



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

APR 20 1993

4WD-FFB

Mr. Byron Brant
Department of the Navy - Atlantic Division
Naval Facilities Engineering Command
Code 1822
Norfolk, Virginia 23511-6287

RE: Marine Corps Base Camp Lejeune NPL Site
Site 54 - Crash Crew Fire Training Burn Pit
Jacksonville, North Carolina

Dear Mr. Brant:

EPA has reviewed the document titled "Draft Site Inspection Report - Site 54 Crash Crew Fire Training Burn Pit" dated October 1992. Comments on the draft documents are enclosed. These documents have been given a cursory review to provide you with guidance in developing an RI/FS Work Plan (and associated project plans) to support a Record of Decision.

In addition to the enclosed comments, all applicable comments previously submitted on SI reports also apply here.

If you have any questions or comments, please call me at (404) 347-3016.

Sincerely,

A handwritten signature in cursive script that reads "Michelle M. Glenn".

Michelle M. Glenn
Senior Project Manager

Enclosure

cc: Peter Burger, NCDEHNR
Neal Paul, MCB Camp Lejeune

COMMENTS
DRAFT SITE INSPECTION REPORT
SITE 54 Crash Crew Fire Training Burn Pit
MARINE CORPS BASE CAMP LEJEUNE

GENERAL COMMENTS

1. The Draft SI Report presents a preliminary risk assessment (PRA) that compares the concentrations of contaminants detected to Federal and state regulatory standards, applicable or relevant and appropriate requirements (ARARs), to be considered (TBC) guidelines and health advisories. Risk-based preliminary remediation goals (PRGs) were calculated for the chemicals of concern identified for the soil pathway.

The PRA conducted for the soil pathway is considered deficient since the soil samples were analyzed only for hexavalent chromium, resulting in an important data gap. Since metals have been detected as primary contaminants of concern in all of the other environmental media sampled, their presence in the soils is highly likely. Therefore, additional soil samples should be collected and analyzed for Target Analyte List (TAL) metals to substantiate the conclusions on potential risks associated with the soil pathway.

The current land use of the site is commercial/industrial combined with a military base setting. The PRA conducted under such a setting would yield less conservative results than a risk assessment performed under a normal commercial/industrial setting since the site-specific exposure duration value has been assumed to be only 2 years, compared with a standard default value of 25 years.

As a conservative approach, EPA Region IV requires that a risk assessment under a future residential land-use scenario be conducted.

The Draft SI Report acknowledges that chemicals of concern are present in the shallow aquifer at concentrations exceeding Federal and state regulatory standards, and future exposure to these chemicals could result in human health risk. Since the underlying Castle Hayne aquifer is used as the primary drinking water source, there is a major concern over whether contaminants from the shallow aquifer have migrated to the Castle Hayne aquifer, creating a public health risk. An effort should be made therefore to determine whether the contaminated shallow aquifer is hydraulically interconnected with the Castle Hayne drinking water aquifer beneath the site.

An RI/FS and associated Baseline Risk Assessment must be conducted at this site.

2. Additional information should be provided summarizing the previous work conducted by Environmental Science and Engineering, Inc. (ESE), at Site 54. The information should include a summary of the pertinent data collected during ESE's investigation such as the operational history and analytical results from monitoring wells and soil/sediment samples. The Draft SI Report also needs to address the sump/skimmer located east of the site. The information needs to include past or present spills, construction specifications and the area to which the sump/skimmer discharges.
3. The presentation of analytical data in Section 4.0 of the Draft SI Report requires improvement. The tables presenting the analytical data show ranges of the analytical results and not individual sample stations. The total number of samples collected is very small, therefore presenting a range of analytical results seems unnecessary.

SPECIFIC COMMENTS

1. Page 1-1, Section 1.3 - The installation date for the underground storage tank should be included as well as the regulatory guidelines under which the installation occurred. There is no information regarding the sump/skimmer. A discussion should be included on the history, construction specifications and area of discharge for the sump/skimmer.
2. Page 1-4, Section 1.5 - Analytical data presented during ESE's previous investigations should be summarized in this report. The rationale for expanding the site investigation and locating the soil, sediment, surface samples and the groundwater monitoring well should be presented.
3. Page 1-7, Paragraph 5 - Liquids used at fire training areas usually include any flammable liquid with a high British Thermal Units value. These types of chemicals are typically in the volatile or semivolatile organic compound parameter groups. Sampling soil and groundwater for constituents only characteristic of fuel -- benzene, toluene, ethylbenzene and xylenes (BTEX) -- is not acceptable. Analysis for the Target Compound List (TCL) for organic compounds should be conducted.

4. Page 1-6, Figure 1-3 - The placement and number of monitoring wells are insufficient for detection of groundwater contamination which may be migrating from the site. The downgradient monitoring well 54MW03 is too far south (500 feet) of the site for early detection, and there are no monitoring wells on the east side of the site. The EPA requires a minimum of three downgradient wells and one upgradient well to accurately assess a site. The Draft SI Report shows the groundwater flow direction as south to southwest. However, only one set of groundwater data measurements have been collected. Because the groundwater table can be influenced by tides and seasonal variations in precipitation, the groundwater data is not statistically significant to show whether groundwater contamination is affecting the area east of the site. Other areas of concern east of the site which have not been addressed include the petroleum hydrocarbons in the ditch and the sump/skimmer unit. The source of petroleum hydrocarbons in the ditch and the sump/skimmer unit, which may be a secondary source of contamination, should be addressed.
5. Page 1-8, Paragraph 2 - Utilizing polyvinyl chloride (PVC) for construction of monitoring wells is not in compliance with the ECB SOPQAM. PVC is not acceptable for monitoring organic compounds because of PVC's sorption and leaching properties. The SOPQAM recommends that the well casing and screen be constructed of stainless steel (304 or 316) or Teflon.
6. Page 2-4, Figure 2-1 - Although the water level data collected from one groundwater sampling event is generally sufficient to infer groundwater flow direction, the seasonal variations in precipitation and tidal influence can affect the area east of the site. Therefore, an additional well should be placed east of the site, preferably close to the sump/skimmer.
7. Page 4-1, Section 4-1 - The text states that soil samples were analyzed for hexavalent chromium only; however, section 1.7 states that soil samples were analyzed for metals and hexavalent chromium along with other analytical parameters. The inconsistency should be resolved, and justification must be provided as to why hexavalent chromium was the only metal analyzed for.

The analytical parameters for soil and groundwater do not encompass all the organic contaminants of concern for this site. Waste solvents, which are characteristically extremely flammable, have been detected in soils and groundwater at several Federal facility fire training areas. Analytical testing for soil and groundwater should include the TCL. In addition, the reference to having burned transformer oils containing polychlorinated biphenyls (PCBs) raises the concern over polychlorinated dibenzofurans (PCDFs). If future soil or groundwater samples show detectable concentrations of PCBs, then analysis for PCDF should also be considered.

8. Page 4-2, Section 4.3.1, Paragraph 5 - The last two sentences of this paragraph are ambiguous. Provide further clarification.
9. Page 5-2, Paragraph 3 - In addition to being analyzed for hexavalent chromium, soil samples should be analyzed for other metal analytes. See Comment No. 7.
10. Page 5-6, Paragraph 6 - It is stated in the paragraph that no exposure pathway exists because no domestic or production wells are located at or near the site. This is inaccurate. A groundwater exposure pathway would be considered potentially complete if the aquifer beneath a site is contaminated and is interconnected with a drinking water aquifer or is classified as a potable aquifer. Therefore, an effort should be made to determine whether the contaminated shallow aquifer is hydraulically interconnected with the underlying Castle Hayne drinking water aquifer.
11. Page 5-8, Paragraph 6 - Background soil samples should also be analyzed for organic parameters in addition to metals.
12. Page 5-9, Section 5.3.2.4 - PRGs should also be developed under a future land-use scenario. For any future land-use scenario assumed, a qualitative assessment should be made of the likelihood that the assumed future land use will occur. In the case of a commercial/industrial land-use scenario, future uses of the site may require monitoring.

A list of input parameters and their assigned site-specific values used in the calculations of PRGs should be included in this section.

13. Page 5-10, Paragraph 2 - It is stated that the receptors are assumed to be only transient military personnel, and the exposure duration (ED) is 2 years. This is inconsistent with Section 5.2.1 which states that receptors include both transient military personnel and civilian base employees. Therefore, PRGs may be underestimated for base civilian workers by using an ED value of 2 years assigned for transient military personnel rather than a standard default value of 25 years.
14. Page 5-10, Paragraph 10 - The paragraph states that potential chemicals of concern for groundwater were identified based on a review of their individual toxicity. The potential chemical of concern selection process should be described.
15. Page 5-17, Paragraph 2 - It is stated in the paragraph that no exposure pathway exists because no domestic or production wells are located at or near the site. This is inaccurate. A groundwater exposure pathway would be considered potentially complete if the aquifer beneath a site is contaminated and is interconnected with a drinking water aquifer. Therefore, an effort should be made to determine whether the contaminated shallow aquifer is hydraulically interconnected with the underlying Castle Hayne drinking water aquifer.
16. Appendix C - Provide a definition for the designation "U" used in the table of analytical results.