1. Keywords

GROUNDWATER MONITORING WELLS
GROUNDWATER POLLUTION
PRECISION TESTS
PVC MONITORING PIPES
UNDERGROUND STORAGE TANKS

2. Start Date: FY 88 Quarter 3
End Date: FY 88 Quarter 3

3. HQ Division: 26 - WASTE DISPOSAL ENGINEERING DIV

4. Phase:

5. Program NO: 38

6. Survey Type: GW - GROUND-WATER QUALITY CONSULTATION

7. INSTALLATION OR SOURCE OF INFORMATION (CITY & STATE OR COUNTY ARE ESSENTIAL)
HS - USA HEALTH SERVICES COMMAND

8. Authors:

9. ARLOC/Activity: 11933 001 - WALTER REED AMC
Location: WASHINGTON
State: DC

10. Project Control Number: 26-0328-88

11. Title: POL CONTAMINATION IN GRDWTR

12. DSA: 61

DEPARTMENT OF THE ARMY Mr. Bayha/kb/AUTOVON
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY 584-2024
ABERDEEN PROVING GROUND, MARYLAND 21010-5422

REPLY TO ATTENTION OF

HSHB-ME-SG

14 JUN 1989

MEMORANDUM FOR: Commander, Walter Reed Army Medical Center, ATTN: HSHL-EH/P&E Division (Mr. Paul Kotanchik), Building 1, Room G-16, Washington, D.C. 20307-5001

SUBJECT: Ground-water Consultation No. 38-26-0328-88, POL Contaminated Ground-water, Forest Glen Section, Walter Reed Army Medical Center (WRAMC)

1. During a 6 May 1988 excavation for emplacement of a new 2,000-gallon fiberglass fuel storage tank to supply an emergency generator, ground water and a small quantity of POL were encountered. A thin film of dark brown to black oil (less than 1/16-inch thick) on the water surface was noticed. This excavation is located inside the fence about 25 feet west of the north corner of Building 512 at the Post Motor Pool, Forest Glen Section, WRAMC (Enclosure 1).

2. The contractor for WRAMC recently buried a similar fiberglass tank about 340 feet west of the problem excavation (Enclosure 1) near the east corner of the parking lot at the Research Facility (Building 511). Bedrock was encountered at that particular site at a depth of about 14 feet, but the contractor reported no POL.

3. Mr. Paul Kotanchik, Environmental Engineer, Directorate of Engineering and Housing (DEH), WRAMC, telephonically reported the POL problem to this Agency, on 11 May 1988. A potentially leaking underground storage tank was thought to be the source of the oil. An in-place but abandoned underground fuel storage tank was reported about 200 feet upgradient from the problem excavation.

4. A site visit was conducted on 12 May 1988 by Mr. Barrett Borry and Mr. David Bayha, this Agency. During this visit, the following installation personnel were contacted: Mr. Reza Fassihi, Chief, Planning and Environmental Division, DEH, WRAMC and Mr. Paul Kotanchik. A representative from the Maryland Department of the Environment Waste Management Administration, Mr. John J. Smiechowski, Environmental Inspector, Oil Control Division, was met at the site by Mr. Kotanchik, Mr. Borry, and Mr. Bayha.

5. The problem excavation consisted of a hole about 11 feet wide, 18 feet long, and about 12 feet deep, and the top of the water was about 4 feet from the ground surface. The area around

this hole was paved with asphalt. Nine additional underground fuel storage tanks were observed in the immediate area of the problem excavation (Enclosure 1). The nearest surface water is a tributary to Rock Creek, located about 900 feet northwest of the problem excavation. No ground-water producing wells are known to be present in the immediate area.

6. Mr. Smiechowski gave Mr. Kotanchik and Mr. Bayha each a copy of Title 8, Maryland Department of Natural Resources, Subtitle 5, Water Resources Administration, Chapter 4, entitled "Oil Pollution". Mr. Smiechowski said that WRAMC needed to locate and perform State-approved precision tests on all their underground storage tanks. He also stated that, according to State regulations, two permanent schedule 40 PVC monitoring pipes would have to be installed in opposing corners of each new or replacement underground storage tank system installations, and extend to a minimum of 2 feet below the bottom of the tanks in the tank field. These monitoring pipes should be a minimum of 2 inches in diameter, and be screened (slot size 0.020-0.025 inches) from the bottom to within 2 feet of the ground surface.

7. Mr. Smiechowski advised Mr. Kotanchick that WRAMC should install ground-water monitoring wells to determine the source of the oil. Mr. Smiechowski also advised Mr. Kotanchick that all free floating product would have to be cleaned up. A determination would then be made as to the degree of required ground-water cleanup. Two-inch diameter wells can initially be installed; however, at least 4-inch diameter monitoring wells are needed for petroleum product cleanup. The ground-water monitoring wells should be screened (with a slot size 0.020-0.025 inches) 5 feet below and 5 feet above the first ground water found in each hole.

8. A water/oil sample was collected by Mr. Borry on 12 May 1988 for chemical analysis by this Agency to identify the petroleum product(s). Using a gas chromatograph quantitative test, which was completed on 16 May 1988, the unknown sample from the subject hole was compared with a known sample of No. 2 fuel oil and other POL products. The upper volatile fraction was not present in the

unknown sample but the lower fraction was present. The laboratory reported that it was a weathered sample of No. 2 fuel oil (Enclosure 2). These results were telephonically reported to Mr. Kotanchick on 17 May 1988. Mr. Smiechowski previously advised Mr. Kotanchick to send a report of findings and all pertinent data to the Maryland Department of Natural Resources Water Resources Administration.

9. Mr. Bayha returned to the site on 13 May 1988 to meet with Mr. Smiechowski and the following installation DEH personnel: Mr. Paul Kotanchik; Ms. Patricia White, Industrial Hygienist; Mr. Dick Hentz, Chief, Engineering Plans and Services; Mr. Richard Wu, Chief, Contractor Inspection Branch; and Mr. Chuck Butler, Inspector, COR for the emplacement of the subject underground storage tanks. As the result of State inspection of the problem excavation and contaminated ground water, Mr. Smiechowski gave Mr. Kotanchick a written order noting items which WRAMC had to perform.

10. Mr. Kotanchick was advised, by Mr. Borry and Mr. Bayha, this Agency, to contact HSC and report the incident, and he said he already did. In order to give further assistance to WRAMC, a copy of the written State order was requested to be sent to Mr. Bayha; however, it has not yet been received. He was also informed that, depending on the availability of a drilling rig and personnel, this Agency might be able to install the necessary ground-water monitoring wells to determine the source and extent of the oil. A request from WRAMC through HSC is needed prior to this Agency's involvement in such a study.

11. Recommendations:

a. To ensure regulatory compliance with Title 8, Maryland Department of Natural Resources, Subtitle 5, Water Resources Administration, Chapter 4, entitled "Oil Pollution", the following recommendations are made:

(1) Locate and perform State-approved precision tests on all the underground storage tanks.

(2) Install two permanent schedule 40 PVC monitoring pipes in opposing corners of each new or replacement underground storage tank system.

b. To ensure good environmental engineering practice, the following recommendations are made:

(1) Install ground-water monitoring wells to determine the source and extent of ground-water contamination.

(2) After completing this investigation, meet with the Maryland Department of the Environment Waste Management Administration to discuss any requirements for additional corrective action.

FOR THE COMMANDER:

ORIGINAL SIGNED BY

2 Encls

PAUL R. THIES
LTC, MS
Chief, Waste Disposal Engineering Division

CF (w/encls):
Cdr, HSC, ATTN: HSCL-P
Cdr, USAEHA Fld Spt Actv, Ft Meade

Writer DCB 9 ~~May~~ JUN 88
6/9/88
C, GWSWB
C, WDED BM
Dir

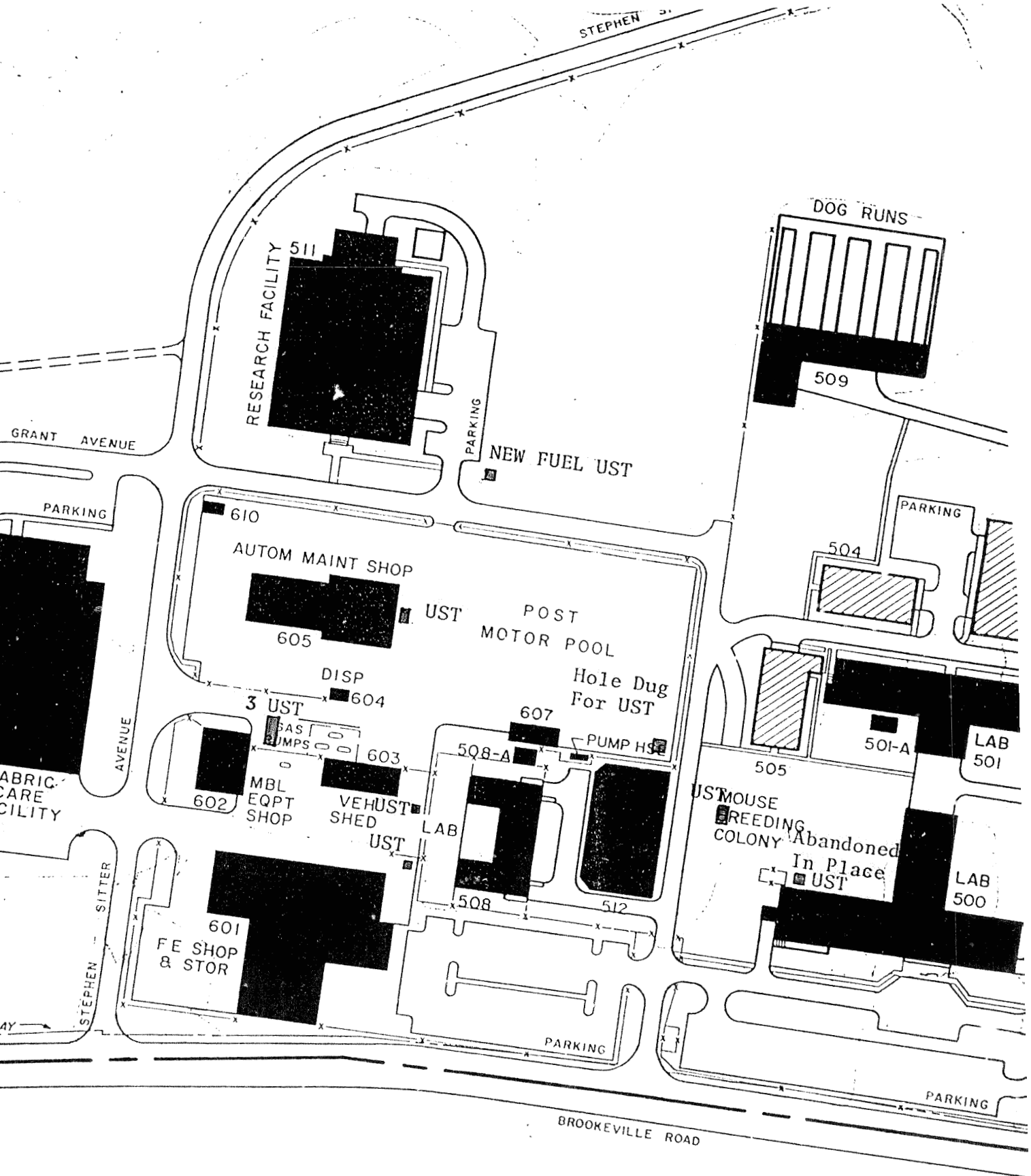


FIGURE. MAP SHOWING LOCATIONS OF HOLE DUG FOR UNDERGROUND FUEL STORAGE TANK AND NINE OTHER UNDERGROUND STORAGE TANKS NEAR THE POST MOTOR POOL, FOREST GLEN SECTION, WRAMC

8I0024

16 MAY 1988

REPORT OF ANALYSES

RETURN ADDRESS	PROJECT NUMBER	DATE SAMPLES REC'D
WDED ~~WQED~~	38-26-0328	16 May 88
	PROJECT OFFICER: D. Bayha	

SAMPLED INSTALLATION: WRAMC

LAB NUMBER	SAMPLE NUMBER	SAMPLE RESULTS (PARAMETER AND UNITS)						
		ID						
		FO #2						
N7427		Weathered sample identified As FO #2						

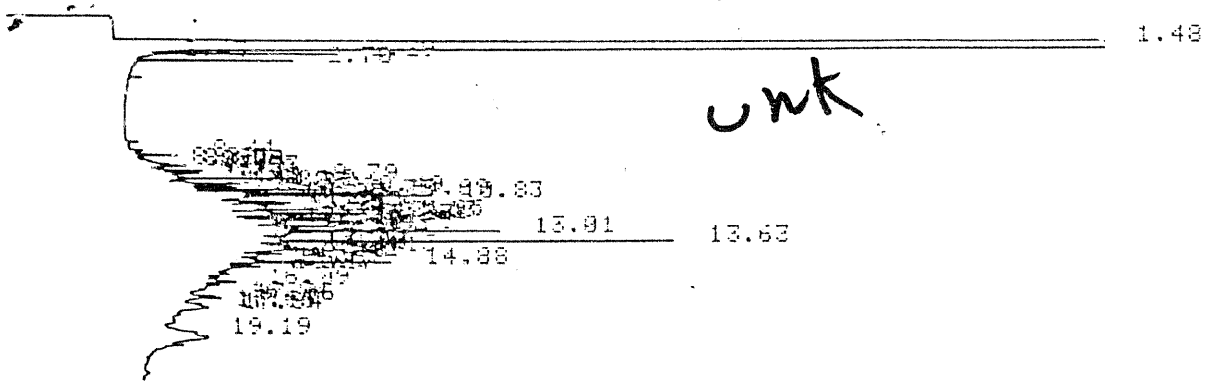
PROCEDURES PERFORMED

& GC Quant

ANALYST(s) (initial)	REVIEWED BY (initial)	DATE RESULTS REPORTED
M-H	RJ Ly	16 March 88

AEHA Form 14, 1 Sep 82 (HSHB-ML-O)

N7427



[nP] 5880A SAMPLER INJECTION @ 09:38 MAY 16, 1988
SAMPLE # : ID CODE :
1 85250

AREA %

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2.70	215.17	BB	0.004
8.44	52.70	BB	0.001
8.95	14.06	BB	0.000
9.03	22.33	BB	0.000
9.09	19.57	BB	0.000
9.33	45.46	BB	0.001
9.50	24.73	BB	0.000
9.71	10.24	BB	0.000
9.79	129.26	BB	0.002
10.12	53.33	BB	0.001
10.20	22.49	BB	0.000
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14.42	31.03	BB	0.001

13.01	299.00	BB	0.005
13.14	59.71	BB	0.001
13.37	10.84	BB	0.000
13.63	499.90	BB	0.009
13.72	18.96	BB	0.000
13.82	17.40	BB	0.000
13.89	22.61	BB	0.000
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MULTIPLIER = 1

FO #2

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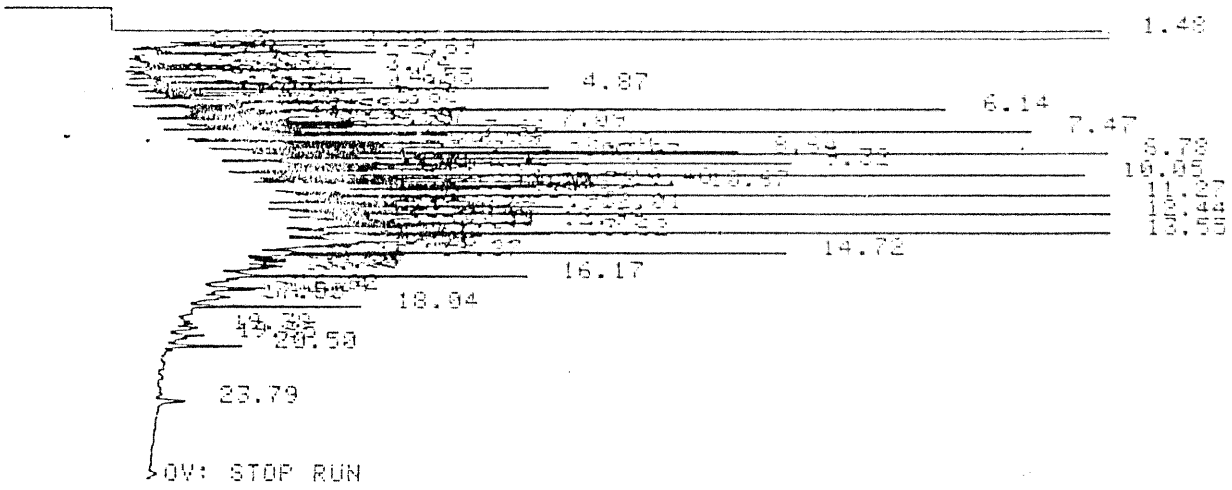

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1 S5250

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