

From: Stephen Hancock <stephenhancock38@gmail.com>
To: greta.grivas@delwp.vic.gov.au,
Cc: Juliet Forsyth <forsyth@vicbar.com.au>
Date: 12/09/2017 03:06 PM
Subject: WTP - FINAL REPORT ADDENDUM NOTE QUERY

Dear Greta and Juliet,

The attached reflects a concern i developed as to an oversight in my Final report. And i seek your advise as to whether I need to prepare a short Addendum to my final report to address this.

The attached sets out the issue which I recognise as highly technical and perhaps easily resolved without the need for more work by me. It relates to the issue of whether the "Paste " used to maintain earth balance is a Spoil as termed within the EPRs and risk analyses.

My experience with this stuff comes from many years of drilling experience and it is my considered opinion that the EES documents do not consider this material at all directly, yet it is likely to become a contamination carrier and it is also difficult stuff to dispose of.

When the Citylink Project encountered similar problems with an issue that had not been considered at the outset it took a considerable amount of time to resolve the issue with the regulatory authority and it cost a considerable sum . I do not wish to see this happen here.

Also Greta, please note that I will be away from September 29th until October 12th as previously advised.

Regards

Stephen Hancock
Technical Advisor

Westgate Tunnel Project - Notes Relating to Possible Addendum to Final Report on:
Groundwater
Ground Movement
Contamination, Waste and Spoil Management

In reviewing my Final Report as tabled : I realised that I had overlooked one element of the tunnelling that does need to be considered as part of the CEMP.

In brief it is as follows:

1. We are now informed that the EPB TBM will be operated in closed mode using paste for most of the tunnelling.
2. The paste will presumably be a water and suspended solids mixture including bentonitic clay and rock flour generated by the penetration of the weathered Tov1 and the extremely weathered or altered segments of the formations designated as Tvn1 and 2, plus hydrated clays from the Tmn.
3. The paste will support and drive spoil back out of the tunnel to spoil separation processes (vibratory speciation screens , cyclones and filter presses at 221 Whitehall Street where the spoils will be stock piled for classification.
4. The paste will then be recycled back to the cutting face and so on.
5. The paste will become thicker (have a higher suspended solids content) and more viscous over this process requiring the paste to be "thinned" with water and possibly thinning agents (organic compounds which encapsulate the clay molecules) from time to time.
6. It is known that the mineralogy of the formations listed in note 2 include minerals (smectite and illite clays , limonite and zeolites) that are highly sorptive of heavy metal and some organic contaminants and that the addition of organic thinning agents can adsorb organics such as hydrocarbons, amino acids and soluble hydrocarbons and other complex organic contaminants possible including PFAS.
7. That these contaminants exist along the tunnel alignments is set out in Technical Report B in the Executive Summary under Tunnels - Key Findings and in Section 7.1.2
8. Because the paste is recycled, it will be prone to becoming more contaminated as it contacts entrained contaminated groundwaters and /or solids.
9. The EES document does not address the potential for the paste to become contaminated or address how it may be reused or otherwise disposed.
10. If the paste is included as Spoil, then it is covered by EPR CSP1 and 2 in Table 27 at page 90 and also in Appendix C at Table C1. These require "The CEMP....to include and require methods" which are comprehensive in relation to their categorisation, reuse and/ or disposal. Further, at Section 7.2.2 (page 81) it is noted that reuse of Spoils would depend upon the degree to which water can be removed mechanically and then then addition of lime or cement to render the spoil suitable for reuse.
11. In Section 7.3 Other Key Waste Streams (page 82) both Groundwater and Waste water generated from dewatering slurry are set out, but paste is not mentioned

The writer is conscious of the economic tensions which can arise when elements are not considered in advance of their becoming an issue which must be addressed and at the risk of being pedantic it would seem prudent that the term " Spoil "should be extended specifically to cover "paste" as the volume of this material (which has not been evaluated any where); its physical and mineral characteristics and its propensity to become contaminated can represent significant difficulties in respect to its reuse or disposal.

The question posed is whether an addendum to the Final report should be prepared to cover the above issues or whether The IAC can pick this up in their report ?