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January 10, 1994

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Mr. Clifford Crooke
Environmental Specialist
Government of the US Virgin Islands
Department of Planning and Natural Resources
Division of Environmental Protection
Suite 231, Nisky Center
St. Thomas, U.S.V.I 00802

RE: Addendum to Site Assessment/Remediation
Work Plan- Dated November 30, 1993
Western Auto - Four Winds Plaza
St Thomas, USVI

Dear Mr. Crooke:

On November 30, 1993, ENSR Consulting and Engineering submitted a Site Assessment/Remediation Work Plan on behalf of Western Auto for a facility they operate at the Four Winds shopping plaza, Tutu, USVI. The purpose of this letter is to present an addendum to our November 30 work plan.

The work plan was designed by ENSR, based on the requirement made by the Department of Natural Resources (DPNR), to determine the vertical and horizontal extent of oil contamination at the site. In order to comply with DPNR's requirement additional investigation work is necessary. The additional work tasks purposed in this addendum would allow us to verify and supplement the results of our recently completed soil screening survey (described below). Soil screening survey data is typically used in a site investigation to delineate the horizontal extent of contamination. The results are a measure of the soil gas concentrations and are not actual concentrations of contaminants in the soil; therefore, these data provide a relative indication of likely zones of contamination. Several soil samples will be collected based on the results of the screening survey and analyzed in a laboratory by EPA methods for volatile organic compounds (VOC) and semivolatile organic compounds (SVOC). If free product is observed, then a petroleum fingerprint analysis would also be performed to identify its type.

In this case the soil screening results indicate potential source areas, but the surveyed area must be expanded in order to complete the investigation. For example, at sorber location

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GS-16 (refer to Figure 1) the presence of heavy oil constituents were reported at 226143 ion counts of a C18H20 compound, but additional data points in a northern direction are required to define the extent of the vapor plume. These data points will be added in the proposed next phase of the survey along with the collection of soil samples to measure soil contaminant concentration levels. To assist with the location of additional points the four inch PVC pipe labeled Pipe "C" on Figure 1 will be traced under the building in a northern direction from the Western Auto loading dock area. The results of the first phase of the soil screening survey along with an explanation of the next phase of investigation are described below.

1.0 RESULTS OF PHASE 1 - TASKS 1 & 2

The work scope undertaken by ENSR on behalf of Western Auto was described in a letter to you dated November 12, 1993, and verbally discussed prior to completion of the field work during November 15-17, 1993.

Task 1 Pipe Tracing: Involved tracing PVC pipelines which had been identified during the UST closure work. The results of the tracings are shown in approximate location on Figure 1. The pipe labeled as "A" is 4 inch-diameter PVC and was part of the former oil/water separator located in service bay 1. This pipe was found to run approximately 12.5 feet east, then 10.5 feet south and then east towards a manhole in front of Western Auto. It was confirmed, based on a tracing dye test, that this pipe is connected to the sewer line in front of the Western Auto store.

The pipe labeled "C" is the 4 inch-diameter PVC pipe severed during the removal of the waste oil tank (UST1). After locating the end of the pipe the cap was unscrewed. After opening pipe "C", grey water and black liquid entered the pit hole under gravity. The pipe was then traced: it was found to run 85-90 feet north with no bends. This was as far as the 100 foot plumbers snake would penetrate. Subsequent to ENSR's effort, representatives of Four Winds Plaza have undertaken additional excavation and pipeline tracing activities; which have not successfully identified the source of the product.

The pipe labeled "B" was traced and found to be connected to a 6 inch-diameter roof water collection/cistern system.

Task 2 Soil Screening: ENSR personnel deployed a total of 20 passive sorbent collection modules, in 1-inch drilled holes to depths of approximately 24-34 inches. The survey was conducted in the vicinity of the Western Auto store, Figure 1 is a map indicating the location

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of each installed sorber. One sorber GS-19 could not be located and therefore was not analyzed.

The screening modules (sorbents) consist of approximately 100 mg of a hydrophobic carbon specifically designed for collecting organic vapors. The sorbent containers and insertion/retrieval cords were constructed of Gore-Tex expanded polytetrafluoroethylene (EPTFE). The dominant mechanism of analyte transport into the sorbers is vapor transfer through the microporous walls of the EPTFE insertion cord and sorbent container. A copy of the Standard Operating Procedures for the Gore-Sorber screening modules is attached.

The sorbers were installed and left in-place for a period of about two weeks. The sorbers were then removed from the ground, sealed in glass vials and shipped on ice to W.L Gore Analytical Laboratory in Elkton, Maryland. The carbon sorber modules were thermally desorbed at the laboratory and a samples collected which were then analyzed by capillary gas chromatography with a mass selective detector (MSD).

The results indicate that a potential source of heavy molecular weight constituents are present to the north of the Western Auto store, directly beneath the shopping center buildings. Upon completion of the expanded survey along with the results of the soil sample collection and analysis (described below) a definitive analysis of these data along with completed maps of results will be provided to DPNR in a letter report.

2.0 PHASE 2 - WORK PLAN

Task 1 Underground Pipeline Tracing

Pipeline "C", 4 inch-diameter PVC (refer to Figure 1), will be traced further under the building to the north. It was this pipe that was severed by the excavator during the waste oil tank removal and found to contain a mixture of water and medium to heavy weight oil. The pipe will be traced with an electronic device attached to the end of a 100 foot sewer/drain cleaning snake. The device emits a signal that is detected by a hand-held receiver at the surface. The line will be traced as far as feasible with this technique and based upon this information task 2 will be conducted.

Task 2 Soil Screening

A second grid of passive sorbent collection devices (sorber) will be installed in the vicinity of the Four Winds shopping mall. This grid will be established on approximately a 75-200



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foot spacing (total of between 25-30 sorbers) to provide adequate coverage. The results will be incorporated into the survey results reported in this letter and will assist in understanding the distribution and source of the oil. The sorbers will be installed with hand held tools, left in place for one to two weeks and then removed and analyzed in a laboratory. These sensors will detect the presence of volatile and semivolatile compounds, the results will be expressed as relative concentrations and presented on a site map.

Task 3 Soil Sampling and Analysis

Soil samples will be collected at several locations to quantify concentrations of VOC and SVOC in the soil. The soil samples will be collected from a sampler, driven by a portable auger drill, or manually driven. Samples will be screened with a photoionization detector (PID) and collected at a depth of approximately 2-3 below the ground surface. This information will be used to calibrate the soil gas concentrations collected during the soil screening survey. Three locations, identified in Figure 1, will be sampled. These three samples will be collected at the same time at the additional sorbers are installed.

Once the results of the second survey are completed and evaluated an additional 3-4 locations, identified by the screening survey, will be sampled. The second set of soil samples will be collected using a portable drilling apparatus or a manually driven sampler. These samples will be collected from two depths so that the vertical extent of contamination can be determined; one sample will be collected at a depth of 2-3 feet below the ground surface, and the second sample will be collected from the bottom of the boring at auger refusal. Drilling will be continued until auger refusal is encountered. A portable tripod mounted auger drill rig will be used, inside the shopping mall buildings, to drive and collect this set of soil samples. Again, these data will allow for the soil screening data to be correlated to actual soil concentrations and to identify the nature and extent of the oil contamination. The samples will be analyzed in a laboratory by EPA Methods for VOC and SVOC.

A complete report documenting the results of work plan tasks will be submitted to DPNR within 6 weeks of our receipt of analytical testing results.

ENSR would like initiate the scope of work identified by the work plan and this addendum immediately. Please review this proposed scope of work and provide us with any comments or your permission to initiate this work. We hope start work on the week of January 24, 1994 with your permission.



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If you have any questions regarding these activities please call John Bierschenk at (508)635-9500 or Bill Sarriera (809)753-9509.

Sincerely,

A handwritten signature in cursive script, appearing to read 'John Bierschenk'.

John Bierschenk
Applications Engineer

A handwritten signature in cursive script, appearing to read 'William Sarriera' followed by a flourish.

William Sarriera
General Manager

cc: John Coon - Amerling & Burns
Bill Chapman - Coon & Stanford
Don Galya - ENSR
Carolyn Kwan - USEPA Superfund Division

Appendix A**Gore Sorber™****Screening****Module****Installation****SOP**

EPA REGION II
SCANNING TRACKING SHEET

DOC ID # 64751

DOC TITLE/SUBJECT:
TUTU WELLS SUPERFUND SITE
FIGURE 1
FIELD SAMPLING LOCATIONS – WESTERN
AUTO SITE ST. THOMAS, U.S. VIRGIN
ISLANDS (Page: TUT 006 1307)

THIS DOCUMENT IS OVERSIZED AND CAN BE
LOCATED IN THE ADMINISTRATIVE RECORD FILE
AT THE

SUPERFUND RECORDS CENTER
290 BROADWAY, 18TH FLOOR
NEW YORK, NY 10007