal - Drill cuttings disposal downhole

Hi Sue,

It was nice to meet you today as well, and thanks for getting back to me so quickly.

Thanks for forwarding the proposal/summary of PPML's plans for drill cuttings disposal. This will make it easier for me to parlay to the Board (MVLWB) what PPML has requested. I will contact the Regulatory Specialist at the Board that oversees this file and let you know what I hear back.

Thanks again for all your assistance with the inspection today too.

I will be in contact soon.

Regards,

Wendy

Mársi | Kinanaskomitin | Thank you | Merci | Hq̃i' | Quana | Qujannamiik | Quyanainni | Máhsı | Máhsı | Mahsi

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From: Susan Varve [mailto:svarve@pinepointmining.com]

Sent: Wednesday, August 14, 2019 3:12 PM

To: Wendy Bidwell

Subject: Proposal - Drill cuttings disposal downhole

Hi Wendy,

It was nice to meet you today!

I've put together a little document regarding the drill cuttings disposal. I've kept it fairly simple,

please let me know if you require additional information.

Thank you,

Sue Varve

Geologist

Cell: (613) 709-5371



Wendy Bidwell
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South Slave Region
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August 14, 2019

Hello Wendy,

Thank you for your visit to the Pine Point site today, it was a pleasure to meet you.

With respect to our discussion today regarding disposal of drill cuttings, I'd like to provide you with some additional details regarding the process we would employ.

Currently, we seal our drill holes by setting a Van Ruth plug in the hole near the top of the bedrock, where the rock is sound and return circulation is still maintained (the bedrock is sound enough to prevent seepage through cracks or voids). By doing this, we are able to prevent water movement across the natural barrier which was in place before drilling. The depth of overburden varies across the property, and plugs are set anywhere from 6-60m depth, depending on where bedrock is encountered. The plugs are grouted in place using cement.

Pine Point Mining Limited would like to propose disposing of drill cuttings down the drill hole after drilling is complete, and after the hole has been plugged/cemented. The Van Ruth plug and the cement would prevent the cutting from migrating down the hole. Disposing of the cuttings in this way would remove the need to dispose of the cuttings in natural depressions or sumps, creating a visibly cleaner surface area, allowing for quicker regrowth of vegetation, and reduce the disturbance of the drill pad.

In short, disposing of cuttings down a plugged hole would allow for clean disposal of waste while preventing said waste from migrating down the hole and encountering aquifers.

Thank you for considering our proposal,



Susan Varve
Geologist, Pine Point Mining Limited