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BOB MARTIN
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Wanda Green
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P.O. Box 380
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September 23, 2011

RE: Baseline Ecological Evaluation Report
Base-Wide Glauconitis Study Soil Report
Fort Monmouth Main Post and Charles Wood Area
Fort Monmouth, NJ

Dear Ms. Green:

The New Jersey Department of Environmental Protection (Department) has completed review of Baseline Ecological Evaluation received on May 20, 2011 and the Base-Wide Glauconitis Study Soil Report received on March 20, 2011submitted pursuant to the Department of Defense State Memorandum of Agreement (DSMOA) executed on April 3, 1992 and the Technical Requirements for Site Remediation at N.J.A.C. 7:26E. The Department has identified the following issues that should be addressed.

Comments on the Baseline Ecological Evaluation Report

1) Executive Summary, page ES-1 - The Report states that the objective of the BEE at FTMM is to examine the 23 identified sites and assess whether the presence of constituents of concern in sediment, surface water, soil and groundwater on the Main Post and Charles Wood has the potential for adverse effects to biological receptors. In addition to the 23 identified AOCs (8 ECP parcels and 15 IRP sites), an assessment and discussion of the entire Fort Monmouth property should be presented in the BEE, and details on the justification for eliminating the other sites. The Department anticipated that the BEE would assess all potentially contaminated conditions throughout the Base where there was a potential for contaminant migration and impacts to ecological receptors.

2) Section 2.5.1.6 Landfill 12 (FTMM-12) - The BEE states that "the bank of Husky Brook along Landfill 12 (FTMM-12) has undergone stabilization;" however, in the first paragraph, the BEE states that "metal, concrete, and other types of landfill debris can be observed protruding from the stream bank along Husky Brook." These two statements appear to be in conflict. Fort Monmouth should clarify these statements.

3) Section 3.1 Review of Available Site Data - The BEE states that "the data from the samples collected as part of this BEE, and not previous IRP sediment samples, are evaluated in this BEE." Given that previous data can provide an historic perspective and indicate whether contaminants trends are increasing, decreasing or staying the same, all data should be provided in the BEE in accordance with N.J.A.C. 7:26E-3.11(a)1, which states that "all data identified or collected" must be evaluated.

4) Section 3.2.6.6 Method Detection Limits - The BEE states that "the MDLs for Aroclor 1016 and Aroclor 1254 were greater than the MDLs in some of the samples." A similar statement is made in the following paragraph. For clarification purposes Fort Monmouth should indicate that the MDLs were greater than the ESCs.

5) Section 3.3.2 Identification of Standards and Benchmarks for Surface Water - The BEE states that "the minimum hardness detected in a surface water body during the BEE investigation near an individual site where freshwater criteria are potentially applicable was used to calculate the site-specific BEE for the individual site." For clarification purposes Fort Monmouth should identify whether a site-specific ESC was calculated for the individual site.

6) Section 3.4.1 - The report should provide a analysis and justification for the background samples collected along Mill Creek since this creek is located downstream from two surface water bodies on the Charles Woods Area identified as Parkers Creek and Wampum Brook.

7) Section 4.1.1 Landfill 2 (FTMM-2) through 4.1.16 Building 900 (ECP Parcel 69) and 4.2.1 Landfill, Site CW-3A (FTMM-25) through 4.2.5 Building 2525 (ECP Parcel 28) - The BEE states that "the site itself was typical of upland habitat." The BEE further states that "though identified as COPECs in near surface soil or groundwater, VOCs and pesticides were not identified as COPECs in surface water or sediment where exposure may occur." Fort Monmouth is advised that upland habitat is also considered an environmentally sensitive natural resource (ESNR) as it supports a host of ecological receptors including soil invertebrates (i.e. earthworm), small mammals (i.e. shrew, voles), and avian receptors (i.e. American robin, woodcock). Therefore, exposure does occur in near surface soils and these contaminants must be evaluated against the appropriate ESC.

8) Section 4.1.1 Landfill 2 (FTMM-2) through 4.1.16 Building 900 (ECP Parcel 69) and 4.2.1 Landfill, Site CW-3A (FTMM-25) through 4.2.5 Building 2525 (ECP Parcel 28) - The BEE states that "COPECs ... are at low concentrations relative to the ESC and similar to background concentrations. Based on these conditions ... it is concluded that ... additional ecological assessments at Landfill 2 (FTMM-2) are not warranted or recommended." Within the report and tables, frequency of detection and average detection is provided for samples within an investigation area; however, only the maximum background value is provided. In order to make a proper comparison with background values, frequency of detection and average must be provided for the background samples as well. Ideally, in addition to frequency of detection and average, the 95% UCL of the mean and other statistics, as necessary, should be provided. After the sample data are screened against the ESC, then a proper comparison to background is made to further reduce the number of COPECS. Any COPECs remaining after comparison to ESC and background, must then be evaluated via a desktop exposure model or other method to determine if a full ecological risk assessment (ERA) is required.

9) Section 5.0 Summary and Conclusions - The BEE states that "additional ecological assessments at FTMM are not warranted or recommended." The Department cannot concur with this conclusion until the issues above are addressed.

Comments on the Glauconitic Study

1) The report states that there is no documented or confirmed source for the detections of metals in groundwater. However, there is a history of the use of coal on the site. Coal ash has also been found at locations onsite. The report should identify if coal use on the site could contribute to the metals contamination found in soil and groundwater.

2) Page 2, The Report references studies by Dooley that indicate naturally occurring arsenic and beryllium are associated with layers of glauconite in the NJ Coastal Plain. The FTMM Report further states that these studies indicate the presence of arsenic and other TAL metals (e.g., beryllium and lead) detected in soil and sediment samples are attributed to natural lithogenic sources rather than from anthropogenic activities. It should be made clear which studies indicate that elevated lead in soils is due to the natural formation.

3) The report should identify exactly what metals are associated with glauconite soils based on the references reviewed. A comparison should then be made between the literature data for metals associated with glauconite soils and the metals identified onsite above the GWQS or the soil standards.

4) The report states that it appears that arsenic and lead co-exist as naturally occurring TAL metals. This conclusion is based on three soil sample points and the selected monitor wells that are located within known areas of concern. Additional data points, especially from background monitor well locations (outside AOCs) might be useful for comparison purposes. The Technical Requirements for Site Remediation list the requirements for a background study at NJAC 7:26E-3.10. In addition to other requirements, this section states that a minimum of 10 background samples shall be collected for a background investigation.

5) In bullet 1 of the conclusion section, it is stated that the detection of arsenic in ground water supports the conclusion of a previous 2004 study that arsenic is attributable to native soil characteristics or a non-point source. This most recent study provides no correlation between soil concentrations of TAL metals and ground water concentrations. The report should try and identify a correlation between the contaminants found in the glauconite soils to the concentrations of contaminants found in the ground water samples.

6) The NJDEP has no objection to the additional studies proposed by the Army.

Please revise the reports as outlined above. Note that deficiencies included herein that are not addressed to the Department's satisfaction will be subject to the provisions of the DSMOA. If you have any questions regarding this matter, please contact me at 609-984-1742 or by email at matthew.turner@dep.state.nj.us.

Sincerely,

Matthew Turner
Bureau of Case Management

c: Joe Pearson, Calibre Systems
Rick Harrison, FMERA
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