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LETTER DISCUSSING SITE CHARACTERIZATION STUDY, SUPPLEMENTAL REMEDIAL
ACTION PLAN, AND VACUUM EXTRACTION PILOT STUDY AND REMEDIAL
INVESTIGATION REPORT INITIATED TO CHARACTERIZE PETROLEUM CONTAMINATION
AT NAVY EXCHANGE SERVICE STATION MILLINGTON SUPPACT TN

8/20/1991
NSA MID SOUTH

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18236/13

20 AUG 1991

Mr. Mike Langreck
Division of Ground Water Protection
Tennessee Department of Health and Environment
150 9th Avenue, North
Nashville, TN 37219-5405

PETROLEUM CONTAMINATION AT NAVY EXCHANGE SERVICE STATION,
NAS MEMPHIS, MILLINGTON, TN, FACILITY #9-791718

Dear Mr. Langreck:

The following studies were initiated to properly characterize the petroleum contaminated site at the Navy Exchange Service Station at NAS Memphis, TN:

- a. Site Characterization Study, May 1987 by Harding Lawson Associates
- b. Supplemental Remedial Action Plan, April 1987 by Engineering, Design & Geosciences Group, Inc.
- c. Vacuum Extraction Pilot Study and Remedial Investigation Report, November 1990, by ERC/EDGE, Inc.

The pilot project to evaluate the vacuum extraction method to remediate the site was completed in November 1990. This project determined that about 1,100 ground water recovery wells would be required to provide sufficient drawdown to facilitate the vacuum extraction process. The installation/maintenance cost required for a ground water recovery and vacuum extraction system of this complexity and concern for its efficacy prevent this method from being a practical remedial option. By referenced study (c) above, plume movement has not been measurably detected and a review of analytical data from five ground water sampling over a four year period revealed no distinguishable patterns in Benzene concentration fluctuations.

The tight clayey soil present at Navy Exchange Service Station site make remedial techniques such as pump and treat, soil venting and biodegradation unsuitable. Excavation and disposal is impractical due to the size of the plume.

PETROLEUM CONTAMINATION AT NAVY EXCHANGE SERVICE STATION,
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Based on all the information available, we recommend ground water monitoring only and a limited risk assessment. This option would monitor any changes in or movements of the contamination plume. It also would permit natural degradation by biotic and abiotic processes and normally occurring soil venting to reduce the contamination to an acceptable level. Your concurrence with this recommendation is requested.

If you have any questions, please contact Mr. John Karlyk, Code 18236, at (803) 743-0624.

Sincerely,

G. C. BRADLEY, P.E.
HEAD, REMEDIAL ACTIVITIES BRANCH

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