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U S NAVY RESPONSE TO AGENCY COMMENTS TO DRAFT PRELIMINARY
ASSESSMENT/SITE INSPECTION REPORT MMRP SITE UXO-11 FORMER B-5 PRACTICE
HAND GRENADE COURSE MCB CAMP LEJEUNE NC
06/24/2011
CH2M HILL

Response to Comments
Draft Preliminary Assessment/Site Inspection Report
MMRP Site UXO-11 Former B-5 Practice Hand Grenade Course (ASR#2.281)
Marine Corps Base Camp Lejeune, North Carolina

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The purpose of this document is to address comments to the Draft Preliminary Assessment/Site Inspection Report for UXO-11 Former B-5 Practice Hand Grenade Course, Marine Corps Base Camp Lejeune (MCB CamLej), North Carolina. The North Carolina Department of Environment and Natural Resources (NCDENR) and the United States Environmental Protection Agency (USEPA) provided the comments listed below. Responses to comments are provided in bold type.

North Carolina Department of Environment and Natural Resources
(dated February 15, 2011)

Specific Comments

1. In Section 4.2.1, the screening criteria listed for nitroglycerin in the table for surface sample results should be listed in $\mu\text{g}/\text{kg}$. Should the maximum and minimum concentrations detected presented in that table also be listed in $\mu\text{g}/\text{kg}$?

The screening criteria listed in Section 4.2.1 has been corrected to $\mu\text{g}/\text{kg}$.

2. In Section 4.2.1, the table which presents metals results in the surface soil samples:
 - The Residential RSL's should be included for cyanide and iron; and
 - Is there no base background criteria established for iron?

Because the Residential RSLs and base background criteria were not exceeded for these analytes, they were not included in the table.

3. In Section 4.2.1, the section which discusses results for the subsurface soil samples it lists the following bullets:
 - **Explosives Residues** – Two explosives residues, perchlorate and RDX, were detected in subsurface soil samples, but did not exceed any screening criteria.
 - **Perchlorate** – Perchlorate was not detected in any subsurface soil samples.

The statements for perchlorate seem contradictory. If perchlorate was detected by one method but not the other, possibly the detection limits should be included in these bullet items for perchlorate.

The text has been corrected to indicate that perchlorate was detected in subsurface soils.

4. In Section 4.2.4, in the section which discusses results for the ground water sample results it lists the following bullets:

- The explosives residues 1,3,5-trinitrobenzene, 1-3-dinitrobenzene, 2,4,6-trinitrotoluene, 2-nitrotoluene, 3-nitrotoluene, 4-nitrotoluene, nitroglycerin, perchlorate, and RDX were detected in at least one of the five groundwater samples, but at concentrations below the screening criteria.
- **Perchlorate** – Perchlorate was not detected in any groundwater samples.

The statements for perchlorate seem contradictory. If perchlorate was detected by one method but not the other, possible the detection limits should be included in these bullet items for perchlorate.

The text has been corrected to indicate that perchlorate was detected in groundwater.

5. In Section 4.2.4, in the table which presents the metals results in groundwater, NCDENR suggests use of the NC groundwater protection standards, 2L, and Federal Drinking Water standards, MCL, in lieu of the EPA tapwater number where those standards exist: Arsenic standard is 10 ug/L (both 2L and MCL); and chromium standard is 10 ug/L (2L).

The groundwater data was compared to NC2Ls, MCLs, EPA Tap Water RSLs, and background for screening purposes.

6. In Section 5.4, the Human Health Risk Screening Conclusions, it states that “if the shallow groundwater for the area were used as a residential potable water supply, there could be unacceptable risks associated with the chromium detected in groundwater. However, this is primarily associated with the assumption that all of the chromium detected in the groundwater is in the hexavalent form, which is unlikely, as discussed above. It should also be noted that the shallow groundwater is not currently used as a potable water supply at Site UXO-11 or MCB CamLej, and it is unlikely that it would be in the future.” In Section 2.2 of this report it states that “The active supply well PSWTC-600 is approximately 800 feet (ft) from Site UXO-11. The well is screened from 48-70 ft below ground surface (ft bgs) and runs at a rate of 100 gallons per minute (gpm) (AHEC, 2002). The MCB CamLej Wellhead Protection Plan (AHEC, 2002) cites that the cone of influence created from this well pumping at 100 gpm for 10 years, extends under Site UXO-11.” It would be prudent to conduct speciation of the chromium in the groundwater at this site.

Supply well PSWTC-600 is currently designated by MCB CamLej as an “active backup well” and is not being used for distribution. In addition, the well has been recommended and is planned for abandonment. However, additional groundwater samples will be collected at the site to conduct speciation of chromium.

7. NCDENR concurs with the recommendations presented in Section 7.2 that an intrusive investigation be performed to assess the nature of the identified geophysical anomalies. Additionally, NCDENR recommends additional groundwater samples be collected to determine the form of chromium which is present in the groundwater at this site.

An intrusive investigation and additional groundwater sampling is planned as part of the upcoming Expanded SI.

**North Carolina Department of Environment and Natural Resources
(dated February 21, 2011)
*Risk Assessment Comments***

1. Appendix H: There are chemicals that show up in these tables that are not included in raw analytical data, Appendix G. Please include all chemicals, including nondetects, so the analytical data can be reviewed.

The raw analytical tables have been revised to include all chemicals.

2. Appendix H: All Regional Screening Values should be updated to the November 2010 values.

The screening values have been updated to 2010 values.

3. Page 5-6: The top paragraph states that it is unlikely that the shallow groundwater will be used as a potable supply. Section 2.2, second paragraph states that an active supply well, PSWTC-600, is screened from 48-70 feet bgs and the cone of influence extends under UXO-11. Please correct this Contradiction.

The text has been revised to include the following information:

Water supply well PSWTC-600 is currently designated by MCB CamLej as an "active backup well" and is not being used for distribution. In addition, the well has been recommended and is planned for abandonment.

**United States Environmental Protection Agency
(dated May 16, 2011)
*Preliminary Comments***

1. Explosive constituents have been identified in all media, including groundwater. Although the majority of the levels are below screening, the fact that are being identified is a concern. Keep in mind sampling is being conducted as a first line screening event.

Additional soil, groundwater, sediment, and surface water sampling is planned as part of the upcoming Expanded SI to further evaluate explosives constituents and the report will be updated to reflect this recommendation.

2. Chromium has been identified in all media and the rational, as presented in this report, is the assessment is overly conservative. This is not an appropriate statement at this stage of the investigation.

Additional sampling is planned as part of the upcoming Expanded SI to further evaluate chromium and the report will be updated to reflect this recommendation.

3. The major factor that should lead to a more detailed assessment: there is water supply well 800 ft. away from the site.

The water supply well is currently designated by MCB CamLej as an “active backup well” and is not being used for distribution. In addition, the well has been recommended and is planned for abandonment.