

[REDACTED]

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**From:** [REDACTED]@dalradian.com>  
**Sent:** 22 December 2015 14:08  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: Site Visit to Dalradian Gold Ltd 16-11-2015  
**Attachments:** 20151218\_143836.jpg

Hi [REDACTED]

I can confirm that a number of days back a sump and pump were installed at the bottom of our site (northeastern corner).

We are now in a position to transfer additional surface water into the settlement tank – see attached photo. Any queries let us know

Merry Christmas

[REDACTED]

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**From:** [REDACTED]@doeni.gov.uk]  
**Sent:** 14 December 2015 14:06  
**To:** [REDACTED]@dalradian.com>  
**Cc:** [REDACTED]@doeni.gov.uk>; [REDACTED]@doeni.gov.uk>  
**Subject:** RE: Site Visit to Dalradian Gold Ltd 16-11-2015

[REDACTED]

Please proceed with this course of action. Could you let us know when the work has been completed.

Thank You

[REDACTED]

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**From:** [REDACTED]@dalradian.com]  
**Sent:** 14 December 2015 12:16  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: Site Visit to Dalradian Gold Ltd 16-11-2015

Hi [REDACTED]

Thank you for the note.

We have looked further at additional runoff control options and are currently planning to install a sump in the low ground and the north-eastern corner of the site (before the gateway) to allow for collection of surface water from this area. This sump will likely take the form of a PVC tub set into the ground. In the sump we are planning to install a pump operated by a float switch, which will transfer water collected into the concrete holding tank for settlement and subsequent output through the system.

In terms of a schedule for installation, we are expecting to both receive materials and install this week. We will monitor performance of the system after installation, but trust that conceptually this approach will meet your expectations. Any queries let me know.

[REDACTED]

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**From:** [REDACTED]@doeni.gov.uk]  
**Sent:** 04 December 2015 15:30  
**To:** [REDACTED]@dalradian.com>  
**Cc:** [REDACTED]@doeni.gov.uk>; [REDACTED]@doeni.gov.uk>  
**Subject:** RE: Site Visit to Dalradian Gold Ltd 16-11-2015

[REDACTED]  
Thank you for this update. Please ensure that any measures taken do not lead to effluent being discharged to the surrounding waterways at your site. All surface water must be contained and controlled.

Point (b) and (c) below suggests that you intend to settle out the suspended solids and allow the site drainage to discharge into the grassed area. Considering that the ground within the grassed area is saturated at present, it would not be a solution to discharge to this area. The potential for site run off would increase with the increased volume of site drainage.

Could you possibly look into pumping the site drainage effluent back through your existing treatment system? This would be a better solution.

[REDACTED]

02892633465  
07733304584

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**From:** [REDACTED]@dalradian.com]  
**Sent:** 30 November 2015 16:53  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: Site Visit to Dalradian Gold Ltd 16-11-2015

Thanks [REDACTED]

We estimate that our construction design allows for capture of the bulk of incident rainfall to the site footprint, and that it passes this directly to the water treatment plant. There are three main areas with full capture of rainfall/runoff including:

- 1) the infrastructure area around the site entrance, incorporating some buildings around the site entrance and yard runoff;
- 2) the waste rock storage area; and
- 3) the water treatment plant lagoon.

Other components of the site are deemed to not be associated with any potential contamination as such, and are therefore outside the constructed containment drainage design. These areas essentially consist of the haul road from the infrastructure area to the bottom of the site, and grassed areas outside the waste rock store area and water treatment plant. They have not been incorporated into any drainage enclosure system. We would like to agree that suspended solids is the only potential and envisaged environmental issue with runoff from these areas.

We fully understand the requirement to prevent runoff with any appreciable suspended solids loading from entering water courses and are determined that this will not happen. However, we are eager to avoid any long term active solution for areas outside the containment drainage design because it has not been allowed for in our construction works and because our advanced exploration program will be largely completed in a few months time (approx. end of March) when all underground work will cease. We are therefore keen to agree passive solutions for components of the site which are generating 'runoff' to ensure that silt is not mobilised off site.

We propose the following:

- a) re-arrangement of initial silt fencing at the bottom of the site to prevent ponding at the north-eastern corner of the site and to allow for a more disseminated runoff into the area of long grasses/rushes to the north (see attached photo). Prevention of ponding will also help restore localised vegetation in the long term and therefore also prevent potential silt mobilisation;

- b) Existing silt fencing within and around the grassed area will be rearranged to slow up water movement and allow for settlement of any suspended solids, but not to fully contain water. An increased arrangement of straw bales will also be useful for this purpose;
- c) We believe that the significantly reduced post construction runoff volumes and the improvement in water quality that has been afforded by more established surfaces at the site will allow for sufficient residence times in the grassed area to the north (almost 2000m<sup>2</sup>) to allow for settlement of any solids. If suitable, we can arrange for weekly suspended solids measurements (using our in-house drying oven and scales) behind outer straw bales to help build confidence that runoff quality is consistently suitable. We currently retain a 4 inch pump at the site for any emergency regarding runoff water quality should it ever arise – although rainfall rates over the last few weeks have already achieved uncharacteristic highs.
- d) During construction of the concrete storage tank on the site we encountered some groundwater springs which have since seeped to surface and have added in a minor capacity to runoff volumes. If suitable, we can ensure that these are returned to the sub-surface and connected as baseflow to the water courses outside the site. We can arrange for sampling/analysis as per our discharge consent in advance.

Let us know your thoughts or queries regarding the above and we can progress directly as appropriate

[REDACTED]

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**From:** [REDACTED]@doeni.gov.uk]  
**Sent:** 17 November 2015 09:12  
**To:** [REDACTED]@dalradian.com>; [REDACTED]@dalradian.com>  
**Cc:** [REDACTED]@doeni.gov.uk>; [REDACTED]@doeni.gov.uk>  
**Subject:** Site Visit to Dalradian Gold Ltd 16-11-2015

[REDACTED],

Thank you for meeting with [REDACTED] and myself at your premises yesterday. I would like to outline below what we discussed and agreed.

We explained our concerns to you, regarding the surface water run off and ponding.

We pointed out that the silt fencing should be repaired. This will ensure that any site drainage run off will be contained and the silt controlled.

You showed us two existing points where groundwater was discharging to the surface. From our discussion you told us that the groundwater was contributing to the accumulated water/ponding.

Shane told us one of the groundwater discharge points has now been directed to the waterway. Work is also going to be carried out to ensure that the discharge is not contaminated with any surface water run off.

You agreed to look into options for the second groundwater drainage discharge point and to contact the Department with a final proposal/solution.

Options discussed at our meeting to be agreed and finalised.

- Fixing the silt fencing.
- Pumping the water back through the treatment system if needed.
- Direct the clean groundwater to the waterway.(second groundwater discharge point)
- Direct the surface water into the silt fenced area. (second groundwater discharge point)
- Sample monitoring to be carried out at the groundwater discharge points by Dalradian.

You also agreed to look into the current methods used in cleaning the Camcosy Road. All reasonable steps should be taken to ensure excessive suspended solids are removed from the road to prevent it washing into the Curraghinalt Burn.

As discussed you agreed to send an email explaining what action you will be taking. I will then contact you to discuss if Water Order consent is required. At present and from what we discussed , I feel Water Order consent will not be required.

We agreed that you would come back to me within two weeks from receiving this email.

Please contact me if you require any further assistance.

~~XXXXXXXXXX~~

Water Management Unit

Lisburn

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