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JEB FORT STORY, VA  
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E-MAIL WITH ATTACHED REVISED RESPONSES TO COMMENTS ON 80TH DIVISION  
RESERVE SITE REMEDIAL INVESTIGATION REPORT FORT STORY VA

5/27/2008  
MALCOLM PIRNIE

File: 6 C.16

NO comments from FE

0115

**Bateman, Joanna G Ms CIV USA IMCOM**

**From:** Pace, Tony [TPace@PIRNIE.COM]  
**Sent:** Tuesday, May 27, 2008 2:19 PM  
**To:** Bateman, Joanna G Ms CIV USA IMCOM  
**Cc:** Michel, Amber A Miss CTR USA IMCOM  
**Subject:** 80th DRS revised RI and RTCs

**Attachments:** Responses to VDEQ Comments - 80th DRS RI.doc; Final Section 6.doc; Final Section 8.doc

Called Tony on 30 MAY 08 and approved submission of RTCs



Responses to VDEQ Final Section 6.doc Final Section 8.doc  
 Comments - 8... (489 KB) (486 KB)

Joanna,

We have attached the revised responses to VDEQ comments and Sections 6 and 8 of the 80th DRS RI Report based on your concerns about the vapor intrusion model and the text in the recommendations section. We ran the model and included it in the revised text. TCE and PCE risk fell within the EPA target remedial goal of 10-4 to 10-6.

Take a look and get back to us with any additional comments so that we can address them and forward the package onto VDEQ.

Anthony Pace

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**Responses to VDEQ Comments (January 22, 2008)**  
**80<sup>th</sup> DRS Revised RI Report**  
**Fort Story, Virginia**

**Remedial Project Manager Comments:**

**Specific Comments:**

**14. (Page 6-46, Section 6.6.3, Residential Population Exposure Scenarios, Soil)**  
Please provide all background soils data and supporting statistical evaluations.

*Response: Additional text added to Section 6.1.2 and 6.6.3 concerning background data.*

Please see the Risk Assessor Comments, General Comments, detailed below.

**15. (Page 6-46, Section 6.6.3, Residential Population Exposure Scenarios, Groundwater)**

The Department has reviewed the document (Siudyla, E.A., May, A.E., Hawthorne, D.W., 1981; Ground Water Resources of the Four Cities Area, Virginia; Commonwealth of Virginia, State Water Control Board, Bureau of Water Control Management) referenced in this section. It is not possible to determine whether or not any of the wells used in the SWCB, 1981 study have been impacted by contamination. Therefore, the SWCB, 1981 study is not sufficient (by itself) to determine background levels for this site. The Department recommends also obtaining site-specific background data. The Groundwater Flexibilities statement and related information (previously provided to you) may provide some guidance for the development of additional lines of evidence.

*Response: This bullet was deleted because the residential scenario was deleted.*

Please see the Risk Assessor Comments, General Comments, detailed below.

*Additional Response:*

*No additional response required for the above comments.*

**Risk Assessor Comments:**

**General Comments:**

Please note that the residential risk scenario has been removed from the revised risk assessment based on Army (USAEC) guidance. If the residential scenario is not included, land use controls (LUCs) will be needed to insure that residential use does not occur in the future. The drinking water scenario has also been removed from the risk assessment. It should be noted that the DEQ considers all groundwater to be potential drinking water sources. Therefore, this pathway should be assessed. Additionally, please note that several contaminants have concentrations above Maximum Contaminant Levels (MCLs) and/or tap water Risk Based Concentrations (RBCs) including antimony, iron, manganese, vanadium, tetrachloroethene (PCE), and trichloroethene (TCE). The original risk assessment included a residential drinking water scenario and unacceptable risks and Hazard Quotients (HQs) were driven by arsenic, iron, and manganese. Antimony, vanadium, PCE, and TCE also contribute. Separating the HQs

by target organ and formalizing the background comparison may help with risk management decisions for this site.

*Response:*

*It is expected that land use controls will be implemented at the site since there are exceedences of the MCLs in groundwater at the site; albeit, in only one well (MW-9) during the most recent sampling event in 2004. This will be discussed in detail in the Decision Document to be prepared for the site.*

*It is noted that VDEQ has an antidegradation policy for groundwater (9 VAC 25-280-30), and this policy will be discussed in the Decision Document for the site; however, since there are no current or reasonably anticipated users for groundwater at the site, no further analysis in the risk assessment related to the consumption of groundwater as drinking water is warranted. The purpose of the risk assessment is to identify and characterize current or reasonably anticipated users of the site, not a worst case scenario such as use of the groundwater as a potable water source. The antidegradation policy is not a consideration during the risk assessment but is more related to ultimate control and use of the site which the subsequent Decision Document will address.*

*A previous removal action has been completed at the site which included the excavation of approximately 3,500 tons of petroleum-contaminated soils and 30 tons of PCE-contaminated soils. Based on the removal of the source area for the contaminated groundwater and the low concentrations of VOCs in groundwater, it is expected that natural recovery will continue at the site and these concentrations should decrease to below MCLs over time. It should be noted that MCL exceedences were only identified in one well (MW-9) during the 2004 sampling event with only TCE (7.5 µg/L) and PCE (6.3 µg/L) slightly exceeding their respective MCLs of 5 µg/L. It should be noted that the 95<sup>th</sup> UCL for these compounds is below their respective MCL. A long-term monitoring program will be presented in the Decision Document that describes how the contaminant trends will be tracked at the site.*

*Some additional text has been added to the end of Section 8.4 to discuss future actions at the site.*

**Specific Comments:**

**2. (Page 1-3, Section 1.2.2)**

Since there was an antifreeze storage tank at the site, did any of the sampling events include analysis for antifreeze ingredients such as ethylene glycol or propylene glycol?

*Response: No.*

The response indicates that antifreeze ingredients were not sampled for in the area of the antifreeze tank. Samples should be collected or a rationale should be presented for not doing so.

*Additional Response:*

*The antifreeze AST was installed on a raised, bermed concrete platform with a valved outlet for draining any collected stormwater. There are no records of any spills or leaks from the secondary containment area around the UST, therefore, investigations of potential impacts from this AST has not been warranted.*

**4. (Page 6-1, Section 6.1)**

The final version of RAGS, Part E (EPA, 2004) should be cited rather than the interim version.

*Response: Text revised.*

The date was changed on the reference but "interim" should be changed to "final".

*Response:*

"Interim" has been changed to "final".

**6. (Page 6-17, Section 6.4.2)**

The exposure assessment should also consider the potential for vapor intrusion into buildings from contaminated groundwater.

*Response: Additional text added to Section 6.4.1 assessing the vapor intrusion scenario.*

The comment requested an assessment of the potential for vapor intrusion into buildings. The revision indicates that since there are no buildings currently located at the site, the scenario would not be evaluated for current land use. However, the response does not address future buildings. If the pathway is not assessed, a prohibition on future building will be needed.

*Response:*

*The vapor intrusion model and associated potentially exposed population (future commercial/industrial workers within structures) has been included and assessed in the revised Section 6.*

**Additional Comments:**

**Table 6-12:**

For future assessments note that the equation for dermal exposure to groundwater is different for organics and inorganics. RAGS, Part E should be consulted for the organic equations.

*Response:*

*Comment noted.*

**Section 8.4:**

DEQ cannot concur with a no further action decision. Additional evaluation of groundwater risk needs to be conducted, as noted above. Also, LUCs will be needed since a residential evaluation was not conducted. LUCs are considered a remedial action.

*Response:*

*The additional evaluation of groundwater as it relates to vapor intrusion has been discussed above. LUC issues were also discussed above. Text stating no further action has been deleted since additional action in the form of LTM and LUCs are anticipated. These will be discussed in the Decision Document to be prepared for the site.*