

Our Ref: 44319877/SAB
Your Ref:

20th September 2006

Environment Agency
Ghyll Mount
Gillan Way
Penrith 40 Business Park
Penrith
Cumbria
CA11 9BP

For the attention of Mr P Bardsley

Dear Peter

Re: Rhodia Whitehaven, Plots A and B site investigations, and Deep Groundwater Monitoring Report

Further to our telephone conversation last week, below is a summary of our agreement on the outstanding points. I believe that we have now closed out the issues on the site investigation design. The reports on the work undertaken will be forwarded to you within the next few weeks. For clarity, your comments are reproduced in italics.

Plot A

3.5.2 With due consideration to the analytical suite for SVOC, which include PAH, the VOCs are still missing from the leachate analysis and should be included.

The NRA leach test method, which is the standard leach test form used currently in the UK, is not validated for use with any organic compounds. In URS experience, many Environment Agency officers discourage leach testing for all organic compounds, including SVOCs, PAH and TPH. In testing leachate for organics, we must be aware that the leach test method can produce misleading results. A particular problem with volatile substances is that the agitation during the analytical procedure is likely to cause volatilisation and loss from the leach solution. This renders leach testing for VOC particularly unreliable, since it is very predictable that it will always produce an underestimate of the potential for VOCs to be present in pore water. This problem also exists for many less volatile organics. We therefore consider VOC testing of leachate to be very poor value for money and do not propose to undertake it. Risk to water resources from VOC is estimated using the P20 partitioning equations from the soil headspace analysis.

*3.5.3 It is noted that the PAH are included in the VOC suite although the PAH analysis – modified USEPA 8100 has a lower LoD than the SVOC suite.
I accept that a full major ions suite is not totally necessary for the purpose of the investigation, but it would be useful to plug into any future monitoring scheme (if required). For the limited extra cost it could give a better understanding of the hydrochemistry with assessment of ionic balance, but it is not essential.*

We agree that full ionic balances will be of use in the future. As discussed, we anticipate that one outcome of the current phase of site investigation will be a programme of shallow groundwater monitoring from selected boreholes across the site. This will be designed after interpreting the contamination testing results to target the areas of interest, and to provide a picture of the groundwater quality across the site. We propose that a full major element suite should be included within this programme, and the suite also tied up with the deep groundwater monitoring programme.

Plot B

1.3 Accept

The actions to include a number of samples for sulphur and sulphide are noted.

I appreciate that all site investigations require a degree of flexibility for professional judgement, but statutory compliance with the terms of an assessment action in the remediation statement is set by this Authority, not by the judgement of consultants. To this end, the Agency will accept reasonable agreements to the statement, but using our professional judgement, we will insist and enforce any issue we think is non –negotiable by means of a notice rather than a statement.

I have comfort that you are prepared to undertake further investigation if a robust remedial plan cannot be developed.

The argument for creating large holes and not being able to obtain 10m centres due to the thickness of the concrete and overlap of excavations is not acceptable. The technique may have to be re-considered to achieve the objective of sampling density. There may be practical issues, but the 1 Kg sample required for each soil test should not cause mass disruption to the site.

I accept the grid spacing can be relaxed in areas where previous evidence has shown there not to be contamination in the southern area of plot B and that physical barriers differentiate production areas from other areas.

With regard to the Northern part of plot B, I accept that services will restrict intrusive investigations, and solid foundations may also inhibit investigations. However, if there are any underground structures likely to have been used for containment, I would expect sampling below these structures to assess if they have leaked and cause ground contamination.

The comments on extra ground investigation are noted.

The Plot B site investigation has already taken place, and we do not propose to add additional locations immediately. We encountered extremely thick concrete, and the only way to sample beneath it was to use a large excavator to break out, resulting in some holes being four or five times larger than a standard trial pit. This is the basis of our comment on the impracticability of 10m centres. We also encountered some areas where heavily contaminated liquid overlay an apparently intact slab. We chose not to break the slab and risk contaminating the soils below. As discussed, if we are unable to recommend a robust remediation strategy because of uncertainties remaining, then we will recommend additional site investigation. It is also likely that there will be some additional investigation required during the remediation works, for example to test beneath suspect areas of slab after overlying contamination is removed.

3.5.2 - Accept

3.5.3 - Accept

3.5.4

I accept the field testing is satisfactory

I do not understand the context of the investigation in TP1-17 area, as you state that no more sampling is proposed, yet an additional six samples were scheduled for TPH, VOC, SVOC and NRA leachate preparation.. Please clarify. Statistical representation of CoCs in this area is required.

The "additional six" samples refers to the analysis that was undertaken in 2003.

-leachate tests –I accept that total analysis is not useful for impact to Controlled Water Receptors, but for the purposes of determining the SPL under Part IIA, a source has to be defined as it is "the entry of substances" into Controlled waters which defines land as contaminated. However, in terms of cost /benefits, if there is a general acceptance that CoCs in the eluate are derived/leached from soil, I have no objection for you to undertake leaching tests in preference to total analysis.

Groundwater Monitoring Report

I cannot find written confirmation that the deep groundwater-monitoring suite is acceptable. The Agency did not specifically comment on the location of the groundwater monitoring boreholes when these were proposed by URS because of the challenges the Agency was facing with the re-determination process. They may have been designed to monitor for contaminants in the groundwater rather than specifically for the function of Part IIA and monitoring them will continue to be useful. The fact that no evidence for a risk to controlled waters has been found is not an acceptable argument not to look for known substances as per the determination notice. There is a regulatory requirement to monitor for CoCs in the determination notice and this is not negotiable. Therefore, I recommend you include these substances in the monitoring suite.

Agreed. The full list of metals from the Part IIA determination will be included in the October monitoring round.

Yours sincerely

URS Corporation Ltd

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