



DEFENCE ESTATES
Delivering Estate Solutions to Defence Needs

→ T I L E

**Construction Support Team
Environmental Management Group
DE Operations North**

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Grontmij Group Ltd
Grove House
Mansion Gate Drive
Leeds
LS7 4DN

Your Ref
Lt-16 Phase 2 LQA
Our Ref
DE/C/SUT/27/104/6/12370
Date
17 February 2009

Dear

MOD SHOEBURYNESSE, FLEET – PRIORITISED AREAS: PHASE 2 LAND QUALITY ASSESSMENT

Reference:

- A. Draft Phase 2 LQA Report - dated January 2009 (Phase 2 LQA Fleet Shoeburyness JAN DRAFT), submitted as hard copy on 15 Jan 2009
1. Thank you for forwarding a draft copy of the Phase 2 LQA Report, Ref A, for review and comment. In general the LQA Report is well written, however, there are a limited number of issues that need to be further addressed before the report is prepared for final issue. Please find these comments presented below.

Comments

2. Page 10 Section 1.10 para 7 – please remove 'Although' from the second sentence.
3. Page 27 para 2 – building sealed off should be considered as a potential hazard – was this area investigated during the Phase 2 LQA? It is not clear from the figures. Has any further information come to light on this issue since preparation of the draft report? Please advise.
4. Page 33 Section 4.14 para 2 – were any of the investigation locations near Building I3, and if so, was beryllium sampling undertaken on samples from these locations? It is noted that a sediment sample from FLWSP83 within Area I/J recorded a slight beryllium exceedence, but it is not clear from the figures where this location is in relation to Building I3.
5. Page 38 Table 5.5.1 'Reason for Targeting' column, first entry – 'from aerial photographs' should read 'from aerial photographs'.
6. Page 44 Table 5.5.4 'Description of Made Ground' column, second entry, final sentence-reference should be made to Appendix A rather than Appendix C.
7. Page 47 Section 5.7.2 – '*This appeared to discharge from a DU sump*'. Assuming this means depleted uranium sump, is this correct? Does such a thing exist? Please advise.



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8. Page 49 Section 5.8.1 Para 5 – please remove the unnecessary semicolon from the second sentence.
9. Page 51 Table 5.5.8 – was the water with an 'oily sheen' from FLTP154 and FLTP164 sampled and submitted for TPH analysis? It is not immediately obvious.
10. Page 54 Section 6.1.1 para 5 – second sentence should make reference to Figure 6 and not Figure 5.
11. Page 80 Table 6.11 second column heading should read 'Mean Concentration', and not 'Men Concentration' !
12. Page 101 para 4 – second sentence – presumably this should read '37 µg/l', and not '37 µg/.'?
13. Page 137/138 Section 9.2 – perhaps bullet points rather than roman numerals would make more sense here?
14. Page 140 para 4 – 'indicative' should read 'indicate'. Same error also on Page 10, para 5.
15. Page 140 para 6, final sentence – 'they do not' should read 'they are not'.
16. Figures 7a, 8, 9, 10 and 11 – the individual exceedence coloured boxes are too small and are difficult to read – could they be possibly re-sized please?

Other Comments

17. It appears that the laboratory limits of detection exceed the screening value for several substances, (e.g. benzene and certain SVOCs/VOCs in soils/sediments) causing 'exceedences' to be highlighted in the Grontmij screening sheets, which is perhaps a little misleading.
18. Finally, please consider all the comments, make suitable amendments (including the 'key findings' to Section 7.4 once the DESD report has been issued) and forward the final LQA Report as soon as possible. If necessary, please contact me to discuss any queries you have concerning this review letter.

Yours sincerely

Date / Time
19th February 2009, 10am

Attendees

- DE
- DE Sponsor
- DE Area Land Agent
- DSTL
- DSTL
- Grontmij
- Grontmij
- 1 - Grontmij

Subject

Progress Meeting 7- Phase 2 LQA Shoeburyness

Venue

DE Offices – Sutton Coldfield

Agenda

Our Reference

Agenda - 19th February 09

Project Number

P000360303

- 1. Overview of Grontmij LQA findings**
- 2. Overview of Dstl LQA findings**
- 3. Technical Note recommendations for Fleet**
- 4. Regulator/Public Relations**
- 5. X3 Phase 2 LQA Progress**
- 6. Proposals for other areas within MOD Shoeburyness**
- 7. Health & Safety File**
- 8. AOB**



Grontmij Group Ltd
Grove House
Mansion Gate Drive
Leeds
LS7 4DN

Your Ref
P0000360303
Our Ref
DE/C/SUT/27/104/6/12370
Date
30 March 2009

Dear

MOD SHOEBOURNE, FLEET – PRIORITISED AREAS: PHASE 2 LAND QUALITY ASSESSMENT

References:

- A. Draft Phase 2 LQA Report - dated February 2009 (submitted on CD)
 - B. Draft Phase 2 LQA Technical Note - dated February 2009 (submitted on CD)
1. Thank you for forwarding the latest draft copies of the Phase 2 LQA Report and Technical Notes, Refs A and B, for review and comment. In general, the LQA Report and Technical Note are well written. However, there are a limited number of issues (particularly with the Technical Note) that need to be further addressed prior to final issue. Please find these comments presented below.

Comments – Technical Note

- 2. Page 6 Section 2.5.2 '*...the majority of the site is underlain by a Non Aquifer...*'. The hydrogeological status of the entire site should be considered. Please add further detail to this section accordingly.
- 3. Page 8, Section 2.6.2 – it would be useful if the appropriate screening criteria values were included in this section to further contextualise the statements made – e.g. add in commercial industrial screening criteria for lead (para 3) and screening criteria for uranium (Page 10, para 7).
- 4. Page 8, Section 2.6.2, para 4 – inconsistency between 'F-Area', 'F Area' and sometimes 'F/Area'. Please keep to one particular reference to describe areas throughout the document.
- 5. Page 8, Section 2.6.2, para 5 – '*...the concentrations are unusually high*'. Perhaps 'unusually' could be replaced with 'relatively'?
- 6. Page 11, para 2 – given the 600 m separation between the two sample locations, is a common source likely? Is there any surface water analysis for aliphatic/aromatic hydrocarbons elsewhere along the surface water ditch connecting these two locations that could help this theory?
- 7. Page 11, para 3 – again, add screening criteria for hydrazine for ease of reference.



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8. Page 11, para 4 – this is an interesting theory, but would it not be likely that any hydrazine would have been oxidised to nitrogen gas then the sampled water was put in contact with air?
9. Page 12, para 1 – again, please add screening criteria for chromium and mercury for ease of comparison.
10. Page 18, Section 3.2.4, para 2 – please add a comma after 'Within Part 2A....'.
11. Page 20, Section 3.2.5, para 6 – 'source of the rocket propellant hydrazine'. This appears to contradict with earlier discussion (see comment 8) of the hydrazine possibly coming from a natural source. Please remove 'rocket propellant' from this statement.
12. Page 23, Section 3.8 para 1 – there should be a comma between 'keeping' and 'management'. Please amend.
13. Page 24, Section 3.9, para 1 – the Waste Management Licensing Regulations 1994 have now been superseded by the Environmental Permitting Regulations (2008). Please amend.
14. Page 25, Section 3.10 para 1 – 'principle' should read 'principal'.
15. Page 29, first para after bullet points – please remove apostrophe from 'it's' in final sentence.
16. Page 33, Section 4.2.2.2 – the areas recommended for further ecology assessment are not clearly highlighted in Figure 4. Please highlight these areas on Figure 4 and the key (in a similar manner to the controlled waters assessment areas). These areas should perhaps also be highlighted on Figure 5, to ensure consistency with bullet point 3 at the bottom of Page 35.
17. Section 4.2.3 – please ensure this section is completed (including the Dstl input) prior to final issue.
18. Figure 5 – in addition to the highlighting required by point 16 above, this figure is a little confusing as very similar colours have been used for potential areas of concern (e.g. radiological materials and asbestos, hydrazine storage and aluminium powder). Could the colour system please be changed to make this figure clearer?

Comments – LQA Report

19. Following conversations with other DE staff, could you please confirm that americium-241 was not detected at concentrations/activities above background levels at the site.
20. It would appear that not all of the amendments requested from my last letter (dated 17 February 2009) have been carried out, such as point 16. Please ensure that the points from my previous letter are fully taken into account prior to final issue.
21. Finally, please consider all the comments, make suitable amendments (ensuring consistency between the LQA Report and Technical Note) and forward the final LQA Report and Technical Note as soon as possible.
22. Please contact me to discuss any queries you have concerning this review letter.

Yours sincerely

Environmental Manager

From: DE Ops North
Sent: 30 March 2009 10:41
To: DE Ops North
Cc: DE Ops North
Subject: RE: 20090330_0/50 - Shoeburyness Fleet LQA Ph2

Thanks very much for your emails this morning. In response to your queries/comments:

- As far as I understand, although a mean soil activity concentration of Am-241 was calculated by Dstl (9.9Bq/kg-1), no Am-241 was detected above detection limits in areas in which it was analysed for (F, J and N). I have asked Grontmij to confirm this however.
- A 'depleted uranium sump' is referred to in Section 5.7.2 (Page 47) of the LQA Report. Do you think that this is the 'sludge tank' to which you refer? If so, I understand that it was sampled.
- Barium chloride is highly toxic and water soluble. When mixed with hydrochloric acid and a sulphate salt (e.g. the sodium sulphate to which you refer), it forms the insoluble (and much less toxic) barium sulphate. Barium was analysed in both soil and groundwater samples with no exceedences of relevant assessment criteria to the best of my knowledge.
- As with the rest of our LQAs, I am in the process of writing a letter summarising the issues at Fleet and the various management options, which would include access restrictions. If I can be of any help to you during this process, please do not hesitate to get in touch.
- I have asked Grontmij to ensure Section 4.2.3 of the Technical Note is completed with the Dstl input prior to final issue. I anticipate receiving the final reports in the next 2-3 weeks and will send you through a copy when they arrive if you wish.

Regards

Environmental Manager

Kingston Road
Sutton Coldfield
West Midlands
B75 7RL

Tel:
Mil:
Fax:

From: DE Ops North
Sent: 30 March 2009 07:55
To: DE Ops North
Subject: 20090330_0/50 - Shoeburyness Fleet LQA Ph2

I have no major comments on the draft Fleet LQA Ph2 Reports rather a small number of clarification points.

The reports refer to AM241 which I understand is not naturally occurring and is a by-product of Plutonium production. Whilst levels appear to be low do we have any indication of where this has come from or whether it can be regarded as background? My concern arises through the fact that it has previously been stated in Parliament that there have not been any Plutonium based trials at Shoeburyness. (I have not seen the actual statements made in Parliament but will endeavour to obtain copies.)

I also understand that swabs taken off gun barrels in building F3 in 1993 also revealed the presence of AM241.

Building F3 was used for declared DU trials and was subsequently decontaminated although elevated levels of naturally occurring radioactive material or residual DU material was discovered as part of the LQA. There was also a sludge tank associated with this building and I presume that if it still exists any contents will not have been sampled as part of this LQA.

I have seen papers indicating that 5t of Barium Chloride was spilt on Range 5 and to 'decontaminate' the area it was washed away by 1000gal of 0.1% Sodium Sulphate solution. Would the testing regime used have detected the above chemicals?

In the light of the LQA I would appreciate some assistance in refining the current Access Restrictions that I have in place for this area of Shoeburyness.


I note that in the Technical Note input is still required from Dstl in section 4.2.3. Do we know when this will be incorporated as I would not wish to accept this document until it is complete particularly given the importance of the Dstl input?

Regards

Defence Estates Adviser to Trials Evaluation Services and Targets (TEST) IPT



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From: DE Ops North-CST1a
Sent: 22 May 2009 10:08
To:
Cc: DE Ops North-CST1
Subject: RE: X3 and Fleet

Recipient(s):

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Message:

Thanks for your prompt reply. I'll look forward to receiving the final Fleet reports next week.

I've just spoken to - we are not expecting any further comments on the X3 LQA Report - therefore please finalise the LQA/TN for X3 incorporating the comments made to date and let me know when we are likely to receive the final CDs.

Kind regards

Environmental Manager

DE Ops North, CST-EMG
Modular Building D04
Kingston Road
Sutton Coldfield
West Midlands
B75 7RL

Tel.
Mil
Fax

From:
Sent: 22 May 2009 09:40
To:
Cc:
Subject:

22/05/2009

We have completed the Fleet LQA Report and Technical note and this is undergoing final review from next week, we will endeavour to get this through to you (on 2 CD's) by the end of next week. In relation to the X3 reports we have addressed your comments and those from QQ for the Technical note but are we expecting any further comments in relation to the main LQA Report? If not we shall press on and get these reports finalised too. Perhaps you could let us know.

Kind Regards,

Principal Consultant

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Fr
Sent: 22 May 2009 09:35
To:
Cc:
Subject: X3 and Fleet

Recipient(s):

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Message:

Could you please let me know when we are likely to receive final copies of the X3 and Fleet Reports. I think last time we spoke, it was decided that you'd send a couple of CDs of the electronic versions through to me for a final 'check' prior to printing. Is this still the idea?

Kind regards

22/05/2009