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TRANSMITTAL FOR GROUNDWATER MONITORING REPORT SECOND SEMI ANNUAL
FOURTH YEAR JANUARY 2004 BUILDING 502 TANK 502 NAS CECIL FIELD FL (PUBLIC
DOCUMENT)
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TETRA TECH



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Project Number N4093

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Reference: CLEAN III Contract Number N62467-94-D-0888
Contract Task Order Number 0209

Subject: Groundwater Monitoring Report
2nd Semi-Annual, 4th Year (January 2004)
Building 502, Tank 502
Naval Air Station Cecil Field
Jacksonville, Florida

Dear Mr. Grabka:

Tetra Tech NUS, Inc. (TtNUS) is pleased to submit this Semi-Annual Groundwater Monitoring Report for the referenced Contract Task Order (CTO) for Building 502, Tank 502. A living compact disk (CD) for CTO 209 is also included.

This groundwater monitoring report was prepared for the United States Navy Southern Division, Naval Facilities Engineering Command (NAVFAC EFD SOUTH) under the Comprehensive Long-term Environmental Action Navy (CLEAN) III Contract Number N62467-94-D-0888. The objective of this task is to monitor groundwater quality at the site semi-annually. The guidance document for this report is Chapter 62-770, Florida Administrative Code (FAC). The sampling program was accomplished in general accordance with the Natural Attenuation Monitoring Plan Approval Order (NAMP AO) issued by the Florida Department of Environmental Protection (FDEP) on July 13, 1999 (Attachment A) and as modified by subsequent reports [Harding Lawson Associates (HLA), 2000; TtNUS, 2001].

The fieldwork and analytical results of the groundwater sampling conducted at the site in January 2004 are summarized in this report. The work was performed in general accordance with the Base-wide Generic Work Plan Volumes I and II (TtNUS, 1998). The location of the site is presented on Figure 1.

SITE BACKGROUND

Tank 502 was formerly a 1000-gallon underground storage tank (UST) located on the western side of Building 502. The UST was removed by Bechtel Environmental, Inc. on April 16, 1997, along with 5 tons of contaminated soil (HLA, 2000). Based on subsequent site investigation results, a monitoring program was approved to sample monitoring wells CEF-502-1S, CEF-502-2S, CEF-502-4S, and CEF-502-5D (FDEP, 1999). Monitoring wells CEF-502-2S and CEF-502-5D were abandoned during the tank removal and were later installed as wells CEF-502-6S and CEF-502-7D, respectively (HLA, 2000). On August 25, 1999, during the first sampling event under the monitoring program, it was discovered that well

CEF-502-1S had been abandoned, and well CEF-502-4S could not be sampled due to low water table conditions. HLA conducted the second event on March 13, 2000, and only sampled wells CEF-502-4S, CEF-502-6S, and CEF-502-7D. The summary table of detections from the second HLA report is included as Attachment B. During March and April 2001, TtNUS conducted a supplement site assessment. TtNUS personnel supervised the installation of a replacement well for CEF-502-1S (which is now designated as CEF-502-1SR) and sampled the four wells required in the monitoring order. The Site Assessment Report Addendum (TtNUS, 2001) recommended several modifications including an additional well (CEF-502-8S) and an additional existing sampling location (CEF-502-3S). The recommendations were approved by the FDEP on August 3, 2001, and were implemented during the next semi-annual sampling event held in December 2001.

FIELD OPERATIONS

On January 28, 2004, water level measurements were recorded from each of the monitoring wells prior to sample collection. The depth to water ranged from 7.07 feet (ft) below top-of-casing (btoc) (CEF-502-3S) to 8.36 ft btoc (CEF-502-1SR). The depth-to-water measurements, along with top of casing elevations, were used to calculate groundwater elevations.

On January 28 and 29, 2004, groundwater samples were collected from five shallow monitoring wells (CEF-502-1SR, CEF-502-3S, CEF-502-4S, CEF-502-6S, and CEF-502-8S) and one deep monitoring well (CEF-502-7D). Following collection, the samples were placed on ice and subsequently shipped under chain-of-custody to Accutest Laboratory in Orlando, Florida. The laboratory analyzed the samples for volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method SW846 8260B, polynuclear aromatic hydrocarbons (PAHs) using USEPA Method SW846 8310, and total recoverable petroleum hydrocarbons (TRPH) using Florida Petroleum Range Organics (FL-PRO). The reported detection limits for these methods met the requirements for the similar methods recommended in the NAMPAO.

RESULTS

Groundwater elevation data from the January 2004 event and the previous sampling events are shown on Table 1. The groundwater flow direction with elevation data for January 2004 is shown on Figure 2. Based on the data, the inferred direction of groundwater flow has not changed since June 2002 and continues to flow to the south, southwest.

Compounds of concern (COCs) reported by the laboratory for the groundwater samples collected for this sampling event were compared to FDEP Groundwater Cleanup Target Levels (GCTLs) and Natural Attenuation Default Source Concentrations (NADSCs). The data and comparable standards are indicated on Table 2, and the results for naphthalene compounds and TRPH are illustrated on Figure 3. The concentrations of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene reported in monitoring well CEF-502-1SR exceeded respective GCTLs during the sampling event. The concentrations of these COCs have exceeded the GCTLs during all of the previous sampling events with the exception of the December 2002 sampling event. The TRPH concentration in monitoring well CEF-502-1SR has slightly decreased since the previous sampling event; however, still exceeds the GCTL. The concentrations of COCs in the other monitoring wells were below their respective GCTLs during the January 2004 sampling event. A copy of the laboratory report for the January 2004 sampling event is provided as Attachment C.

CONCLUSIONS AND RECOMMENDATIONS

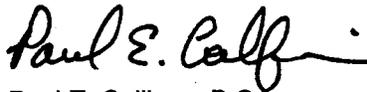
A comparison of the results of the January 2004 sampling event with the last four events indicates that naphthalene and TRPH concentrations continue to decrease, but are still above the respective GCTLs. The concentrations of 1-methylnaphthalene and 2-methylnaphthalene have increased slightly from the previous sampling event.

This event was the final event for the fourth year of the monitoring program. Assuming that the milestone objectives in the NAMPAO for well CEF-502-2S apply to the other source well, CEF-502-1SR, the concentrations of benzene, ethylbenzene, and total xylenes were below their respective milestone objectives for year four. However, the concentrations of naphthalene and TRPH were above the year four milestone objectives.

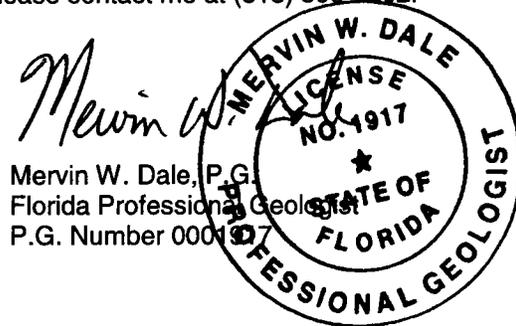
Based on the results of this groundwater monitoring event, and a review of the historical data for this site, TtNUS recommends that the monitoring program be continued as specified in the Natural Attenuation Monitoring Plan Approval Order issued by the FDEP

If you have any questions with regard to this submittal, please contact me at (813) 806-0202.

Sincerely,



Paul E. Calligan, P.G.
Task Order Manager



PEC/mwd

Attachments (9)

pc: ✓ G. Magwood, NAVFAC EFD SOUTH (CD only)
D. Wroblewski, TtNUS (cover letter only)
M. Perry, TtNUS (unbound and CD)
Project File (bound and CD)