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RESPONSE TO COMMENTS ON THE PRELIMINARY CONTAMINATION ASSESSMENT REPORT CONTAMINATION ASSESSMENT PLAN FOR CHICORA TANK FARM CNC CHARLESTON SC

07/17/1992

KEMRON ENVIRONMENTAL SERVICES, INC

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Project 819-300

17 July 1992

Mr. Scott McInnis, Hydrogeologist
Assessment and Development Section
Groundwater Protection Division
Bureau of Drinking Water Pollution
Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

RE: Chicora Tank Farm
Charleston Naval Shipyard
GWPD Site #A-10-AA-13350

Dear Mr. McInnis:

Please find enclosed three copies of the revised Final version of the Preliminary Contamination Assessment Report/Contamination Assessment Plan for the Chicora Tank Farm at the Charleston Naval Shipyard, Charleston, South Carolina. Your comments of 22 May 1992 have been received and incorporated into this revised final version. Your comments were incorporated as follows:

1. Benzene was detected in monitoring well MW-2 at 6 µg/l. This was correctly noted in Section 2.3.4 but incorrectly in Section 2.3.7 where the detection was noted as in MW-3. This error has been corrected.

   This benzene detection is attributed to an offsite source for three reasons:

   i) Benzene is unlikely to have been present in measurable amounts in any of the products stored at the Chicora Tank Farm;

   ii) Well MW-2 is upgradient of the tank farm; and

   iii) Well MW-2 is downgradient of a trucking operation located across the street. There was formerly a paint and body shop located there.

   A parenthetic remark has been added to the first paragraph of Section 2.3.7 to note the presence of the trucking operation upgradient.

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There is a transmission shop upgradient of MW-7 and Tank P. No analytes were detected in soils or groundwater in this area, only soil vapors. Since the composition of these vapors is unknown, it is hard to speculate regarding potential sources. A sentence has been added to the first paragraph of Section 2.3.7 to note the existence of the transmission shop.

2. Free-product removal (§3.1.2.2) is planned for french drain manhole FD-3 only. Free product has not been observed in FD-1; only a sheen was observed in FD-2. Oil only accumulates in FD-3; it does so because it functions, in some ways, like an oil/water separator. See attached figure. Consequently, no changes have been made to this section.

3. Development water was drummed and held until laboratory results were available. Since all wells tested clean, except MW-2 which contained 6 µg/l of benzene, development water was discharged to the french drain system. Development water from MW-2 was allowed to stand open overnight, allowing the benzene to volatilize, prior to disposal. We regret that no request was made for prior approval of this disposal method.

4. Petroleum residues in FD-3 are believed to have accumulated due to a spill that occurred circa 1986 when Tank P was overtopped. Some employees at the site thought illegal dumping may have occurred but their basis for this belief appears to be merely the fact that an accumulation is present in FD-3. The slight petroleum sheen in the french drain beneath Tank P and the absence of contamination elsewhere supports the belief that the 1986 spill incident is the sole cause. There has been no illegal dumping that we know of or see any evidence of, and no report of illegal dumping has been filed.

   The cause of the release has been determined as well as possible with the evidence available. Implementation of the Contamination Assessment Plan will supply additional evidence. The spill itself was eliminated when it occurred. That contaminated soils remain after six years, still capable of producing a sheen is not unusual. Insofar as a secondary release or rerelease occurs when traces of petroleum reach the french drain system, such rerelease had not yet been eliminated when the system was last observed.

5. Sections 3.1.2.3, 3.1.3.4 and 4.6 have been modified to substitute BTEX and PAH assays for TPH assays on all groundwater samples. In addition, MW-5 will be assayed for the eight RCRA metals.

6. A slight petroleum sheen was observed in wells MW-3 and MW-9 during development but no TPH, BTEX or PAHs were found analytically at these locations in either soil or groundwater samples. Generally, when this occurs, it is thought that the sheen is due to dragdown during drilling. Often, in the case of older petroleum releases to shallow soils, small pockets or nuggets of contamination persist for long periods of time. These

nuggets are hydrocarbon saturated and have outer layers composed of the more refractory, waxy constituents, small molecules having long since leached or evaporated. When these nuggets are mechanically disrupted during drilling, small droplets of petroleum, generally depleted in soluble constituents, can be dragged down into the area later screened. Since quantities of petroleum as low as 10 mg are readily observed as sheen, observation of a sheen does not imply that significant quantities of petroleum are present or contradict negative analytical results. Hence, we conclude that, in the vicinity of wells MW-3 and MW-9, small quantities of residues remain from historic releases, quantities of insufficient magnitude to be visually apparent and too weathered to product olfactory indications or soluble fractions detectable analytically.

7. See response to #5 above.

Kemron Environmental Services, on behalf of Southern Division Naval Facilities Engineering Command, is pleased to submit this Revised Final version (3 copies) of the PCAR/CAP for the Chicora Tank Farm, Charleston Naval Shipyard, Charleston, South Carolina. If you have any further questions or comments on this matter, please do not hesitate to contact me at 404-636-0928 or Ms. Angela Jones, Engineer in Charge, at 803-743-0658.

Sincerely,

Kurt D. Hausner
Project Manager

KDH:ljb

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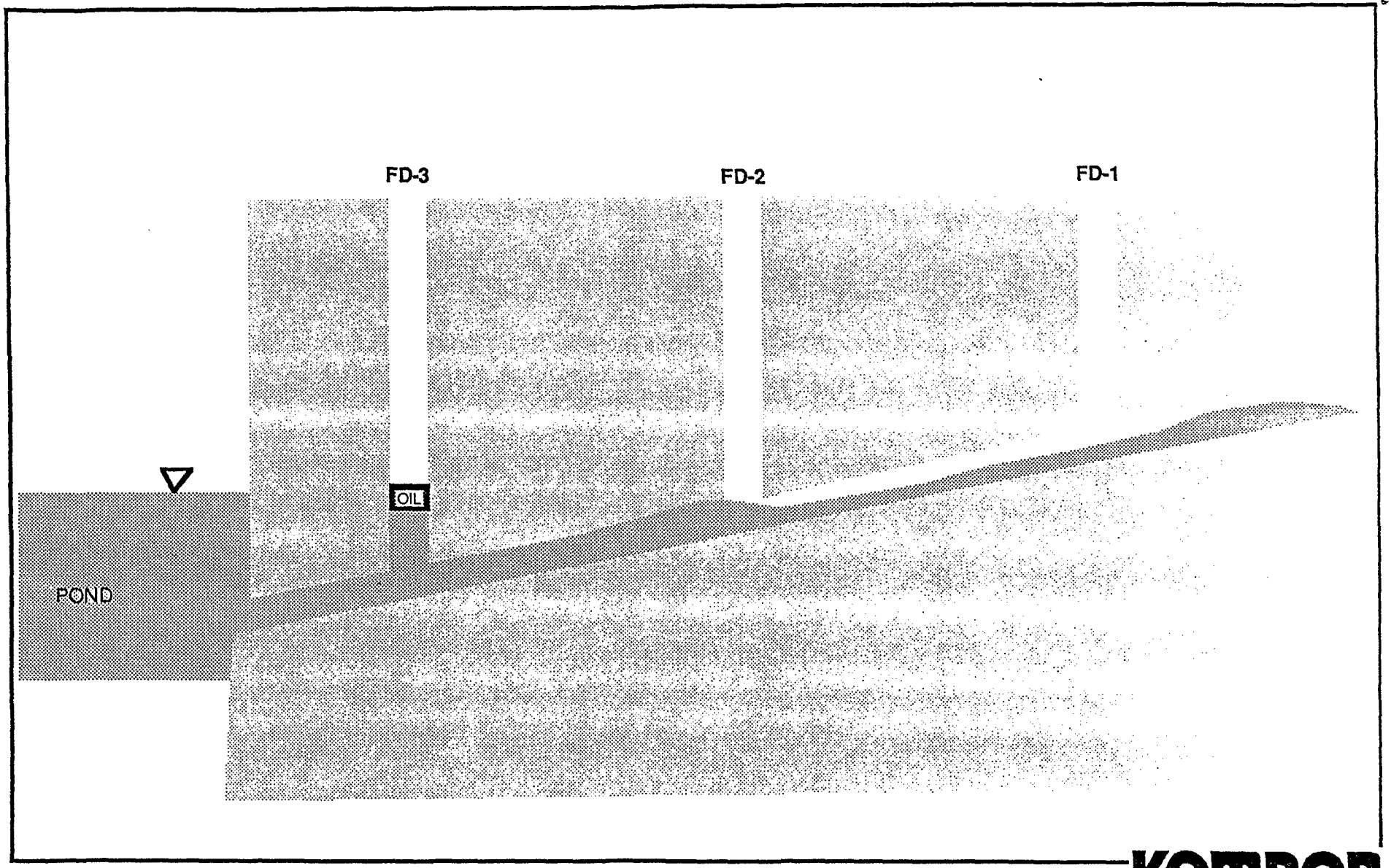

Figure 1. French drain manhole schematic with vertical exaggeration

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