

Appendix 16.2

Atkins letter dated 21 December 2016 to EA

Our Ref 5151424

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Mr M Salmon
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Manley House Kestrel Way
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By email

Dear Sirs

Planning application 322/16: Proposed extension to Linhay Hill Quarry
Your ref: DC/2016/118161/01-L01

In relation to the above planning application, further information is to be provided in response to an EIA Regulation 22 request from the Dartmoor National Park Authority anticipated to be issued shortly.

In the meantime we wish to provide interim information regarding specific points listed in your letter dated 2 August 2016 ref DC/2016/118161/01-L01 page 3, on which the Agency requested clarity. Those points are listed under the section on 'Advice – Discharges to surface waters' and our clarifications are provided in the following pages.

We can liaise and discuss should you have any queries regarding these points so that we may consider and provide further details if required within the Regulation 22 submission.

Yours sincerely
for and on behalf of
ATKINS LTD



Mrs A Hoey
Principal Planner

Cc Mr S Belli, Director of Planning, DNPA
Mr B Wilson, E&JW Glendinning Ltd

Environment Agency letter DC/2016/118161/01-L01 page 3, 'Advice – Discharges to surface waters':

“At this stage we request clarity on:

- Whether the settlement lake has got the capacity to cope with the extension;
- How the level and discharge from the lake is controlled;
- Whether overnight pumping out still occurs and will continue to do so post-extension. Also, why overnight;
- The location of the discharge point and sampling location/chamber.
- Where it is intended that the planned Detention Basin discharges and overflows will discharge to; and,
- Whether any form of chemical dosing (flocculent) is used to assist the discharge with meeting the required standard.”

Response to Environment Agency question: Whether the settlement lake has got the capacity to cope with the extension ?

By settlement lake we presume you mean the Balland Pit, which was the deepest part of the quarry in the south western corner.

Details regarding operation of the Balland Pit are provided in the Environmental Statement Appendix 12A Hydrogeological Impact Assessment paragraphs 2.88 onwards.

The long term plans for the Balland Pit are outlined in the Environmental Statement and drawings, for example paragraphs 1.14, 2.19 and 3.110, with paragraph 2.19 stating:

“2.19. An important consideration for future operations within the existing quarry is that the current settling pond is becoming filled with solids and will need to be enlarged by raising the sides in about 10 years' time. Subsequently, a replacement settling pond can be created in the base of the quarry after it has been worked out without sterilising reserves. The existing pond will then be partially capped so it can continue to provide floodwater storage.”

Hence it is clear that the Balland Pit is not expected to provide a settlement or attenuation function throughout the operational life of the extension, and those functions will need to be progressively moved to lower levels in the quarry.

That change is shown by the planning applications drawings for Stage 2 through to Stage 5, Linhay-ATK-S2-Z-PL-2000, Linhay-ATK-S3-Z-PL-3000, Linhay-ATK-S4-Z-PL-4000, Linhay-ATK-S5-Z-PL-5000.

Response to Environment Agency question: How the level and discharge from the lake is controlled ?

The water level in the Balland Pit is continuously monitored by a Vega radar sensor mounted on a jetty as shown in this photograph. The jetty level is 82.884mOD and relative to a datum set at 6.35m to the water level from the sensor, the sensor currently has set points of:

UHL	Ultimate High Level	+0.75	83.63mOD
HL	High Level	+0.04	82.92mOD
Datum		6.35m	82.88mOD
LL	Low Level	-0.65	82.23mOD
ULL	Ultimate Low Level	-0.75	82.13mOD

Details regarding those and pump operation are provided in the E&JW Glendinning Ltd. Operators Manual for the Mesto Pontoon Pump which is the duty (as opposed to standby) pump used to pump water from the Balland Pit. The manual indicates the following:

Regarding water level control:

“The system has been designed for ease of use and is designed with minimal manual intervention. As such in automatic the system monitors the level of the pond constantly and will automatically start and stop the pump as required to stay within the pre-set level boundaries”. And “The water level in the pond is continuously monitored and is displayed on numerous screens for information....The datum level is the distance from the face of the level sensor to the top of the water and has been pre-set to be the normal working level of the pond. The level set points then relate to the datum”.

The level set points are:

Ultimate High Level: Used to generate an alarm.

High Level Set Point: The level of water that is needed to start the pump when auto pump out is enabled.

Datum level: Normal operating level.

Low Level Set Point: The stop level for the main pump when in auto pump out mode.

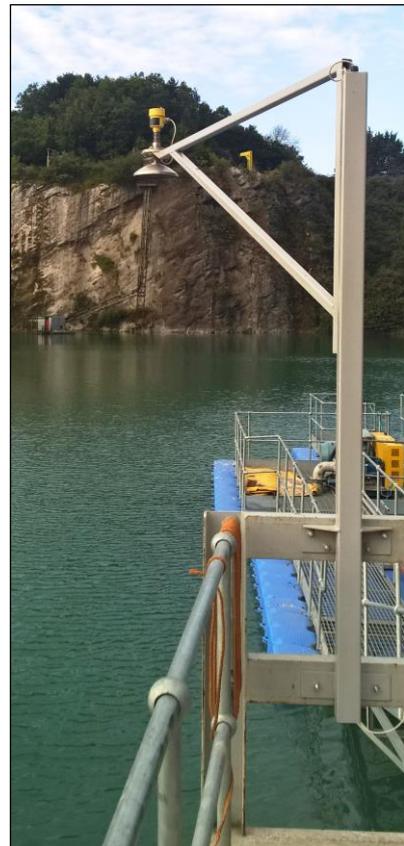
Ultimate Low Level: Stop level to stop pumping.

There are currently no parameters configured relating to anything other than the water level. Pumping starts if the level of the pond goes above the HL set point. The Low Level Set point stops the pump to ensure there is always a suitable volume of water for settling.

Response to Environment Agency question: Whether overnight pumping out still occurs and will continue to do so post-extension ?

Yes pumping does occur overnight and it is expected that would need to continue post extension.

The permitted maximum daily discharge volume is 10,000m³/day and the permitted maximum rate of discharge instantaneous discharge is 277 l/s as an instantaneous spot sample.



The permitted maximum daily discharge volume equates to an average of 416.67m³/hr, 115.7 l/s, so if pumping of 10,000m³ had to be carried out over a reduced duration, higher hourly flows would be required, necessitating greater pump capacity with the potential for greater electricity consumption and hence higher operating costs.

Currently a Metso HM 150 2RUVHVC pump is the duty pump used to pump water from the Balland Pit, and that has a specified maximum flow rate of 411m³/hr.

Response to Environment Agency question: Also, why overnight?

Pumping occurs overnight partly for the reasons detailed in the response to the previous question, but also because the electricity rate to the quarry is less at night.

Response to Environment Agency question: The location of the discharge point and sampling location/chamber?

E&JW Glendinning has an environmental permit for discharge from the quarry, permit variation application number EPR/WP3997/A001 permit number EPR/WP3997EP, dated 27/7/2011.

The permit Table S3.2 'Discharge points' identifies one discharge point 'Outlet 1' at NGR SX 76617 70928. The permit Table S3.3 'Monitoring points' identifies one discharge sample point at NGR SX 76617 70928 i.e. the same as Outlet 1. That location is approximately 4m upstream of the end of the Balland Stream channel at the quarry block storage area prior to the stream passing under Balland Lane.

However the discharge point for the majority of the water from the quarry, including that pumped from the Balland Pit, is approximately 60m upstream at NGR SX 76596.3 70977.9, where the discharge enters the Balland Stream flow.

Approximately 4m north east of that discharge point is a low block wall around an inspection cover manhole via which the discharge can be sampled. The centre of that inspection cover is at NGR SX 76597.4 70981.9.

Currently that is the location at which sampling is carried out by the quarry and also by the Environment Agency during monitoring visits.

Response to Environment Agency question: Where it is intended that the planned Detention Basin discharges and overflows will discharge to?

We assume this query mainly relates to the detention basins identified on the planning application drawings from Stage 2 onwards around the perimeter of the spoil tips (overburden bunds), rather than the attenuation storage along the Balland Stream.

Detention basins are as per CIRIA C753 Chapter 22 terminology, normally dry except during rainfall. Along the Balland Stream they are provided to attenuate to reduce flood risk to the new Waye Lane and to reduce inflow to quarry which would add to the quarry's operating costs (due to the additional pumping).

During the spoil tip construction the detention basin locations are settlement ponds which could be lined. That surface water management would be regulated within a Mining Waste Permit with water discharge activity.

Thereafter the restored settlement pond areas have been identified as detention basins which are online to the perimeter drainage around the restored spoil tips.

Their purpose would be to slow run off during severe rainfall events, as is the normal preference of the Environment Agency and Devon County Council.

However they are not required to provide an attenuation function as detailed in the Flood Risk Assessment section 'Spoil Tip Formation and Restoration' paragraphs 6.32 to 6.45. Paragraph 6.45 states "It is envisaged that with time grass will regrow or be seeded within the ditches and the settlement pond areas restored as shallow depressions to form detention basins, which will be incorporated within the overall restoration scheme and land management regime".

Therefore it is expected the final form of the detention basin areas will be subject to restoration planning requirements.

Response to Environment Agency question: Whether any form of chemical dosing (flocculent) is used to assist the discharge with meeting the required standard?

Chemical dosing of the discharge is not carried out at the quarry.

Chemical dosing could not be carried out without prior discussion with the Environment Agency regarding the implications for the quarry's Environmental Permit.