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NSA MID SOUTH  
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TECHNICAL MEMORANDUM PRODUCTION WELL NUMBER 2 AREA SOIL REMOVAL AND  
SAMPLING MILLINGTON SUPPACT TN

10/3/2000  
ENSAFE



## TECHNICAL MEMORANDUM

**To:** John Karlyk — SOUTH DIV  
Randy Wilson — NSA Mid-South

**From:** Philip E. Atkinson, EnSafe Inc.

**Date:** October 3, 2000

**Re:** Production Well #2 Area Soil Removal and Sampling — NSA Mid-South,  
Millington, Tennessee, Revision: 0 — CTO 0113

During a recent underground utility upgrade, the utility contractor encountered petroleum-contaminated soil near Production Well #2 (PW-2) on the northside of NSA Mid-South. A petroleum odor and visual staining was observed beneath the concrete pad adjacent to the east side of the well pump. As directed by the NSA Mid-South Public Works Department, Environmental Division, utility work in the area was temporarily discontinued and removal of the petroleum-contaminated soil was scheduled. The soil was excavated and removed by the U.S. Army Corps of Engineers (Corps), and sampled by EnSafe. The following summarizes field activities, soil removal totals, and confirmation sampling results.

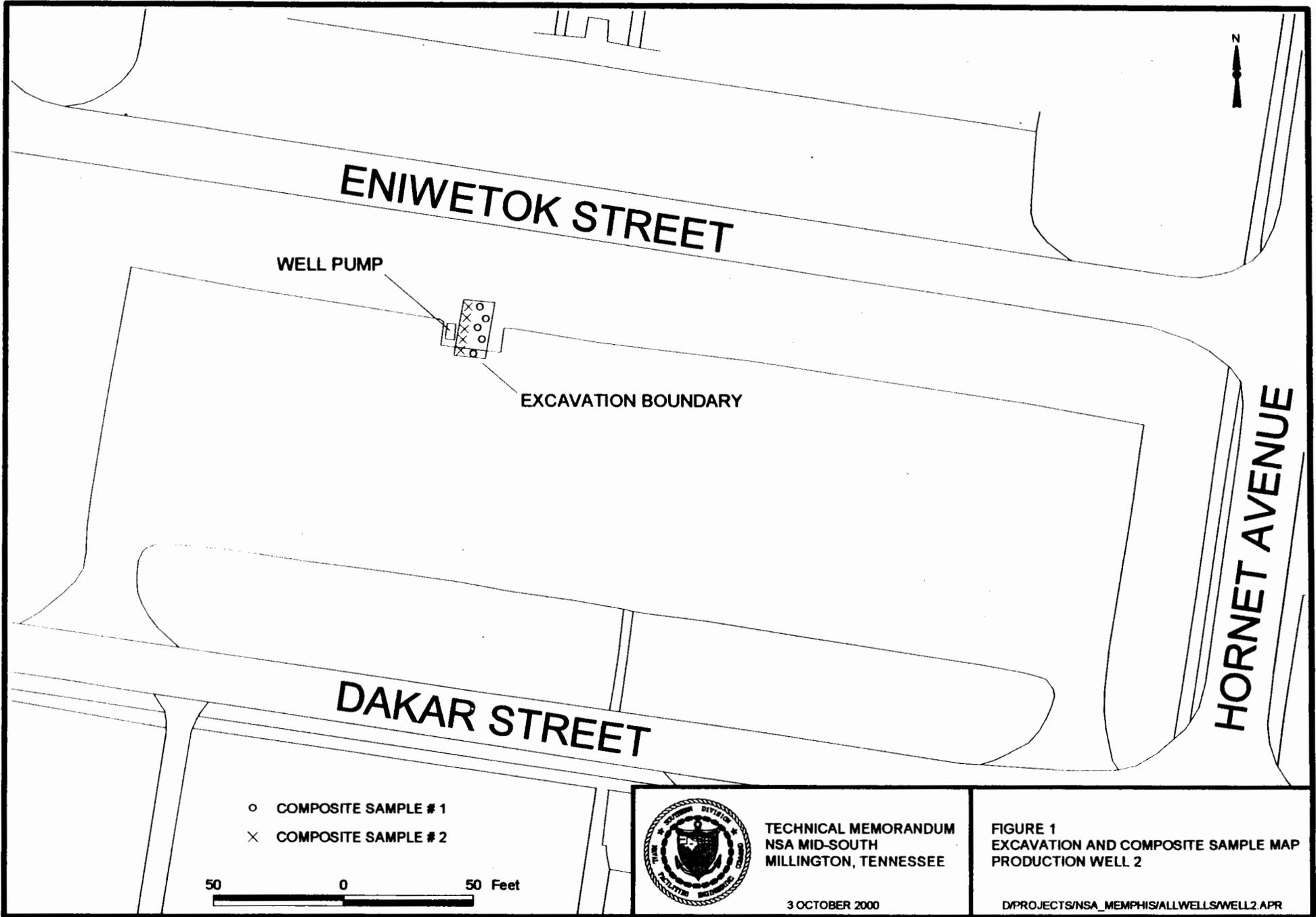
On August 10 and 11, 2000, the Corps removed the concrete pad and soil surrounding the petroleum-contaminated area. The locations of PW-2 and the excavation areas are shown on Figure 1. All visually stained soil was removed, and a total petroleum hydrocarbon (TPH) analyzer was used to direct the removal process until concentrations were lower than 100 mg/kg, as directed by the NSA Mid-South PWD Environmental Division. The final excavation measured 12 feet by 20 feet by 1.5 feet deep. Two five-part composite samples were collected from the excavation. One composite sample was collected from the eastern portion of the excavation while

the second composite sample was collected from the western portion. TPH results for the samples were 19 and 21 mg/kg, respectively. See Figure 1 for soil composite sampling locations.

A 1-foot thick layer of stained soil extended under the well pump pad. Although TPH was present in a sample from this soil at 400 mg/kg, the soil was not removed because of the risk of damaging the well. However, the contamination appeared to be limited to the area beneath the well pump pad. TPH in the soil above and below the contaminated soil was less than 100 mg/kg and exhibited no staining or odor.

In all, approximately 16 cubic yards of material were excavated during soil removal. The soil was transported to the area adjacent to Facility S-203 for temporary storage. The excavated material was placed on plastic sheeting and covered with it, and then bermed with straw bails. EnSafe sampled the soil for TCLP metals and benzene analysis on August 18, 2000, and forwarded results to the NSA Mid-South PWD Environmental Division. The results will be used by the NSA Mid-South PWD, Environmental Division for arranging soil disposal.

Following soil excavation and sampling, the Corps filled the excavation using clean fill material and seeded and fertilized the disturbed area.



ENIWETOK STREET

WELL PUMP

EXCAVATION BOUNDARY

DAKAR STREET

HORNET AVENUE

- COMPOSITE SAMPLE # 1
- × COMPOSITE SAMPLE # 2

50 0 50 Feet



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NSA MID-SOUTH  
MILLINGTON, TENNESSEE

3 OCTOBER 2000

FIGURE 1  
EXCAVATION AND COMPOSITE SAMPLE MAP  
PRODUCTION WELL 2

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