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SITE INVESTIGATION REPORT

**RAMSAY MOTORS
TUTU, ST. THOMAS, U.S.V.I.**

DECEMBER 1993

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RAMSAY MOTORS
TUTU, ST. THOMAS, U.S.V.I.
CEI PROJECT NO. 92115

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1.0 INTRODUCTION

On or about April 27, 1992, Ramsay Motors Inc. (Ramsay) was served with a Third Party Complaint by Esso Standard Oil S.A. (ESSO), in the ongoing litigation captioned In Re Tutu Water Wells Contamination Litigation Master Docket No. 1989-107, pending in the District Court of the Virgin Islands.

Campbell, Arellano & Rich, Ramsay's defense counsel, retained Cooper Environmental, Inc. (CEI) to assist Ramsay in responding to ESSO's third party complaint. In particular, counsel retained CEI to assist counsel in investigating ESSO's allegations regarding an underground storage tank in Ramsay's service area (the UST) that stored used automotive crankcase oil from 1978 through 1987, and Ramsay's operations in general on the site from 1978 - 1987. ESSO's third party complaint alleged that the UST and Ramsay's operations contributed to the contamination of the supply wells owned by Plaintiffs Four Winds Plaza Partnership and Plaintiffs PID and the Harthman family with petroleum derivatives and chlorinated volatile organic compounds. In addition, ESSO alleged that Ramsay's operations caused off-site contamination of the ground water or soils in the Tutu area for which ESSO incurred response costs consistent with the National Contingency Plan under CERCLA and RCRA.

1.1 Statement of Purpose

CEI was retained to investigate the Ramsay property and develop factual data through physical observations and chemical analysis to ascertain:

1. Whether or not a release of petroleum constituents or chlorinated volatile organic compounds occurred from the underground storage tank into the underground soils, or into the ground water, which could have contributed to the contamination of the Plaintiff's wells, or the contamination of any off-site underground waters or soils in the Tutu Well Fields Area.
2. Whether or not a release of petroleum constituents or chlorinated volatile organic compounds, occurred from any other operations at

the Ramsay site, such as general automobile service operations, or the drum storage area, into the underground soils, or into the ground water, which could have contributed to the contamination of the Plaintiff's wells, or the contamination of any off-site underground waters or soils in the Tutu Well Field area.

To provide an answer to questions (1) and (2) above, CEI took the following steps to evaluate the site:

- a. CEI completed an initial physical and walk through inspection on September 14, 1992 of the Ramsay facility and the surrounding area, including a walking tour of the Tutu Well Field site.
- b. CEI reviewed data developed by others through FOIA requests to the USEPA and the DPNR, and materials Campbell, Arellano & Rich obtained through discovery requests in the litigation. Lists of documents reviewed by CEI is included as Appendix I. The findings of previous investigations at the Ramsay site are summarized in section 2.5. EPA contractors obtained samples from Ramsay's UST and from some site soils in 1987, 1988 and 1989. TEIC collected quarterly samples from Ramsay's supply well from 1990-1992. The Sixth Quarterly Sampling Report (Geraghty & Miller, August 1992) contains analytical results for water supply well samples collected during September 1990 to May 1992. As of the date of report generation, CEI has not received a copy of the Seventh Quarterly Sampling Report. In June 1992, TEIC completed two (2) shallow soil borings on the Ramsay property, and installed monitoring wells upgradient and down gradient of the Ramsay site. The analytical results for soil and ground water samples collected by TEIC were made available to CEI in May 1992 in TEIC's Technical Memorandum II.
- c. CEI performed sampling of soils and drums at the site in two (2) phases, to be followed by a third phase, if appropriate, to

include well installation and sampling and finally, generation of a complete site assessment report. Phase I consisted of completion of and sampling ten (10) shallow soil borings around the UST and service area during the period April 14 to 19, 1993. Laboratory results were evaluated during June 1993 and additional sampling locations for phase two were selected. Phase II consisted of completion and sampling twelve (12) shallow soil borings in the area of the drum pad, and along the fence line with Antilles Automotive. NUS reported a discharge of an oily substance along this fence line in 1989 from the previous tenant, Gassett Motors. In addition, CEI collected four (4) composite samples from the storage drums. The Phase II sampling event was conducted on July 1 through 5, 1993. Laboratory results were evaluated during September 1993.¹ On the basis of analytical results, subsurface materials encountered, and professional interpretation, CEI found no evidence of a release of chlorinated compounds from the operations at the Ramsay site or evidence of a release of petroleum from the UST. CEI, therefore, did not recommend the installation of ground water monitor wells.

After the July sampling event, CEI received additional instructions from Campbell, Arellano & Rich regarding the purpose and scope of the investigation, based upon the Fourth Amended Case Management Order and the commencement of negotiations for formation of the Tutu well field PRP group. CEI began participation in an informal technical committee and began to evaluate TEIC's proposal to construct monitoring well MW-15 on the Ramsay property as part of the final phase of field work for the RI. Because CEI recommended against installation of monitoring wells and TEIC is planning installation of a monitor well on the Ramsay property, Phase III was eliminated. Geraghty and Miller have recommended that monitoring well MW-15 be installed between the drum storage area and the Antilles Motors fence line on

¹ CEI's analysis of Phase Two results was delayed pending an explanation by Enseco regarding the use of SW-846 Methods, rather than CLP-SOW as ordered by CEI. A copy of an explanation letter is included as Appendix II.

the Ramsay property. If analyses of samples collected from this monitoring well reveal the presence of petroleum or chlorinated compounds, such results would be indicative of area-wide impact. Such results cannot be used to identify specific sources without additional investigative measures. This report is therefore intended to address the following issues:

- whether or not a release occurred from the UST in Ramsay's service area, which was taken out of use in 1987.
- analysis of the presence or absence of petroleum, petroleum constituents, or chlorinated hydrocarbons in site soils.
- analysis of the magnitude and extent of impact by petroleum, petroleum constituents or chlorinated hydrocarbons, if present, in on-site soils.
- analysis of the potential on-site impact of off-site activities by other facilities.
- comparison of materials present in drums on-site with historical site operations and material present in the UST and soil samples.

This information is being submitted to assist the technical subcommittee's completion of the RI/FS by providing a definition of petroleum and other constituents in the soil in the Ramsay Motors property. Additionally, this report may provide the secondary benefit in assisting with the allocation and de minimus subcommittee in evaluating Ramsay's potential responsibility. At the request of the PRP group, CEI submitted a preliminary draft of this Site Assessment Report directly to Geraghty & Miller on November 8, 1993, so as to allow review prior to completion of the draft recommendations for completion of the RI.

1.2 SUMMARY OF RESULTS AND CONCLUSIONS

CEI reviewed previous environmental investigation reports prepared by Geraghty and Miller and others (see Appendix I), conducted field environmental sampling, and compared the analytical results of CEI's and others activities. At Ramsay Motors, CEI and others found evidence of hydrocarbon constituents including BTEX and PAHs in soils below the service area surrounding the closed in-place underground storage tank (UST) and site soils, consistent with car repair activities. CEI found no evidence that operations at the Ramsay Motors facility impacted ground water quality or caused migration of contaminants to off-site soils or ground water.

CEI conducted two field investigations, one in April 1993, and a second activity in July 1993. With the exception of samples collected from below the service area in a small area surrounding the UST, analyses of site soils collected during these investigations indicated low levels of petroleum related volatile hydrocarbon constituents², ranging between non-detect and 0.03 milligrams per kilogram (mg/kg). Analysis of soil samples collected near the UST indicated the presence of somewhat higher concentrations of petroleum related volatile hydrocarbon constituents, ranging from 0.57 to 3.4 mg/kg. In the July site sampling activity analyses, all samples analyzed showed non-detect petroleum related hydrocarbon constituents. Semi-volatile analyses were also conducted on the sampled site soils during the two sampling activities. These analyses showed petroleum related semi-VOAs³ for the entire site ranging between 0.05 mg/kg and 2.6 mg/kg for the April, 1993 sampling activity. The analytical results for the July field activities for the entire site ranged between non-detect and 6.5 mg/kg for the same parameter.

During the April 1993 sampling activities, several soil borings were advanced by hand in the service area. The concrete shop floor was cored, and

² Petroleum related volatile hydrocarbon constituents were considered to be benzene, toluene, ethylbenzene, and xylenes, (BTEX) and methyl tertiary butyl ether (MTBE)

³ Petroleum related semi-VOAs were considered to be polynuclear aromatic hydrocarbons (PAHs)

the hand augers were advanced to depths up to five feet. Below the concrete, subsurface materials consisted of one half to one foot thick layer of sand and gravel, and clays were encountered below the sand and gravel layer down to refusal. The sand and gravel appeared wet and oil stained, while the clays appeared slightly moist and unstained. In several of the borings in the service area, liquids seeped from the sand and gravel layer into the previously dry hole. An oily layer with the appearance of used oil was observed within a short period of time floating on a column of water in these bore holes. The liquids were analyzed separately for aqueous and non aqueous phase liquids, which confirmed the materials were consistent with shop operations. Analytical results of soil samples collected from near the UST indicated petroleum related hydrocarbon constituents ranged from non-detect to 0.31 mg/kg. These analyses showed petroleum related semi-VOA for the tank area ranged between 0.05 mg/kg and 2.6 mg/kg. From the appearance of the unstained clay soils and the perched water above the clays, CEI's field observations indicated that the oily material seeped from fissures and cracks in the concrete, and not from releases from the tank.

Analysis of soil and oily liquids collected from soil borings generally indicated non-detect levels of chlorinated solvents, other than suspected laboratory contaminants. One surface soil sample obtained from a location upgradient of Ramsay operational areas and adjacent to the LAGA fence line (HB10-SRE) contained a trace level of 1,1,1-trichloroethane (1,1,1-TCA) of 4 micrograms per kilogram ($\mu\text{g/kg}$). This chemical (1,1,1-TCA) is consistent with MSDS reports of the contents for rusted drums disposed on a hillside above the Ramsay property. The soil sample collected at 1.25 feet below grade from boring HB7 was re-analyzed by the laboratory as a diluted sample (HB7-1.25 DL). Analysis of this diluted sample indicated trace levels (4 $\mu\text{g/kg}$) of 1,1,1-TCA. The reported concentration was an estimated value and was also detected in an associated laboratory blank. Therefore, evaluation of site analytical data indicated no releases of chlorinated substances have occurred as a result of Ramsay Motors operations.

In the second sampling event in July 1993, additional soil borings were hand augered around the south area of the Ramsay property and the used motor oil drums were sampled. The laboratory analyses indicated that the

highest concentrations of total petroleum hydrocarbons found on site during both the April and July 1993 sampling events were adjacent to the Antilles Motors facility along the south side of the property. Surface stains also were observed originating on Antilles property extending onto Ramsay property. Therefore, operations by Consolidated Auto Parts, Thomas Gassett, G.S. Industries, Inc., TAG Industries, Inc. and Antilles Motors impacted Ramsay property.

During the July 1993 site visit, CEI collected samples of the materials stored in drums at the site for characterization by physical observations and chemical analyses. CEI proposed to sample the drums in four groupings on the basis of physical observation of the material and labeling of the drums. CEI collected composite samples from each of the four groups of drums. Laboratory analysis revealed the presence of BTEX and PAHs which is consistent with site operations. Chlorinated compounds, namely 1,1,1 - trichloroethane and tetrachloroethene, were found during analysis of the drum samples. The detection of these compounds is not consistent with site operations. The presence of these compounds in the drums is most likely the result of others using these drums to store materials containing these compounds prior to their purchase by Ramsay. This conclusion is based upon a review of Ramsay operational practices, the absence of the chlorinated compounds in environmental samples collected around the drum storage area, the analytical results of previous UST sampling conducted by NUS and CDM which failed to detect chlorinated compounds, and the absence of chlorinated compounds from the oily layer in borings surrounding the UST. The absence of chlorinated compounds in environmental samples around the drum pad indicates that there have been no releases to site soils from the storage drums. CEI's results were consistent with the analytical results for samples of site soils and liquids in the UST collected by NUS, CDM, and Weston for EPA and the results for soil samples collected near the drum pads by TEIC. With the exception of a sample collected from boring B-3 by TEIC, analysis of these samples did not indicate the presence of chlorinated solvents other than suspected laboratory artifacts. A trace level of tetrachloroethene (6µg/kg) was detected in a sample collected by TEIC from boring B-3 which was located approximately 70 feet from the area of operations. TEIC has concluded in its Technical Memorandum II that "individual parameter concentrations below 10 parts per billion [10 ppb] in soil

samples are probably due to adsorption and incorporation of soil gas containing VOCs in the soil sample" (Geraghty and Miller, 1993). The detection of such concentrations, therefore, is not necessarily indicative of a nearby release.

2.0 BACKGROUND INFORMATION

This section provides background information regarding the site and the surrounding area.

2.1 Site Location

The site is located in east-central portion of the Island of St. Thomas in the U.S. Virgin Islands as shown in the general location map included as Figure 1. The area surrounding the site is known as Tutu.

The site can be located on the 7.5 minute U.S. Geological Survey topographic map for eastern St. Thomas. An excerpt of this and the central St. Thomas topographic map are included as Figure 2. The site is located at approximately 18° 20' 30" north latitude and 64° 53' 15" west longitude.

Figure 3 is a general map of the Tutu area. Figure 3 indicates the location of businesses, residences, water supply wells, monitor wells and other features.

2.2 Site Description

The Ramsay Motors facility is utilized for the sale, renting/leasing, maintenance and repair of automobiles. Figure 4 is a site map for the Ramsay Motors facility and illustrates its main features. Structures at the site include a 1400 square-foot office building, a 2500 square-foot automobile repair building, a 1300 square-foot leasing office, a 400 square-foot storage shed, a 500 square-foot storage shed, a water supply well, and an above-ground storage tank associated with water supply well. The square footage indicated are approximate. The buildings are one-story structures constructed of cinder blocks, wood, and concrete.

The automobile repair building is a three-walled structure with the west side of the building open. A covered concrete pad on the south end of the building is used for the storage of drums containing used automobile crankcase oil. An out of service underground storage tank (UST) is reported to be present under the concrete building floor along the east side of the building. The UST is reported to be constructed of concrete block and mortar and its exact dimensions and location are not known.

2.3 Site and Area Topography

Figure 2 illustrates the general topography of the area which is steep, with slopes commonly exceeding 35 degrees. The topography at the Ramsay Motors facility and along Turpentine Run is much gentler, with slopes of 1 to 3 percent. The elevation of the Ramsay Motors facility is approximately 190 feet above mean sea level (MSL). Crests of hills within 2000 feet of the site rise to over 400 feet above MSL.

Drainage in the area is conveyed to the south into Mangrove Lagoon and the Caribbean Sea by Turpentine Run, an incised stream course. Although Turpentine Run is the largest stream on St. Thomas, it is reported to be an intermittent stream (Ward and Jordan, 1963).

2.4 Site History

The site was purchased from Rudy & Yvonne D'Angelico in May 1978 and Ramsay commenced operations in September 1978. Building plans and anecdotal information from area residents indicates that the service building and UST were constructed by prior owners, sometime before 1978. The site was once part of a larger group of properties in the Anna's Retreat area that was owned by Co-Build Companies, Inc., f/k/a West Indies Enterprises Inc., a building contractor. Other area properties once owned by Co-Build or West Indies include the Antilles Automotive site; the former LAGA knit mill, now occupied by the Government of the Virgin Islands, Department of Education; and the Virgin Islands Housing Authority site, formerly occupied by Tropical Motors.

2.5 Previous Investigation Activities

Investigations have been previously conducted at the Ramsay facility by Weston/Sper Division (Weston), NUS Corporation (NUS) and CDM Federal Programs Corporation (CDM) on behalf of the USEPA in 1987, 1988 and 1989, respectively. Additionally, TEIC performed investigation activities at the site in 1992.

Weston collected a sample of the material in the Ramsay UST on August 17, 1987. Analysis of this sample indicated the presence of BTEX compounds, but not chlorinated solvents. The detection of BTEX compounds in this material is consistent with site operations. Weston's findings are summarized in a report titled Summary of Laboratory Results for Oil and Water Samples Collected from Tank, Storm Drains, and Auto Body Shops in St. Thomas, U. S. Virgin Islands on August 17, 1987. The report is dated February 23, 1988.

In September 1988, CDM collected soil samples and a ground water sample from the Ramsay site. The exact locations of the soil samples are not known to CEI and the ground water sample was presumably collected from the site water supply well. Analytical results for the soil samples indicated the presence of BTEX compounds. The maximum concentration of total BTEX was 0.031 mg/kg. Total Petroleum Hydrocarbons (TPH) were also detected in the two soil samples. The maximum detected TPH concentration was 1.98 mg/kg. The detection of these compounds is consistent with site operations. No chlorinated compounds were detected in the soil samples. Analysis of the ground water sample indicated the presence of 11 micrograms per liter ($\mu\text{g/l}$) tetrachloroethane. No other compounds were detected in the ground water sample. The analytical results for these samples are summarized in letters dated February 16, 1989 and April 14, 1989 from CDM to Ms. Caroline Kwan of USEPA.

In February 1989, NUS visited the site and performed a Potential Hazardous Waste Site Preliminary Assessment which is summarized in a report titled Final Draft, Preliminary Assessment Ramsay Motors dated March 24, 1989. The NUS report documented the presence of BTEX compounds, but no

chlorinated compounds in soils at the site. The presence of BTEX compounds is consistent with site operations. The NUS report documented the presence of tetrachlorethane in ground water at the site. The report indicated that "...ground water in the entire area is contaminated, and therefore, the tetrachloroethane may or may not be associated with this site." Regarding the UST at the site, the NUS report stated, "There is no information that the tank is leaking; therefore there is little potential for contaminant migration to air, ground water, or surface water." The NUS report also documented that waste oil was discharging onto the Ramsay Motors property from the adjacent Gassett Motors property. NUS concluded that, "The likelihood of a release of contaminants to the ground water from the waste units on site is small."

In June 1989, CDM collected a sample of the material in the UST at the site. Analysis of this sample indicated the presence of BTEX compounds, but no chlorinated compounds. The concentration of total BTEX in the sample was reported to be 1,844 mg/kg. The presence of BTEX compounds in this sample is consistent with site operations. The results are summarized in letters dated January 31, 1990 and February 16, 1990 from CDM to Ms. Carolina Kwan of USEPA.

On July 30 and August 3, 1992, Geraghty & Miller on behalf of TEIC advanced two soil boring designated B-2 and B-3. Soil borings B-2 and B-3 were completed approximately 20 feet south and 70 feet southwest of the automobile repair building at the Ramsay Property, respectively. Analysis of samples collected from these borings did not indicate the presence of BTEX compounds. Petroleum related semi-VOAs (PAHs) were detected in quantifiable but estimated concentrations of 0.56 mg/kg in the sample from boring B-2. The presence of petroleum related semi-VOAs is consistent with site operations. TPH was detected in samples collected from the two borings. Geraghty & Miller concludes that these results may be false-positive results. Analysis of the sample from boring B-3 indicated an estimated concentration of tetrachloroethene of 6 µg/kg. The presence of tetrachloroethene is not consistent with site operations. Moreover, Geraghty & Miller concludes that "the detection of low levels of VOCs (i.e., individual parameter concentrations below 10 parts per billion [ppb]) in soil samples are probably due to adsorption and incorporation of soil gas containing VOCs in the soil sample." TEIC's

findings are summarized in a report titled, Technical Memorandum II - Results of the Field Program, Tutu Service Station Investigation, St. Thomas, U. S. Virgin Islands dated May 1993.

3.0 FIELD ACTIVITIES

This section describes the field activities conducted by CEI during two site visits in April 1993 and July 1993.

3.1 Methodology for Field Activities Conducted in April 1993

This section describes the methodology used for UST pad decontamination, concrete core drilling, equipment decontamination, soil sampling, and liquid sampling conducted during the April 1993 site visit.

3.1.1 UST Pad Decontamination

The concrete pad in the general vicinity of used oil UST was decontaminated using a steam cleaner. Water was supplied to the steam cleaner from the Ramsay Motors water supply well after the water was treated by two granular activated carbon (GAC) filters aligned in a parallel configuration. Water produced by the steam cleaning process was collected by an industrial wet/dry vacuum cleaner.

The concrete surface areas in the immediate vicinity of selected soil boring locations were further decontaminated. These areas were scrubbed with a nylon bristle brush using a liquinox soap and water solution. The soap and water solution was collected with an industrial wet/dry vacuum cleaner.

After the concrete pad had been decontaminated, eight-foot lengths of two by four wooden studs stacked two high were placed along the perimeter of the area. Plastic sheeting with a thickness of 6 mils was then draped over the wooden studs to form a closed depression and to form an exclusion zone for health and safety purposes.

3.1.2 Concrete Core Drilling

Soil borings HB-1 through HB-7 were advanced in areas covered by concrete. The locations of these borings are shown in Figure 4. At these boring locations, the concrete was penetrated using an electric coring machine equipped with a 4-inch diameter diamond core bit. Water was supplied from the Ramsay water supply well to the coring machine to cool and lubricate the bit. The water was treated by GAC filters. Water produced during the coring operation was continually collected with an industrial wet/dry vacuum cleaner.

3.1.3 Equipment Decontamination

The diamond core bit was decontaminated prior to initiation of each core hole by steam cleaning. Water used for steam cleaning was treated by GAC filters. Down hole drilling and sampling equipment were decontaminated prior to advancing each bore hole. Auger flights for a hand-held power auger were steam cleaned. A stainless steel hand auger for both drilling and sampling was decontaminated by steam cleaning and rinsing in sequence with isopropyl alcohol and distilled bottled water.

3.1.4 Soil Sampling

At each soil sampling location, a decontaminated hand auger was advanced into the soil. Soil samples locations are indicated in Figure 4. If it became difficult to advance the hand auger to desired sampling depths, the hand-held power auger was employed to advance the soil boring. Once the desired sampling depth was reached or difficult drilling was encountered, soil samples were collected. Samples were collected using either a hand auger or a stainless steel spoon to scrape soil from the inside of the borehole at a specific sampling depth.

Once a sample was retrieved from a borehole, it was split into two duplicate samples. One of the two duplicates was placed in sample containers provided by Enseco Laboratories and was then immediately labeled and placed in a cooler chilled with ice to approximately 4 degrees Celsius. The other

duplicate was placed in zipper-lock sandwich bag and allowed to approach vapor equilibrium conditions for approximately ten minutes in a shaded area. The probe of the flame ionization detector was then inserted into the bag and the reading was recorded. The FID was calibrated daily to a 100 parts per million-volume methane standard. The samples contained in the zipper-lock sandwich bags were also analyzed in the field for BTEX using immunoassay techniques developed by Quantix. The samples which were placed in the cooler were retained and kept chilled until sampling was complete. These samples were then shipped to Enseco Laboratories in Somerset, New Jersey for analysis. Chain of Custody procedures were followed for each sample submitted for laboratory analyses after collection.

3.1.5 Liquid Sampling

Liquids accumulated in soil boring HB-3 and were sampled. Sampling was performed by inserting a polypropylene "Colawassa" drum sampler into the borehole, sealing the air hole at the top of the sampler, and then withdrawing the sampler from the borehole. The liquids contained in the sampler were then transferred to sample containers provided by Enseco Laboratories.

Water used for decontamination and coring was sampled at the effluent of the GAC filters at the conclusion of field activities. Samples were collected in containers provided by Enseco Laboratories.

Liquid samples were placed in a cooler chilled with ice to approximately 4 degrees Celsius. Samples were retained until completion of field activities and were then shipped to Enseco Laboratories for analysis. Copies of analytical summaries for these liquid samples are included in Appendix III.

3.2 Methodology for Field Activities Conducted in July 1993

This section describes equipment decontamination, soil sampling, and drum sampling conducted during the July 1993 site visit.

3.2.1 Equipment Decontamination

Prior to advancing each hand augered boring the stainless steel hand auger was decontaminated. The hand auger was decontaminated by first brushing the auger with bottled distilled water. The auger was then washed in an Alconox solution followed by an isopropyl alcohol rinse and triple rinsed with bottled distilled water.

The decontamination fluids were contained into an empty 55-gallon drum located on the drum storage pad. The hand auger was then allowed to air dry.

3.2.2 Soil Sampling

CEI personnel established a grid pattern within a 50 feet by 50 feet area along an unnamed storm ditch separating Anchilles Motors and Ramsay Motors. Several obstructions altered or changed the size of each grid. At each grid node, a decontaminated hand auger was advanced into the soil. The grid nodes are designated "SB" in Figure 4. If the auguring physically became too difficult to advance further, a sample was collected and the depth measured with a yard stick.

Once the soil sample was retrieved from the sampling location, it was split into two duplicate samples. One of the duplicates was placed in an Enseco laboratories sample container, sealed, secured, and labeled for identification, place in an iced cooler to be chilled to approximately 4 degrees Celsius. The remainder of the sample was placed in a resealable zipper lock sandwich bag and allowed to reach vapor equilibrium conditions. Measurements were collected similar to that described in Section 3.1.4.

The soil samples were shipped via Federal Express to Enseco Laboratories in Somerset, New Jersey for analysis. Chain of Custody procedures were followed for each sample submitted for laboratory analysis.

3.2.3 Drum Sampling

The drums were labeled and each drum investigated for amount and type of fluids prior to sampling. Drums were then segregated into four groups on the basis of labels and initial physical characterization of material stored in the drum. A "Colawassa" sampler was lowered to the bottom of each drum in each group drum, the air hole at the top of the sampler was then sealed with an attached polypropylene cap, and then the sampler was withdrawn. Fluids from each drum sampler from each group were collected in a 200 milliliter (ml) graduated glass measuring cup. Several drum samples were composited together in the measuring cup. Composite samples were mixed with a stainless steel spoon and decanted in Enseco Laboratory bottles. The spoon was decontaminated along with the 200 ml measuring cup following similar decontamination procedures used for the hand auger. However, additional brushing and washing was needed to remove residual oil from the glass measuring cup. The disposable sampler was cut in half and secured in a 55-gallon drum along with the rinse water. Once the samples were collected the containers were labeled and secured in a cooler chilled to approximately 4 degrees Celsius.

4.0 INVESTIGATION FINDINGS

This section summarizes the findings of this investigation.

4.1 Soil Chemical Quality Data

Soil samples collected by CEI during the April 14 through 19, 1993 site visit were screened in the field for the presence of organic vapors using a flame ionization detector (FID). Additionally, CEI screened the head space in the borings after covering them with plastic sheeting and allowing equilibrium conditions to be approached. The FID field screening results are summarized in Table 1. Figure 4 indicates the locations of soil borings.

The FID reading ranged from zero (0) to 3800 parts per million-volume (ppm-v). The 3800 ppm-v reading was obtained during screening of the

borehole for hand augered boring HB-4. The highest reading obtained for screening of soil samples collected at discrete depths was 400 ppm-v for a sample collected at 3 feet below grade in hand boring HB-3.

Soil samples collected during the April 1993 site visit were screened for the presence of BTEX compounds using an immunoassay technique developed by Quantix. The immunoassay field screening results are summarized in Table 2. The results indicate BTEX was not detected in the samples collected during this site visit other than of 4.5 ppm total BTEX in the sample collected from hand augered boring HB-8 at 2 feet below grade.

CEI submitted selected soil samples collected during the April 14 through 19, 1993 site visit for laboratory analysis for volatile organic analytes (VOAs), semi-volatile organic analytes (semi-VOAs), and total petroleum hydrocarbons. The VOA and semi-VOA analysis was performed in accordance with USEPA's Contract Laboratory Program - Statement of Work (CLP-SOW) and the TPH analysis was performed using infrared detection and quantification techniques in accordance with the Army Corps of Engineers Method. CEI prepared Table 3, which summarizes the data for positive detection of target analytes for each sample collected. Appendix III contains copies of laboratory summaries for the sample analyses. Additional QA/QC information is on file at CEI. Table 3 provides concentration values for the summation of the concentrations of detected VOAs and semi-VOAs. CEI also summed the number of tentatively identified compounds (TICs) and their estimated concentrations for VOAs and semi-VOAs as indicated in Table 3.

CEI prepared Table 4 as an overall summary of the analyses of the soil samples collected April 14 through 19, 1993. Table 4 omits some of the detail provided in Table 3, such as contract laboratory reporting limits and laboratory qualifiers, but provides a two-page summary of the analytical results for samples collected during this period.

As indicated by Table 3 and 4, concentrations of VOAs ranged from 5 micrograms per kilogram ($\mu\text{g}/\text{kg}$) for a sample collected from boring HB-8 at a depth of 2 feet to 3,400 $\mu\text{g}/\text{kg}$ for a sample collected from boring HB4 at a depth of 2.5 feet. The maximum concentration of VOAs (3,400 $\mu\text{g}/\text{kg}$) was

detected in a sample which required dilution due to the presence of high concentrations of target analytes. The concentrations of petroleum-related VOAs (BTEX and MTBE) ranged from below detection limits for several samples to 1,194 µg/kg for a sample collected from boring HB2 at 4.5 feet below grade. The concentration of semi-VOAs ranged from 51µg/kg for a sample collected from HB7 at 1.25 feet to 3,050 µg/kg for a sample collected from boring HB5 at 2.3 feet. The concentration of petroleum related semi-VOAs (PAHs) ranged from below laboratory detection limits for a sample collected from boring HB7 at 1.25 feet to 2580 µg/kg for a sample collected from boring HB5 at 2.3 feet. The maximum concentration of semi-VOAs and petroleum related semi-VOAs were detected in a sample which required dilution due to the presence of high concentrations of target analytes.

As indicated by Tables 3 and 4, 1,1,1-trichloroethane was detected in estimated concentrations (4 µg/kg) in a surface sample from boring HB10 and in a diluted sample collected at a depth of 1.25 feet below grade in boring HB7. Analysis of laboratory blanks associated with these samples also indicated the presence of 1,1,1-trichloroethane. With the exception of methylene chloride, which is a common laboratory contaminant, no other chlorinated compounds were detected in soil samples collected during the April 1993 sampling event.

CEI prepared Table 5 which summarizes data for positive detection of target analytes for each soil sample collected during the July 1 through 5, 1993 site visit. Appendix IV contains copies of laboratory summaries for the sample analyses. Appendix II contains correspondence from the laboratory regarding the difference between the SW-846 methods used on samples collected during the July 1993 site visit and the CLP-SOW methods used on samples collected during the April 1993 site visit. Additional QA/QC information is on file at CEI. Hand augered borings advanced during this visit were given the designator "SB" and are shown in Figure 4.

Table 6 is an overall summary of the analyses of the samples collected during the July 1 to 5, 1993 site visit. Table 6 omits some of the detail included in Table 5, such as laboratory reporting limits and laboratory qualifiers, but provides a one-page summary of the analytical results for samples collected during this period.

As indicated by Tables 5 and 6, the concentrations of VOAs were below detection limits in 7 of 8 soil samples collected during the July sampling event. Analysis of the sample from boring SB9 indicated the presence of 162.3 µg/kg VOAs. Of the 162.3 µg/kg total VOAs detected, 2.3 µg/kg was methylene chloride and 160 µg/kg was acetone, both of which are considered to be common laboratory contaminants (USEPA, 1989). The concentration of semi-VOAs ranged from 44 µg/kg in a sample from boring SB4 to 7,600 µg/kg in a sample collected from boring SB3. The concentration of petroleum related semi-VOAs (PAHs) was below laboratory detection limits in 4 of the 8 soil samples. The maximum concentration of petroleum related semi-VOAs was 6,490 µg/kg for a sample collected from boring SB3.

As indicated by Tables 5 and 6, no chlorinated compounds were detected in soil samples collected during the July 1993 sampling event with the exception of methylene chloride, a common laboratory contaminant. Methylene chloride was detected in an estimated concentration of 2.3 µg/kg in the sample from soil boring SB9.

4.2 Characterization of Oil/Water Mixture Encountered in the Service Area

Liquid accumulated in hand auger boring HB3 and HB5 during the April 1993 sampling event. CEI encountered sand and gravel beneath the concrete floor at this boring location from a depth of 0.5 to 1.0 feet. Clays were encountered from 1.0 to 5.0 feet below grade. The clays appeared moist but not wet and were not stained. The unstained appearance is critical, since CEI concluded that if a release occurred at the tank, and oil flooded to the surface, the clay between the release point and the surface would appear stained. Since CEI did not observe staining, the liquids appear to seep from the sand and gravel down into the bore hole and resulted from subsurface cracks and joints in the shop floor.

CEI collected a sample of the liquids from hand augered boring HB3 which appeared to be in non-aqueous and aqueous phases. The sample was designated HB3-L. After submitting the sample to and consulting with the laboratory, it was decided to analyze the two phases separately. The non-

aqueous phase was decanted and designated HB3-L-Oil and the remaining aqueous phase was designated HB3-L-Water.

The analytical results for these samples are summarized in Table 7. Appendix III contains copies of laboratory summaries for the sample analyses. Additional QA/QC information is on file at CEI. As indicated in Table 7 and as expected on the basis of the physical characteristics of the non-aqueous phase fluids present, the compounds detected are typically associated with petroleum hydrocarbons. No chlorinated compounds were detected.

Analysis of the non-aqueous phase liquid sample (HB3-L-oil) indicated the presence of 5,858,000 micrograms per liter ($\mu\text{g/l}$); total VOAs; 5,319,000 $\mu\text{g/l}$ petroleum related VOAs; 2,429 $\mu\text{g/l}$ semi-VOAs; and 2,121 $\mu\text{g/l}$ petroleum related semi-VOAs. Analysis of the aqueous phase liquid sample (HB3-L-water) indicated the presence of 7,350 $\mu\text{g/l}$ total VOAs; 6,940 $\mu\text{g/l}$ petroleum related VOAs; 8,830 $\mu\text{g/l}$ total semi-VOAs; and 6,790 $\mu\text{g/l}$ petroleum related semi-VOAs.

4.3 Characterization of Material Stored in Drums

Table 8 summarizes data for positive detection of target analytes noted during analyses of the drum samples. Table 9 is an overall summary table for the drum samples collected during the July 1 through 5, 1993 site visit. Table 9 omits some of the detail included in Table 8 such as laboratory reporting limits and laboratory qualifiers, but provides a one-page summary of the analytical results for the samples of the material stored in the drums. In addition to the expected petroleum related hydrocarbon constituents (BTEX, MTBE, and PAHs), two chlorinated compounds (1,1,1-trichloroethane and tetrachloroethylene) were detected in samples of the material stored in the drums. Appendix IV contains copies of laboratory summaries for the sample analyses.

The concentrations of total VOAs ranged from 2,290,000 $\mu\text{g/kg}$ for drum sample 3 to 4,729,000 for drum sample 4. The concentration of petroleum-related VOAs ranged from 2,300,000 $\mu\text{g/kg}$ for drum sample 3 to 4,199,000 $\mu\text{g/kg}$ for drum sample 4. The concentration of total semi VOAs ranged from

1,232,000 µg/kg for drum sample 3 to 2,308,000 µg/kg for drum sample 1. The concentration of petroleum related semi-VOAs ranged from 1,072,000 µg/kg for drum sample 3 to 2,178,000 µg/kg for drum sample 1. The concentration of TPH ranged from 280,000 µg/kg for drum sample 2 to 320,000 µg/kg for drum sample 3.

5.0 INTERPRETATION OF FINDINGS

CEI has reviewed and interpreted investigation data. The areal distribution of various compounds in soil are illustrated in the isoconcentration maps presented as Figures 5 through 7.

As shown in the isoconcentration map for petroleum hydrocarbon related VOAs (BTEX & MTBE) included as Figure 5, such compounds appear concentrated under the concrete pad in the service area of the automobile repair area. Visual observations of soil staining indicate free-phase product is limited to 0.5-foot thick sand and gravel layer located beneath the concrete floor and above tight clays. The presence of clays limits the vertical migration of the free-phase product. Such compounds were not detected in the upgradient boring (HB10), the borings along the southern portion of the site adjacent to Antilles Motors, or in the boring northwest of the UST (HB6).

As shown on the isoconcentration maps for petroleum related semi-VOAs (PAHs) and TPH and included as Figures 6 and 7, impact by the compounds along the southern Ramsay property boundary may be originating from off-site at Antilles Motors. These compounds are commonly associated with used motor oils. The compounds also appear to be concentrated in the vicinity of the UST. The configuration of the contours also indicate that petroleum related semi-VOAs impacting the area in the vicinity of hand augered boring HB-10 may be originating from off-site on the LAGA property. Boring HB-10 was advanced upgradient of Ramsay operational areas and downgradient of an area on the LAGA property where drums were noted to have been improperly disposed. MSDS sheets documenting the contents of these drums indicate the presence of 1,1,1-trichloroethane, VOAs, and semi-VOAs commonly associated with petroleum.

An isolated area of moderately low impact by TPH and petroleum hydrocarbon related semi-VOAs was identified by CEI in the vicinity of boring HB-6.

6.0 CONCLUSIONS

On the basis of analysis of laboratory data and site information, soils at the site received minor impact by compounds typically associated with petroleum hydrocarbons such as gasoline and used crankcase oils. Although these compounds are consistent with those used by Ramsay in their automotive maintenance and repair operations, activities at the adjacent Antilles Motors in the past and possibly at this time have contributed to these on-site impacts. The specific activities are most likely improper storage, handling, and disposal of used motor oils at the Antilles facility.

Used motor oil discovered below the concrete floor in the vicinity of the UST most likely resulted from seepage of oils through cracks and fissures in the shop floor as opposed to a release from the UST. This conclusion is based upon physical observations of the subsurface materials including the absence of oil staining in clays below a depth of 1.0 feet; field screening results; and laboratory results. The oils discovered in boring near the UST are most likely the result of incidental spillage on the shop area. The clays in the vicinity of the UST limit rapid vertical migration of the oil into the underlying bedrock aquifer.

With the exception of a sample collected from boring HB10 and a diluted sample from boring HB7 and suspect laboratory contaminants, no chlorinated compounds were detected in soil or fluid samples collected by CEI from borings on site. The compound 1,1,1-trichloroethane detected in the sample from boring HB-10 is similar to material previously stored in corroded drums on a hillside above boring HB-10 on the Department of Education property. The concentration of 1,1,1-trichloroethane detected in the diluted sample from boring HB7 was estimated and the compound was also detected in an associated laboratory blank. The presence of this compound in this sample is therefore suspect.

Chlorinated compounds, namely 1,1,1-trichloroethane and tetrachloroethene, were detected in samples of materials collected from the drums on-site. CEI would expect to have detected these compounds in soil samples collected around the drum storage area had a release occurred from the drums. Furthermore, since these compounds have similar transport properties (Fetter, 1988; Olsen and Davis, 1990), CEI would expect that it is not possible for only one of the compounds to impact ground water if a release occurred. Tetrachloroethene, but not 1,1,1-trichloroethane, has been detected at or above laboratory detection limits in deeper water supply well samples collected by TEIC and others. Additionally, no chlorinated compounds were detected in soil and non-aqueous phase samples from soil borings surrounding the UST or in samples of the UST contents sampled by others in the late 1980s. On this basis, CEI concludes that a release of the materials in the drums has not occurred and that PAHs detected in soils around the drum storage area has resulted from minor dripping and spilling of oils when transferring oil to drums.

The water supply well at the Ramsay site has been impacted by a source other than the operations at the site. As discussed in the previous paragraph, if a release of the materials stored in drums at the site occurred and caused impact to underlying ground water by tetrachloroethene, then CEI would also expect impact by 1,1,1-trichloroethane since these compounds have similar transport properties. Since this is not the case and since no evidence of chlorinated compounds were detected in soil samples around the drum storage area, CEI concludes that operations at the drum storage area have not caused impact to the Ramsay water supply well by chlorinated compounds. Furthermore, CEI concludes that operations in the vicinity of the drum storage pad and the UST have not caused impact to the Ramsay Water Supply well by petroleum compounds. This conclusion is based upon transport properties of the compounds involved. Petroleum related VOAs and semi-VOAs were detected in soils near the UST and drum storage pad, liquids in the UST, and in boreholes near the UST. Of the specific compounds detected, benzene is considered to be highly mobile (Letter, 1989) and MTBE is considered to be even more mobile than benzene (Garrett, et al, 1985). If a release of petroleum occurred and caused impact to the water supply well, CEI would expect benzene and MTBE to be present in the water supply well. A review of the historical analytical results contained in TEIC's Sixth Quarterly Sampling

Report of August 1992 did not indicate the presence of these compounds in samples collected from the water supply well nor is CEI aware of these compounds being present in earlier samples from the water supply well.

If TEIC completes a monitor well south of the automotive repair building on Ramsay property, it is likely that non-detect to low levels of petroleum related VOAs and semi-VOAs will be detected in surface soil samples collected during well installation. If low levels of the compounds are detected in surface samples, it is likely that there will be a decreasing concentration trend with depth for analysis of additional samples. Analysis of ground water samples collected from the proposed monitor well are likely to indicate the presence of various VOAs and semi VOAs. The presence of such compounds are likely to be the result of current and previous off-site activities such as those at Antilles Motors, Texaco, LAGA, and possibly other locations due to their proximity to the Ramsay property and ground water flow patterns.

CEI found no evidence of impact to on or off-site ground waters, or on or off-site soils which resulted from operations at the Ramsay facility.

7.0 REFERENCES

Lists of background documents reviewed by CEI are included as Appendix I. In addition, CEI utilized the following references:

Fetter, C.W., 1988, Applied Hydrogeology, Second Edition: Merrill Publishing Company, Columbus, Ohio, 592 pp.

Fetter, C.W., 1993, Contaminant Hydrogeology: MacMillan Publishing Company, New York, 458 pp.

Garrett, P., Moreau, M., and Lowry, J. D., 1985, MTBE as a Ground Water Contaminant in proceeding of the NWWA/API Conference on Petroleum Hydrocarbons and Organic Chemicals in Ground Water Prevention, Detection and Restoration: November 1986; pp 227-237.

Olsen, R.L. and Davis, A.; May/June 1990, Predicting the Fate and Transport of Organic Compounds in Ground water, Part 1 in HMC: 64 pp.

Olsen, R. L. and Davis, A., July/August 1990, Predicting the Fate of Organic Compounds, Part 2 in HMC, 37 pp.

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TABLES

TABLE 1
SUMMARY OF FLAME IONIZATION DETECTOR FIELD SCREENING RESULTS
APRIL 14 -19, 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 1.1

BORING ID: HB-1	
DEPTH (FEET)	FID READING (ppm-v)
0.0 - 0.75	NFS
BOREHOLE	90

BORING ID: HB-2	
DEPTH (FEET)	FID READING (ppm-v)
2.75	390
4.50	240
BOREHOLE	100

BORING ID: HB-3	
DEPTH (FEET)	FID READING (ppm-v)
3.00	400
BOREHOLE	290

BORING ID: HB-4	
DEPTH (FEET)	FID READING (ppm-v)
0.5 - 1.0	20
2.50	150
BOREHOLE	3800

BORING ID: HB-5	
DEPTH (FEET)	FID READING (ppm-v)
2.25	400
BOREHOLE	5

BORING ID: HB-6	
DEPTH (FEET)	FID READING (ppm-v)
1.5	NFS
BOREHOLE	10

BORING ID: HB-7	
DEPTH (FEET)	FID READING (ppm-v)
1.25	48
BOREHOLE	1500

BORING ID: HB-8	
DEPTH (FEET)	FID READING (ppm-v)
1.00	0
2.00	NFS
BOREHOLE	0

BORING ID: HB-9	
DEPTH (FEET)	FID READING (ppm-v)
0.0 - 1.0	NFS
BOREHOLE	NFS

BORING ID: HB-10	
DEPTH (FEET)	FID READING (ppm-v)
0.0 - 0.5	NFS
BOREHOLE	NFS

FID - FLAME IONIZATION DETECTOR
 ppm-v - PARTS PER MILLION - VOLUME
 NFS - NOT FIELD SCREENED.

SHADING INDICATES SAMPLE WAS SUBMITTED FOR ADDITIONAL LABORATORY ANALYSIS.
 BOREHOLES WERE SCREENED AFTER COVERING AND ALLOWING THEM TO EQUILIBRATE.

TABLE 2
SUMMARY OF QUANTIX IMMUNOASSAY FIELD SCREENING RESULTS
APRIL 14 -19, 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 2.1

<i>BORING NUMBER</i>	<i>DEPTH (FEET)</i>	<i>QUANTIX (ppm)</i>
HB-1	NS	NS
HB-2	4.5	<3.5
HB-3	3	<3.5
HB-4	2.5	<3.5
HB-5	2.3	<3.5
HB-6	1.5	<3.5
HB-7	1.25	<3.5
HB-8	2	4.5
HB-9	SURFACE	<7.0
HB-10	SURFACE	<7.0

ppm - PARTS PER MILLION
NS - NOT SAMPLED

TABLE 3
LABORATORY RESULTS - SOIL SAMPLES
APRIL 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 3.1

SAMPLE NO:		HB2-4.5	CONCENTRATION (UG/KG)	CRQL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE		11		J
	ACETONE		500		B
	CARBON DISULFIDE		ND	61	U
	2-BUTANONE		39		BJ
	1,1,1-TRICHLOROETHANE		ND	61	U
	BENZENE		17		J
	ETHYLBENZENE		290		
	TOTAL XYLENES		7		J
	TERT-BUTYL METHYL ETHER (MTBE)		880		
	N-PROPYLBENZENE		480		
	TOTAL VOAs		2,224		
	TOTAL BTEX + MTBE		1,194		
	NUMBER OF VOA TICs		10		
	EST. CONC. OF VOA TICs		4,250		
SEMI-VOAs	NAPHTHALENE		110		J
	2-METHYLNAPHTHALENE		140		J
	FLUORENE		75		J
	PENTACHLOROPHENOL		ND	990	U
	PHENANTHRENE		85		J
	ANTHRACENE		ND	410	U
	DI-N-BUTYLPHTHALATE		ND	410	U
	FLUORANTHENE		ND	410	U
	PYRENE		ND	410	U
	BUTYLBENZYLPHTHALATE		ND	410	U
	BENZO (A) ANTHRACENE		ND	410	U
	CHRYSENE		ND	410	U
	BIS(2-ETHYLHEXYL)PHTHALATE		82		J
	BENZO (B) FLUORANTHENE		ND	410	U
	BENZO (K) FLUORANTHENE		ND	410	U
	BENZO (A) PYRENE		ND	410	U
	INDENO (1,2,3-CD) PYRENE		ND	410	U
	BENZO (G,H,I) PERYLENE		ND	410	U
	TOTAL SEMI-VOAs		492		
	TOTAL PAHs		410		
	NUMBER OF SEMI-VOA TICs		17		
	EST. CONC. OF SEMI-VOA TICs		11,029		
			CONCENTRATION (MG/KG)	REPORTING LIMIT (MG/KG)	
TPH	TOTAL PETROLEUM HYDROCARBONS		670	120	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)
MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)
CRQL - CONTRACT REQUIRED QUANTIFICATION LIMIT.
ND - NOT DETECTED
NA - NOT ANALYZED FOR THIS
U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.
J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.
B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.
D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.
TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.
COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE PURPOSE OF CALCULATING TOTALS.
METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

TABLE 3
LABORATORY RESULTS - SOIL SAMPLES
APRIL 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 3.2

SAMPLE NO:		HB3-3.0	CONCENTRATION (UG/KG)	CRQL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE		ND	1600	U
	ACETONE		1,000		BJ
	CARBON DISULFIDE		ND	1600	U
	2-BUTANONE		ND	1600	BJ
	1,1,1-TRICHLOROETHANE		ND	1600	U
	BENZENE		ND	1600	U
	ETHYLBENZENE		ND	1600	U
	TOTAL XYLENES		ND	1600	U
	TERT-BUTYL METHYL ETHER (MTBE)		410		J
	N-PROPYLBENZENE		210		J
	TOTAL VOAs		1,620		
	TOTAL BTEX + MTBE		410		
	NUMBER OF VOA TICs		9		
	EST. CONC. OF VOA TICs		11,660		
SEMI- VOAs	NAPHTHALENE		ND	430	U
	2-METHYLNAPHTHALENE		47		J
	FLUORENE		ND	430	U
	PENTACHLOROPHENOL		ND	1000	U
	PHENANTHRENE		ND	430	U
	ANTHRACENE		ND	430	U
	DI-N-BUTYLPHTHALATE		ND	430	U
	FLUORANTHENE		ND	430	U
	PYRENE		ND	430	U
	BUTYLBENZYLPHTHALATE		ND	430	U
	BENZO (A) ANTHRACENE		ND	430	U
	CHRYSENE		ND	430	U
	BIS(2-ETHYLHEXYL)PHTHALATE		49		J
	BENZO (B) FLUORANTHENE		ND	430	U
	BENZO (K) FLUORANTHENE		ND	430	U
	BENZO (A) PYRENE		ND	430	U
	INDENO (1,2,3-CD) PYRENE		ND	430	U
	BENZO (G,H,I) PERYLENE		ND	430	U
	TOTAL SEMI-VOAs		96		
	TOTAL PAHs		47		
	NUMBER OF SEMI-VOA TICs		5		
	EST. CONC. OF SEMI-VOA TICs		10,537		
			CONCENTRATION (MG/KG)	REPORTING LIMIT (MG/KG)	
TPH	TOTAL PETROLEUM HYDROCARBONS		ND	27	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)
MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)
CRQL - CONTRACT REQUIRED QUANTIFICATION LIMIT.
ND - NOT DETECTED
NA - NOT ANALYZED FOR THIS
U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.
J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.
B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.
D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.
TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.
COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE
PURPOSE OF CALCULATING TOTALS.
METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED
TO BE LABORATORY ARTIFACTS.

TABLE 3
LABORATORY RESULTS - SOIL SAMPLES
APRIL 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 3.3

SAMPLE NO:		HB4-2.5	CONCENTRATION (UG/KG)	CRQL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE		10		J
	ACETONE		270		B
	CARBON DISULFIDE		ND	61	U
	2-BUTANONE		35		BJ
	1,1,1-TRICHLOROETHANE		ND	61	U
	BENZENE		ND	61	U
	ETHYLBENZENE		ND	61	U
	TOTAL XYLENES		ND	61	U
	TERT-BUTYL METHYL ETHER (MTBE)		250		DJ
	N-PROPYLBENZENE		9.1		J
	TOTAL VOAs		574.1		
	TOTAL BTEX + MTBE		250		
	NUMBER OF VOA TICs		10		
	EST. CONC. OF VOA TICs		2,580		
SEMI- VOAs	NAPHTHALENE		ND	410	U
	2-METHYLNAPHTHALENE		130		J
	FLUORENE		93		J
	PENTACHLOROPHENOL		ND	1000	U
	PHENANTHRENE		160		J
	ANTHRACENE		ND	410	U
	DI-N-BUTYLPHTHALATE		ND	410	U
	FLUORANTHENE		ND	410	U
	PYRENE		ND	410	U
	BUTYLBENZYLPHTHALATE		ND	410	U
	BENZO (A) ANTHRACENE		ND	410	U
	CHRYSENE		43		J
	BIS(2-ETHYLHEXYL)PHTHALATE		51		J
	BENZO (B) FLUORANTHENE		ND	410	U
	BENZO (K) FLUORANTHENE		ND	410	U
	BENZO (A) PYRENE		ND	410	U
	INDENO (1,2,3-CD) PYRENE		ND	410	U
	BENZO (G,H,I) PERYLENE		ND	410	U
	TOTAL SEMI-VOAs		477		
	TOTAL PAHs		383		
	NUMBER OF SEMI-VOA TICs		21		
	EST. CONC. OF SEMI-VOA TICs		13,170		
			CONCENTRATION (MG/KG)	REPORTING LIMIT (MG/KG)	
TPH	TOTAL PETROLEUM HYDROCARBONS		200	25	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)
 MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)
 CRQL - CONTRACT REQUIRED QUANTIFICATION LIMIT.
 ND - NOT DETECTED
 NA - NOT ANALYZED FOR THIS
 U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.
 J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.
 B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.
 D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.
 TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.
 COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE
 PURPOSE OF CALCULATING TOTALS.
 METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED
 TO BE LABORATORY ARTIFACTS.

TABLE 3
LABORATORY RESULTS - SOIL SAMPLES
APRIL 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

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SAMPLE NO:		HB4-2.5DL	CONCENTRATION (UG/KG)	CRQL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE		ND	1500	U
	ACETONE		1,500		BD
	CARBON DISULFIDE		ND	1500	U
	2-BUTANONE		1,900		D
	1,1,1-TRICHLOROETHANE		ND	1500	U
	BENZENE		ND	1500	U
	ETHYLBENZENE		ND	1500	U
	TOTAL XYLENES		ND	1500	U
	TERT-BUTYL METHYL ETHER (MTBE)		NA		
	N-PROPYLBENZENE		NA		
	TOTAL VOAs		3,400		
	TOTAL BTEX + MTBE		0		
	NUMBER OF VOA TICs		5		
	EST. CONC. OF VOA TICs		5,180		
SEMI- VOAs	NAPHTHALENE		NA		
	2-METHYLNAPHTHALENE		NA		
	FLUORENE		NA		
	PENTACHLOROPHENOL		NA		
	PHENANTHRENE		NA		
	ANTHRACENE		NA		
	DI-N-BUTYLPHTHALATE		NA		
	FLUORANTHENE		NA		
	PYRENE		NA		
	BUTYLBENZYLPHTHALATE		NA		
	BENZO (A) ANTHRACENE		NA		
	CHRYSENE		NA		
	BIS(2-ETHYLHEXYL)PHTHALATE		NA		
	BENZO (B) FLUORANTHENE		NA		
	BENZO (K) FLUORANTHENE		NA		
	BENZO (A) PYRENE		NA		
	INDENO (1,2,3-CD) PYRENE		NA		
	BENZO (G,H,I) PERYLENE		NA		
	TOTAL SEMI-VOAs		NA		
	TOTAL PAHs		0		
	NUMBER OF SEMI-VOA TICs		NA		
	EST. CONC. OF SEMI-VOA TICs		NA		
			CONCENTRATION (MG/KG)	REPORTING LIMIT (MG/KG)	
TPH	TOTAL PETROLEUM HYDROCARBONS		NA		

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)
 MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)
 CRQL - CONTRACT REQUIRED QUANTIFICATION LIMIT.
 ND - NOT DETECTED
 NA - NOT ANALYZED FOR THIS
 U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.
 J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.
 B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.
 D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.
 TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.
 COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE
 PURPOSE OF CALCULATING TOTALS.
 METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED
 TO BE LABORATORY ARTIFACTS.

TABLE 3
LABORATORY RESULTS - SOIL SAMPLES
APRIL 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
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SAMPLE NO:		CONCENTRATION (UG/KG)	CRQL (UG/KG)	QUALIFIERS
HB5-2.3				
VOAs	METHYLENE CHLORIDE	ND	1500	U
	ACETONE	800		BJ
	CARBON DISULFIDE	ND	1500	U
	2-BUTANONE	1,000		J
	1,1,1-TRICHLOROETHANE	ND	1500	U
	BENZENE	ND	1500	J
	ETHYLBENZENE	190		J
	TOTAL XYLENES	ND	1500	J
	TERT-BUTYL METHYL ETHER (MTBE)	490		
	N-PROPYLBENZENE	380		J
	TOTAL VOAs	2,860		
	TOTAL BTEX + MTBE	680		
	NUMBER OF VOA TICs	4		
	EST. CONC. OF VOA TICs	4,210		
SEMI-VOAs	NAPHTHALENE	610		
	2-METHYLNAPHTHALENE	920		
	FLUORENE	170		J
	PENTACHLOROPHENOL	ND	1000	U
	PHENANTHRENE	340		J
	ANTHRACENE	ND	420	U
	DI-N-BUTYLPHTHALATE	ND	420	U
	FLUORANTHENE	51		J
	PYRENE	210		J
	BUTYLBENZYLPHTHALATE	ND	420	U
	BENZO (A) ANTHRACENE	ND	420	J
	CHRYSENE	100		J
	BIS(2-ETHYLHEXYL)PHTHALATE	290		J
	BENZO (B) FLUORANTHENE	49		J
	BENZO (K) FLUORANTHENE	ND	420	U
	BENZO (A) PYRENE	ND	420	U
	INDENO (1,2,3-CD) PYRENE	ND	420	U
	BENZO (G,H,I) PERYLENE	67		J
	TOTAL SEMI-VOAs	2,807		
	TOTAL PAHs	2,417		
	NUMBER OF SEMI-VOA TICs	21		
	EST. CONC. OF SEMI-VOA TICs	10,500		
		CONCENTRATION (MG/KG)	REPORTING LIMIT (MG/KG)	
TPH	TOTAL PETROLEUM HYDROCARBONS	1,800	610	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)
MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)
CRQL - CONTRACT REQUIRED QUANTIFICATION LIMIT.
ND - NOT DETECTED
NA - NOT ANALYZED FOR THIS
U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.
J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.
B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.
D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.
TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.
COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE PURPOSE OF CALCULATING TOTALS.
METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

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LABORATORY RESULTS - SOIL SAMPLES
APRIL 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
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SAMPLE NO:		HB5-2.3DL	CONCENTRATION (UG/KG)	CRQL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE		NA		
	ACETONE		NA		
	CARBON DISULFIDE		NA		
	2-BUTANONE		NA		
	1,1,1-TRICHLOROETHANE		NA		
	BENZENE		NA		
	ETHYLBENZENE		NA		
	TOTAL XYLENES		NA		
	TERT-BUTYL METHYL ETHER (MTBE)		NA		
	N-PROPYLBENZENE		NA		
	TOTAL VOAs		NA		
	TOTAL BTEX + MTBE		NA		
	NUMBER OF VOA TICs		NA		
	EST. CONC. OF VOA TICs		NA		
SEMI-VOAs	NAPHTHALENE		910		DJ
	2-METHYLNAPHTHALENE		1,200		DJ
	FLUORENE		ND	4200	U
	PENTACHLOROPHENOL		ND	10000	U
	PHENANTHRENE		470		DJ
	ANTHRACENE		ND	4200	U
	DI-N-BUTYLPHTHALATE		ND	4200	U
	FLUORANTHENE		ND	4200	U
	PYRENE		ND	4200	U
	BUTYLBENZYLPHTHALATE		ND	4200	U
	BENZO (A) ANTHRACENE		ND	4200	U
	CHRYSENE		ND	4200	U
	BIS(2-ETHYLHEXYL)PHTHALATE		470		DJ
	BENZO (B) FLUORANTHENE		ND	4200	U
	BENZO (K) FLUORANTHENE		ND	4200	U
	BENZO (A) PYRENE		ND	4200	U
	INDENO (1,2,3-CD) PYRENE		ND	4200	U
	BENZO (G,H,I) PERYLENE		ND	4200	U
	TOTAL SEMI-VOAs		3,050		
	TOTAL PAHs		2,580		
	NUMBER OF SEMI-VOA TICs		3		
	EST. CONC. OF SEMI-VOA TICs		6,850		
			CONCENTRATION (MG/KG)	REPORTING LIMIT (MG/KG)	
TPH	TOTAL PETROLEUM HYDROCARBONS		NA		

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)

CRQL - CONTRACT REQUIRED QUANTIFICATION LIMIT.

ND - NOT DETECTED

NA - NOT ANALYZED FOR THIS

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.

B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE

PURPOSE OF CALCULATING TOTALS.

METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

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LABORATORY RESULTS - SOIL SAMPLES
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SAMPLE NO:		HB6-1.5	CONCENTRATION (UG/KG)	CRQL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE		3		J
	ACETONE		75		B
	CARBON DISULFIDE		ND	12	U
	2-BUTANONE		11		BJ
	1,1,1-TRICHLOROETHANE		ND	12	U
	BENZENE		ND	12	U
	ETHYLBENZENE		ND	12	U
	TOTAL XYLENES		ND	12	U
	TERT-BUTYL METHYL ETHER (MTBE)		ND	12	U
	N-PROPYLBENZENE		ND	5.8	U
	TOTAL VOAs		89		
	TOTAL BTEX + MTBE		0		
	NUMBER OF VOA TICs		1		
	EST. CONC. OF VOA TICs		14		
SEMI- VOAs	NAPHTHALENE		ND	410	U
	2-METHYLNAPHTHALENE		ND	410	U
	FLUORENE		46		J
	PENTACHLOROPHENOL		ND	990	U
	PHENANTHRENE		320		J
	ANTHRACENE		72		J
	DI-N-BUTYLPHTHALATE		ND	410	U
	FLUORANTHENE		390		J
	PYRENE		430		
	BUTYLBENZYLPHTHALATE		ND	410	U
	BENZO (A) ANTHRACENE		250		J
	CHRYSENE		230		J
	BIS(2-ETHYLHEXYL)PHTHALATE		51		J
	BENZO (B) FLUORANTHENE		330		J
	BENZO (K) FLUORANTHENE		57		J
	BENZO (A) PYRENE		200		J
	INDENO (1,2,3-CD) PYRENE		120		J
	BENZO (G,H,I) PERYLENE		130		J
	TOTAL SEMI-VOAs		2,626		
	TOTAL PAHs		2,345		
	NUMBER OF SEMI-VOA TICs		12		
	EST. CONC. OF SEMI-VOA TICs		29,808		
			CONCENTRATION (MG/KG)	REPORTING LIMIT (MG/KG)	
TPH	TOTAL PETROLEUM HYDROCARBONS		170	23	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)
MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)
CRQL - CONTRACT REQUIRED QUANTIFICATION LIMIT.
ND - NOT DETECTED
NA - NOT ANALYZED FOR THIS
U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.
J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.
B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.
D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.
TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.
COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE
PURPOSE OF CALCULATING TOTALS.
METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED
TO BE LABORATORY ARTIFACTS.

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LABORATORY RESULTS - SOIL SAMPLES
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SAMPLE NO:		HB7-1.25		CONCENTRATION (UG/KG)	CRQL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE			4		J
	ACETONE			240		BE
	CARBON DISULFIDE			1		J
	2-BUTANONE			37		B
	1,1,1-TRICHLOROETHANE			ND	12	U
	BENZENE			2		J
	ETHYLBENZENE			ND	12	U
	TOTAL XYLENES			ND	12	U
	TERT-BUTYL METHYL ETHER (MTBE)			29		
	N-PROPYLBENZENE			ND	5.9	
	TOTAL VOAs			313		
	TOTAL BTEX + MTBE			31		
	NUMBER OF VOA TICs			2		
	EST. CONC. OF VOA TICs			62		
SEMI- VOAs	NAPHTHALENE			ND	410	U
	2-METHYLNAPHTHALENE			ND	410	U
	FLUORENE			ND	410	U
	PENTACHLOROPHENOL			51	410	J
	PHENANTHRENE			ND	410	U
	ANTHRACENE			ND	410	U
	DI-N-BUTYLPHTHALATE			ND	410	U
	FLUORANTHENE			ND	410	U
	PYRENE			ND	410	U
	BUTYLBENZYLPHTHALATE			ND	410	U
	BENZO (A) ANTHRACENE			ND	410	U
	CHRYSENE			ND	410	U
	BIS(2-ETHYLHEXYL)PHTHALATE			ND	410	U
	BENZO (B) FLUORANTHENE			ND	410	U
	BENZO (K) FLUORANTHENE			ND	410	U
	BENZO (A) PYRENE			ND	410	U
	INDENO (1,2,3-CD) PYRENE			ND	410	U
	BENZO (G,H,I) PERYLENE			ND	410	U
	TOTAL SEMI-VOAs			51		
	TOTAL PAHs			0		
	NUMBER OF SEMI-VOA TICs			8		
	EST. CONC. OF SEMI-VOA TICs			10,373		
				CONCENTRATION (MG/KG)	REPORTING LIMIT (MG/KG)	
TPH	TOTAL PETROLEUM HYDROCARBONS			67	24	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)
MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)
CRQL - CONTRACT REQUIRED QUANTIFICATION LIMIT.
ND - NOT DETECTED
NA - NOT ANALYZED FOR THIS
U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.
J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.
B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.
D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.
TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.
COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE PURPOSE OF CALCULATING TOTALS.
METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

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LABORATORY RESULTS - SOIL SAMPLES
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ANNA'S RETREAT
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SAMPLE NO:		HB7-1.25DL	CONCENTRATION (UG/KG)	CRQL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE		8		BDJ
	ACETONE		370		BD
	CARBON DISULFIDE		ND	24	U
	2-BUTANONE		58		BD
	1,1,1-TRICHLOROETHANE		4		BDJ
	BENZENE		ND	24	U
	ETHYLBENZENE		ND	24	U
	TOTAL XYLENES		ND	24	U
	TERT-BUTYL METHYL ETHER (MTBE)		NA		
	N-PROPYLBENZENE		NA		
	TOTAL VOAs		440		
	TOTAL BTEX + MTBE		0		
	NUMBER OF VOA TICs		3		
	EST. CONC. OF VOA TICs		113		
SEMI-VOAs	NAPHTHALENE		NA		
	2-METHYLNAPHTHALENE		NA		
	FLUORENE		NA		
	PENTACHLOROPHENOL		NA		
	PHENANTHRENE		NA		
	ANTHRACENE		NA		
	DI-N-BUTYLPHTHALATE		NA		
	FLUORANTHENE		NA		
	PYRENE		NA		
	BUTYLBENZYLPHTHALATE		NA		
	BENZO (A) ANTHRACENE		NA		
	CHRYSENE		NA		
	BIS(2-ETHYLHEXYL)PHTHALATE		NA		
	BENZO (B) FLUORANTHENE		NA		
	BENZO (K) FLUORANTHENE		NA		
	BENZO (A) PYRENE		NA		
	INDENO (1,2,3-CD) PYRENE		NA		
	BENZO (G,H,I) PERYLENE		NA		
	TOTAL SEMI-VOAs		NA		
	TOTAL PAHs		NA		
	NUMBER OF SEMI-VOA TICs		NA		
	EST. CONC. OF SEMI-VOA TICs		NA		
			CONCENTRATION (MG/KG)	REPORTING LIMIT (MG/KG)	
TPH	TOTAL PETROLEUM HYDROCARBONS		NA		

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)
 MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)
 CRQL - CONTRACT REQUIRED QUANTIFICATION LIMIT.
 ND - NOT DETECTED
 NA - NOT ANALYZED FOR THIS
 U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.
 J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.
 B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.
 D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.
 TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.
 COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE
 PURPOSE OF CALCULATING TOTALS.
 METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED
 TO BE LABORATORY ARTIFACTS.

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LABORATORY RESULTS - SOIL SAMPLES
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RAMSAY MOTORS
ANNA'S RETREAT
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SAMPLE NO:		CONCENTRATION (UG/KG)	CRQL (UG/KG)	QUALIFIERS
HB8-2				
VOAs	METHYLENE CHLORIDE	2		J
	ACETONE	3		BJ
	CARBON DISULFIDE	ND	12	U
	2-BUTANONE	ND	12	U
	1,1,1-TRICHLOROETHANE	ND	12	U
	BENZENE	ND	12	U
	ETHYLBENZENE	ND	12	U
	TOTAL XYLENES	ND	12	U
	TERT-BUTYL METHYL ETHER (MTBE)	ND	12	
	N-PROPYLBENZENE	ND	5.9	
	TOTAL VOAs	5		
	TOTAL BTEX + MTBE	0		
	NUMBER OF VOA TICs	0		
	ESTIMATED CONCENTRATION OF VOA TICs	0		
SEMI-VOAs	NAPHTHALENE	ND	380	U
	2-METHYLNAPHTHALENE	ND	380	U
	FLUORENE	ND	380	U
	PENTACHLOROPHENOL	ND	380	U
	PHENANTHRENE	ND	380	U
	ANTHRACENE	ND	380	U
	DI-N-BUTYLPHTHALATE	ND	380	U
	FLUORANTHENE	180		J
	PYRENE	180		J
	BUTYLBENZYLPHthalate	ND	380	U
	BENZO (A) ANTHRACENE	120		J
	CHRYSENE	150		J
	BIS(2-ETHYLHEXYL)PHTHALATE	84		J
	BENZO (B) FLUORANTHENE	200		J
	BENZO (K) FLUORANTHENE	70		J
	BENZO (A) PYRENE	110		J
	INDENO (1,2,3-CD) PYRENE	58		J
	BENZO (G,H,I) PERYLENE	77		J
	TOTAL SEMI-VOAs	1,229		
	TOTAL PAHs	995		
	NUMBER OF SEMI-VOA TICs	4		
	EST. CONC. OF SEMI-VOA TICs	11,534		
		CONCENTRATION (MG/KG)	REPORTING LIMIT (MG/KG)	
TPH	TOTAL PETROLEUM HYDROCARBONS	24	24	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)
 MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)
 CRQL - CONTRACT REQUIRED QUANTIFICATION LIMIT.
 ND - NOT DETECTED
 NA - NOT ANALYZED FOR THIS
 U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.
 J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.
 B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.
 D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.
 TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.
 COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE
 PURPOSE OF CALCULATING TOTALS.
 METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED
 TO BE LABORATORY ARTIFACTS.

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LABORATORY RESULTS - SOIL SAMPLES
APRIL 1993
RAMSAY MOTORS
ANNA'S RETREAT
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SAMPLE NO:		HB10-S	CONCENTRATION (UG/KG)	CRQL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE		3		J
	ACETONE		7		BJ
	CARBON DISULFIDE		ND	12	U
	2-BUTANONE		ND	12	U
	1,1,1-TRICHLOROETHANE		ND	12	U
	BENZENE		ND	12	U
	ETHYLBENZENE		ND	12	U
	TOTAL XYLENES		ND	12	U
	TERT-BUTYL METHYL ETHER (MTBE)		ND	12	
	N-PROPYLBENZENE		ND	6	
	TOTAL VOAs		10		
	TOTAL BTEX + MTBE		0		
	NUMBER OF VOA TICs		1		
	EST. CONC. OF VOA TICs		11		
SEMI-VOAs	NAPHTHALENE		ND	410	U
	2-METHYLNAPHTHALENE		ND	410	U
	FLUORENE		ND	410	U
	PENTACHLOROPHENOL		ND	990	U
	PHENANTHRENE		ND	410	U
	ANTHRACENE		ND	410	U
	DI-N-BUTYLPHTHALATE		97		J
	FLUORANTHENE		ND	410	U
	PYRENE		ND	410	U
	BUTYLBENZYLPHTHALATE		970		
	BENZO (A) ANTHRACENE		ND	410	U
	CHRYSENE		ND	410	U
	BIS(2-ETHYLHEXYL)PHTHALATE		190		J
	BENZO (B) FLUORANTHENE		ND	410	U
	BENZO (K) FLUORANTHENE		ND	410	J
	BENZO (A) PYRENE		ND	410	U
	INDENO (1,2,3-CD) PYRENE		ND	410	U
	BENZO (G,H,I) PERYLENE		340		J
	TOTAL SEMI-VOAs		1,597		
	TOTAL PAHs		340		
	NUMBER OF SEMI-VOA TICs		21		
	EST. CONC. OF SEMI-VOA TICs		17,334		
			CONCENTRATION (MG/KG)	REPORTING LIMIT (MG/KG)	
TPH	TOTAL PETROLEUM HYDROCARBONS		73	24	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)
 MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)
 CRQL - CONTRACT REQUIRED QUANTIFICATION LIMIT.
 ND - NOT DETECTED
 NA - NOT ANALYZED FOR THIS
 U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.
 J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.
 B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.
 D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.
 TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.
 COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE
 PURPOSE OF CALCULATING TOTALS.
 METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED
 TO BE LABORATORY ARTIFACTS.

TABLE 3
LABORATORY RESULTS - SOIL SAMPLES
APRIL 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

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SAMPLE NO:	HB10-SRE	CONCENTRATION (UG/KG)	CRQL (UG/KG)	QUALIFIERS
	METHYLENE CHLORIDE	6		BJ
	ACETONE	6		BJ
	CARBON DISULFIDE	ND	12	U
	2-BUTANONE	3		BJ
	1,1,1-TRICHLOROETHANE	4		BJ
	BENZENE	ND	12	U
	ETHYLBENZENE	ND	12	U
	TOTAL XYLENES	ND	12	U
	TERT-BUTYL METHYL ETHER (MTBE)	NA		
	N-PROPYLBENZENE	NA		
	TOTAL VOA _s	19		
	TOTAL BTEX + MTBE	0		
	NUMBER OF VOA TIC _s	2		
	EST. CONC. OF VOA TIC _s	48		
SEMI- VOA _s	NAPHTHALENE	NA		
	2-METHYLNAPHTHALENE	NA		
	FLUORENE	NA		
	PENTACHLOROPHENOL	NA		
	PHENANTHRENE	NA		
	ANTHRACENE	NA		
	DI-N-BUTYLPHTHALATE	NA		
	FLUORANTHENE	NA		
	PYRENE	NA		
	BUTYLBENZYLPHTHALATE	NA		
	BENZO (A) ANTHRACENE	NA		
	CHRYSENE	NA		
	BIS(2-ETHYLHEXYL)PHTHALATE	NA		
	BENZO (B) FLUORANTHENE	NA		
	BENZO (K) FLUORANTHENE	NA		
	BENZO (A) PYRENE	NA		
	INDENO (1,2,3-CD) PYRENE	NA		
	BENZO (G,H,I) PERYLENE	NA		
	TOTAL SEMI-VOA _s	NA		
	TOTAL PAH _s	NA		
	NUMBER OF SEMI-VOA TIC _s	NA		
	EST. CONC. OF SEMI-VOA TIC _s	NA		
		CONCENTRATION (MG/KG)	REPORTING LIMIT (MG/KG)	
TPH	TOTAL PETROLEUM HYDROCARBONS	NA	NA	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)
MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)
CRQL - CONTRACT REQUIRED QUANTIFICATION LIMIT.
ND - NOT DETECTED
NA - NOT ANALYZED FOR THIS
U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.
J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.
B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.
D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.
TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.
COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE
PURPOSE OF CALCULATING TOTALS.
METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED
TO BE LABORATORY ARTIFACTS.

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SUMMARY OF LABORATORY RESULTS - SOIL SAMPLES
APRIL 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

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		SAMPLE ID											
	UNITS	HB2-4.5	HB3-3.0	HB4-2.5	HB4-2.5DL	HB5-2.3	HB5-2.3DL	HB6-1.5	HB7-1.25	HB7-1.25DL	HB8-2	HB10-S	HB10-SRE
VOAs													
METHYLENE CHLORIDE	ug/kg	11	ND	10	ND	ND	NA	3	4	8	2	3	6
ACETONE	ug/kg	500	1,000	270	1,500	800	NA	75	240	370	3	7	6
CARBON DISULFIDE	ug/kg	ND	ND	ND	ND	ND	NA	ND	1	ND	ND	ND	ND
2-BUTANONE	ug/kg	39	ND	35	1,900	1,000	NA	11	37	58	ND	ND	3
1,1,1-TRICHLOROETHANE	ug/kg	ND	ND	ND	ND	ND	NA	ND	ND	4	ND	ND	4
BENZENE	ug/kg	17	ND	ND	ND	ND	NA	ND	2	ND	ND	ND	ND
ETHYLBENZENE	ug/kg	290	ND	ND	ND	190	NA	ND	ND	ND	ND	ND	ND
TOTAL XYLENES	ug/kg	7	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
MTBE	ug/kg	880	410	250	NA	490	NA	ND	29	NA	ND	ND	NA
N-PROPYLBENZENE	ug/kg	480	210	9.1	NA	380	NA	ND	ND	NA	ND	ND	NA
TOTAL VOAs	ug/kg	2,224	1,620	574.1	3,400	2,860	NA	89	313	440	5	10	19
TOTAL BTEX + MTBE	ug/kg	1,194	410	250	0	680	NA	0	31	0	0	0	0
NUMBER OF VOA TICs	#	10	9	10	5	4	NA	1	2	3	0	1	2
EST. CONC. OF VOA TICs	ug/kg	4,250	11,660	2,580	5,180	4,210	NA	14	62	113	0	11	48
SEMI-VOAs													
NAPHTHALENE	ug/kg	110	ND	ND	NA	610	910	ND	ND	NA	ND	ND	NA
2-METHYLNAPHTHALENE	ug/kg	140	47	130	NA	920	1,200	ND	ND	NA	ND	ND	NA
FLUORENE	ug/kg	75	ND	93	NA	170	ND	46	ND	NA	ND	ND	NA
PENTACHLOROPHENOL	ug/kg	ND	ND	ND	NA	ND	ND	ND	51	NA	ND	ND	NA
PHENANTHRENE	ug/kg	85	ND	160	NA	340	470	320	ND	NA	ND	ND	NA
ANTHRACENE	ug/kg	ND	ND	ND	NA	ND	ND	72	ND	NA	ND	ND	NA
DI-N-BUTYLPHTHALATE	ug/kg	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	97	NA
FLUORANTHENE	ug/kg	ND	ND	ND	NA	51	ND	390	ND	NA	180	ND	NA
PYRENE	ug/kg	ND	ND	ND	NA	210	ND	430	ND	NA	180	ND	NA
BUTYLBENZYLPHTHALATE	ug/kg	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	970	NA
BENZO (A) ANTHRACENE	ug/kg	ND	ND	ND	NA	ND	ND	250	ND	NA	120	ND	NA
CHRYSENE	ug/kg	ND	ND	43	NA	100	ND	230	ND	NA	150	ND	NA
BIS(2-ETHYLHEXYL)PHTHALATE	ug/kg	82	49	51	NA	290	470	51	ND	NA	84	190	NA
BENZO (B) FLUORANTHENE	ug/kg	ND	ND	ND	NA	49	ND	330	ND	NA	200	ND	NA
BENZO (K) FLUORANTHENE	ug/kg	ND	ND	ND	NA	ND	ND	57	ND	NA	70	ND	NA
BENZO (A) PYRENE	ug/kg	ND	ND	ND	NA	ND	ND	200	ND	NA	110	ND	NA
INDENO (1,2,3-CD) PYRENE	ug/kg	ND	ND	ND	NA	ND	ND	120	ND	NA	58	ND	NA
BENZO (G,H,I) PERYLENE	ug/kg	ND	ND	ND	NA	67	ND	130	ND	NA	77	340	NA
TOTAL SEMI-VOAs	ug/kg	492	96	477	NA	2,807	3,050	2,626	51	NA	1,229	1,597	NA
TOTAL PAHs	ug/kg	410	47	426	NA	2517	2580	2575	0	NA	1145	340	NA
NUMBER OF SEMI-VOA TICs	#	17	5	21	NA	21	3	12	8	NA	4	21	NA
EST. CONC. OF SEMI-VOA TICs	ug/kg	11,029	10,537	13,170	NA	10,500	6,850	29,808	10,373	NA	11,534	17,334	NA
TPH	mg/kg	670	ND	200	NA	1,800	NA	170	67	NA	24	73	NA

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SUMMARY OF LABORATORY RESULTS - SOIL SAMPLES
APRIL 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

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NOTES FOR TABLE 4

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)

CRQL - CONTRACT REQUIRED QUANTIFICATION LIMIT.

ND - NOT DETECTED

NA - NOT ANALYZED FOR THIS

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.

B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

SLA - SUSPECT LABORATORY ARTIFACTS

QLV - QUESTIONABLE LABORATORY VALUES

TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE
PURPOSE OF CALCULATING TOTALS.

METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED
TO BE LABORATORY ARTIFACTS.

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TABLE 5
LABORATORY RESULTS - SOIL SAMPLE
JULY 1993
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 5.1

SAMPLE NO:		SB-1	CONCENTRATION (UG/KG)	RL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE		ND	5.4	
	ACETONE		ND	11	
	CARBON DISULFIDE		ND	5.4	
	2-BUTANONE		ND	11	
	1,1,1-TRICHLOROETHANE		ND	5.4	
	TETRACHLOROETHENE		ND	5.4	
	BENZENE		ND	5.4	
	TOLUENE		ND	5.4	
	ETHYLBENZENE		ND	5.4	
	TOTAL XYLENES		ND	5.4	
	TERT-BUTYL METHYL ETHER (MTBE)		NA		
	N-PROPYLBENZENE		NA		
	TOTAL VOAs		0		
	TOTAL BTEX + MTBE		0		
	NUMBER OF VOA TICs		NA		
	EST. CONC. OF VOA TICs				
SEMI- VOAs	PHENOL		180	720	d, J
	2-METHYLPHENOL		530	720	d, J
	4-METHYLPHENOL		220	720	d, J
	NAPHTHALENE		ND	720	d
	2-METHYLNAPHTHALENE		ND	720	d
	FLUORENE		ND	720	d
	PENTACHLOROPHENOL		ND	3,500	d
	PHENANTHRENE		ND	720	d
	ANTHRACENE		ND	720	d
	DI-N-BUTYLPHTHALATE		ND	720	d
	FLUORANTHENE		ND	720	d
	PYRENE		180	720	d, J
	BUTYLBENZYLPHTHALATE		ND	720	d
	BENZO (A) ANTHRACENE		ND	720	d
	CHRYSENE		200	720	d, J
	BIS(2-ETHYLHEXYL)PHTHALATE		110	720	d, J
	DI-N-OCTYL PHTHALATE		120	720	d, J
	BENZO (B) FLUORANTHENE		170	720	d, J
	BENZO (K) FLUORANTHENE		ND	720	d
	BENZO (A) PYRENE		340	720	d, J
	INDENO (1,2,3-CD) PYRENE		ND	720	d
	BENZO (G,H,I) PERYLENE		1,200	720	d
	TOTAL SEMI-VOAs		3,250		
	TOTAL PAHs		2,090		
	NUMBER OF SEMI-VOA TICs		NA		
	EST. CONC. OF SEMI-VOA TICs				
TPH	TOTAL PETROLEUM HYDROCARBONS		420 MG/KG	1.4 MG/KG	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)

RL - REPORTING LIMIT

ND - NOT DETECTED

NA - NOT ANALYZED FOR

u - REPORTING LIMITS RAISED DUE TO HIGH LEVELS OF TARGET ANALYTES.

d - REPORTING LIMITS RAISED DUE TO MATRIX INTERFERENCES.

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.

B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE PURPOSE OF CALCULATIONS.

METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

TABLE 5
LABORATORY RESULTS - SOIL SAMPLE
JULY 1993
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 5.2

SAMPLE NO:		SB-3	CONCENTRATION (UG/KG)	RL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE		ND	6.3	
	ACETONE		ND	13	
	CARBON DISULFIDE		ND	6.3	
	2-BUTANONE		ND	13	
	1,1,1-TRICHLOROETHANE		ND	6.3	
	TETRACHLOROETHENE		ND	6.3	
	BENZENE		ND	6.3	
	TOLUENE		ND	6.3	
	ETHYLBENZENE		ND	6.3	
	TOTAL XYLENES		ND	6.3	
	TERT-BUTYL METHYL ETHER (MTBE)		NA		
	N-PROPYLBENZENE		NA		
	TOTAL VOAs		0		
	TOTAL BTEX + MTBE		0		
	NUMBER OF VOA TICs		NA		
	EST. CONC. OF VOA TICs				
SEMI- VOAs	PHENOL		ND	4,200	d
	2-METHYLPHENOL		ND	4,200	d
	4-METHYLPHENOL		ND	4,200	d
	NAPHTHALENE		ND	4,200	d
	2-METHYLNAPHTHALENE		ND	4,200	d
	FLUORENE		ND	4,200	d
	PENTACHLOROPHENOL		ND	20,000	d
	PHENANTHRENE		ND	4,200	d
	ANTHRACENE		ND	4,200	d
	DI-N-BUTYLPHTHALATE		ND	4,200	d
	FLUORANTHENE		ND	4,200	d
	PYRENE		780	4,200	d, J
	BUTYLBENZYLPHTHALATE		ND	4,200	d
	BENZO (A) ANTHRACENE		ND	4,200	d
	CHRYSENE		790	4,200	d, J
	BIS(2-ETHYLHEXYL)PHTHALATE		660	4,200	d, J
	DI-N-OCTYL PHTHALATE		450	4,200	d, J
	BENZO (B) FLUORANTHENE		1,100	4,200	d, J
	BENZO (K) FLUORANTHENE		ND	4,200	d
	BENZO (A) PYRENE		420	4,200	d, J
	INDENO (1,2,3-CD) PYRENE		ND	4,200	d
	BENZO (G,H,I) PERYLENE		3,400	4,200	d, J
	TOTAL SEMI-VOAs		7,600		
	TOTAL PAHs		6,490		
	NUMBER OF SEMI-VOA TICs		NA		
	EST. CONC. OF SEMI-VOA TICs				
TPH	TOTAL PETROLEUM HYDROCARBONS		2,000 MG/KG	2.5 MG/KG	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)

RL - REPORTING LIMIT

ND - NOT DETECTED

NA - NOT ANALYZED FOR

u - REPORTING LIMITS RAISED DUE TO HIGH LEVELS OF TARGET ANALYTES.

d - REPORTING LIMITS RAISED DUE TO MATRIX INTERFERENCES.

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.

B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE PURPOSE OF CALCULATIONS.

METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

TABLE 5
LABORATORY RESULTS - SOIL SAMPLE
JULY 1993
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

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SAMPLE NO:		SB-4	CONCENTRATION (UG/KG)	RL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE		ND	5.8	
	ACETONE		ND	12	
	CARBON DISULFIDE		ND	5.8	
	2-BUTANONE		ND	12	
	1,1,1-TRICHLOROETHANE		ND	5.8	
	TETRACHLOROETHENE		ND	5.8	
	BENZENE		ND	5.8	
	TOLUENE		ND	5.8	
	ETHYLBENZENE		ND	5.8	
	TOTAL XYLENES		ND	5.8	
	TERT-BUTYL METHYL ETHER (MTBE)		NA		
	N-PROPYLBENZENE		NA		
	TOTAL VOAs		0		
	TOTAL BTEX + MTBE		0		
	NUMBER OF VOA TICs		NA		
	EST. CONC. OF VOA TICs				
SEMI- VOAs	PHENOL		ND	380	
	2-METHYL PHENOL		ND	380	
	4-METHYL PHENOL		ND	380	
	NAPHTHALENE		ND	380	
	2-METHYLNAPHTHALENE		ND	380	
	FLUORENE		ND	380	
	PENTACHLOROPHENOL		ND	1,800	
	PHENANTHRENE		ND	380	
	ANTHRACENE		ND	380	
	DI-N-BUTYLPHTHALATE		ND	380	
	FLUORANTHENE		ND	380	
	PYRENE		ND	380	
	BUTYLBENZYLPHTHALATE		44	380	J
	BENZO (A) ANTHRACENE		ND	380	
	CHRYSENE		ND	380	
	BIS(2-ETHYLHEXYL)PHTHALATE		ND	380	
	DI-N-OCTYL PHTHALATE		ND	380	
	BENZO (B) FLUORANTHENE		ND	380	
	BENZO (K) FLUORANTHENE		ND	380	
	BENZO (A) PYRENE		ND	380	
	INDENO (1,2,3-CD) PYRENE		ND	380	
	BENZO (G,H,I) PERYLENE		ND	380	
	TOTAL SEMI-VOAs		44		
	TOTAL PAHs		0		
	NUMBER OF SEMI-VOA TICs		NA		
	EST. CONC. OF SEMI-VOA TICs				
TPH	TOTAL PETROLEUM HYDROCARBONS		27 MG/KG	0.29 MG/KG	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)

RL - REPORTING LIMIT

ND - NOT DETECTED

NA - NOT ANALYZED FOR

u - REPORTING LIMITS RAISED DUE TO HIGH LEVELS OF TARGET ANALYTES.

d - REPORTING LIMITS RAISED DUE TO MATRIX INTERFERENCES.

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.

B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE PURPOSES OF CALCULATING TOTALS.

METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

TABLE 5
LABORATORY RESULTS - SOIL SAMPLE
JULY 1993
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 5.4

SAMPLE NO:		SB-5	CONCENTRATION (UG/KG)	RL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE		ND	6.2	
	ACETONE		ND	12	
	CARBON DISULFIDE		ND	6.2	
	2-BUTANONE		ND	12	
	1,1,1-TRICHLOROETHANE		ND	6.2	
	TETRACHLOROETHENE		ND	6.2	
	BENZENE		ND	6.2	
	TOLUENE		ND	6.2	
	ETHYLBENZENE		ND	6.2	
	TOTAL XYLENES		ND	6.2	
	TERT-BUTYL METHYL ETHER (MTBE)		NA		
	N-PROPYLBENZENE		NA		
	TOTAL VOAs		0		
	TOTAL BTEX + MTBE		0		
	NUMBER OF VOA TICs		NA		
	EST. CONC. OF VOA TICs				
SEMI- VOAs	PHENOL		ND	410	
	2-METHYL PHENOL		ND	410	
	4-METHYL PHENOL		ND	410	
	NAPHTHALENE		ND	410	
	2-METHYLNAPHTHALENE		ND	410	
	FLUORENE		ND	410	
	PENTACHLOROPHENOL		ND	2,000	
	PHENANTHRENE		ND	410	
	ANTHRACENE		ND	410	
	DI-N-BUTYLPHTHALATE		ND	410	
	FLUORANTHENE		ND	410	
	PYRENE		ND	410	
	BUTYLBENZYLPHTHALATE		680	410	
	BENZO (A) ANTHRACENE		ND	410	
	CHRYSENE		ND	410	
	BIS(2-ETHYLHEXYL)PHTHALATE		100	410	
	DI-N-OCTYL PHTHALATE		ND	410	
	BENZO (B) FLUORANTHENE		ND	410	
	BENZO (K) FLUORANTHENE		ND	410	
	BENZO (A) PYRENE		ND	410	
	INDENO (1,2,3-CD) PYRENE		ND	410	
	BENZO (G,H,I) PERYLENE		ND	410	
	TOTAL SEMI-VOAs		780		
	TOTAL PAHs		0		
	NUMBER OF SEMI-VOA TICs		NA		
	EST. CONC. OF SEMI-VOA TICs				
TPH	TOTAL PETROLEUM HYDROCARBONS		81 MG/KG	3.1 MG/KG	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)

RL - REPORTING LIMIT

ND - NOT DETECTED

NA - NOT ANALYZED FOR

u - REPORTING LIMITS RAISED DUE TO HIGH LEVELS OF TARGET ANALYTES.

d - REPORTING LIMITS RAISED DUE TO MATRIX INTERFERENCES.

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.

B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE PURPOSE OF CALCULATING TOTALS.

METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

TABLE 5
LABORATORY RESULTS - SOIL SAMPLE
JULY 1993
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 5.5

SAMPLE NO:		CONCENTRATION (UG/KG)	RL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE	2.3	6.0	J
	ACETONE	160	12	
	CARBON DISULFIDE	ND	6.0	
	2-BUTANONE	ND	12	
	1,1,1-TRICHLOROETHANE	ND	6.0	
	TETRACHLOROETHENE	ND	6.0	
	BENZENE	ND	6.0	
	TOLUENE	ND	6.0	
	ETHYLBENZENE	ND	6.0	
	TOTAL XYLENES	ND	6.0	
	TERT-BUTYL METHYL ETHER (MTBE)	NA		
	N-PROPYLBENZENE	NA		
	TOTAL VOAs	162.3		
	TOTAL BTEX + MTBE	0		
	NUMBER OF VOA TICs	NA		
	EST. CONC. OF VOA TICs			
SEMI- VOAs	PHENOL	ND	390	
	2-METHYL PHENOL	ND	390	
	4-METHYL PHENOL	ND	390	
	NAPHTHALENE	ND	390	
	2-METHYLNAPHTHALENE	ND	390	
	FLUORENE	ND	390	
	PENTACHLOROPHENOL	ND	1,900	
	PHENANTHRENE	ND	390	
	ANTHRACENE	ND	390	
	DI-N-BUTYLPHTHALATE	ND	390	
	FLUORANTHENE	ND	390	
	PYRENE	ND	390	
	BUTYLBENZYLPHTHALATE	110	390	J
	BENZO (A) ANTHRACENE	ND	390	
	CHRYSENE	ND	390	
	BIS(2-ETHYLHEXYL)PHTHALATE	48	390	J
	DI-N-OCTYL PHTHALATE	ND	390	
	BENZO (B) FLUORANTHENE	ND	390	
	BENZO (K) FLUORANTHENE	ND	390	
	BENZO (A) PYRENE	ND	390	
	INDENO (1,2,3-CD) PYRENE	ND	390	
	BENZO (G,H,I) PERYLENE	ND	390	
	TOTAL SEMI-VOAs	158		
	TOTAL PAHs	0		
	NUMBER OF SEMI-VOA TICs	NA		
	EST. CONC. OF SEMI-VOA TICs	NA		
TPH	TOTAL PETROLEUM HYDROCARBONS	35 MG/KG	0.29 MG/KG	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)

RL - REPORTING LIMIT

ND - NOT DETECTED

NA - NOT ANALYZED FOR

u - REPORTING LIMITS RAISED DUE TO HIGH LEVELS OF TARGET ANALYTES.

d - REPORTING LIMITS RAISED DUE TO MATRIX INTERFERENCES.

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.

B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE PURPOSE OF CALCULATING TOTALS.

METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

TABLE 5
LABORATORY RESULTS - SOIL SAMPLE
JULY 1993
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

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SAMPLE NO:		CONCENTRATION (UG/KG)	RL (UG/KG)	QUALIFIERS
SB-10				
VOAs	METHYLENE CHLORIDE	ND	6.1	
	ACETONE	ND	12	
	CARBON DISULFIDE	ND	6.1	
	2-BUTANONE	ND	12	
	1,1,1-TRICHLOROETHANE	ND	6.1	
	TETRACHLOROETHENE	ND	6.1	
	BENZENE	ND	6.1	
	TOLUENE	ND	6.1	
	ETHYLBENZENE	ND	6.1	
	TOTAL XYLENES	ND	6.1	
	TERT-BUTYL METHYL ETHER (MTBE)	NA		
	N-PROPYLBENZENE	NA		
	TOTAL VOAs	0		
	TOTAL BTEX + MTBE	0		
	NUMBER OF VOA TICs	NA		
	EST. CONC. OF VOA TICs			
SEMI-VOAs	PHENOL	ND	400	
	2-METHYL PHENOL	ND	400	
	4-METHYL PHENOL	ND	400	
	NAPHTHALENE	ND	400	
	2-METHYLNAPHTHALENE	ND	400	
	FLUORENE	ND	400	
	PENTACHLOROPHENOL	ND	2,000	
	PHENANTHRENE	ND	400	
	ANTHRACENE	ND	400	
	DI-N-BUTYLPHTHALATE	ND	400	
	FLUORANTHENE	ND	400	
	PYRENE	ND	400	
	BUTYLBENZYLPHTHALATE	1,000	400	
	BENZO (A) ANTHRACENE	ND	400	
	CHRYSENE	ND	400	
	BIS(2-ETHYLHEXYL)PHTHALATE	130	400	J
	DI-N-OCTYL PHTHALATE	ND	400	
	BENZO (B) FLUORANTHENE	ND	400	
	BENZO (K) FLUORANTHENE	ND	400	
	BENZO (A) PYRENE	ND	400	
	INDENO (1,2,3-CD) PYRENE	ND	400	
	BENZO (G,H,I) PERYLENE	ND	400	
	TOTAL SEMI-VOAs	1,130		
	TOTAL PAHs	0		
	NUMBER OF SEMI-VOA TICs	NA		
	EST. CONC. OF SEMI-VOA TICs			
TPH	TOTAL PETROLEUM HYDROCARBONS	230 MG/KG	0.88 MG/KG	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)

RL - REPORTING LIMIT

ND - NOT DETECTED

NA - NOT ANALYZED FOR

u - REPORTING LIMITS RAISED DUE TO HIGH LEVELS OF TARGET ANALYTES.

d - REPORTING LIMITS RAISED DUE TO MATRIX INTERFERENCES.

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.

B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE PURPOSES OF CALCULATING TOTALS.

METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

TABLE 5
LABORATORY RESULTS - SOIL SAMPLE
JULY 1993
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

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SAMPLE NO:		SB-11	CONCENTRATION (UG/KG)	RL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE		ND	5.8	
	ACETONE		ND	12	
	CARBON DISULFIDE		ND	5.8	
	2-BUTANONE		ND	12	
	1,1,1-TRICHLOROETHANE		ND	5.8	
	TETRACHLOROETHENE		ND	5.8	
	BENZENE		ND	5.8	
	TOLUENE		ND	5.8	
	ETHYLBENZENE		ND	5.8	
	TOTAL XYLENES		ND	5.8	
	TERT-BUTYL METHYL ETHER (MTBE)		NA		
	N-PROPYLBENZENE		NA		
	TOTAL VOAs		0		
	TOTAL BTEX + MTBE		0		
	NUMBER OF VOA TICs		NA		
	EST. CONC. OF VOA TICs				
SEMI- VOAs	PHENOL		ND	380	
	2-METHYL PHENOL		ND	380	
	4-METHYL PHENOL		ND	380	
	NAPHTHALENE		ND	380	
	2-METHYLNAPHTHALENE		ND	380	
	FLUORENE		43	380	J
	PENTACHLOROPHENOL		ND	1,900	
	PHENANTHRENE		ND	380	
	ANTHRACENE		ND	380	
	DI-N-BUTYLPHTHALATE		ND	380	
	FLUORANTHENE		ND	380	
	PYRENE		61	380	J
	BUTYLBENZYLPHTHALATE		140	380	J
	BENZO (A) ANTHRACENE		ND	380	
	CHRYSENE		ND	380	
	BIS(2-ETHYLHEXYL)PHTHALATE		70	380	J
	DI-N-OCTYL PHTHALATE		49	380	J
	BENZO (B) FLUORANTHENE		87	380	J
	BENZO (K) FLUORANTHENE		ND	380	
	BENZO (A) PYRENE		ND	380	
	INDENO (1,2,3-CD) PYRENE		ND	380	
	BENZO (G,H,I) PERYLENE		87	380	J
	TOTAL SEMI-VOAs		537		
	TOTAL PAHs		278		
	NUMBER OF SEMI-VOA TICs		NA		
	EST. CONC. OF SEMI-VOA TICs				
TPH	TOTAL PETROLEUM HYDROCARBONS		230 MG/KG	2.8 MG/KG	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)

RL - REPORTING LIMIT

ND - NOT DETECTED

NA - NOT ANALYZED FOR

u - REPORTING LIMITS RAISED DUE TO HIGH LEVELS OF TARGET ANALYTES.

d - REPORTING LIMITS RAISED DUE TO MATRIX INTERFERENCES.

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.

B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE PURPOSE OF CALCULATING TOTALS.

METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

TABLE 5
LABORATORY RESULTS - SOIL SAMPLE
JULY 1993
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

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	SAMPLE NO:	FIELD BLANK	CONCENTRATION (UG/KG)	RL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE		ND	5.0	J
	ACETONE		4.7	10	
	CARBON DISULFIDE		ND	5.0	
	2-BUTANONE		ND	10	
	1,1,1-TRICHLOROETHANE		ND	5.0	
	TETRACHLOROETHENE		ND	5.0	
	BENZENE		ND	5.0	
	TOLUENE		ND	5.0	
	ETHYLBENZENE		ND	5.0	
	TOTAL XYLENES		ND	5.0	
	TERT-BUTYL METHYL ETHER (MTBE)		NA		
	N-PROPYLBENZENE		NA		
	TOTAL VOAs		4.7		
	TOTAL BTEX + MTBE		0		
	NUMBER OF VOA TICs		NA		
	EST. CONC. OF VOA TICs				
SEMI- VOAs	PHENOL		NA		
	2-METHYL PHENOL		NA		
	4-METHYL PHENOL		NA		
	NAPHTHALENE		NA		
	2-METHYLNAPHTHALENE		NA		
	FLUORENE		NA		
	PENTACHLOROPHENOL		NA		
	PHENANTHRENE		NA		
	ANTHRACENE		NA		
	DI-N-BUTYLPHTHALATE		NA		
	FLUORANTHENE		NA		
	PYRENE		NA		
	BUTYLBENZYLPHTHALATE		NA		
	BENZO (A) ANTHRACENE		NA		
	CHRYSENE		NA		
	BIS(2-ETHYLHEXYL)PHTHALATE		NA		
	DI-N-OCTYL PHTHALATE		NA		
	BENZO (B) FLUORANTHENE		NA		
	BENZO (K) FLUORANTHENE		NA		
	BENZO (A) PYRENE		NA		
	INDENO (1,2,3-CD) PYRENE		NA		
	BENZO (G,H,I) PERYLENE		NA		
	TOTAL SEMI-VOAs		0		
	TOTAL PAHs		0		
	NUMBER OF SEMI-VOA TICs		NA		
	EST. CONC. OF SEMI-VOA TICs				
TPH	TOTAL PETROLEUM HYDROCARBONS		0.062 MG/KG	0.010 MG/KG	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)

RL - REPORTING LIMIT

ND - NOT DETECTED

NA - NOT ANALYZED FOR

u - REPORTING LIMITS RAISED DUE TO HIGH LEVELS OF TARGET ANALYTES.

d - REPORTING LIMITS RAISED DUE TO MATRIX INTERFERENCES.

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.

B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE PURPOSES OF CALCULATING TOTALS.

METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

6
SUMMARY OF LABORATORY RESULTS -SOIL SAMPLES
JULY 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 6.1

		SAMPLE ID								
PARAMETER	UNITS	SB-1	SB-3	SB-4	SB-5	SB-9	SB-10	SB-11	SB-12	FIELD BLANK
VOAs										
METHYLENE CHLORIDE	ug/kg	ND	ND	ND	ND	2.3	ND	ND	ND	ND
ACETONE	ug/kg	ND	ND	ND	ND	160.	ND	ND	ND	4.7
CARBON DISULFIDE	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-BUTANONE	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-TRICHLOROETHANE	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
TETRACHLOROETHENE	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
BENZENE	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL XYLENES	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-PROPYLBENZENE	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL VOAs	ug/kg	0	0	0	0	162.3	0	0	0	4.7
TOTAL BTEX + MTBE	ug/kg	0	0	0	0	0	0	0	0	0
NUMBER OF VOA TICs	#	NA	NA	NA	NA	NA	NA	NA	NA	NA
EST. CONC. OF VOA TICs	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
SEMI - VOAs										
PHENOL	ug/kg	180	ND	ND	ND	ND	ND	ND	ND	NA
2-METHYL PHENOL	ug/kg	530	ND	ND	ND	ND	ND	ND	ND	NA
4-METHYL PHENOL	ug/kg	220	ND	ND	ND	ND	ND	ND	ND	NA
NAPHTHALENE	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	NA
2-METHYLNAPHTHALENE	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	NA
FLUORENE	ug/kg	ND	ND	ND	ND	ND	ND	43	ND	NA
PENTACHLOROPHENOL	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	NA
PHENANTHRENE	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	NA
ANTHRACENE	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	NA
DI-N-BUTYLPHTHALATE	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	NA
FLUORANTHENE	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	NA
PYRENE	ug/kg	180	780	ND	ND	ND	ND	61	ND	NA
BUTYLBENZYLPHthalATE	ug/kg	ND	ND	44	680	110	1,000	140	1,200	NA
BENZO (A) ANTHRACENE	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	NA
CHRYSENE	ug/kg	200	790	ND	ND	ND	ND	ND	ND	NA
BIS(2-ETHYLHEXYL)PHTHALATE	ug/kg	110	680	ND	100	48	130	70	91	NA
DI-N-OCTYL PHTHALATE	ug/kg	120	450	ND	ND	ND	ND	49	ND	NA
BENZO (B) FLUORANTHENE	ug/kg	170	1,100	ND	ND	ND	ND	87	46	NA
BENZO (K) FLUORANTHENE	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	NA
BENZO (A) PYRENE	ug/kg	340	420	ND	ND	ND	ND	ND	ND	NA
INDENO (1,2,3-CD) PYRENE	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	NA
BENZO (G,H,I) PERYLENE	ug/kg	1,200	3,400	ND	ND	ND	ND	87	ND	NA
TOTAL SEMI-VOAs	ug/kg	3,250	7,600	44	780	158	1,130	537	1,337	NA
TOTAL PAHs	ug/kg	2,090	6,490	0	0	0	0	278	46	0
NUMBER OF SEMI-VOA TICs	#	NA	NA	NA	NA	NA	NA	NA	NA	NA
EST. CONC. OF SEMI-VOA TICs	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH	mg/kg	420	2,000	27	81	35	230	230	150	0.0620

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TABLE 7
LABORATORY RESULTS - LIQUID SAMPLES
APRIL 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 7.1

SAMPLE NO: HB3-L OIL		CONCENTRATION (UG/KG)	CRQL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE	ND	120,000	U
	ACETONE	450,000		B
	2-BUTANONE	ND	120,000	BJ
	1,1,1-TRICHLOROETHANE	ND	120,000	U
	BENZENE	340,000		
	TOLUENE	79,000		J
	ETHYLBENZENE	2,300,000		
	TOTAL XYLENES	2,600,000		
	TERT-BUTYL METHYL ETHER (MTBE)	ND	5,000	
	N-PROPYLBENZENE	89,000	5,000	D
	TOTAL VOAs	5,858,000		
	TOTAL BTEX + MTBE	5,319,000		
NUMBER OF VOA TICs		10		
EST. CONC. OF VOA TICs		15,800,000		
SEMI-VOAs	NAPHTHALENE	680	250	
	2-METHYLNAPHTHALENE	810	250	
	FLUORENE	110	250	J
	PENTACHLOROPHENOL	ND	250	U
	PHENANTHRENE	180	250	J
	ANTHRACENE	29	250	J
	DI-N-BUTYLPHTHALATE	ND	250	
	FLUORANTHENE	41	250	U
	PYRENE	89	250	J
	BUTYLBENZYLPHTHALATE	ND	250	
	BENZO (A) ANTHRACENE	45	250	J
	CHRYSENE	46	250	J
	BIS(2-ETHYLHEXYL)PHTHALATE	280		
	DI-N-OCTYL PHTHALATE	28		J
	BENZO (B) FLUORANTHENE	30	250	J
	BENZO (K) FLUORANTHENE	ND	250	
	BENZO (A) PYRENE	28	250	J
	INDENO (1,2,3-CD) PYRENE	ND	250	
	BENZO (G,H,I) PERYLENE	33	250	J
	TOTAL SEMI-VOAs	2,429		
	TOTAL PAHs	2,121		
	NUMBER OF SEMI-VOA TICs	20		
	EST. CONC. OF SEMI-VOA TICs	11,410		
		CONCENTRATION (MG/KG)	REPORTING LIMIT (MG/KG)	
H TOTAL PETROLEUM HYDROCARBONS		1,200,000	1,000,000	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)

QL - CONTRACT REQUIRED QUANTIFICATION LIMIT.

ND - NOT DETECTED

NA - NOT ANALYZED FOR THIS

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.

COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

UNDETECTED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE PURPOSE OF CALCULATING TOTALS.

METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

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TABLE 7
LABORATORY RESULTS - LIQUID SAMPLES
APRIL 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 7.2

SAMPLE NO: HB3-L OIL DL		CONCENTRATION (UG/KG)	CRQL (UG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE	ND	240,000	U
	ACETONE	480,000		BD
	2-BUTANONE	250,000		D
	1,1,1-TRICHLOROETHANE	ND	240,000	U
	BENZENE	290,000		D
	TOLUENE	ND	240,000	U
	ETHYLBENZENE	1,700,000		D
	TOTAL XYLENES	2,000,000		D
	TERT-BUTYL METHYL ETHER (MTBE)	NA		
	N-PROPYLBENZENE	NA		
	TOTAL VOAs	4,720,000		
	TOTAL BTEX + MTBE	3,990,000		
	NUMBER OF VOA TICs	10		
	EST. CONC. OF VOA TICs	22,900,000		
SEMI-VOAs	NAPHTHALENE	NA		
	2-METHYLNAPHTHALENE	NA		
	FLUORENE	NA		
	PENTACHLOROPHENOL	NA		
	PHENANTHRENE	NA		
	ANTHRACENE	NA		
	DI-N-BUTYLPHTHALATE	NA		
	FLUORANTHENE	NA		
	PYRENE	NA		
	BUTYLBENZYLPHTHALATE	NA		
	BENZO (A) ANTHRACENE	NA		
	CHRYSENE	NA		
	BIS(2-ETHYLHEXYL)PHTHALATE	NA		
	BENZO (B) FLUORANTHENE	NA		
	BENZO (K) FLUORANTHENE	NA		
	BENZO (A) PYRENE	NA		
	INDENO (1,2,3-CD) PYRENE	NA		
	BENZO (G,H,I) PERYLENE	NA		
	TOTAL SEMI-VOAs	NA		
	TOTAL PAHs	0		
	NUMBER OF SEMI-VOA TICs	NA		
	EST. CONC. OF SEMI-VOA TICs	NA		
		CONCENTRATION (MG/KG)	REPORTING LIMIT (MG/KG)	
H TOTAL PETROLEUM HYDROCARBONS		NA		

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)

QL - CONTRACT REQUIRED QUANTIFICATION LIMIT.

D - NOT DETECTED

NA - NOT ANALYZED FOR THIS

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

D - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.

D - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

ETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

OUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE

RIPOSE OF CALCULATING TOTALS.

ETHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED

BE LABORATORY ARTIFACTS.

TABLE 7
LABORATORY RESULTS - LIQUID SAMPLES
APRIL 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 7.3

SAMPLE NO: HB3-L WATER		CONCENTRATION (UG/L)	CRQL (UG/L)	QUALIFIERS
VOAs	METHYLENE CHLORIDE	ND	500	U
	ACETONE	250		BJ
	2-BUTANONE	74		J
	1,1,1-TRICHLOROETHANE	ND	500	U
	BENZENE	360		J
	TOLUENE	ND	500	U
	ETHYLBENZENE	150		J
	TOTAL XYLENES	230		J
	TERT-BUTYL METHYL ETHER (MTBE)	6,200		
	N-PROPYLBENZENE	86		J
	TOTAL VOAs	7,350		
	TOTAL BTEX + MTBE	6,940		
	NUMBER OF VOA TICs	3		
	EST. CONC. OF VOA TICs	1,250		
SEMI-VOAs	NAPHTHALENE	2,900		
	2-METHYLNAPHTHALENE	3,100		
	FLUORENE	530		J
	PENTACHLOROPHENOL	ND	5,000	U
	PHENANTHRENE	790		J
	ANTHRACENE	ND	2,000	U
	DI-N-BUTYLPHTHALATE	ND	2,000	U
	FLUORANTHENE	ND	2,000	U
	PYRENE	410		J
	BUTYLBENZYLPHTHALATE	ND	2,000	U
	BENZO (A) ANTHRACENE	ND	2,000	U
	CHRYSENE	ND	2,000	U
	BIS(2-ETHYLHEXYL)PHTHALATE	1,100		J
	BENZO (B) FLUORANTHENE	NA		
	BENZO (K) FLUORANTHENE	ND	2,000	U
	BENZO (A) PYRENE	ND	2,000	U
	INDENO (1,2,3-CD) PYRENE	ND	2,000	U
	BENZO (G,H,I) PERYLENE	ND	220	U
	TOTAL SEMI-VOAs	8,830		
	TOTAL PAHs	6,790		
	NUMBER OF SEMI-VOA TICs	18		
	EST. CONC. OF SEMI-VOA TICs	41,200		
		CONCENTRATION (MG/KG)	REPORTING LIMIT (MG/KG)	
H TOTAL PETROLEUM HYDROCARBONS		1,900	250	

UG/L - MICROGRAMS PER LITER; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/L - MILLIGRAMS PER LITER; EQUIVALENT TO PARTS PER MILLION (PPM)

CRQL - CONTRACT REQUIRED QUANTIFICATION LIMIT.

ND - NOT DETECTED

NA - NOT ANALYZED FOR THIS

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.

BJ - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

U - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

ET - ESTIMATED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

ND - COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE

PURPOSE OF CALCULATING TOTALS.

METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED

TO BE LABORATORY ARTIFACTS.

TABLE 7
LABORATORY RESULTS - LIQUID SAMPLES
APRIL 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 7.4

SAMPLE NO: TREATED TAP		CONCENTRATION (UG/L)	CRQL (UG/L)	QUALIFIERS
VOAs	METHYLENE CHLORIDE	ND	10	U
	ACETONE	5		BJ
	2-BUTANONE	ND	10	U
	1,1,1-TRICHLOROETHANE	ND	10	U
	BENZENE	ND	10	U
	TOLUENE	ND	10	U
	ETHYLBENZENE	ND	10	U
	TOTAL XYLENES	ND	10	U
	TERT-BUTYL METHYL ETHER (MTBE)	ND	10	U
	N-PROPYLBENZENE	ND	5	U
	TOTAL VOAs	5		
	TOTAL BTEX + MTBE	0		
	NUMBER OF VOA TICs	1		
	EST. CONC. OF VOA TICs	6		
SEMI-VOAs	NAPHTHALENE	ND	10	U
	2-METHYLNAPHTHALENE	ND	10	U
	FLUORENE	ND	10	U
	PENTACHLOROPHENOL	ND	25	U
	PHENANTHRENE	ND	10	U
	ANTHRACENE	ND	10	U
	DI-N-BUTYLPHTHALATE	ND	10	U
	FLUORANTHENE	ND	10	U
	PYRENE	ND	10	U
	BUTYLBENZYLPHTHALATE	ND	10	U
	BENZO (A) ANTHRACENE	ND	10	U
	CHRYSENE	ND	10	U
	BIS(2-ETHYLHEXYL)PHTHALATE	ND	10	U
	BENZO (B) FLUORANTHENE	ND	10	U
	BENZO (K) FLUORANTHENE	ND	10	U
	BENZO (A) PYRENE	ND	10	U
	INDENO (1,2,3-CD) PYRENE	ND	10	U
	BENZO (G,H,I) PERYLENE	ND	10	U
	TOTAL SEMI-VOAs	0		
	TOTAL PAHs	0		
	NUMBER OF SEMI-VOA TICs	3		
	EST. CONC. OF SEMI-VOA TICs	36		
		CONCENTRATION (MG/KG)	REPORTING LIMIT (MG/KG)	
PH TOTAL PETROLEUM HYDROCARBONS		ND	0.50	

UG/L - MICROGRAMS PER LITER; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/L - MILLIGRAMS PER LITER; EQUIVALENT TO PARTS PER MILLION (PPM)

CRQL - CONTRACT REQUIRED QUANTIFICATION LIMIT.

N - NOT DETECTED

NA - NOT ANALYZED FOR THIS

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

1 - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.

2 - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

3 - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

4 - DETECTED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

5 - COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE

6 - PURPOSE OF CALCULATING TOTALS.

7 - METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED

8 - AS BEING LABORATORY ARTIFACTS.

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TABLE 8
LABORATORY RESULTS - DRUM SAMPLES
JULY 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 8.1

	SAMPLE NO:	SAMPLE 1	CONCENTRATION (MG/KG)	RL (MG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE		ND	25	u
	ACETONE		ND	50	u
	CARBON DISULFIDE		ND	25	u
	2-BUTANONE		ND	50	u
	1,1,1-TRICHLOROETHANE		77	25	u
	TETRACHLOROETHENE		99	25	u
	BENZENE		29	25	u
	TOLUENE		1,600	50	u, D
	ETHYLBENZENE		310	25	u
	TOTAL XYLENES		2,200	25	u
	TERT-BUTYL METHYL ETHER (MTBE)		NA		
	N-PROPYLBENZENE		NA		
	TOTAL VOAs		4,315		
	TOTAL BTEX + MTBE		4,139		
	NUMBER OF VOA TICs		NA		
	EST. CONC. OF VOA TICs				
SEMI-VOAs	PHENOL		ND	480	d
	2-METHYLPHENOL		ND	480	d
	4-METHYLPHENOL		ND	480	d
	NAPHTHALENE		840	480	d
	2-METHYLNAPHTHALENE		850	480	d
	FLUORENE		ND	480	d
	PENTACHLOROPHENOL		ND	2,400	d
	PHENANTHRENE		150	480	d, J
	ANTHRACENE		ND	480	d
	DI-N-BUTYLPHTHALATE		ND	480	d
	FLUORANTHENE		59	480	d, J
	PYRENE		130	480	d, J
	BUTYLBENZYLPHTHALATE		ND	480	d
	BENZO (A) ANTHRACENE		80	480	d, J
	CHRYSENE		69	480	d, J
	BIS(2-ETHYLHEXYL)PHTHALATE		130	480	d, J
	DI-N-OCTYL PHTHALATE		ND	480	d
	BENZO (B) FLUORANTHENE		ND	480	d
	BENZO (K) FLUORANTHENE		ND	480	d
	BENZO (A) PYRENE		ND	480	d
	INDENO (1,2,3-CD) PYRENE		ND	480	d
	BENZO (G,H,I) PERYLENE		ND	480	d
	TOTAL SEMI-VOAs		2,308		
	TOTAL PAHs		2,178		
	NUMBER OF SEMI-VOA TICs		NA		
	EST. CONC. OF SEMI-VOA TICs				
TPH	TOTAL PETROLEUM HYDROCARBONS		300,000	380	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)

RL - REPORTING LIMITS

ND - NOT DETECTED

NA - NOT ANALYZED FOR THIS PARAMETER

u - REPORTING LIMITS RAISED DUE TO HIGH LEVELS OF TARGET ANALYTES.

d - REPORTING LIMITS RAISED DUE TO MATRIX INTERFERENCES.

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CROL.

B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE PURPOSE OF CALCULATING TOTALS.

METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

TABLE 8
LABORATORY RESULTS - DRUM SAMPLES
JULY 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 8.2

	SAMPLE NO:	SAMPLE 2	CONCENTRATION (MG/KG)	RL (MG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE		ND	50	u
	ACETONE		ND	100	u
	CARBON DISULFIDE		ND	50	u
	2-BUTANONE		ND	100	u
	1,1,1-TRICHLOROETHANE		180	50	u
	TETRACHLOROETHENE		260	50	u
	BENZENE		39	50	u
	TOLUENE		1,600	50	u, J
	ETHYLBENZENE		260	50	u
	TOTAL XYLENES		1,800	50	u
	TERT-BUTYL METHYL ETHER (MTBE)		NA		
	N-PROPYLBENZENE		NA		
	TOTAL VOAs		4,139		
	TOTAL BTEX + MTBE		3,699		
SEMI- VOAs	NUMBER OF VOA TICs		NA		
	EST. CONC. OF VOA TICs				
	PHENOL		ND	480	d
	2-METHYLPHENOL		ND	480	d
	4-METHYLPHENOL		ND	480	d
	NAPHTHALENE		600	480	d
	2-METHYLNAPHTHALENE		620	480	d
	FLUORENE		110	480	d, J
	PENTACHLOROPHENOL		ND	2,400	d
	PHENANTHRENE		230	480	d, J
	ANTHRACENE		ND	480	d
	DI-N-BUTYLPHTHALATE		ND	480	d
	FLUORANTHENE		51	480	d, J
	PYRENE		98	480	d, J
	BUTYLBENZYLPHTHALATE		ND	480	d
	BENZO (A) ANTHRACENE		61	480	d, J
	CHRYSENE		ND	480	d
	BIS(2-ETHYLHEXYL)PHTHALATE		170	480	d
	DI-N-OCTYL PHTHALATE		ND	480	d
	BENZO (B) FLUORANTHENE		ND	480	d
	BENZO (K) FLUORANTHENE		ND	480	d
	BENZO (A) PYRENE		ND	480	d
	INDENO (1,2,3-CD) PYRENE		ND	480	d
	BENZO (G,H,I) PERYLENE		ND	480	d
	TOTAL SEMI-VOAs		1,940		
	TOTAL PAHs		1,770		
	NUMBER OF SEMI-VOA TICs		NA		
	EST. CONC. OF SEMI-VOA TICs				
TPH	TOTAL PETROLEUM HYDROCARBONS		280,000	290	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)

RL - REPORTING LIMITS

ND - NOT DETECTED

NA - NOT ANALYZED FOR THIS PARAMETER

u - REPORTING LIMITS RAISED DUE TO HIGH LEVELS OF TARGET ANALYTES.

d - REPORTING LIMITS RAISED DUE TO MATRIX INTERFERENCES.

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CROL.

B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE PURPOSE OF CALCULATING TOTALS.

METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

TABLE 8
LABORATORY RESULTS - DRUM SAMPLES
JULY 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

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SAMPLE NO:		SAMPLE 3	CONCENTRATION (MG/KG)	RL (MG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE		ND	25	u
	ACETONE		ND	50	u
	CARBON DISULFIDE		ND	25	u
	2-BUTANONE		ND	50	u
	1,1,1-TRICHLOROETHANE		410	25	u
	TETRACHLOROETHENE		210	25	u
	BENZENE		40	25	u
	TOLUENE		1,100	25	u, D
	ETHYLBENZENE		160	25	u
	TOTAL XYLENES		1,000	25	u
	TERT-BUTYL METHYL ETHER (MTBE)		NA		
	N-PROPYLBENZENE		NA		
	TOTAL VOAs		2,920		
	TOTAL BTEX + MTBE		2,300		
	NUMBER OF VOA TICs		NA		
	EST. CONC. OF VOA TICs				
SEMI- VOAs	PHENOL		ND	490	d
	2-METHYLPHENOL		ND	490	d
	4-METHYLPHENOL		ND	490	d
	NAPHTHALENE		390	490	d, J
	2-METHYLNAPHTHALENE		450	490	d, J
	FLUORENE		80	490	d, J
	PENTACHLOROPHENOL		ND	2,500	d
	PHENANTHRENE		80	490	d
	ANTHRACENE		ND	490	d
	DI-N-BUTYLPHTHALATE		ND	490	d
	FLUORANTHENE		ND	490	d
	PYRENE		72	490	d, J
	BUTYLBENZYLPHTHALATE		ND	490	d
	BENZO (A) ANTHRACENE		ND	490	d
	CHRYSENE		ND	490	d
	BIS(2-ETHYLHEXYL)PHTHALATE		160	490	d, J
	DI-N-OCTYL PHTHALATE		ND	490	d
	BENZO (B) FLUORANTHENE		ND	490	d
	BENZO (K) FLUORANTHENE		ND	490	d
	BENZO (A) PYRENE		ND	490	d
	INDENO (1,2,3-CD) PYRENE		ND	490	d
	BENZO (G,H,I) PERYLENE		ND	490	d
	TOTAL SEMI-VOAs		1,232		
	TOTAL PAHs		1,072		
	NUMBER OF SEMI-VOA TICs		NA		
	EST. CONC. OF SEMI-VOA TICs				
TPH	TOTAL PETROLEUM HYDROCARBONS		320,000	480	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)

RL - REPORTING LIMIT

ND - NOT DETECTED

NA - NOT ANALYZED FOR THIS PARAMETER

u - REPORTING LIMITS RAISED DUE TO HIGH LEVELS OF TARGET ANALYTES.

d - REPORTING LIMITS RAISED DUE TO MATRIX INTERFERENCES.

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.

B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE PURPOSE OF CALCULATING TOTALS.

METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

TABLE 8
LABORATORY RESULTS - DRUM SAMPLES
JULY 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 8.4

SAMPLE NO:	SAMPLE 4	CONCENTRATION (MG/KG)	RL (MG/KG)	QUALIFIERS
VOAs	METHYLENE CHLORIDE	ND	25	u
	ACETONE	ND	50	u
	CARBON DISULFIDE	ND	25	u
	2-BUTANONE	ND	50	u
	1,1,1-TRICHLOROETHANE	370	25	u
	TETRACHLOROETHENE	160	25	u
	BENZENE	79	25	u
	TOLUENE	1,600	25	u, D
	ETHYLBENZENE	320	25	u
	TOTAL XYLENES	2,200	25	u
	TERT-BUTYL METHYL ETHER (MTBE)	NA		
	N-PROPYLBENZENE	NA		
	TOTAL VOAs	4,729		
	TOTAL BTEX + MTBE	4,199		
	NUMBER OF VOA TICs	NA		
	EST. CONC. OF VOA TICs			
SEMI-VOAs	PHENOL	ND	500	d
	2-METHYLPHENOL	ND	500	d
	4-METHYLPHENOL	ND	500	d
	NAPHTHALENE	710	500	d
	2-METHYLNAPHTHALENE	790	500	d
	FLUORENE	57	500	d, J
	PENTACHLOROPHENOL	ND	2,500	d
	PHENANTHRENE	150	500	d, J
	ANTHRACENE	ND	500	d
	DI-N-BUTYLPHTHALATE	ND	500	d
	FLUORANTHENE	54	500	d, J
	PYRENE	130	500	d, J
	BUTYLBENZYLPHTHALATE	ND	500	d
	BENZO (A) ANTHRACENE	73	500	d, J
	CHRYSENE	ND	500	d
	BIS(2-ETHYLHEXYL)PHTHALATE	170	500	d, J
	DI-N-OCTYL PHTHALATE	ND	500	d
	BENZO (B) FLUORANTHENE	ND	500	d
	BENZO (K) FLUORANTHENE	ND	500	d
	BENZO (A) PYRENE	ND	500	d
	INDENO (1,2,3-CD) PYRENE	ND	500	d
	BENZO (G,H,I) PERYLENE	ND	500	d
	TOTAL SEMI-VOAs	2,134		
	TOTAL PAHs	1,964		
	NUMBER OF SEMI-VOA TICs	NA		
	EST. CONC. OF SEMI-VOA TICs			
TPH	TOTAL PETROLEUM HYDROCARBONS	290,000	400	

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)

MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)

RL - REPORTING LIMIT

ND - NOT DETECTED

NA - NOT ANALYZED FOR THIS PARAMETER

u - REPORTING LIMITS RAISED DUE TO HIGH LEVELS OF TARGET ANALYTES.

d - REPORTING LIMITS RAISED DUE TO MATRIX INTERFERENCES.

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRQL.

B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE PURPOSE OF CALCULATING TOTALS.

METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

TABLE 9
SUMMARY OF LABORATORY RESULTS - DRUM SAMPLES
JULY 1993
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI
CEI PROJECT NO. 92115

PAGE 9.1

PARAMETER	UNITS	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	FIELD BLANK
VOAs						
METHYLENE CHLORIDE	ug/kg	ND	ND	ND	ND	ND
ACETONE	ug/kg	ND	ND	ND	ND	4.7
CARBON DISULFIDE	ug/kg	ND	ND	ND	ND	ND
2-BUTANONE	ug/kg	ND	ND	ND	ND	ND
1,1,1-TRICHLOROETHANE	ug/kg	77,000	180,000	410,000	370,000	ND
TETRACHLOROETHENE	ug/kg	99,000	260,000	210,000	180,000	ND
BENZENE	ug/kg	29,000	39,000	40,000	79,000	ND
TOLUENE	ug/kg	1,600,000	1,600,000	1,100,000	1,600,000	ND
ETHYLBENZENE	ug/kg	310,000	260,000	160,000	320,000	ND
TOTAL XYLENES	ug/kg	2,200,000	1,800,000	1,000,000	2,200,000	ND
MTBE						
N-PROPYLBENZENE	ug/kg	NA	NA	NA	NA	NA
TOTAL VOAs	ug/kg	4,315,000	4,139,000	2,920,000	4,729,000	4.7
TOTAL BTEX + MTBE	ug/kg	4,139,000	3,699,000	2,300,000	4,199,000	0
NUMBER OF VOA TICs	#	NA	NA	NA	NA	NA
EST. CONC. OF VOA TICs	ug/kg	NA	NA	NA	NA	NA
SEMI - VOAs						
PHENOL	ug/kg	ND	ND	ND	ND	NA
2-METHYL PHENOL	ug/kg	ND	ND	ND	ND	NA
4-METHYL PHENOL	ug/kg	ND	ND	ND	ND	NA
1-NAPHTHALENE	ug/kg	840,000	600,000	390,000	710,000	NA
1-METHYLNAPHTHALENE	ug/kg	850,000	620,000	450,000	790,000	NA
FLUORENE	ug/kg	ND	110,000	80,000	57,000	NA
PENTACHLOROPHENOL	ug/kg	ND	ND	ND	ND	NA
PHENANTHRENE	ug/kg	150,000	230,000	80,000	150,000	NA
ANTHRACENE	ug/kg	ND	ND	ND	ND	NA
DI-N-BUTYLPHTHALATE	ug/kg	ND	ND	ND	ND	NA
FLUORANTHENE	ug/kg	59,000	51,000	ND	54,000	NA
PYRENE	ug/kg	130,000	98,000	72,000	130,000	NA
BUTYLBENZYLPHTHALATE	ug/kg	ND	ND	ND	ND	NA
BENZO (A) ANTHRACENE	ug/kg	80,000	81,000	ND	73,000	NA
CHRYSENE	ug/kg	69,000	ND	ND	ND	NA
BIS(2-ETHYLHEXYL)PHTHALATE	ug/kg	130,000	170,000	160,000	170,000	NA
DI-N-OCTYL PHTHALTTE	ug/kg	ND	ND	ND	ND	NA
BENZO (B) FLUORANTHENE	ug/kg	ND	ND	ND	ND	NA
BENZO (K) FLUORANTHENE	ug/kg	ND	ND	ND	ND	NA
BENZO (A) PYRENE	ug/kg	ND	ND	ND	ND	NA
INDENO (1,2,3-CD) PYRENE	ug/kg	ND	ND	ND	ND	NA
BENZO (G,H,I) PERYLENE	ug/kg	ND	ND	ND	ND	NA
TOTAL SEMI-VOAs	ug/kg	2,308,000	1,940,000	1,232,000	2,134,000	NA
TOTAL PAHs	ug/kg	2,178,000	1,770,000	1,072,000	1,964,000	NA
NUMBER OF SEMI-VOA TICs	#	NA	NA	NA	NA	NA
EST. CONC. OF SEMI-VOA TICs	ug/kg					
TPH	mg/kg	300,000	280,000	320,000	290,000	0.0620

NOTES FOR TABLE 2

UG/KG - MICROGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER BILLION (PPB)
MG/KG - MILLIGRAMS PER KILOGRAM; EQUIVALENT TO PARTS PER MILLION (PPM)
CRL - CONTRACT REQUIRED QUANTIFICATION LIMIT.

D - NOT DETECTED

A - NOT ANALYZED FOR

U - REPORTING LIMITS RAISED DUE TO HIGH LEVELS OF TARGET ANALYTES.

d - REPORTING LIMITS RAISED DUE TO MATRIX INTERFERENCES.

U - COMPOUND WAS TARGETED BY ANALYSIS, BUT WAS NOT DETECTED.

J - COMPOUND WAS IDENTIFIED, BUT CONCENTRATION IS ESTIMATED AT VALUE LESS THAN CRL.

B - COMPOUND DETECTED IN ASSOCIATED LABORATORY BLANK AS WELL AS IN SAMPLE.

D - COMPOUND IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR.

SLA - SUSPECT LABORATORY ARTIFACTS

QLV - QUESTIONABLE LABORATORY VALUES

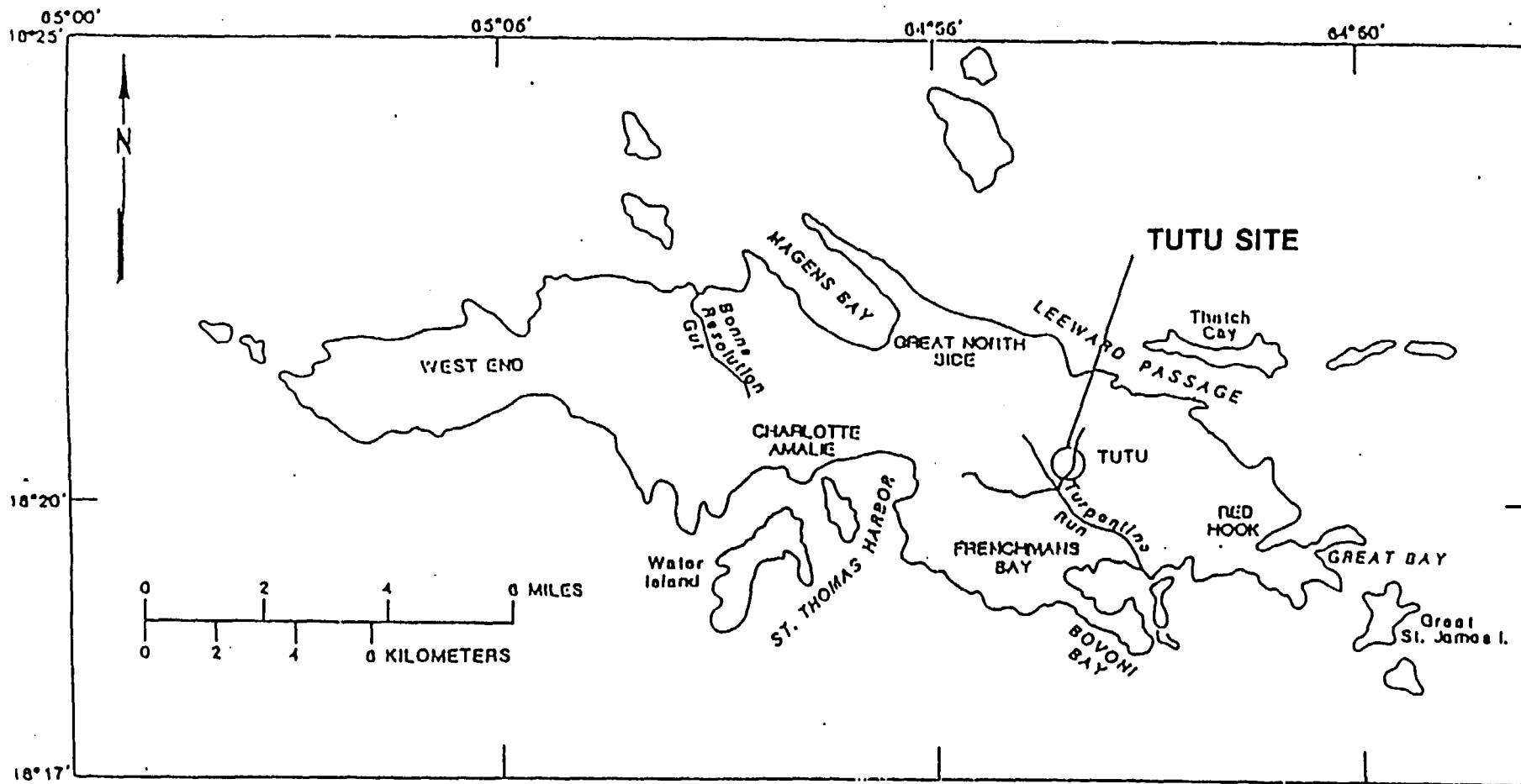
TARGETED COMPOUNDS NOT LISTED WERE NOT DETECTED DURING ANALYSES.

COMPOUND CONCENTRATIONS REPORTED AS ND WERE ASSUMED TO BE ZERO FOR THE PURPOSES OF CALCULATING TOTALS.

METHYLENE CHLORIDE, ACETONE, 2-BUTANONE, AND PHTHALATE ESTERS WERE CONSIDERED TO BE LABORATORY ARTIFACTS.

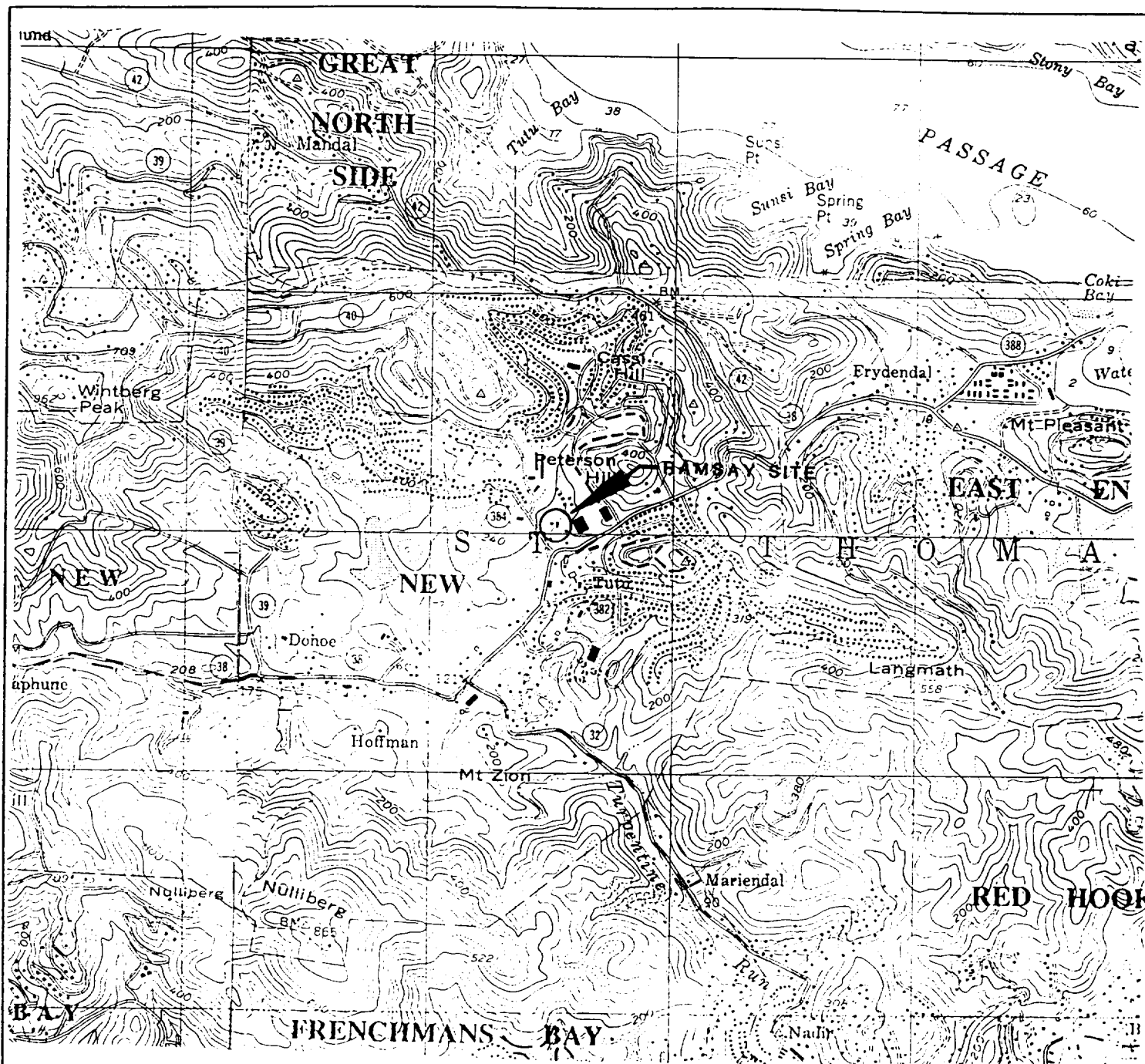
TUT 004 0735

FIGURES



COOPER ENVIRONMENTAL ENGINEERS • GEOLOGISTS • SCIENTISTS	
GENERAL LOCATION MAP	
TUTU SERVICE STATION ST. THOMAS, U.S. VIRGIN ISLANDS	
PROJECT: 92115	SCALE: AS SHOWN
DATE: 11-22-93	FIGURE: 1

101 004 0737



EASTERN ST. THOMAS, V. I.

N1815-W6448/7.5 X 6

1954

PHOTOGRAPHED 1952
DMA 1622 IV SE SERIES E836

CENTRAL ST. THOMAS, V. I.

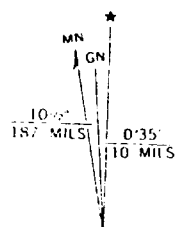
18064-C8-1F 024

1955

PHOTOGRAPHED 1952
DMA 1622 IV SE SERIES E836

VIRGIN ISLANDS

QUADRANGLE LOCATION

UTM GRID AND 1982 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

COOPER ENVIRONMENTAL
ENGINEERS • GEOLOGISTS • SCIENTISTS

TOPOGRAPHIC LOCATION MAP

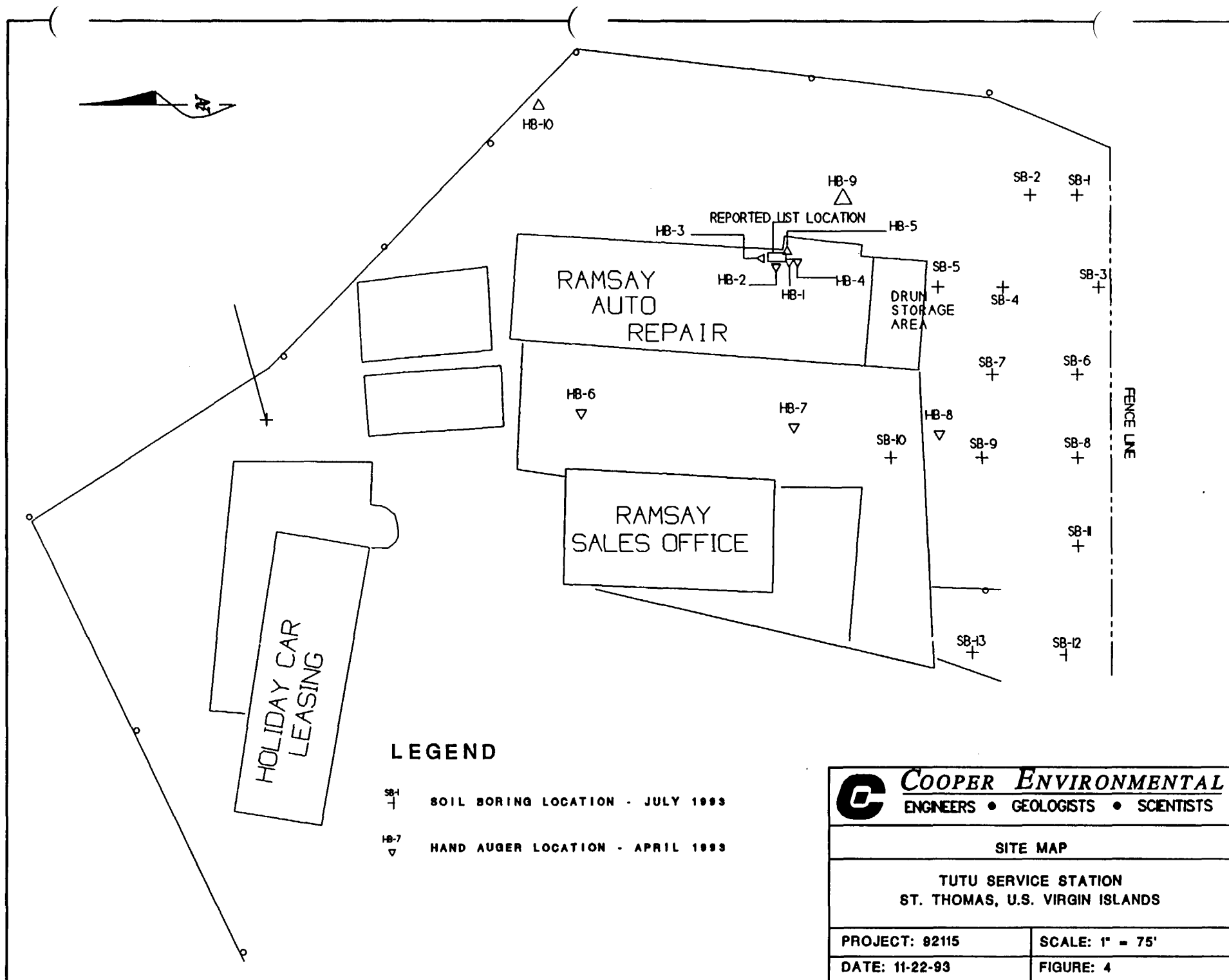
TUTU SERVICE STATION
ST. THOMAS, U.S. VIRGIN ISLANDS

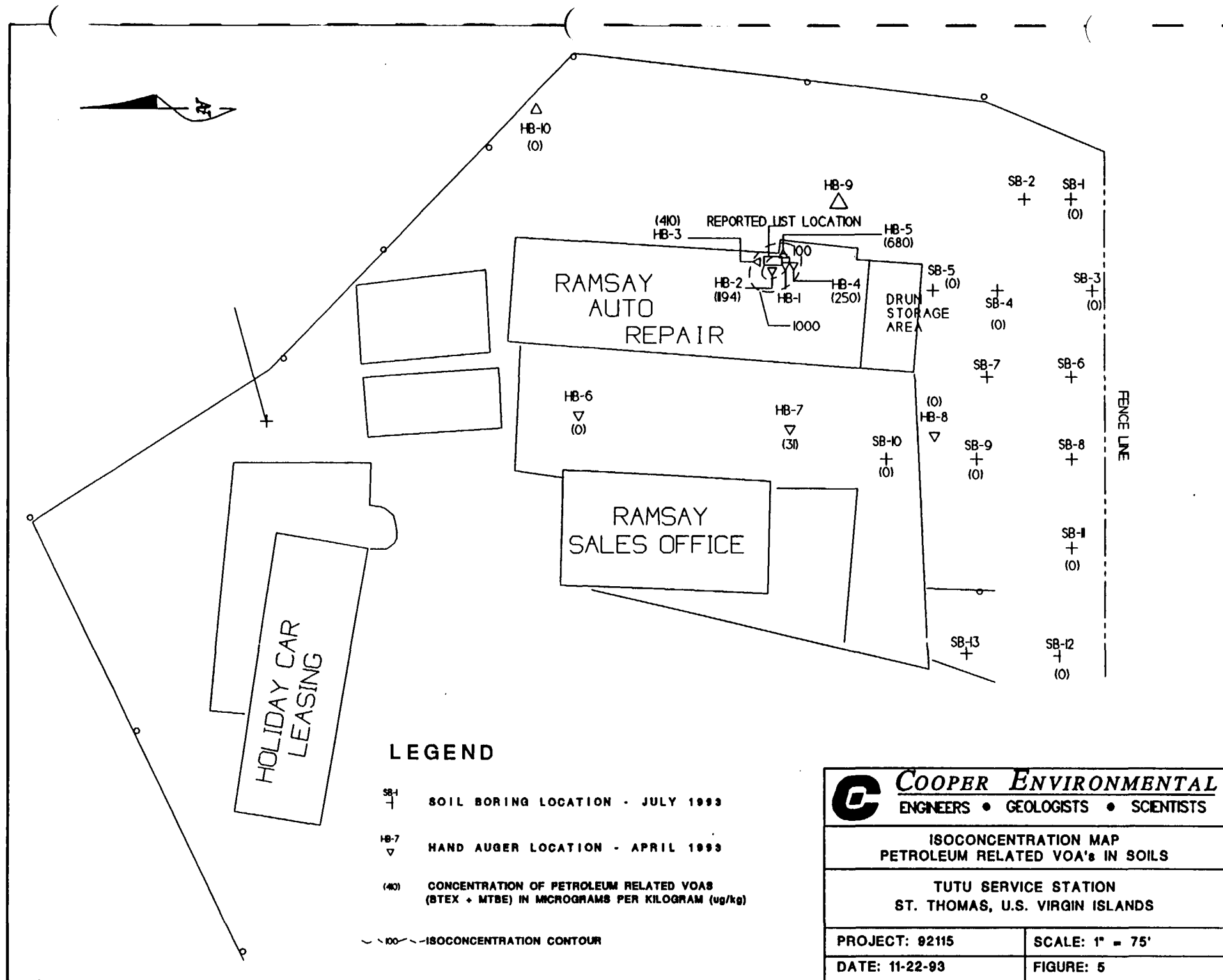
PROJECT: 92115

SCALE: 1 : 24,000

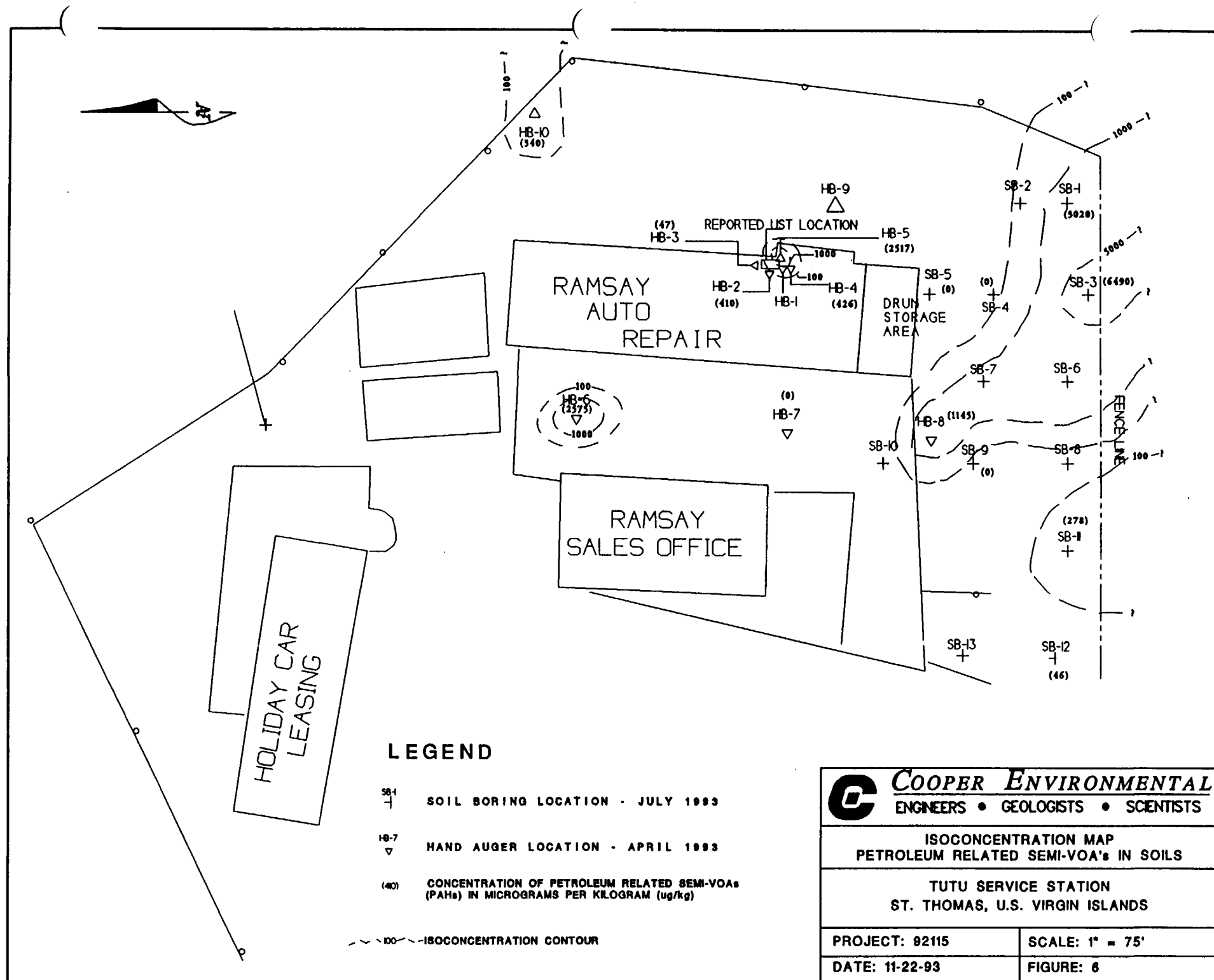
DATE: 11-22-93

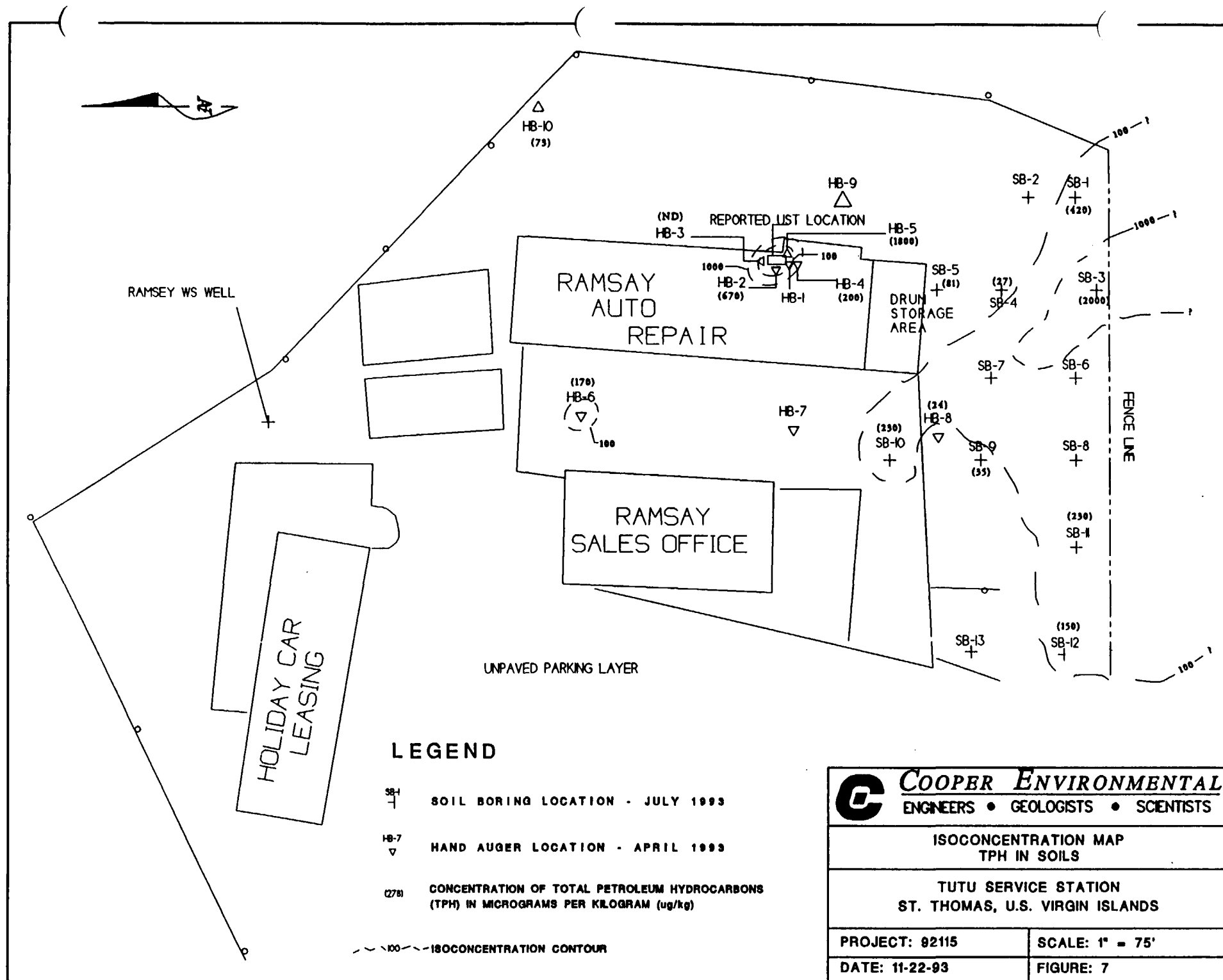
FIGURE: 2





101 104 0740





APPENDIX I
Lists of Background Documents Reviewed by CEI

DOCUMENTS LIST (ALPHABETIZED)

CEI PROJECT NO. 92115

RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI

GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT	DATE OF DOCUMENT	TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT	NUMBER OF PAGES
ADAMS & ASSOC.	U.S.V.I. Dept. of Public Works	06/01/78	REPORT	Well Field Development Program - East End, St. Thomas	
ADRIN SCHOTTROFF/DPNR	MEMBERS OF TUTU TECH REVIEW COMM.	04/05/93	CORR	Fax transmittal to all Tutu Technical Review Committee Members discussing the upcoming two-day meeting (on April 26&27)	
ARNALDO MARTINEZ/REG. II TECH. ASSIS. TEAM	RESPONSE & PREVENTION US EPA	08/31/87	LEGAL	Sampling Plan for the Tutu Well Site prepared by the TAT (ES800069 - ES800075)	
ARTHUR D. LITTLE	RAMSAY MOTORS	10/14/93	WORK PLAN	Work Plan reports for the Tutu Area in St. Thomas	17
ARTHUR D. LITTLE	TILLET GARDENS	10/15/93	WORK PLAN	Work Plan reports for the Tutu Area in St. Thomas	17
ARTHUR D. LITTLE	ANTILLES ENVIRONMENTAL INVESTIGATION	10/15/93	WORK PLAN	Work Plan reports for the Tutu Area in St. Thomas	17
ARTHUR D. LITTLE	WASTE WATER TREATMENT PLANT	10/14/93	WORK PLAN	Work Plan reports for the Tutu Area in St. Thomas	17
ARTHUR D. LITTLE	TEXACO	10/14/93	WORK PLAN	Work Plan reports for the Tutu Area in St. Thomas	17
ARTHUR D. LITTLE	O'HENRI DRYCLEANERS	10/14/93	WORK PLAN	Work Plan reports for the Tutu Area in St. Thomas	17

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DOCUMENTS LIST (ALPHABETIZED)

CEI PROJECT NO. 92115

RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI

GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT	DATE OF DOCUMENT	TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT	NUMBER OF PAGES
ARTHUR D. LITTLE	FOUR WINDS PLAZA	10/14/93	WORK PLAN	Work Plan reports for the Tutu Area in St. Thomas	17
BARBEL ENTER.	CHRIS DAGGETT/REG. ADMIN. EPA	12/04/87	LEGAL	Response to Request for Information Concerning O'Henry Cleaners (ES800602-ES800606)	
BELGODERE & ASSOC.	USEPA	undated	REPORT	Esso TUTU Car Care Center Investigation Plan, Quality Assurance/Quality Control Plan	Cover only - missing 35pp
BELGODERE & ASSOC.	DPNR - U.S.V.I. & USEPA	01/11/88	REPORT	Esso TUTU Service Station Soil Vapor Inv. Plan	Cover only - missing 40 pp
BELGODERE & ASSOC.	DPNR - U.S.V.I. & USEPA	12/28/87	REPORT	Esso TUTU Service Station Health & Safety Plan	Cover only - missing 20pp
BELGODERE & ASSOC.	ESSO	06/01/88	REPORT	Photocopies of Original Chromatograms & Calibration Curves - Esso TUTU	Cover only - missing 175 pp
BELGODERE & ASSOC.	ESSO	06/01/88	REPORT	SUPPLEMENT - Photocopies of Original Chromatograms & Calibration Curves - Esso TUTU Project	Have cover + 2pp Explanations & Observations missing 150pp
BELGODERE & ASSOC.	ESSO	06/14/88	REPORT	Esso TUTU Service Station Soil Gas Vapor Screening Survey Report	

TUT 009 0745

RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI

GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT	DATE OF DOCUMENT	TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT	NUMBER OF PAGES
BELGODERE & ASSOC.	ESSO STANDARD OIL	06/14/88	REPORTS	Soil Gas Vapor Screening Survey Report	
BLASLAND & BOUCK ENGINEERS, P. C.	?	10/01/93	REPORT	Supplement Site Assessment Program	10
BRENDA HOLLAR	ANNA RAMOS/TEIC	03/20/92	LETTER	Site Access Agreement TEIC	2
C.O'NEILL-COORD./US EPA	S. LUFTIG-EMER.& REM. ESP. DIV.	01/06/88	LEGAL	Preliminary Assessment & Confirmation of Auth. of CERCLA REMoval Actions Monies for TUTU Well Site from Carlos O'Neill to Stephen Luftig (ES800607-ES800616A)	
CALISE, LAURA/MONITORING MGMT./US EPA	CAROLINE KWAN/NY-CARIBB. BRANCH/US EPA	02/10/89	LEGAL	Memorandum from Laura Scalise to Caroline Kwan in Ref. to TUTU Well Field Site Work Plan for the Removal & Installation of 2 Underground Storage Tanks, Revised 1/13/89 (ES800698-ES800727)	
CDM FEDERAL	USEPA	11/25/87	REPORT	overview of Texaco Soil Gas Survey of the Tutu Well field site	
CDM FEDERAL	USEPA	02/05/88	REPORT	comments on Esso Tutu soil vapor inv. plan & Q.A. control plan (Dec. 28, 1987)	
CDM FEDERAL	USEPA	06/29/88	REPORT	overview of Esso Soil Gas Survey conducted Apr. 5, 1988 through April 23, 1988	
CDM FEDERAL	USEPA	07/11/88	REPORT	comments on Esso Tutu Service Station Soil Gas Vapor Screening Survey Report, June 14, 1988	
CDM FEDERAL	USEPA	03/13/89	REPORT	comments on water collected from the tank pit during the Tutu Texaco Service Station tank excavation	

DOCUMENTS LIST (ALPHABETIZED)
 RAMSAY MOTORS
 ANNA'S RETREAT
 ST. THOMAS, USVI

CEI PROJECT NO. 2115

<i>GENERATOR OF DOCUMENT</i>	<i>RECIPIENT OF DOCUMENT</i>	<i>DATE OF DOCUMENT</i>	<i>TYPE OF DOCUMENT</i>	<i>DESCRIPTION OF DOCUMENT</i>	<i>NUMBER OF PAGES</i>
CDM FEDERAL	USEPA	04/14/89	REPORT	CLP Sample Analysis Data Summary of the 104e ltr. Response Sampling Tutu Wellfield Area	
CDM FEDERAL	USEPA	04/14/89	REPORT	CLP Sample Analysis Data of 104(e) letter	
CDM FEDERAL	USEPA	03/31/89	REPORT	CLP Sample Analysis Data Summary of 104e Ltr. Response Sampling	
CDM FEDERAL	USEPA	03/07/89	REPORT	Overview of TUTU Texaco Soil Vent. Task for the Tank Excavation Program	
CDM FEDERAL	USEPA	01/04/89	REPORT	Overview of the Tutu Texaco Service Station Soil Vent. Task for the Tank Excavation Program	
CDM FEDERAL	USEPA	01/31/90	REPORT	CLP Sample Analysis Data Summary, Tutu Wellfield Area	
CDM FEDERAL	USEPA	02/16/90	REPORT	Description of sampling locations - Tutu Wellfield site	
CDM FEDERAL	USEPA	02/27/90	REPORT	Revised overview rpt. of Esso Tank Excavation	
CDM FEDERAL	USEPA	04/20/90	REPORT	Chronology of Events & FPC Oversight thru March 1990	

TUTU 004 0747

RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI

GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT	DATE OF DOCUMENT	TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT	NUMBER OF PAGES
CDM FEDERAL	USEPA	04/24/90	REPORT	Ltr. Rpt. - Review of Esso Rpt. on Tank Excavation & Soil Sampling	
CDM FEDERAL	USEPA	05/31/90	REPORT	Final Site Sample Analysis Data Summary of Soils & Waters Sampled in 1989 from Texaco Soil, Esso Excav. Pit and Soil, and 104e Ltr. Response Sites (2nd Round)	
CDM FEDERAL	USEPA	12/17/90	REPORT	Ltr. Rpt. - Tech. Review of Esso's Revised Tank Excavation and Soil Sampling Rpt.	
CDM FEDERAL	USEPA	04/07/92	REPORT	Community Relations Plan for the TUTU Wells Site (contains news releases)	Cover Page only- missing 30 pp
CHESTER, AMY R./US EPA	JOSE CEPADA/ATTNY.	02/21/92	LEGAL	TUTU Wells Site Administrative Order on Consent Index No. II-RCRA-Proceeding 7003 & 9003-92-0401 (ES801073-ES801107)	
CLEMENT ASSOC.	?	10/01/85	REPORT	General Summary Reports on Transport & Fate & Health Effects of 1,1,1-Trichloroethane, Ethylbenzene, & 2,3,6-Trichlorobenzoic Acid	
COOPER ENVIRONMENTAL, INC	UNKNOWN	09/13/91	REPORT	Reports of 7/90 and 2/91 sampling events at Tutu wellsite; lab data; letters; etc.	many
COOPER ENVIRONMENTAL, INC	N/A	09/17/92	MISC.	film packets	
COOPER ENVIRONMENTAL, INC	ALI	not dated	LEGAL	Tutu Lateral Waterline Contract	13

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**RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI**

GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT	DATE OF DOCUMENT	TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT	NUMBER OF PAGES
D'ANNA, NANCY, CEPADA JOSE, & MCCAY, R. SCOTT	AMY R. CHESTER/US EPA	10/26/90	LEGAL	EPA Order which conforms with Section VII 2 of Administrative Orders Nos. II-CERCLA-0401 & RCRA-90-0401 in ref. to Tillet's Well (ES801065-ES801068)	
DCCA	TUTU WATER	08/13/87	LEGAL	Letter from the Dept. of Conservation & Cult. Affairs from Alan Smith to Mr. Eric Tillet (ES 800033-ES800034)	
deDIEGO ENCARNACION, JOSE/V.I. HOUSING AUTH.	CHRIS DAGGETT/ US EPA	01/25/88	LEGAL	Response to Request for Information Concerning the Virgin Islands Housing Authority (ES800617-ES800627)	
DEMA, JOHN	MORGAN, LEWIS & BOCKIUS	01/18/93	MISC.	Lab reports from Caribbean Hydro-Tech	31
DONNELLY, THOMAS WALLACE	Princeton University	05/01/59	REPORT	Geology of St. Thomas and St. John, Virgin Islands (A Dissertation - Property of the US Geological Survey - WRD San Juan, P.R.)	
ENSECO	N/A	04/12/90	LAB DATA	General Sampling Guidelines	
ENSECO	RAMSAY	04/12/93	INVOICES	FEDEX International Airway Bill for lab supplies	
ENSECO	RAMSAY	04/12/93	INVOICES	Chain of Custody form for sampling supplies (bottles,vials, etc.)	

DOCUMENTS LIST (ALPHABETIZED)
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI

CEI PROJECT NO. 92115

GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT	DATE OF DOCUMENT	TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT	NUMBER OF PAGES
Environmental Monitoring Systems Laboratory	USEPA	03/01/88	REPORT	Site Analysis: TUTU Wellfield (Aerial Photographic Interpretation of Tutu Wellfield)	Missing Photos
GARCIA, IVAN	CARLOS O'NEILL/EPA	4/17/90	LAB DATA	Memorandum from Ivan Garcia to Carlos O'Neill to document the transmittal of Sampling Plan, Site Maps & Photovac results 1987-90	
GARCIA, IVAN/ROY F. WESTON	LUIS SANTOS/EPA	05/20/91	LAB DATA	Memorandum re: results of February 1990 quarterly sampling of Tutu Well site (ES900121-ES900127)	
GEOSCIENCE CONSULTANTS LTD.	TEXACO	12/18/87	REPORT	Final Report on Results of Soil Gas Survey TUTU, St. Thomas (Revised January 25, 1988)	
GEOSCIENCE CONSULTANTS, LTD.	TEXACO	10/14/87	REPORT	Quality Assurance Project Plan For Soil Gas Survey, Texaco Service Station	Cover only - total pp unknown
GERAGHTY & MILLER	TEIC	01/01/91	REPORT	1st Qtrly. Sampling Rpt., Sept 1990	
GERAGHTY & MILLER	USEPA	04/05/91	REPORT	Re-evaluation of Esso TUTU Soil Gas Survey (Aug. '88), Final CLP Sample Analysis of Soils & Waters in 1989, and Final Report on Laboratory Analyses of Soil for Tank Replacement Work at Esso (Sept. 1990)	
GERAGHTY & MILLER	TEIC	05/13/91	REPORT	Second Quarter Sampling Report, February 1991, TUTU Wells Site Quarterly Sampling (includes Data Validation Summary Rpt.)	
GERAGHTY & MILLER	TEIC	09/01/91	REPORT	Revised Sampling (from September 1990) Analysis, and Monitoring Plan for TUTU Wells	

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RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI

CEI PROJECT NO. 2115

GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT	DATE OF DOCUMENT	TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT	NUMBER OF PAGES
GERAGHTY & MILLER	TEIC	09/06/91	REPORT	Third Sampling Report, June 1991, TUTU Wells Site	
GERAGHTY & MILLER	TEIC	01/01/92	REPORT	Fourth Sampling Report, October 1991, TUTU Wells Site	
GERAGHTY & MILLER	Dept. of Public Works	03/11/92	REPORT	Request for temporary authorization of ground water discharge to sanitary sewer in the TUTU area	
GERAGHTY & MILLER	TEIC	05/01/92	REPORT	Fifth Sampling Report, February 1992, TUTU Wells Site	
GERAGHTY & MILLER	TEIC	08/27/92	REPORT	Sixth Sampling Report, May 1992, TUTU Wells Site	Have 2 copies
GERAGHTY & MILLER	U.S.V.I. Dept. of Conserv. & Cultural Affairs	04/01/83	REPORT	Report on Current Groundwater Conditions in the U.S. Virgin Islands	
GERAGHTY & MILLER	TEIC	03/01/92	REPORT	TUTU Service Station Investigation Work Plan	
GERAGHTY & MILLER	TEIC	03/20/92	REPORT	Tutu Service Station Investigation Work Plan St. Thomas, U.S. V.I.	
GERAGHTY & MILLER	TEIC	03/19/91	LETTER	Schedule for 2/91 Quarterly Sampling	1
GERAGHTY & MILLER	TEIC	02/01/93	REPORTS	Technical Memorandum in Results of Field Program at Tutu Station/US VI	
GERAGHTY & MILLER	TUTU SERVICE STATION	not dated	MAPS	Map of Tutu Service Station showing well, soil borings, etc.	

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DOCUMENTS LIST (ALPHABETIZED)

CEI PROJECT NO. - 4115

RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI

GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT	DATE OF DOCUMENT	TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT	NUMBER OF PAGES
GERAGHTY & MILLER	TUTU WELLSITE	03/10/92	LETTER	Request for Temporary Authorization of Air Discharge in the Tutu Area	12
GERAGHTY & MILLER	TUTU WELLSITE	03/11/92	LETTER	Request for Temporary Authorization of Ground-Water Discharge to Sanitary Sewer in the Tutu Area	11
GERAGHTY & MILLER	USEPA	01/11/91	LETTER	Project Schedule for Geraghty & Miller Tutu Well Sampling	4
GOLDMAN & ANTONETTI ET AL	USEPA	08/08/90	LETTER	Letter from Goodman, Antonetti et al re: CERCLA & RCRA regulations	5
GRABER, SCOTT/CDM CORP.	CAROLINE KWAN/US EPA	04/24/89	LEGAL	Summary of 104(c) Letter Response & Facility Inspections Relating to Underground Storage Tanks in the TUTU Well Field (ES800728-ES800729)	
GRABER, SCOTT/CDM FED. PROG. CORP.	CAROLINE KWAN/US EPA	01/12/89	LEGAL	Review of Work Plan for the Removal & Installation of 2 Underground Storage Tanks at TUTU Esso Car Care Center on Dec. 1988 by Scott Graber (ES800695-ES800697) Updated Tech. Review of 3 CERCLA 104(c) Responses	
GRABER, SCOTT/CDM FED. PROGRAMS CORP.	CAROLINE KWAN/US EPA	09/19/88	LEGAL	O'Henry Cleaners, Ramsay Motors, Cons. Auto Parts, Rodriguez Auto Parts, Esso, Texaco,... (ES800670-ES800676)	
GRABER, SCOTT/CDM FED. PROGRAMS CORP.	US EPA	10/17/88	LEGAL	Administrative Order on Consent, TUTU Well Field Area by Scott Graber (ES800683-ES800694)	
GROSSMAN, I.G.	U.S. Dept. of the Interior	06/01/59	REPORT	Ground Water Data from St. Thomas	
HABSCHMAN, ROBERT/ ATTN.	C. DOLAN/US EPA & F. LANG/DPNR	11/19/87	LEGAL	Response to Request for Information Concerning Ramsey Motors, Inc. (ES800583-ES800591)	
HAMLIN, DONALD L.	U.S.V.I. Dept. of Consv. & Cultural Affairs	02/01/86	REPORT	Leaking Underground Storage Tank Survey - St. Thomas, St. John and St. Croix	Cover only missing 25pp

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 ANNA'S RETREAT
 ST. THOMAS, USVI

GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT	DATE OF DOCUMENT	TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT	NUMBER OF PAGES
HANKINSON, FRANK/NCDEHNR	GREG LUNDBLAD	10/09/92	LETTER	Phase IIA Assessment Work Plan and Interim Remediation/Buncombe County, North Carolina	2
HILLSMAN, MARK	TUTU WATER WELLS LITIGATION FILE	10/20/93	MEMO	Rule 34 Physical Inspections By The Laga Defendants	8
HROCH, W./TEXACO	CAROLINE KWAN US EPA	11/30/87	LEGAL	Response to Request for Information Concerning Texaco Service Station (ES800592-ES800601)	
HYDROLOGIC ASSOCIATES U.S.A., INC,	FOUR WINDS AND PID/HARTHMAN	10/01/93	REPORT	Geohydrologic Analysis and Water Quality Data	large document
HYDROLOGIC ASSOCIATES U.S.A., INC L. ALLGOOD/REG. II TECH. CARLOS	FOUR WINDS AND PID/HARTHMAN	10/01/93	REPORT	Geohydrologic Analysis and Water Quality Data	55
ASSIS. TEAM & G. RHYMER /DPNR	O'NEILL/RESPONSE & PREV./US EPA	09/04/87	LEGAL	Survey Summary of Well/Cistern Usage at Tutu Well Site prepared by Isabelle Allgood (ES800119-ES800124)	
JORDAN & COSTNER	U.S. Geological Survey	01/01/73	REPORT	A Survey of the Water Resources of St. Thomas, V.I.	
JORDAN & FISHER	U.S. Geological Survey	01/01/77	REPORT	Relation of Bulk Precipitation and Evaporation to Water Quality and Water Resources, St. Thomas, V.I.	
JORDAN, DONALD G.	U.S. Geological Survey	01/01/72	REPORT	Land-Use Effect on the Water Regimen of the U.S. Virgin Islands	
JUNKIN, TIMOTHY/ATTNY.	CAROLYN KWAN/US EPA	03/02/88	LEGAL	Response to Request for Information to Jim Tillet (ES800628-ES800631)	
KELDER, G.	CEI	08/25/92	MISC.	letter from G. Kelder re: expert services	1

DOCUMENTS LIST (ALPHABETIZED)
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 ST. THOMAS, USVI

CEI PROJECT NO. 92115

GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT	DATE OF DOCUMENT	TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT	NUMBER OF PAGES
KWAN, CAROLINE/US EPA	PRES. RAMSEY MOTORS	05/18/88	LEGAL	Follow-up Information on the Request for Information concerning Ramsey Motors, Inc. (ES800655)	
KWAN, CAROLINE/US EPA	PRES./CONS. AUTO	05/18/88	LEGAL	Follow -up Information on the Request for Info Concerning Consolidated Auto, Inc. (ES800656-ES800664)	
KWAN, CAROLINE/US EPA	SCOTT GRABER/CDM CORP.	03/31/89	LEGAL	CLP Sample Analysis Data Summary of the 104(e) Letter Response Sampling by CDM Fed. Programs Corp. (ES801119-ES801126)	
LAW ENGINEERING, INC.	VAN WINKLE, BUCK, WALL et al	10/09/92	CORR	Letter to Mr. Phil Smith re: status update and revised Scope of Services at the Andrex plant	
LAW ENGINEERING, INC.	LAW ENG.	09/17/91	CORR	Record of phone call between Kay Dechant/NCDNR-DEM and a Law employee about Andrex	
LAW ENGINEERING, INC.	NCDNR	06/14/91	REPORTS	Phase IIA Expanded Contamination Assessment Work Plan	
LAW ENGINEERING, INC.	N/A	03/18/93	REPORTS	Interim Data Submittal & Progress Report	
LAW ENGINEERING, INC.	KAY DEDNANT/DEHNR	06/06/91	PHONE RECORD	Re: Andrex Industries Facility - Groundwater Assessment	1
LAW ENVIRONMENTAL, INC.	CHRISTINE WARREN/BUNCOMBE CO.	03/25/92	CORR	Letter from Project engineers/Law Envir. to Christine Warren, submitting a municipal discharge permit application to the Metro. Sewerage District (MSD) of Buncombe Co.	

DOCUMENTS LIST (ALPHABETIZED)
RAMSAY MOTORS
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GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT	DATE OF DOCUMENT	TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT	NUMBER OF PAGES
LAW ENVIRONMENTAL, INC.	JAMES EMORY/BUNCOMBE CO.	04/07/93	CORR	Letter answering questions about Andrex	
LAW ENVIRONMENTAL, INC.	N/A	06/18/92	REPORTS	Work plan for Contaminant Source Identification and Off-site Ground Water Assessment	
LAW ENVIRONMENTAL, INC.	METRO SEWER. DISTRICT/BUNCOMBE CO.	03/19/93	REPORTS	Application for Permit to discharge treated ground water	
LAW ENVIRONMENTAL, INC.	ANDREX	03/24/93	REPORTS	Interim Engineering Report-proposed interim treatment system for recovered ground water (2 copies)	
LAW ENVIRONMENTAL, INC.	WESTERN NC REG. AIR POLL. CONTROL	03/25/93	REPORTS	Application for Air Quality Permit (2 copies)	
LEBRON ASSOC.	TEXACO	05/18/88	REPORT	Supplement To Revised Action Plan For Tanks Removal	Cover only - missing 20 pp
LUFTIG, STEPHEN/ US EPA	CARLOS O'NEILL/ US EPA	09/28/88	LEGAL	Authorization of Additional Trust Fund Monies for CERCLA Removal Activ. at TUTU Well Site from Luftig to O'Neill (ES800677-ES800682)	

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MENTZEL, MICHAEL & D'ONOFRIO, CRIS/ WESTON SPER	CARLOS O'NEILL/RESP. & PREV./US EPA	08/12/87	LEGAL	Memorandum from Michael Mentzel & Cris D'Onofrio, TAT, in reference to a Well Water Sampling Status Report (ES800243-ES800278)	
N/A	N/A	not dated	LAB DATA	Notes	
N/A	N/A	not dated	INVOICES	Blank commercial invoice	
N/A	N/A	not dated	MAPS	Close up of Central St. Thomas	
N/A	N/A	not dated	MAPS	Closer up of Central St. Thomas	
N/A	N/A	05/16/91	MISC.	Notes	
NCDEIHR	ANDREX	06/27/91	CORR	Letter notifying Greg Lundblad, VP of Andrex, of environmental violation	
NCDEHNR	GREG LUNDBLAD/ANDREX	05/23/91	MISC	Re: Notice of Violation for Oil Pollution and Hazardous Substances Control Act and Ground Water Standards and Classifications	1

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NCDEM	NCDEM	not dated	LAB DATA	Leak Reporting Form on Andrex Industries, for leak occurring on 4/19/91	
NCDEM	ANDREX	09/14/92	CORR	Letter from DEM to Greg Lundblad re:Phase II Assessment Work Plan	
NCDEM	ANDREX	12/24/93	CORR	Follow up letter from NCDEM re:Phase IIA Assessment Work Plan	
NUS CORP.	USEPA	03/24/89	REPORT	Final Draft - Preliminary Assessment - Laga Building/Department of Education	have 20pp missing 130pp
NUS CORP.	USEPA	03/31/89	REPORT	Final Draft - Preliminary Assessment - TUTU Texaco (REV. No. 0)	have cover only/ missing 150pp
NUS CORP.	USEPA	03/24/89	REPORT	Final Draft - Preliminary Assessment - Gassett Motors	have 23pp missing 75pp
NUS CORP.	USEPA	05/26/89	REPORT	Final Draft - Preliminary Assessment - TUTU Texaco (REV. No. 1)	have cover page only missing 200pp
NUS CORP.	USEPA	03/24/89	REPORT	Final Draft - Preliminary Assessment - Ramsey Motors	have cover page only missing 150pp

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GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT	DATE OF DOCUMENT	TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT	NUMBER OF PAGES
NUS CORP.	USEPA	08/28/91	REPORT	Final Draft, Hazard Ranking System Documentation, TUTU Wellfield, Volume 1 of 5 (Rev. No. 1)	Cover page only
O'CONNOR & LEMOS, P.A.	VARIOUS PEOPLE	10/15/93	FAX	Response of Texaco, Inc. Texaco Caribbean, Inc. and Vernon Morgan to EXXON corporation's Request to Permit Entry Upon Land	3
O'NEIL, C./US EPA	WM. MUZYNSKI	08/22/88	LEGAL	Request for a Twelve Mo. Exemption for TUTU Well Site from O'Neill to Muzynski (ES800665-ES800669)	
PARKER, ROY/CEI	CEI	04/05/93	INTER-VIEW	Interview performed by Roy Parker/CEI on April 5, 1993 on James J. Urban	
PERDRO PANZARDI & ASSOC.	USEPA	11/01/89	REPORT	Preliminary Site Assessment for L'Henry, Inc	Cover + Tbl of Cont. Missing 40pp
RAMOS, A./TEIC	USEPA	02/19/91	LETTER	Monthly progress report 2/19/91	2
RAMOS, A./TEIC	USEPA	03/20/91	LETTER	Monthly progress report 3/20/91	2
RAMOS, ANA GLORIA/TEIC	CAROLE PETERSON/NY CARIBB. SUPRFND BR. II	06/03/92	LEGAL	Letter to Ana Gloria Ramos, TEIC Designated Coordinator, in reference to the Administrative Order No. 11-CERCLA-00401 & RCRA-90-9003-0401 by Carole Peterson (ES801110-ES801111)	

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GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT	DATE OF DOCUMENT	TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT	NUMBER OF PAGES
RAMSAY MOTORS	LEONARD REED	08/05/87	LEGAL	Memorandum from Leonard Reed to Ramsay Motors in reference to Preliminary Investigation of Ramsay Motors' Violation (EP000686)	
RAMSAY MOTORS	ROBT. KELLAM/WITCO	11/13/87	LEGAL	Material Safety Data Sheets for Kendall Prod. from Witco Labs. in response to EPA's REquest for Info. to Ramsay Motors (ES801112-ES801118)	
REED & ROBISON	U.S. Geological Survey	04/01/72	REPORT	Ground-Water Contamination in the Turpentine Run Basin as of April 1972	
REED, LEONARD/USVI	CEI	04/07/93	LETTER	Re: TEIC meeting on April 28, 1993	1
RICH, CAROL	USEPA	03/08/93	LEGAL	Response to EPA's request for information dated 1/26/93	20
RICH, CAROL	SHARON RICHARDSON AND TERESA LOZINGER	10/26/93	LETTER	Letter regarding Tutu water wells litigation	Cover page 18 only-missing
ROY F. WESTON	USEPA	10/01/91	REPORT	Trip Report - TUTU Wells Site	50pp with 40+ slides
SABATINO, THOMAS/C.A.L. TECHNOLOGIES	ROY WESTON & T.PERRETTI/TAT TEAM REG. II	07/30/87	LEGAL	Analysis of Water Samples for Volatile Organic Compounds by C.A.L. Technologies, Inc. for the TAT Team (ES800147-ES800242)	
SARRIERA, W. & DIAZ, CYMANTHA	?	08/31/87	LEGAL	Sampling Plann for the Tutu Well Site prepared by Wm. Sarriera & Cymantha Diaz (ES800076-ES800104)	
SOIL TECH CORP	ESSO V.I.	09/19/90	REPORT	Final Report on Laboratory Analysis of Soil for Tank Replacement Work	

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GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT	DATE OF DOCUMENT	TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT	NUMBER OF PAGES
SOIL TECH CORP.	ESSO	01/11/89	REPORT	Laboratory Analyses of Soil at TUTU Esso Car Care Center	
SOIL TECH. CORP.	ESSO	04/17/90	LAB DATA	Laboratory Analyses of Tutu Esso Car Care Center	
TEIC	USEPA	05/21/90	LETTER	Monthly progress report 5/21/90	3
TEIC	USEPA	05/29/90	LETTER	Revised sample analysis & monitoring plan	1
TEIC	USPA	06/19/90	LETTER	Monthly progress report 6/19/90	1
TEIC	USEPA	07/20/90	LETTER	Monthly progress report 7/20/90	3
TEIC	ALL	07/12/90	MISC.	attendees @ Tutu PRP meeting	1
TEIC	USEPA	08/17/90	LETTER	Monthly progress report 8/17/90	3
TEIC	USEPA	10/22/90	LETTER	Monthly progress report 10/22/90	2
TEIC	USEPA	01/21/91	LETTER	Monthly progress report 1/21/91	2
TEIC	N/A	03/18/93	CORR	Letter including lab results for Tutu Well Site Investigation	
TEIC	CAROLINE KWAN/US EPA	04/09/92	REPORTS	Monthly Progress Report No. 2 for Administrative Order on Consent	

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GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT	DATE OF DOCUMENT	TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT	NUMBER OF PAGES
TEIC	ALL	03/04/92	NOTES	Site Access Agreement Tutu Environmental Investigation, St. Thomas U.S. Virgin Islands (9 copies)	3
TERRA VAC	Kentucky Fried Chicken of the U.S.V.I.	07/17/90	REPORT	Preliminary Hydrogeologic Assessment Ex-Fuel Home Petroleum Fort Mylner Service Station, TUTU St. Thomas	
TEXACO	USEPA	08/16/91	REPORT	Revised Solid Waste Disposal at TUTU S/S Report	
TEXACO	TEXACO	08/06/87	LEGAL	Texaco's News Release (ES800020)	
TUTU ENV. INVESTIGATION COMM.	US EPA?	04/19/91	LEGAL	from REPT to CEI/USEPA (resp. to request for doc. by Four Winds to Esso on 4/8/91, BS#90001-66. Monthly Prog. Rep. 4/19/91-9/20/92, (ES#800382-ES571	
UNKNOWN		not dated	MISC.	Notes from deposition of Winston Smith	10
UNKNOWN	COOPER	09/01/93	FILE	Information for our files	Many
US EPA	US EPA	07/24/87	LEGAL	EPA Pollution Report (ES80003-ES80004)	
US EPA	US EPA	07/31/87	LEGAL	EPA Pollution Report (ES800007-ES800010)	
US EPA	US EPA	08/08/87	LEGAL	EPA Pollution Report (ES800025-ES800028)	
US EPA	US EPA	08/10/87	LEGAL	EPA News Release (ES800029-ES800030)	
US EPA	US EPA	08/18/87	LEGAL	EPA Pollution Report (ES800035-ES800038)	

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GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT	DATE OF DOCUMENT	TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT	NUMBER OF PAGES
US EPA	US EPA	08/24/87	LEGAL	EPA Pollution Report (ES800042-ES800045)	
US EPA	N/A	08/19/87	LEGAL	Results based on Numbers received by T. Perette TAT-Edison (ES800046-ES800055)	
US EPA	US EPA	08/28/87	LEGAL	EPA Pollution Report (ES800056-ES800058)	
US EPA	US EPA	08/28/87	LEGAL	EPA News Release (ES800059-ES800064)	
US EPA	US EPA	not dated	LEGAL	EPA News Release (ES800065-800068)	
US EPA	US EPA	09/02/87	LEGAL	EPA Pollution Report (ES800113-ES800117)	
US EPA	US EPA	09/03/87	LEGAL	EPA News Release (ES800118)	
US EPA	US EPA	09/04/87	LEGAL	EPA Pollution Report (ES800125-ES800128)	
US EPA	US EPA	09/18/87	LEGAL	EPA Pollution Report (ES800132-ES800135)	
US EPA	US EPA	06/30/88	LEGAL	EPA Pollution Report (ES800136-ES800140)	
US EPA	US EPA	12/21/88	LEGAL	EPA Pollution Report (ES800141-ES800143)	
US EPA	US EPA	05/01/89	LEGAL	EPA Pollution Report (ES800144-ES800146)	

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GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT	DATE OF DOCUMENT	TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT	NUMBER OF PAGES
US EPA	ESSO	11/06/87	LEGAL	Request for Info. Concerning TUTU Esso Facility (ES800572-ES800582)	
US EPA	N/A	09/11/87	MAPS	Map of the Potentiometric surface of Turpentine Run Basin aquifer in the Tutu area, Eastern St. Thomas, USVI	
US GEOLOGICAL SURVEY	N/A	01/01/82	MAPS	Map of Eastern St. Thomas (2)	
US GEOLOGICAL SURVEY	N/A	01/01/82	MAPS	Map of Central St. Thomas Quadrangle	
US GEOLOGICAL SURVEY	N/A	01/01/82	MAPS	Map of Eastern St. Thomas Quadrangle	
USEPA	USEPA	08/21/91	REPORT	Hazard Ranking System Documentation Record	
USEPA	TEXACO	03/23/90	LEGAL	Administrative Order, Proceeding Under Section 106(a) of CERCLA	
USEPA	ESSO STANDARD OIL	09/13/91	LEGAL	Deposition of Leonard Reed	26
USEPA	ESSO STANDARD OIL	01/17/92	LEGAL	Continued deposition of of Leonard Reed (Volume II)	24
USEPA	ESSO STANDARD OIL	03/13/92	LEGAL	Continued deposition of Leonard Reed (Volume III)	20

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USEPA	TEIC	07/05/90	LETTER	Notice of Disapproval	6
USEPA	TEIC	08/14/90	LETTER	Meeting confirmation for 8/20/90	1
USEPA	MARIA TANKENSON; GOLDMAN & ANTONETTI; TEXACO	08/10/90	LETTER	Letter re: water connection	2
USEPA	TEIC	08/19/90	LETTER	Finalization of SAMP Plan	2
USEPA	TEIC	08/18/90	LETTER	Monthly progress report 8/18/90	3
USEPA	CHARLOTTE AMALIE	09/04/90	LEGAL	Property Access Agreement	7
USEPA Region II	USEPA	09/26/90	REPORT	Pollution Report #16 and Final	
USVI	ATTY'S	not dated	LEGAL	Interrogations and demands for production of documents	54
USVI		06/13/91	LEGAL	Depositions of Campbell Berry	35
USVI		06/18/91	LEGAL	Depositions of Dorn Abedneg	27
USVI		09/12/91	LEGAL	Deposition of Hans Oriol	62

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USVI		01/16/92	LEGAL	Deposition of Winston Smith	108
USVI	USVI	09/13/91	LEGAL	Deposition of Loenard Reed	135
USVI		01/17/92	LEGAL	Deposition of Loenard Reed Volume II	148
USVI	USVI	03/13/92	LEGAL	Deposition of Leonard Reed Volume III	91 + exhibits
USVI DEPT. OF PLANNING & NATURAL RES.	ESSO	07/24/87	LEGAL	Request for info. from DPNR (ES80001-ES80002)	
VAN WINKLE et al	ENSCI	11/10/92	CORR	Confidential letter to Ensci Cor. re: Andrex	
VIDPNR	VIDPNR	07/27/87	LEGAL	DPNR Order in the Matter of Texaco Caribbean (ES800005-ES800006A)	
VIDPNR	VIDPNR	07/31/87	LEGAL	DPNR Order in the Matter of Tutu Waters (ES800011-ES800012)	
VIDPNR	Water Haulers on St. Thomas	08/04/87	LEGAL	DPNR Notice (ES800013)	
VIDPNR	VIDPNR	08/05/87	LEGAL	DPNR First Amendment Order in the Matter of Texaco Caribbean, Inc. (ES800014-ES800019)	
VIDPNR	VIDPNR	08/07/87	LEGAL	DPNR Order in the Matter of the Plaza Associates (ES800021-ES800022)	
VIDPNR	VIDPNR	08/07/87	LEGAL	DPNR Order in the Matter of AASA Water Supply (Harthman Wells) (ES800023-ES800024)	
VIDPNR	HOMER & SON	08/12/87	LEGAL	DPNR Order in the Matter of Homer & Sons (ES800031-ES800032)	

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VIDPNR	DPNR	08/21/87	LEGAL	DPNR Order in the Matter of Esso Standard Oil (ES800039-ES800041)	
VIDPNR	VIDPNR	09/01/87	LEGAL	DPNR Administrative Order for Statement of Motives by Alan D. Smith (ES800105-ES800106)	
VIDPNR	VIDPNR	09/02/87	LEGAL	DPNR News Release (ES800107-ES800108)	
VIDPNR	VIDPNR	09/02/87	LEGAL	DPNR Order in the Matter of Steele Well (ES800109-ES800110)	
VIDPNR	VIDPNR	09/02/87	LEGAL	DPNR Order in the Matter of Harvey Well (ES800111-ES800112)	
VIDPNR	VIDPNR	09/17/87	LEGAL	DPNR Order in the Matter of Esso Standard Oil (ES800129-ES800131)	
VIDPNR	CEI	04/22/93	CORR	Letter discussing upcoming Technical Review of data pertaining to the contamination of the Tutu aquifer	
VIRGIN ISLANDS HOUSING AUTHORITY	ANNA RAMOS/TEIC	03/13/92	LETTER	Executed Agreement for the Comprehensive Field Investigation of Soil and Ground-Water Quality	1
VIRGIN ISLANDS, DISTRICT COURT OF	?	10/13/93	LEGAL DOC	Case No. 1989-224 and Case No. 1989-220 Four Winds Plaza Partnership vs. Texaco, Inc. and P.I.D./Hartman vs. Texaco, Inc.	Large Legal Document

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WARD & JORDAN	U.S. Geological Survey	01/01/63	REPORT	Water Resources at the Virgin Islands, A Preliminary Appraisal	
WATER RESOURCES RESEARCH CENTER	U.S. Geological Survey	07/24/89	REPORT	Proceedings of the Virgin Islands Water Resources Conference	
WESTON	USEPA	02/02/90	REPORT	Letter Report of December 1989 photovac sampling of the TUTU well site	Missing Results
WESTON SPER	USEPA	10/22/87	REPORT	Sampling Plan of TUTU Well Site (ES800352-ES800261)	
WESTON SPER	USEPA	10/16/87	REPORT	Memorandum from Arnaldo Martinez and William Schoellkopf, TAT, in reference to TUTU HSL+40 Sampling of Turpentine Run Aquifer	
WESTON SPER	USEPA	01/27/88	REPORT	Memorandum from Arnaldo Martinez and Douglas Henne, TAT, in reference to TUTU HSL+40 Sampling Results (ES800362-ES800369)	
WESTON SPER	USEPA	02/23/88	REPORT	Summary of Laboratory Results For Oil & Water Samples Collected From Tanks, Storm Drains, and Sumps at Gasoline Stations & Auto Body Shops on August 17, 1987 (ES800279-ES800378)	
WESTON SPER	N/A	08/13/87	LEGAL	General Site Safety Plan #TAT-02-E-03956 (ES800279-ES800311)	

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05/01/59	DONNELLY, THOMAS WALLACE	Princeton University		REPORT	Geology of St. Thomas and St. John, Virgin Islands (A Dissertation - Property of the US Geological Survey - WRD San Juan, P.R.)
06/01/59	GROSSMAN, I.G.	U.S. Dept. of the Interior		REPORT	Ground Water Data from St. Thomas
01/01/63	WARD & JORDAN	U.S. Geological Survey		REPORT	Water Resources at the Virgin Islands, A Preliminary Appraisal
01/01/72	JORDAN, DONALD G.	U.S. Geological Survey		REPORT	Land-Use Effect on the Water Regimen of the U.S. Virgin Islands
04/01/72	REED & ROBISON	U.S. Geological Survey		REPORT	Ground-Water Contamination in the Turpentine Run Basin as of April 1972
01/01/73	JORDAN & COSTNER	U.S. Geological Survey		REPORT	A Survey of the Water Resources of St. Thomas, V.I.
01/01/77	JORDAN & FISHER	U.S. Geological Survey		REPORT	Relation of Bulk Precipitation and Evaporation to Water Quality and Water Resources, St. Thomas, V.I.
06/01/78	ADAMS & ASSOC.	U.S.V.I. Dept. of Public Works		REPORT	Well Field Development Program - East End, St. Thomas
01/01/82	US GEOLOGICAL SURVEY	N/A		MAPS	Map of Eastern St. Thomas (2)

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01/01/82	US GEOLOGICAL SURVEY	N/A		MAPS	Map of Central St. Thomas Quadrangle
01/01/82	US GEOLOGICAL SURVEY	N/A		MAPS	Map of Eastern St. Thomas Quadrangle
04/01/83	GERAGHTY & MILLER	U.S.V.I. Dept. of Conserv. & Cultural Affairs		REPORT	Report on Current Groundwater Conditions in the U.S. Virgin Islands
10/01/85	CLEMENT ASSOC.	?		REPORT	General Summary Reports on Transport & Fate & Health Effects of 1,1,1-Trichloroethane, Ethylbenzene, & 2,3,6-Trichlorobenzoic Acid
02/01/86	HAMLIN, DONALD L.	U.S.V.I. Dept. of Conserv. & Cultural Affairs		REPORT	Leaking Underground Storage Tank Survey - St. Thomas, St. John and St. Croix
07/24/87	US EPA	US EPA		LEGAL	EPA Pollution Report (ES80003-ES80004)
07/24/87	V.I. DEPT. OF PLANNING & NATURAL RES.	ESSO		LEGAL	Request for info. from DPNR (ES80001-ES80002)

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07/27/87	VIDPNR	VIDPNR		LEGAL	DPNR Order in the Matter of Texaco Caribbean (ES800005-ES800006A)
07/30/87	SABATINO, THOMAS/C.A.L. TECHNOLOGIES	ROY WESTON & T.PERRETTI/TAT TEAM REG. II		LEGAL	Analysis of Water Samples for Volatile Organic Compounds by C.A.L. Technologies, Inc. for the TAT Team (ES800147-ES800242)
07/31/87	US EPA	US EPA		LEGAL	EPA Pollution Report (ES800007-ES800010)
07/31/87	VIDPNR	VIDPNR		LEGAL	DPNR Order in the Matter of Tutu Waters (ES800011-ES800012)
08/04/87	VIDPNR	Water Haulers on St. Thomas		LEGAL	DPNR Notice (ES800013)
08/05/87	RAMSAY MOTORS	LEONARD REED		LEGAL	Memorandum from Leonard Reed to Ramsay Motors in reference to Preliminary Investigation of Ramsay Motors' Violation (EP000686)
08/05/87	VIDPNR	VIDPNR		LEGAL	DPNR First Amendment Order in the Matter of Texaco Caribbean, Inc. (ES800014-ES800019)
08/06/87	TEXACO	TEXACO		LEGAL	Texaco's News Release (ES800020)

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08/07/87	VIDPNR	VIDPNR		LEGAL	DPNR Order in the Matter of the Plaza Associates (ES800021-ES800022)
08/07/87	VIDPNR	VIDPNR		LEGAL	DPNR Order in the Matter of AASA Water Supply (Harthman Wells) (ES800023-ES800024)
08/08/87	US EPA	US EPA		LEGAL	EPA Pollution Report (ES800025-ES800028)
08/10/87	US EPA	US EPA		LEGAL	EPA News Release (ES800029-ES800030)
08/12/87	MENTZEL, MICHAEL & D'ONOFRIO, CRIS/ WESTON SPER	CARLOS O'NEILL/RESP. & PREV./US EPA		LEGAL	Memorandum from Michael Mentzel & Cris D'Onofrio, TAT, in reference to a Well Water Sampling Status Report (ES800243-ES800278)
08/12/87	VIDPNR	HOMER & SON		LEGAL	DPNR Order in the Matter of Homer & Sons (ES800031-ES800032)
08/13/87	DCCA	TUTU WATER		LEGAL	Letter from the Dept. of Conservation & Cult. Affairs from Alan Smith to Mr. Eric Tillet (ES 800033-ES800034)
08/13/87	WESTON SPER	N/A		LEGAL	General Site Safety Plan #TAT-02-F-03956 (ES800279-ES800311)
08/18/87	US EPA	US EPA		LEGAL	EPA Pollution Report (ES800035-ES800038)

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08/19/87	US EPA	N/A		LEGAL	Results based on Numbers received by T. Perette TAT-Edison (ES800046-ES800055)
08/21/87	VIDPNR	DPNR		LEGAL	DPNR Order in the Matter of Esso Standard Oil (ES800039-ES800041)
08/24/87	US EPA	US EPA		LEGAL	EPA Pollution Report (ES800042-ES800045)
08/28/87	US EPA	US EPA		LEGAL	EPA Pollution Report (ES800056-ES800058)
08/28/87	US EPA	US EPA		LEGAL	EPA News Release (ES800059-ES800064)
08/31/87	MARTINEZ, ARNALDO/REG. II TECH. ASSIS. TEAM	RESPONSE & PREVENTION US EPA		LEGAL	Sampling Plan for the Tutu Well Site prepared by the TAT (ES800069 - ES800075)
08/31/87	SARRIERA, W. & DIAZ, CYMANTHA	?		LEGAL	Sampling Plann for the Tutu Well Site prepared by Wm. Sarriera & Cymantha Diaz (ES800076-ES800104)
09/01/87	VIDPNR	VIDPNR		LEGAL	DPNR Administrative Order for Statement of Motives by Alan D. Smith (ES800105-ES800106)

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09/02/87	US EPA	US EPA		LEGAL	EPA Pollution Report (ES800113-ES800117)
09/02/87	VIDPNR	VIDPNR		LEGAL	DPNR News Release (ES800107-ES800108)
09/02/87	VIDPNR	VIDPNR		LEGAL	DPNR Order in the Matter of Steele Well (ES800109-ES800110)
09/02/87	VIDPNR	VIDPNR		LEGAL	DPNR Order in the Matter of Harvey Well (ES800111-ES800112)
09/03/87	US EPA	US EPA		LEGAL	EPA News Release (ES800118)
09/04/87	ALLGOOD, I./REG. II TECH. ASSIS. TEAM & G. RHYMER /DPNR	CARLOS O'NEILL/RESPONSE & PREV./US EPA		LEGAL	Survey Summary of Well/Cistern Usage at Tutu Well Site prepared by Isabelle Allgood (ES800119-ES800124)
09/04/87	US EPA	US EPA		LEGAL	EPA Pollution Report (ES800125-ES800128)
09/11/87	US EPA	N/A		MAPS	Map of the Potentiometric surface of Turpentine Run Basin aquifer in the Tutu area, Eastern St. Thomas, USVI

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09/17/87	VIDPNR	VIDPNR		LEGAL	DPNR Order in the Matter of Esso Standard Oil (ES800129-ES800131)
09/18/87	US EPA	US EPA		LEGAL	EPA Pollution Report (ES800132-ES800135)
10/14/87	GEOSCIENCE CONSULTANTS, LTD.	TEXACO		REPORT	Quality Assurance Project Plan For Soil Gas Survey, Texaco Service Station
10/16/87	WESTON SPER	USEPA		REPORT	Memorandum from Arnaldo Martinez and William Schoellkopf, TAT, in reference to TUTU HSL+40 Sampling of Turpentine Run Aquifer
10/22/87	WESTON SPER	USEPA		REPORT	Sampling Plan of TUTU Well Site (ES800352-ES800261)
11/06/87	US EPA	ESSO		LEGAL	Request for Info. Concerning TUTU Esso Facility (ES800572-ES800582)
11/13/87	RAMSAY MOTORS	ROBT. KELLAM/WITCO		LEGAL	Material Safety Data Sheets for Kendall Prod. from Witco Labs. in response to EPA's REquest for Info. to Ramsay Motors (ES801112-ES801118)
11/19/87	HABSCHMAN, ROBERT/ ATTN.	C. DOLAN/US EPA & F. LANG/DPNR		LEGAL	Response to Request for Information Concerning Ramsey Motors, Inc. (ES800583-ES800591)

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11/25/87	CDM FEDERAL	USEPA		REPORT	overview of Texaco Soil Gas Survey of the Tutu Well field site
11/30/87	HROCH, W./TEXACO	CAROLINE KWAN US EPA		LEGAL	Response to Request for Information Concerning Texaco Service Station (ES800592-ES800601)
12/04/87	BARBEL ENTER.	CHRIS DAGGETT/REG. ADMIN. EPA		LEGAL	Response to Request for Information Concerning O'Henry Cleaners (ES800602-ES800606)
12/18/87	GEOSCIENCE CONSULTANTS LTD.	TEXACO		REPORT	Final Report on Results of Soil Gas Survey TUTU, St. Thomas (Revised January 25, 1988)
12/28/87	BELGODERE & ASSOC.	DPNR - U.S.V.I. & USEPA		REPORT	Esso TUTU Service Station Health & Safety Plan
01/06/88	O'NEILL, C./US EPA	S. LUFTIG-EMER.& REM. ESP. DIV.		LEGAL	Preliminary Assessment & Confirmation of Auth. of CERCLA REMoval Actions Monies for TUTU Well Site from Carlos O'Neill to Stephen Luftig (ES800607-ES800616A)
01/11/88	BELGODERE & ASSOC.	DPNR - U.S.V.I. & USEPA		REPORT	Esso TUTU Service Station Soil Vapor Inv. Plan
01/25/88	deDIEGO ENCARNACION, JOSE/V.I. HOUSING AUTH.	CHRIS DAGGETT/ US EPA		LEGAL	Response to Request for Information Concerning the Virgin Islands Housing Authority (ES800617-ES800627)
01/27/88	WESTON SPER	USEPA		REPORT	Memorandum from Arnaldo Martinez and Douglas Henne, TAT, in reference to TUTU HSL+40 Sampling Results (ES800362-ES800369)

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02/05/88	CDM FEDERAL	USEPA		REPORT	comments on Esso Tutu soil vapor inv. plan & Q.A. control plan (Dec. 28, 1987)
02/23/88	WESTON SPER	USEPA		REPORT	Summary of Laboratory Results For Oil & Water Samples Collected From Tanks, Storm Drains, and Sumps at Gasoline Stations & Auto Body Shops on August 17, 1987 (ES800370-ES800378)
03/01/88	ENVIRONMENTAL MONITORING SYSTEMS LABORATORY	USEPA		REPORT	Site Analysis: TUTU Wellfield (Aerial Photographic Interpretation of Tutu Wellfield)
03/02/88	JUNKIN, TIMOTHY/ATTNY.	CAROLYN KWAN/US EPA		LEGAL	Response to Request for Information to Jim Tillet (ES800628-ES800631)
05/18/88	KWAN, CAROLINE/US EPA	PRES. RAMSEY MOTORS		LEGAL	Follow-up Information on the Request for Information concerning Ramsey Motors, Inc. (ES800655)
05/18/88	KWAN, CAROLINE/US EPA	PRES./CONS. AUTO		LEGAL	Follow -up Information on the Request for Info Concerning Consolidated Auto, Inc. (ES800656-ES800664)
05/18/88	LEBRON ASSOC.	TEXACO		REPORT	Supplement To Revised Action Plan For Tanks Removal
06/01/88	BELGODERE & ASSOC.	ESSO		REPORT	Photocopies of Original Chromatograms & Calibration Curves - Esso TUTU

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06/01/88	BELGODERE & ASSOC.	ESSO		REPORT	SUPPLEMENT - Photocopies of Original Chromatograms & Calibration Curves - Esso TUTU Project
06/14/88	BELGODERE & ASSOC.	ESSO		REPORT	Esso TUTU Service Station Soil Gas Vapor Screening Survey Report
06/14/88	BELGODERE & ASSOC.	ESSO STANDARD OIL		REPORTS	Soil Gas Vapor Screening Survey Report
06/29/88	CDM FEDERAL	USEPA		REPORT	overview of Esso Soil Gas Survey conducted Apr. 5, 1988 through April 23, 1988
06/30/88	US EPA	US EPA		LEGAL	EPA Pollution Report (ES800136-ES800140)
07/11/88	CDM FEDERAL	USEPA		REPORT	comments on Esso Tutu Service Station Soil Gas Vapor Screening Survey Report, June 14, 1988
08/22/88	O'NEIL, C./US EPA	WM. MUZYNSKI		LEGAL	Request for a Twelve Mo. Exemption for TUTU Well Site from O'Neill to Muzynski (ES800665-ES800669)

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09/19/88	GRABER, SCOTT/CDM FED. PROGRAMS CORP.	CAROLINE KWAN/US EPA		LEGAL	Updated Tech. Review of 9 CERCLA 104(c) Responses - O'Henry Cleaners, Ramsay Motors, Cons. Auto Parts, Rodriguez Auto Parts, Esso, Texaco,... (ES800670-ES800676)
09/28/88	LUFTIG, STEPHEN/ US EPA	CARLOS O'NEILL/ US EPA		LEGAL	Authorization of Additional Trust Fund Monies for CERCLA Removal Activ. at TUTU Well Site from Luftig to O'Neill (ES800677-ES800682)
10/17/88	GRABER, SCOTT/CDM FED. PROGRAMS CORP.	US EPA		LEGAL	Administrative Order on Consent, TUTU Well Field Area by Scott Graber (ES800683-ES800694)
12/21/88	US EPA	US EPA		LEGAL	EPA Pollution Report (ES800141-ES800143)
01/04/89	CDM FEDERAL	USEPA		REPORT	Overview of the Tutu Texaco Service Station Soil Vent. Task for the Tank Excavation Program
01/11/89	SOIL TECH CORP.	ESSO		REPORT	Laboratory Analyses of Soil at TUTU Esso Car Care Center
01/12/89	GRABER, SCOTT/CDM FED. PROG. CORP.	CAROLINE KWAN/US EPA		LEGAL	Review of Work Plan for the Removal & Installation of 2 Underground Storage Tanks at TUTU Esso Car Care Center on Dec., 1988 by Scott Graber (ES800695-ES800697)
02/10/89	LAURA, CALISE/MONITORING MGMT./US EPA	CAROLINE KWAN/NY- CARIBB. BRANCH/US EPA		LEGAL	Memorandum from Laura Scalise to Caroline Kwan in Ref. to TUTU Well Field Site Work Plan for the Removal & Installation of 2 Underground Storage Tanks, Revised 1/13/89 (ES800698-ES800727)
03/07/89	CDM FEDERAL	USEPA		REPORT	Overview of TUTU Texaco Soil Vent. Task for the Tank Excavation Program

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03/13/89	CDM FEDERAL	USEPA		REPORT	comments on water collected from the tank pit during the Tutu Texaco Service Station tank excavation
03/24/89	NUS CORP.	USEPA		REPORT	Final Draft - Preliminary Assessment - Laga Building/Department of Education
03/24/89	NUS CORP.	USEPA		REPORT	Final Draft - Preliminary Assessment - Gassett Motors
03/24/89	NUS CORP.	USEPA		REPORT	Final Draft - Preliminary Assessment - Ramsey Motors
03/31/89	CDM FEDERAL	USEPA		REPORT	CLP Sample Analysis Data Summary of 104e Ltr. Response Sampling
03/31/89	KWAN, CAROLINE/US EPA	SCOTT GRABER/CDM CORP.		LEGAL	CLP Sample Analysis Data Summary of the 104(e) Letter Response Sampling by CDM Fed. Programs Corp. (ES801119-ES801126)
03/31/89	NUS CORP.	USEPA		REPORT	Final Draft - Preliminary Assessment - TUTU Texaco (REV. No. 0)
04/14/89	CDM FEDERAL	USEPA		REPORT	CLP Sample Analysis Data Summary of the 104e Ltr. Response Sampling Tutu Wellfield Area
04/14/89	CDM FEDERAL	USEPA		REPORT	CLP Sample Analysis Data of 104(c) letter

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04/24/89	GRABER, SCOTT/CDM CORP.	CAROLINE KWAN/US EPA		LEGAL	Summary of 104(e) Letter Response & Facility Inspections Relating to Underground Storage Tanks in the TUTU Well Field (ES800728-ES800729)
05/01/89	US EPA	US EPA		LEGAL	EPA Pollution Report (ES800144-ES800146)
05/26/89	NUS CORP.	USEPA		REPORT	Final Draft - Preliminary Assessment - TUTU Texaco (REV. No. 1)
07/24/89	WATER RESOURCES RESEARCH CENTER	U.S. Geological Survey		REPORT	Proceedings of the Virgin Islands Water Resources Conference
11/01/89	PERDRO PANZARDI & ASSOC.	USEPA		REPORT	Preliminary Site Assessment for L'Henry, Inc
01/31/90	CDM FEDERAL	USEPA		REPORT	CLP Sample Analysis Data Summary, Tutu Wellfield Area
02/02/90	WESTON	USEPA		REPORT	Letter Report of December 1989 photovac sampling of the TUTU well site
02/16/90	CDM FEDERAL	USEPA		REPORT	Description of sampling locations - Tutu Wellfield site

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02/27/90	CDM FEDERAL	USEPA		REPORT	Revised overview rpt. of Esso Tank Excavation
03/23/90	US EPA	TEXACO		LEGAL	Administrative Order, Proceeding Under Section 106(a) of CERCLA
04/12/90	ENSECO	N/A		LAB DATA	General Sampling Guidelines
04/17/90	SOIL TECH. CORP.	ESSO		LAB DATA	Laboratory Analyses of Tutu Esso Car Care Center
04/20/90	CDM FEDERAL	USEPA		REPORT	Chronology of Events & FPC Oversight thru March 1990
04/24/90	CDM FEDERAL	USEPA		REPORT	Ltr. Rpt. - Review of Esso Rpt. on Tank Excavation & Soil Sampling
05/21/90	TEIC	USEPA		LETTER	Monthly progress report 5/21/90

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05/29/90	TEIC	USEPA		LETTER	Revised sample analysis & monitoring plan
05/31/90	CDM FEDERAL	USEPA		REPORT	Final CLP Sample Analysis Data Summary of Soils & Waters Sampled in 1989 from Texaco Soil, Esso Excav. Pit and Soil, and 104e Ltr. Response Sites (2nd Round)
06/19/90	TEIC	USPA		LETTER	Monthly progress report 6/19/90
07/05/90	US EPA	TEIC		LETTER	Notice of Disapproval
07/12/90	TEIC	ALL		MISC.	attendees @ Tutu PRP meeting
07/17/90	TERRA VAC	Kentucky Fried Chicken of the U.S.V.I.		REPORT	Preliminary Hydrogeologic Assessment Ex-Fuel Home Petroleum Fort Mylner Service Station, TUTU St. Thomas
07/20/90	TEIC	USEPA		LETTER	Monthly progress report 7/20/90
08/08/90	GOLDMAN & ANTONETTI ET AL	USEPA		LETTER	Letter from Goodman, Antonetti et al re: CERCLA & RCRA regulations

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08/10/90	US EPA	MARIA TANKENSON; GOLDMAN & ANTONIETTI; TEXACO		LETTER	Letter re: water connection
08/14/90	US EPA	TEIC		LETTER	Meeting confirmation for 8/20/90
08/17/90	TEIC	USEPA		LETTER	Monthly progress report 8/17/90
08/18/90	US EPA	TEIC		LETTER	Monthly progress report 8/18/90
08/19/90	US EPA	TEIC		LETTER	Finalization of SAMP Plan
09/04/90	US EPA	CHARLOTTE AMALIE		LEGAL	Property Access Agreement
09/19/90	SOIL TECH CORP	ESSO V.I.		REPORT	Final Report on Laboratory Analysis of Soil for Tank Replacement Work

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09/26/90	US EPA Region II	USEPA		REPORT	Pollution Report #16 and Final
10/22/90	TEIC	USEPA		LETTER	Monthly progress report 10/22/90
10/26/90	D'ANNA, NANCY; CEPADA JOSE; & MCCAY, R. SCOTT	AMY R. CHESTER/US EPA		LEGAL	EPA Order which conforms with Section VII 2 of Administrative Orders Nos. II-CERCLA-0401 & RCRA-90-0401 in ref. to Tillet's Well (ES801065-ES801068)
12/17/90	CDM FEDERAL	USEPA		REPORT	Ltr. Rpt. - Tech. Review of Esso's Revised Tank Excavation and Soil Sampling Rpt.
01/01/91	GERAGHTY & MILLER	TEIC		REPORT	1st Qtrly. Sampling Rpt., Sept 1990
01/11/91	GERAHTY & MILLER	USEPA		LETTER	Project Schedule for Geraghty & Miller Tutu Well Sampling
01/21/91	TEIC	USEPA		LETTER	Monthly progress report 1/21/91

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02/19/91	RAMOS, A./TEIC	USEPA		LETTER	Monthly progress report 2/19/91
03/19/91	GERAGHTY & MILLER	TEIC		LETTER	Schedule for 2/91 Quarterly Sampling
03/20/91	RAMOS, A./TEIC	USEPA		LETTER	Monthly progress report 3/20/91
04/05/91	GERAGHTY & MILLER	USEPA		REPORT	Re-evaluation of Esso TUTU Soil Gas Survey (Aug. '88), Final CLP Sample Analysis of Soils & Waters in 1989, and Final Report on Laboratory Analyses of Soil for Tank Replacement Work at Esso (Sept. 1990)
04/19/91	TUTU ENV. INVESTIGATION COMM.	US EPA?		LEGAL	Monthly Progress Rep. from TEIC, submitted to EPA from 5/21/90 to 3/20/91 in response to admin. Order-Consent und. RCRA & CERCLA, resp. to request for doc. by Four Winds to Esso on 4/8/91, BS#90001-66. Monthly Prog. Rep. 4/19/91-9/20/92, (ES#800382-ES571
05/13/91	GERAGHTY & MILLER	TEIC		REPORT	Second Quarter Sampling Report, February 1991, TUTU Wells Site Quarterly Sampling (includes Data Validation Summary Rpt.)
05/16/91	UNKNOWN	UNKNOWN		MISC.	Notes

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05/20/91	GARCIA, IVAN/ROY F. WESTON	LUIS SANTOS/EPA		LAB DATA	Memorandum re: results of February 1990 quarterly sampling of Tutu Well site (ES900121-ES900127)
05/23/91	NCDEHNR	GREG LUNDBLAD/ANDREX		MISC	Re: Notice of Violation for Oil Pollution and Hazardous Substances Control Act and Ground Water Standards and Classifications
06/06/91	LAW ENGINEERING, INC.	KAY DEDNANT/DEHNR		PHONE RECORD	Re: Andrex Industries Facility - Groundwater Assessment
06/13/91	USVI			LEGAL	Depositions of Campbell Berry
06/14/91	LAW ENGINEERING, INC.	NCDNR		REPORTS	Phase IIA Expanded Contamination Assessment Work Plan
06/18/91	USVI			LEGAL	Depositions of Dorn Abedneg
06/27/91	NCDEHNR	ANDREX		CORR	Letter notifying Greg Lundblad, VP of Andrex, of environmental violation
08/16/91	TEXACO	USEPA		REPORT	Revised Solid Waste Disposal at TUTU S/S Report
08/21/91	US EPA	US EPA		REPORT	Hazard Ranking System Documentation Record
08/28/91	NUS CORP.	USEPA		REPORT	Final Draft, Hazard Ranking System Documentation, TUTU Wellfield, Volume 1 of 5 (Rev. No. 1)

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09/01/91	GERAGHTY & MILLER	TEIC		REPORT	Revised Sampling (from September 1990) Analysis, and Monitoring Plan for TUTU Wells
09/06/91	GERAGHTY & MILLER	TEIC		REPORT	Third Sampling Report, June 1991, TUTU Wells Site
09/12/91	USVI			LEGAL	Deposition of Hans Oriol
09/13/91	COOPER ENVIRONMENTAL, INC	UNKNOWN		REPORT	Reports of 7/90 and 2/91 sampling events at Tutu wellsite; lab data; letters; etc.
09/13/91	US EPA	ESSO STANDARD OIL		LEGAL	Deposition of Leonard Reed
09/13/91	USVI	USVI		LEGAL	Deposition of Leonard Reed
09/17/91	LAW ENGINEERING, INC.	LAW ENG.		CORR	Record of phone call between Kay Dechant/NCDNR-DEM and a Law employee about Andrex
10/01/91	ROY F. WESTON	USEPA		REPORT	Trip Report - TUTU Wells Site
01/01/92	GERAGHTY & MILLER	TEIC		REPORT	Fourth Sampling Report, October 1991, TUTU Wells Site
01/16/92	USVI			LEGAL	Deposition of Winston Smith

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01/17/92	US EPA	ESSO STANDARD OIL		LEGAL	Continued deposition of of Leonard Reed (Volume II)
01/17/92	USVI			LEGAL	Deposition of Loenard Reed Volume II
02/21/92	CHESTER, AMY R./US EPA	JOSE CEPADA/ATTNY.		LEGAL	TUTU Wells Site Administrative Order on Consent Index No. II-RCRA-Proceeding 7003 & 9003-92-0401 (ES801073-ES801107)
03/01/92	GERAGHTY & MILLER	TEIC		REPORT	TUTU Service Station Investigation Work Plan
03/04/92	TEIC	ALL		NOTES	Site Access Agreement Tutu Environmental Investigation, St. THomas U.S. Virgin Islands (9 copies)
03/10/92	GERAGHTY & MILLER	TUTU WELLSITE		LETTER	Request for Temporary Authorization of Air Discharge in the Tutu Area
03/11/92	GERAGHTY & MILLER	Dept. of Public Works		REPORT	Request for temporary authorization of ground water discharge to sanitary sewer in the TUTU area
03/11/92	GERAGHTY & MILLER	TUTU WELLSITE		LETTER	Request for Temporary Authorization of Ground-Water Discharge to Sanitary Sewer in the Tutu Area
03/13/92	US EPA	ESSO STANDARD OIL		LEGAL	Continued deposition of Leonard Reed (Volume III)
03/13/92	USVI	USVI		LEGAL	Deposition of Leonard Reed Volume III

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03/13/92	VIRGIN ISLANDS HOUSING AUTHORITY	ANNA RAMOS/TEIC		LETTER	Executed Agreement for the Comprehensive Field Investigation of Soil and Ground-Water Quality
03/20/92	GERAGHTY & MILLER	TEIC		REPORT	Tutu Service Station Investigation Work Plan St. Thomas, U.S. V.I.
03/20/92	HOLLAR, BRENDA	ANNA RAMOS/TEIC		LETTER	Site Access Agreement TEIC
03/25/92	LAW ENVIRONMENTAL, INC.	CHRISTINE WARREN/BUNCOMBE CO.		CORR	Letter from Project engineers/Law Envir. to Christine Warren, submitting a municipal discharge permit application to the Metro. Sewerage District (MSD) of Buncombe Co.
04/07/92	CDM FEDERAL	USEPA		REPORT	Community Relations Plan for the TUTU Wells Site (contains news releases)
04/09/92	TEIC	CAROLINE KWAN/US EPA		REPORTS	Monthly Progress Report No. 2 for Administrative Order on Consent
05/01/92	GERAGHTY & MILLER	TEIC		REPORT	Fifth Sampling Report, February 1992, TUTU Wells Site
06/03/92	RAMOS, ANA GLORIA/TEIC	CAROLE PETERSON/NY CARIBB. SUPRFND BR. II		LEGAL	Letter to Ana Gloria Ramos, TEIC Designated Coordinator, in reference to the Administrative Order No. 11-CERCLA-00401 & RCRA-90-9003-0401 by Carole Peterson (ES801110-ES801111)
06/18/92	LAW ENVIRONMENTAL, INC.	N/A		REPORTS	Work plan for Contaminant Source Identification and Off-site Ground Water Assessment
08/25/92	KELDER, G.	CEI		MISC.	letter from G. Kelder re: expert services

DOCUMENTS LIST (CHRONOLOGICAL)
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI

CEI PROJECT NO. 92115

<i>DATE OF DOCUMENT</i>	<i>GENERATOR OF DOCUMENT</i>	<i>RECIPIENT OF DOCUMENT</i>		<i>TYPE OF DOCUMENT</i>	<i>DESCRIPTION OF DOCUMENT</i>
08/27/92	GERAGHTY & MILLER	TEIC		REPORT	Sixth Sampling Report, May 1992, TUTU Wells Site
09/14/92	NCDEM	ANDREX		CORR	Letter from DEM to Greg Lundblad re:Phase II Assessment Work Plan
09/17/92	COOPER ENVIRONMENTAL, INC	N/A		MISC.	film packets
10/09/92	HANKINSON, FRANK/NCDEHNR	GREG LUNDBLAD		LETTER	Phase IIA Assessment Work Plan and Interim Remediation/Buncombe County, North Carolina
10/09/92	LAW ENGINEERING, INC.	VAN WINKLE, BUCK, WALL et al		CORR	Letter to Mr. Phil Smith re:status update and revised Scope of Services at the Andrex plant
11/10/92	VAN WINKLE et al	ENSCI		CORR	Confidential letter to Ensci Cor. re: Andrex
01/18/93	DEMA, JOHN	MORGAN, LEWIS & BOCKIUS		MISC.	Lab reports from Caribbean Hydro-Tech
02/01/93	GERAGHTY & MILLER	TEIC		REPORTS	Technical Memorandum II-Results of Field Program at Tutu Station/US VI
03/08/93	RICH, CAROL	USEPA		LEGAL	Response to EPA's request for information dated 1/26/93

TUT 004 0790

DOCUMENTS LIST (CHRONOLOGICAL)

CEI PROJECT NO. 4115

RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI

DATE OF DOCUMENT	GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT		TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT
03/18/93	LAW ENGINEERING, INC.	N/A		REPORTS	Interim Data Submittal & Progress Report
03/18/93	TEIC	N/A		CORR	Letter including lab results for Tutu Well Site Investigation
03/19/93	LAW ENVIRONMENTAL, INC.	METRO SEWER. DISTRICT/BUNCOMBE CO.		REPORTS	Application for Permit to discharge treated ground water
03/24/93	LAW ENVIRONMENTAL, INC.	ANDREX		REPORTS	Interim Engineering Report-proposed interim treatment system for recovered ground water (2 copies)
03/25/93	LAW ENVIRONMENTAL, INC.	WESTERN NC REG. AIR POLL. CONTROL		REPORTS	Application for Air Quality Permit (2 copies)
04/05/93	PARKER, ROY/CEI	CEI		INTER-VIEW	Interview performed by Roy Parker/CEI on April 5, 1993 on James J. Urban
04/05/93	SCHOTTROFF, ADRIAN/DPNR	MEMBERS OF TUTU TECH REVIEW COMM.		CORR	Fax transmittal to all Tutu Technical Review Committee Members discussing the upcoming two-day meeting (on April 26&27)
04/07/93	LAW ENVIRONMENTAL, INC.	JAMES EMORY/BUNCOMBE CO.		CORR	Letter answering questions about Andrex
04/07/93	REED, LEONARD/USVI	CEI		LETTER	Re: TEIC meeting on April 28, 1993

TUTU 004 0791

DOCUMENTS LIST (CHRONOLOGICAL)

CEI PROJECT NO. 2115

RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI

DATE OF DOCUMENT	GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT		TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT
04/12/93	ENSECO	RAMSAY		INVOICES	FEDEX International Airway Bill for lab supplies
04/12/93	ENSECO	RAMSAY		INVOICES	Chain of Custody form for sampling supplies (bottles, vials, etc.)
04/22/93	VIDPNR	CEI		CORR	Letter discussing upcoming Technical Review of data pertaining to the contamination of the Tutu aquifer
09/01/93	UNKNOWN	COOPER		FILE	Information for our files
10/01/93	BLASLAND & BOUCK ENGINEERS, P. C.	?		REPORT	Supplement Site Assessment Program
10/01/93	HYDROLOGIC ASSOCIATES U.S.A., INC.	FOUR WINDS AND PID/HARTMAN		REPORT	Geohydrologic Analysis and Water Quality Data
10/01/93	HYDROLOGIC ASSOCIATES U.S.A., INC.	FOUR WINDS AND PID/HARTMAN		REPORT	Geohydrologic Analysis and Water Quality Data
10/13/93	VIRGIN ISLANDS, DISTRICT COURT OF	?		LEGAL DOC	Case No. 1989-224 and Case No. 1989-220 Four Winds Plaza Partnership vs. Texaco, Inc. and P.I.D./Hartman vs. Texaco, Inc.
10/14/93	ARTHUR D. LITTLE	RAMSAY MOTORS		WORK PLAN	Work Plan reports for the Tutu Area in St. Thomas
10/14/93	ARTHUR D. LITTLE	WASTE WATER TREATMENT PLANT		WORK PLAN	Work Plan reports for the Tutu Area in St. Thomas
10/14/93	ARTHUR D. LITTLE	TEXACO		WORK PLAN	Work Plan reports for the Tutu Area in St. Thomas
10/14/93	ARTHUR D. LITTLE	O'HENRI DRYCLEANERS		WORK PLAN	Work Plan reports for the Tutu Area in St. Thomas

TUI 004 0792

DOCUMENTS LIST (CHRONOLOGICAL)
 RAMSAY MOTORS
 ANNA'S RETREAT
 ST. THOMAS, USVI

CEI PROJECT NO. 2115

DATE OF DOCUMENT	GENERATOR OF DOCUMENT	RECIPIENT OF DOCUMENT		TYPE OF DOCUMENT	DESCRIPTION OF DOCUMENT
10/14/93	ARTHUR D. LITTLE	FOUR WINDS PLAZA		WORK PLAN	Work Plan reports for the Tutu Area in St. Thomas
10/15/93	ARTHUR D. LITTLE	TILLET GARDENS		WORK PLAN	Work Plan reports for the Tutu Area in St. Thomas
10/15/93	ARTHUR D. LITTLE	ANTILLES ENVIRONMENTAL INVESTIGATION		WORK PLAN	Work Plan reports for the Tutu Area in St. Thomas
10/15/93	O'CONNOR & LEMOS, P.A.	VARIOUS PEOPLE		FAX	Response of Texaco, Inc. Texaco Caribbean, Inc. and Vernon Morgan to EXXON corporation's Request to Permit Entry Upon Land
10/20/93	HILLSMAN, MARK	TUTU WATER WELLS LITIGATION FILE		MEMO	Rule 34 Physical Inspections By The Laga Defendants
10/26/93	RICH, CAROL	SHARON RICHARDSON AND TERESA LOZINGER		LETTER	Letter regarding Tutu water wells litigation
12/24/93	NCDEM	ANDREX		CORR	Follow up letter from NCDEM re:Phase IIA Assessment Work Plan
4/17/90	GARCIA, IVAN	CARLOS O'NEILL/EPA		LAB DATA	Memo from Ivan Garcia to Carlos O'Neill to document the transmittal of Sampling Plan, Site Maps & Photovac results 1987-90
not dated	COOPER ENVIRONMENTAL, INC	ALL		LEGAL	Tutu Lateral Waterline Contract

TUT 004 0793

**DOCUMENTS LIST (CHRONOLOGICAL)
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI**

CEI PROJECT NO. - 4115

<i>DATE OF DOCUMENT</i>	<i>GENERATOR OF DOCUMENT</i>	<i>RECIPIENT OF DOCUMENT</i>		<i>TYPE OF DOCUMENT</i>	<i>DESCRIPTION OF DOCUMENT</i>
not dated	GERAGHTY & MILLER	TUTU SERVICE STATION		MAPS	Map of Tutu Service Station showing well, soil borings, etc.
not dated	NCDEM	NCDEM		LAB DATA	Leak Reporting Form on Andrex Industries, for leak occurring on 4/19/91
not dated	UNKNOWN	UNKNOWN		LAB DATA	Notes
not dated	UNKNOWN	UNKNOWN		INVOICES	Blank commercial invoice
not dated	UNKNOWN	UNKNOWN		MAPS	Close up of Central St. Thomas
not dated	UNKNOWN	UNKNOWN		MAPS	Closer up of Central St. Thomas
not dated	UNKNOWN			MISC.	Notes from deposition of Winston Smith
not dated	US EPA	US EPA		LEGAL	EPA News Release (ES800065-800068)
not dated	USVI	ATTY'S		LEGAL	Interrogations and demands for production of documents

OUT 004 0794

DOCUMENTS LIST (CHRONOLOGICAL)
RAMSAY MOTORS
ANNA'S RETREAT
ST. THOMAS, USVI

CEI PROJECT NO. 4115

<i>DATE OF DOCUMENT</i>	<i>GENERATOR OF DOCUMENT</i>	<i>RECIPIENT OF DOCUMENT</i>		<i>TYPE OF DOCUMENT</i>	<i>DESCRIPTION OF DOCUMENT</i>
undated	BELGODERE & ASSOC.	USEPA		REPORT	Esso TUTU Car Care Center Investigation Plan, Quality Assurance/Quality Control Plan

TUT 004 0795

Additional Notes About Networks

This document contains information about specific networks. If you are looking for additional information about Windows version 3.1 that does not pertain to networks, see "Other Online Documents" at the end of this file for a description of the Windows 3.1 online documents. s W ri

TABLE I
UST/AST TABLE

* Tanks with Year Installed in parentheses () have been closed.

Name, Address ID Number	Distance Direction	Topo Relation	Regist. List	#	Reg. Y/N	Leak List	Size (gal)	Contents	Type
(Former Walker's Gulf) BP Oil Company # 21466 1500 East Franklin Street 0-023028	West 1/8 mile	level with the subject property	UST	11	Yes	No	550 550 550 550 6000 10000 6000 10000 6000 10000 10000	diesel kerosene other auto other auto gasoline gasoline gasoline gasoline gasoline diesel gasoline	steel unknw steel unknw steel unknw steel unknw steel fibglas steel
(Miller's Texaco) Village Texaco US 15-501 and Estes Dr. 0-020451	West 1/4 mile	level with the subject property	UST	10	Yes	No	8000 1000 9999 8000 8000 550 10000 10000 10000 10000	gasoline fuel oil other auto gasoline gasoline other auto gasoline gasoline gasoline gasoline	steel fibglas fibglas steel steel steel fibglas fibglas fibglas fibglas
Chapel Hill Parks and Recreation Department 200 Plant Road 0-022268	NE 1/8 mile	up-gradient	UST	3	Yes	No	10000 500 1200	diesel other auto other auto, fuels	steel steel steel

TUT 004 0797

Belk Hudson Leggett Co. University Mall 0-020516	East 1/8 mile	level with subject property	UST	1	Yes	No	250	unknown	steel
Belk Leggett Company Estes Drive 0-031899	East 1/8 mile	level with subject property	UST	1	Yes	No	500	other auto fuels, oils	steel
Sunrise Biscuit Kitchen 1305 East Franklin Street 0-020781	SW 1/8 mile	down- gradient	UST	2	Yes	No	8000 8000	gasoline gasoline	steel steel
Zip Mart # 20 1501 East Franklin Street 0-022633	NW 1/8 mile	up-gradient	UST	9	Yes	No	10000 10000 10000 10000 10000 10000 10000 8000	diesel diesel gasoline gasoline gasoline gasoline gasoline gasoline	steel fibglas steel fibglas steel fibglas steel fibglas fibglas
Etna Self Serve 1509 East Franklin Street 0-022633	NW 1/4 mile	up-gradient	UST	7	Yes	No	12000 12000 12000 12000 8000 8000 8000	gasoline gasoline gasoline gasoline gasoline gasoline gasoline	steel steel steel steel steel steel steel

TABLE II
ASBESTOS SAMPLING TABLE

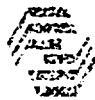
Suspect ACM Material Sampled	Sample # and Location	Analyzed Yes/No	Lab Results (% and Type)	Estimated Quantity of ACM	Friable Yes/No	Physical Condition	Fiber Releasing Potential
Floor tile - White	PO-1 Janitor's closet and back offices	Yes	None Detected				
Floor tile - Black	PO-2 Warehouse/Dispatch Area	Yes	15%	17,096 sq. feet (2/3 of the building)	no	good	low
Ceiling tile - gray & white	PO-3 Office Area	Yes	None Detected				
Ceiling tile - white & brown	PO-4 Mailbox Area	Yes	None Detected				
Ceiling tile - gray and white	PO-5 Reception Area	Yes	None Detected				
Pipe Wrapping (orange)	PO-6 Boiler Room	Yes	5%	unknown	yes	poor	high
Pipe Wrapping (green)	PO-7 Boiler Room	Yes	5%	unknown	yes	poor	high
Pipe Wrapping (gray)	PO-8 Loading Dock Area	Yes	5%	unknown	yes	poor	high

TABLE III
List of Recorded Sites

Name, Address ID Number	Distance Direction	Database	Comments
Gene Care Medical Center 120 Corner Drive 3688226	North 1/4 mile	FINDS, RCRA	Generates less than 100 kg./mo. of non-acutely haz. waste.
Plaza Laundry and Cleaners 111 Elliott Road 333183	NorthEast 1/2 mile	FINDS, RCRA	Generates less than 100 kg./mo. of non-acutely haz. waste,
Millers Texaco Retail Facility US 15-501 Bypass and Estes Drive 5371	West 1/4 mile	FINDS, RCRA, LUST	Ground Water contamination from gasoline UST. Generates less than 100 kg./mo. of non- acutely haz. waste
Bailey's Cleaners University Mall	East 1/8 mile	FINDS	Hazardous Waste
UNC HMF Building 488 Estes Drive 437499	East 1/4 mile	RCRA	Generates at least 100kg/mo. of non-acutely haz. waste (or 1 kg/mo. of acutely haz. waste), This handler has violations outstanding in the Corrective Action Compliance Schedule Area.
Walker's Gulf (Current BP) 1500 East Franklin Street 6469	West 1/8 mile	LUST	Ground Water contamination from leaking gasoline UST
Sunrise Biscuit Kitchen 1305 East Franklin Street 0-020781	SouthWest 1/4 mile	UST	2 tanks closed and removed, no leaks reported

BP Oil Company # 24166 (Walker's Gulf) 1500 East Franklin Street 0-023028	West 1/8 mile	UST	11 tanks, six removed and five active, leaks reported from former gas station, Walkers Gulf, before BP owned the site
Zip Mart # 20 1501 East Franklin Street 0-022633	NorthWest 1/4 mile	UST	9 tanks, five active and four closed, no leaks reported
Etna Self Serve 1509 East Franklin Street 0-023141	NorthWest 1/4 mile	UST	7 tanks, all active, no leaks reported
Belk Leggett Company Estes Drive 0-031899	East 1/8 mile	UST	1 tank , no leak reported
Village Texaco US 15-501 and Estes Drive 0-020451	West 1/8 mile	UST	10 tanks, four closed and six active, no leaks reported
Chapel Hill Parks and Recreation Department 200 Plant Road 0-022268	NorthEast 1/4 mile	UST	3 tanks, no leaks reported
Belk Hudson Leggett Co. University Mall 0-020516	East 1/8 mile	UST	1 tank active, no leaks reported

APPENDIX II
Letter Explaining Similarities and Differences Between SW-846
and CLP-SOW Methods



Enseco

A Corning Company

AUG 24, 1993

Mr. John Burkhart
Cooper Environmental
2300 Sardis Road North
Suite Q
Charlotte, NC 28227

Re: Methodology Comparison, CLP vs. SW-846

Dear Mr. Burkhart

Enclosed, please find method comparisons for volatile and semi-volatile analyses in a soil matrix. Section I explains the variables/conditions for CLP analysis, Section II contains the variables/conditions for the SW-846 methods.

If you need any additional information please feel free to contact me at (908) 469-5800.

Sincerely,

Alicia C. Pirrocco
Program Manager

cc: D.Flynn, Enseco, Inc.

SECTION I - CLP METHODS

Volatile 3/90 CLP (modded 12/90 and 2/91)

<u>Variable</u>	<u>Default Condition</u>
<u>INITIATION</u>	
Sample Container	Not specified
Preservative	Minimum Headspace, stored away from light at 4°C (+2°C). VOA samples must be stored separately from other samples.
Holding Time	Unused Samples at 4°C for 60 days after data delivered to EPA Analysis of all samples must be complete within 10 days
Holding Time Start	VTSR
Sample Storage	4°C (+2°C). A holding blank should be done for each case.
Sample Disposal	After 60 days from delivery of data
Chain-of-Custody	EPA Traffic Reports, Air Bills, and Sample Tags

PREPARATION

Sample Pre-treatment	Soils NOT Decanted; Samples warmed to Room Temp. prior to analysis, %moisture of Soils
Extraction Technique	MED Soils only (>10,000 ug/kg contaminant)
Solvent	MeOH
pH Conditions	As received
Sample Size for analysis	Waters = 5 mL; MED Soil = 4g followed by MeOH extraction - $\leq$ 100 uL of MeOH extract + Reagent water to purge 5mL sample; LOW = 1-5g + 5mL Reagent water.
Dilution Techniques	Volumetric serial dilution required.
Screening Requirements	Optional

ANALYSIS CONDITIONS

Instrumentation	GC/MS/DS
Mass Range	35 to 300 amu

<u>Variable</u>	<u>Default Condition</u>
Scan Time	Rate of acquisition - at least 5 spectra/ compound, not to exceed 1 sec/scan
PTD Conditions	Specified as: Purge Gas = N2 or He; Purge time = 11.0 ± 0.1 min; Purge flow (option) = 25-40 mL/min; Purge Temp = ambient for waters/MED soils, 40°C LOW soils; Desorb Temp.=180°C; Desorb Flow = 15 mL/min; Desorb Time = 4.0 ± 0.1 min; Reconditioning Temp. = 180°C; Recond. Time = 7.0 ± 0.1 min
GC Conditions	
Column Type	Packed or Cap.Column. Packed = 6' X 0.1" ID glass with 1% SP-1000 on Carbowpack B, or equivalent. Cap = 30m X 0.52 mm ID VOCOL or DB-624 fused silica with 3u film thickness
Operating Conditions	RECOMMENDED for Cap. Column: Temp. Prog. = 10°C (1-5min) to 160°C at 6°C/min; hold at 160°C until all TCLs elute Carrier Gas = He at 15 mL/min NOTE: Subambient oven controller required??
Injection Technique	PTD or direct allowed of BFB
Tuning	
Component(s)	BFB at 50 ng either by direct inject or by adding 50ng to 5.0 mL water and analyzing by PTD (can't be in CC std)
Acquisition	Mass Spec acquired by averaging 3 peaks across center of BFB and by background subtracting 1 scan prior to elution of BFB
Criteria	Table 1 (D-25/VOA)/FORM V VOA
Frequency	Every 12 hours
Standard Integrity	Replace in 6 months, or sooner
Initial Calibration	
Component List	FORM VI VOA (TCLs + SMC)
Number of Points	5-Level
Concentration Requirements	10, 20, 50, 100, and 200 ug/L in MeOH
Acceptance Criteria	Min RRF, Max %RSD criteria for most cpds (Table 2 (D-28/VOA). Up to 2 TCLs may be out but min RRF ≥ 0.010 and %RSD ≤ 40%.
Frequency	At beginning of contract and if CC std fails. Separate ICAL for LOW soils and Waters and MED Soils required.

<u>Variable</u>	<u>Default Condition</u>
Standard Integrity	Aqueous standards stored at 4°C (+2°C), for up to 24 hours with zero headspace. Stocks stored at -10 to -20°C for up to 6 months.
Continuing Calibration Frequency	Every 12 Hours
Concentration	50 ug/L
Acceptance Criteria	%D relative to ICAL < + 25%. Up to 2 TCLs can be out but must have Min. RRF >0.010 and %D ≤ 40%
Standard Integrity	Store at 4°C, prepare fresh daily
Analytical Run Sequence	
What constitutes sequence	12 hour sequence from Tune based on injection. Following ICAL or CC, must analyze a system MB prior to samples.
What is acceptable run	1) IS RTs/Areas in sample agree with CC std (FORM VIII VOA) 2) TCLs within calibration range, if diluted largest TCL within upper half of range 3) SMCs all within QC limits
Linearity?	Dilute until largest TCL within upper half of calibration range DO NOT DILUTE MS/MSDs
Quantitation Technique	Internal Standard
Daily vs. Average Rfs	Daily

QUALITY CONTROL

Blanks

Type(s) Required	MB (extracted for MED soils), Holding Blank, Methanol Blank
Frequency	MB: every 12 hours/GC/MS system at a minimum. If a saturated sample is run, MB must be analyzed following sample to check for carryover. Holding blank: 1 per case (results kept and used by lab to check contamination) Methanol Blank: 1/MED level extraction batch Extracted MB: 1//MED level extraction batch
Criteria	All Blanks: SMCs all in; Must not contain > 5 X CRQL of Methylene Chloride, Acetone, 2-Butanone or > CRQL for all other TCLs.

<u>Variable</u>	<u>Default Condition</u>
Composition	MB: Waters = 5.0mL Reagent Water spiked with IS and SMCs. LOW Soils = 5g Purified solid in 5 mL water spiked with IS and SMCs. MED Soil = 1g Purified solid spiked with SMC then extracted with MeOH and analyzed following addition of IS. Holding Blank = VOA vial filled with water Methanol Blank = 1mL of reagent methanol
Matrix Spikes	
Components/Conc. in Spike	1,1-Dichloroethene, Trichloroethene, Chlorobenzene, Toluene, and Benzene at 25.0 ug/mL in MeOH.
Level of Spike	Waters/LOW Soils = 10 uL; MED Soils = 1.0 mL
Concentration of Spike	Waters/LOW soils 50 ng/mL, MED Soils variable.
Frequency	MS/MSD required/case up to 20 samples for each group of samples of a similar matrix
Criteria for Acceptability	Advisory limits for %REC, %RPD - Never reanalyze even if IS criteria not met. MS/MSD should be run undiluted.
Standard Integrity	Store at -10 to -20°C, replace in 6 months, or sooner
System Monitoring Compounds	
Frequency	In all samples, MS/MSDs, and MBs
Components/Conc. in Spike	Toluene-D8, p-Bromofluorobenzene, and 1,2-Dichloroethane-D4 at 25.0 ug/mL in MeOH
Level of Spiking	10 uL into 5mL sample for Waters and LOW soils, MED Soils = 1.0 mL prior to extraction.
Concentration of Spike	Waters/LOW soils 50 ng/mL, MED Soils variable.
Criteria for Acceptability	All must be within QC limits.
Standard Integrity	Store at -10 to -20°C, replace in 3 months, or sooner
Requirements to verify Method Performance	
MDL Studies	Not required
Acceptability criteria	PEs/SOPs/QAPP for Contract

VariableDefault ConditionREPORTING

Deliverables

C-O-C

Executed Traffic Reports (copy due to SMO 3 days after last sample in SDG received and in final package), EPA C-O-C, Airbills, and Sample Tags + Internal C-O-C.

Log-in

DC-1 FORM, Lab Log-in Sheets, SDG Cover Sheet

Tune

FORM V VOA, Mass list and Bar Graph

Initial Calibration

FORM VI VOA, Labeled RICs, Data System Report, Correct Headers (e.g., VSTD###)

Continuing Calibration

FORM VII VOA, Labeled RIC, Data System Report, Correct headers

Sample Chromatograms/Files

Correct Headers, Labeled RICs normalized to largest non-solvent peak, Data System Printout (Quant files, etc.), Spectra of TCL hit (Raw and Background subtracted), and Standard Spectra, TICs for all Samples, DL, RE, MBs. MS/MSD need all except Spectra of hits and TICs

Log-Book pages

Originals in CSF unless bound logbook

Prep

Bench sheets, sample transfer records, Screening info including strip charts, log book copies.

Instrument

Transfer records, instrument logs (GPC, Screening and GC/MS)

Administrative

Telephone contact logs/notes on project.

Data Sheets and Format

FORM I VOA and FORM I VOA-TIC (Samples [DL and RE], MBs, MS/MSDs) with qualifiers; FORMS II VOA, III VOA, IV VOA, VIII VOA

Administrative

SDG Narrative, FORM DC-2

Electronic Requirements

Diskette delivered with data and Mag. Tapes of GC/MS all raw data with inventory

VariableDefault ConditionINITIATION

Sample Container	Not specified
Preservative	Away from light, stored at 4°C (+2°C)
Holding Time	Unused Samples at 4°C for 60 days after data delivered to EPA Extracts (labeled and inventoried) at 4°C for 365 days after data delivered Prep: Waters started within 5 days Soils complete within 10 days Analytical: 40 days after extraction
Holding Time Start	VTSR
Sample Storage	4°C (+2°C)
Sample Disposal	After 60 days from delivery of data
Chain-of-Custody	EPA Traffic Reports, Air Bills, and Sample Tags

PREPARATION

Sample Pre-treatment	Soils Decanted; Screening for LOW/MED pH and %moisture of Soils
Extraction Technique	Waters = CLLE; Soils = Sonication (MED = microtip)
Solvent	Waters/MED Soil = MeCl ₂ ; LOW Soils = MeCl ₂ /Acetone
pH Conditions	Waters = pH 2, soils as received
Sample Size	Waters = 1.0L; MED Soil = 1g; LOW = 30g
Final Volume	Waters without GPC = 1000 uL; Soils and Waters through GPC = 500 uL
Concentration Techniques	KD and/or N ₂ blowdown (solvent exchange required for LOW soils)
Cleanup Requirements	GPC for Soils, optional for Waters
Screening Requirements	Water extracts optional, required for soils

VariableDefault ConditionANALYSIS CONDITIONS

Instrumentation	GC/MS/DS and Screening Inst. (GC/MS or GC/FID)
Mass Range	35 to 500 amu
Scan Time	not to exceed 1 sec/scan
GC Conditions	
Column Type	30m X 0.25mm ID or 0.32mm ID fused-silica bonded column with 1u or 0.25 u film thickness
Operating Conditions	RECOMMENDED: Temp. Prog. = 40°C (4min) to 270°C at 10°C/min; hold at 270°C for 10 min. GC Injector and Transfer Line = 250-300°C Carrier Gas = He at 30 mL/min
Injection Technique	Grob-type, splitless injection
Injection Volume	MANDATORY 2 uL
Tuning	
Component(s)	DFTPP at 50 ng (separate solution or within CC standard)
Acquisition	Mass Spec acquired by averaging 3 peaks across center of DFTPP and by background subtracting 1 scan prior to elution of DFTPP
Criteria	Table 1 (D-40/SV)/FORM V SV
Frequency	Every 12 hours
Standard Integrity	No limit given unless in CC std.
Initial Calibration	
Component List	FORM VI SV (TCLs + Surrogates)
Number of Points	5-Level except for 8 TCLs not requiring 20 ng
Concentration Requirements	20, 50, 80, 120, and 160 ng for 2uL inject
Acceptance Criteria	Min RRF, Max %RSD criteria for most cpds (Table 5 (D-46/SV). Up to 4 TCLs/Surrogate may not hit criteria; however, Min. RRF > 0.010 and %RSD ≤ 40%
Frequency	At beginning of contract and if CC std fails

<u>Variable</u>	<u>Default Condition</u>
Standard Integrity	Store at -10 to -20°C, amber bottles, replace every 12 months or sooner
Continuing Calibration Frequency	Every 12 Hours
Concentration	50 ng for 2 uL inject
Acceptance Criteria	%D relative to ICAL < 25%. Up to 4 TCLs/surrogates can be out but must have Min. RRF >0.010 and %D ≤ 40%
Standard Integrity	Store at 4°C, prepare fresh weekly
Analytical Run Sequence	
What constitutes sequence	12 hour sequence from Tune based on injection
What is acceptable run	1) IS RTs/Areas in sample agree with CC std (FORM VIII SV) (exception with reextract and reanalysis with same result) 2) TCLs within calibration range, if diluted largest TCL within upper half of range 3) Surrogates (1 out allowed in each of Acid and BN surr., QC advisory out OK)
Linearity?	Dilute until largest TCL within upper half of calibration range DO NOT DILUTE MS/MSDs
Quantitation Technique	Internal Standard
Daily vs. Average Rfs	Daily

QUALITY CONTROL

Blanks

Type(s) Required	MB and GPC Blank
Frequency	MB: each case, or each 14 days that samples arrive for a case, or each 20 samples (including MS/MSD/Re-extractions) that are of a similar matrix/concentration level or whenever samples are extracted by a particular extraction method. MB must be analyzed by each GC/MS that samples are analyzed on. GPC: At least once/week
Criteria	MB: Surrogates must meet acceptance criteria and any TCL ≤ CRQL except for phthalate esters which must be ≤ 5 X CRQL. GPC: TCL ≤ 0.5 X CRQL

<u>Variable</u>	<u>Default Condition</u>
Composition	MB: Waters = 1.0L Reagent Water spiked with surrogates. MED Soils = 1g Powdered sodium sulfate; LOW Soil = 30g Powdered sodium sulfate each spiked with surrogates. GPC: MeCl2
Matrix Spikes Components/Conc. in Spike	1,2,4-Trichlorobenzene, Acenaphthene, 2,4-Dinitrotoluene, Pyrene, N-Nitroso-di-n-propylamine, and 1,4-Dichlorobenzene at 100 ug/mL each in MeOH; Pentachlorophenol, Phenol, 2-Chlorophenol, 4-Chloro-3-methylphenol, and 4-Nitrophenol at 150 ug/mL each in MeOH.
Level of Spike	0.5 mL
Concentration of Spike	Acids 150 ng, BN 100 ng for 2 uL inject
Frequency	MS/MSD required at frequency similar to MB.
Criteria for Acceptability	Advisory limits for %REC, %RPD - Never reanalyze even if IS criteria not met. MS/MSD should be run undiluted.
Standard Integrity	Store at 4C (+2C), replace in 12 months, or sooner
Surrogates Frequency	In all samples, MS/MSDs, and MBs
Components/Conc. in Spike	Nitrobenzene-D5, Terphenyl-D14, 2-Fluorobiphenyl, and 1,2-Dichlorobenzene-D4 at 100ug/mL; Phenol-D5, 2,4,6-Tribromophenol, 2-Fluorophenol, and 2-Chlorophenol-D4 at 150 ug/mL.
Level of Spiking	0.5 mL
Concentration of Spike	100 ng and 150 ng in 2uL inject
Criteria for Acceptability	1 out of BN, 1 out of Acid, Advisory surrogates out OK.
GPC Calibration Frequency	Calibrate at least once/week.
Component/Conc	Corn Oil (25.0 mg/mL); Bis(2-ethylhexyl)-phthalate (1.0 mg/mL); Methoxychlor (0.2 mg/mL); Perylene (0.02 mg/mL); Sulfur (optional at 0.08 mg/mL) in MeCl2.

VariableDefault Condition

Criteria for Acceptability	All peaks observed and symmetrical; Corn oil and phthalate must exhibit >85% resolution, phthalate and methoxychlor must exhibit >85% resolution; Methoxychlor and Perylene must exhibit >85% resolution; and Perylene and Sulfur must not be saturated and must exhibit >90% resolution. RT of cal. cpds MUST be within +5% of the RTs from the previous GPC calibration.
Standard Integrity	Replace every 6 months, or sooner.
Requirements to verify Method Performance	
MDL Studies	Not required
Acceptability criteria	PEs/SOPs/QAPP for Contract

REPORTING

Deliverables

C-O-C

Executed Traffic Reports (copy due to SMO 3 days after last sample in SDG received and in final package), EPA C-O-C, Airbills, and Sample Tags + Internal C-O-C.

Log-in

DC-1 FORM, Lab Log-in Sheets, SDG Cover Sheet

Tune

FORM V SV, Mass list and Bar Graph

Initial Calibration

FORM VI SV, Labeled RICs, Data System Report Correct headers (e.g., SSTD###)

Continuing Calibration

FORM VII SV, Labeled RIC, Data System Report, Correct headers + GPC calibration data

Sample Chromatograms/Files

Correct Headers, Labeled RICs normalized to largest non-solvent peak, Data System Printout (Quant files, etc.), Spectra of TCL hit (Raw and Background subtracted), and Standard Spectra, TICs for all Samples, DL, RE, MBs. MS/MSD need all except Spectra of hits and TICs

Log-Book pages

Originals in CSF unless bound logbook

Prep

Bench sheets, sample transfer records, Screening info including strip charts, log book copies.

Instrument

Transfer records, instrument logs (GPC, Screening and GC/MS)

<u>Variable</u>	<u>Default Condition</u>
/ Administrative	Telephone contact logs/notes on project.
Data Sheets and Format	FORM I SV and FORM I SV-TIC (Samples [DL and RE], MBs, MS/MSDs) with appropriate qualifiers; FORMS II SV, III SV, IV SV, VIII SV
Administrative	SDG Narrative, FORM DC-2
Electronic Requirements	Diskette delivered with data and Mag. Tapes of GC/MS all raw data with inventory

SECTION II - SW-846 METHODS

<u>Variable</u>	<u>Default Condition</u>
<u>INITIATION</u>	
Sample Container	Soils/sediments and sludges: 4 oz widemouth glass with Teflon liner; Concentrated Waste samples: 8 oz widemouth glass with Teflon liner; Liquid Samples: 2 X 40 mL vials with Teflon lined septum caps
Preservative	Soils/sediments and sludges - cool to 4°C; Concentrated Wastes - none; Liquids with no residual chlorine present - 4 drops conc. HCL, and cool to 4°C; Liquids with residual chlorine - collect sample in a 4 oz VOA container which has been pre-preserved with 4 drops of 10% sodium thiosulfate, gently mix and transfer to 40 mL VOA vials that have been pre-preserved with 4 drops of conc. HCl, and cool to 4°C; Liquid samples containing Acrolein and Acrylonitrile - adjust to pH 4-5, and cool to 4°C
Holding Time	14 days
Holding Time Start	Sample Collection
Sample Storage	4°C
Sample Disposal	None specified
Chain-of-Custody	Not explicitly specified; however, field operations responsible for correct Chain-of-Custody forms being sent to lab.
<u>PREPARATION</u>	
Sample Pre-treatment	Soils NOT Decanted; Samples warmed to Room Temp. prior to analysis; and %moisture of Soils (not decanted).
Extraction Technique	High Soil/sediments and wastes only (> 1 mg/kg contaminant)
Solvent	MeOH
pH Conditions	As received - see Preservative above

<u>Variable</u>	<u>Default Condition</u>
Sample Size for analysis	Waters = 5 mL or an appropriate aliquot diluted to 5 mL with reagent water; HIGH soil/sediments and methanol immiscible wastes = 4g of sample is extracted with MeOH and an aliquot (100 uL or a fraction of 100 uL diluted to 100 uL with MeOH) of the extract is added to 4.9 mL reagent water and analyzed; Wastes that are miscible in MeOH = follow procedure for HIGH soil/sediments using 1g of sample instead of 4g; LOW soil/sediments and wastes = 1-5g sample + 5 mL reagent water.
Dilution Techniques	Volumetric serial dilution or preparation directly into syringe (20 uL $\leq$ aliquot of sample $\leq$ 100 uL).
Screening Requirements	Optional. It's suggested that headspace with GC/PID in series with HECD or hexadecane extraction and screening by GC/FID or GC/ECD be used.

ANALYSIS CONDITIONS

Instrumentation	GC/MS/DS
Mass Range	Recommend: 35 to 260 amu
Scan Time	Recommend: To give 5 scans/peak, but not to exceed 7 sec/scan
PTD Conditions	Specified as: Purge Gas = inert gas; Purge time = 11.0 $\pm$ 0.1 min; Purge flow = 25-40 mL/min (optimize for bromoform and chloromethane response); Purge Temp = ambient for waters and HIGH soils/wastes, 40 $\pm$ 1°C for LOW soils; Desorb Temp. = 180°C; Desorb Flow = 20-60 mL/min; Desorb Time = 4.0 min; Reconditioning Temp. = 180-220°C; Recond. Time = ~7.0 min.
GC Conditions Column Type	Packed Column = 6' X 0.1" ID glass with 1% SP-1000 on Carbopack B (60/80 mesh), or equivalent.
Operating Conditions	RECOMMENDED: Temp. Prog. = 45°C (for 3 min) to 220°C at 8°C/min; hold at 220°C for 15 min. Carrier Gas = He at 30 cm/sec or H ₂ at 50 cm/sec. If trap desorption is not fast enough, GC column MUST be used as a secondary trap by cooling it to 30°C, or subambient, instead of starting at 45°C.

<u>Variable</u>	<u>Default Condition</u>
Injection Technique	PTD or direct injection. Direct injection of sample reserved for high concentrations, for determining alcohol content of a sample prior to ignitability test, or for water soluble compounds that don't purge. Direct injection of BFB always allowed.
Tuning	
Component(s)	BFB at 50 ng either by direct inject or by adding 50ng to 5.0 mL water and analyzing by PTD (no indication that it can't be in the CC std).
Acquisition	None specified
Criteria	Table 3 (8240-12) (old criteria)
Frequency	Every 12 hours
Standard Integrity	Keep at -10 to -20°C, replace in 6 months, or sooner, if there's a problem.
Initial Calibration	
Component List	Not specified. Some or all of the compounds listed in Table 1 may be included.
Number of Points	5-Level
Concentration Requirements	Unspecified; however, one of the levels should near, but above, the MDL. All others should define the working range.
Acceptance Criteria	Average RFs for Chloromethane, 1,1-Dichloroethane, 1,1,2,2-Tetrachloroethane and Chlorobenzene $\geq$ 0.300 and Bromoform $\geq$ 0.250 (SPCC criteria); and %RSD for 1,1-Dichloroethene, Chloroform, 1,2-Dichloropropane, Toluene, Ethylbenzene, and Vinyl Chloride $<$ 30% (CCC criteria).
Frequency	At beginning of performing method and if CC std fails. Separate ICAL for LOW soils, HIGH soils and Waters required. HIGH soils procedure requires standards contain 100 uL of methanol.
Standard Integrity	May be stored for 1 week only in a vial with no headspace. Stocks should be stored at -10 to -20°C for up to 2 months, for gases and reactive compounds, and up to 6 months for all other compounds.
Continuing Calibration	
Frequency	Every 12 Hours

<u>Variable</u>	<u>Default Condition</u>
Concentration	Mid-level concentration. HIGH soils procedure requires standard contain 100 uL of methanol.
Acceptance Criteria	%D relative to ICAL < 25% for CCCs; min RF for SPCCs must be met; RT for ISs must not be > + 30 sec from last CC standard; and EICP area of an IS must not change by more than -50% to + 100% from last CC standard.
Standard Integrity	May be stored no longer than 1 week in a vial with minimal headspace.
Analytical Run Sequence	
What constitutes sequence	12 hour sequence from Tune based on injection.
What is acceptable run	1) Analytes within calibration range. If diluted, largest analyte within upper half of range; 2) Surrogates for aqueous and soil matrices within QC limits given in Table 8 (8240-38); for other matrices, recoveries within lab generated limits; 3) Standard criteria met and the samples analyzed within 12 hour tune.
Linearity?	Dilute until largest analyte of interest is within upper half of calibration range.
Quantitation Technique	Internal Standard. Recommend: Bromochloromethane, 1,4-Difluorobenzene, and Chlorobenzene-D5 at 25 mg/L in MeOH. Spike 10uL for each 5 mL sample (50 ug/L in sample).
Daily vs. Average RFs	Average RFs from ICAL (oversight in method - EPA believes should use daily RFs but method ambiguous).
What is an acceptable ID	Compare sample Mass Spec with that of a standard obtained from the daily CC standard - two criteria must be satisfied for qualitative ID: sample RRT must be within +0.06 RRT units of the standard RRT; and all ions in the standard with relative intensities >10% must be in the sample and these intensities must agree to + 20% For Tentatively Identified Compounds (TICs) the following criteria apply: major ions (>10%) in library spectrum should be in sample spectrum and agree to + 20% in terms of relative intensities; molecular ions in the library spectrum should be in the sample spectrum; and ions in the sample and not in the library (and vice versa) should be reviewed and their importance evaluated.

VariableDefault ConditionQUALITY CONTROL

Blanks

Type(s) Required

MB and Reagent Blank.

Frequency

MB: for each batch of samples (Methanol Blank = 1/HIGH level extraction batch).
Reagent blank: If a saturated ion response is obtained from a sample, a reagent blank must be analyzed following the sample to check for carryover.

Criteria

All Blanks: Surrogates within limits for waters and soils (Table 8) and within lab generated limits for other matrices.
Explicit interference limits for blanks not given.
Reagent blanks: sample analysis should not resume until the system is free of interferences.

Composition

MB: Waters and LOW soils/sediments = 5.0mL
Reagent Water; HIGH soils/sediments = 1.0 mL of MeOH.
Reagent Blank = 5.0 mL reagent water.

Matrix Spikes

Components/Conc. in Spike

If Regulatory Compliance monitoring is being performed, the matrix spike should contain each analyte of interest at the regulatory level or 1-5 times higher than the background concentration, whichever is higher.
If not looking at Regulatory Compliance, recommend: 1,1-Dichloroethene, Trichloroethene, Chlorobenzene, Toluene, and Benzene at 25.0 ug/mL in MeOH.

Level of Spike

Waters/LOW Soils = 10 uL; HIGH Soils = 1.0 mL prior to extraction.

Concentration of Spike

Variable.

Frequency

MS/MSD required/batch

Criteria for Acceptability

If performing compliance monitoring, and one or more of the analytes are not within acceptance criteria, a new single QC check sample, containing only those analytes that failed, must be analyzed and those results compared to Table 6. If analyte is still out, lab is out-of-control and corrective action must take place (the result for that analyte in the unspiked sample must be flagged as being suspect and may not be reported for regulatory compliance)

<u>Variable</u>	<u>Default Condition</u>
	purposes). If QC check good, may infer matrix effect presumably. If not performing compliance monitoring, if the LCS or QC Check result for that analyte is also not within limits, the lab is out-of-control and corrective action must occur. If the LCS or QC Check result for that analyte is within limits, a matrix effect may be inferred (NOTE: LCS NOT REQUIRED FOR PERFORMANCE OF THIS MODIFICATION OF THE METHOD). Matrix-by-matrix recovery limits must be generated by lab on a regular basis (every 5-10 samples of same matrix).
Standard Integrity	Store at -10 to -20°C, replace after 2 months, for gases and reactive compounds, and after 6 months for all other compounds.
Surrogates	
Frequency	In all samples, MS/MSDs, standards, and MBs
Components/Conc. in Spike	Recommend: Toluene-D8, p-Bromofluorobenzene, and 1,2-Dichloroethane-D4 at 25.0 ug/mL in MeOH
Level of Spiking	Waters and LOW Soils = 10 uL; HIGH Soils = 1.0 mL prior to extraction.
Concentration of Spike	Waters = 50 ng/mL, Soils variable based on sample size.
Criteria for Acceptability	All must be within QC limits. For soils and waters, limits given in Table 8 may be used, for other matrices, limits developed by lab should be used. All QC limits should be updated annually. If a surrogate is outside of QC limits: check calculations, standards, instrument performance, etc., correct problems uncovered and reanalyze sample. If no problem is found, either reextract and reanalyze sample or flag data as "estimated concentration".
Standard Integrity	Store at -10 to -20°C, replace after 2 months, for gases and reactive compounds, and after 6 months for all other compounds.
Requirements to verify Method Performance	
MDL Studies	Matrix-specific MDLs required for all analytes being reported - Chapter One indicates a minimum of 3 analyses on a matrix spike containing the analytes of

VariableDefault Condition

	interest at 3-5 times the estimated MDL is required. MDL = (one-sided Student's t value at 99% confidence interval for n-1 degrees of freedom)(standard deviation of the replicate measurements). This definition adopted from SW-846 Update I as recommended by MICE.
Acceptability criteria	Through analysis of QC Check samples to determine accuracy and precision.
Frequency	Each analyst must make an initial one-time demonstration of their ability to generate data with acceptable accuracy and precision. If the method is changed (e.g., a new GC column type used), the quadruplicate QC check sample analysis must be repeated. If MS recoveries are not within limits, a single QC Check sample, containing only those MS compounds that were out, must be analyzed to verify whether or not the analytical system was in control (for compliance monitoring only - LCS may be used instead of QC check otherwise).
Components/Conc. in Spike	QC Concentrate = each analyte of interest at 10 mg/L in MeOH. Should be prepared from an independent source from which the calibration standards are made.
Level of Spiking	200 uL into 100mL of reagent water. Four 5-mL aliquots are analyzed same as water samples.
Concentration of Spike	Each analyte at 20 ug/L
Criteria for Acceptability	Average recovery and standard deviation for four analyses must be within Acceptance criteria given in Table 6 Method 8240. If not within limits, study must be redone only with those analytes that fail. For the single QC check analysis (MS results verification), the recovery of the compound of interest must be within the limits given in Table 6.
Standard Integrity	Store at -10 to -20°C, replace after 2 months, for gases and reactive compounds, and after 6 months for all other compounds

Variable

Default Condition

REPORTING

Deliverables

Sample Information

Not specified for laboratory - instructions for C-0-C for field operations given which include sample collection date and time and date of sample receipt; however, lab responsibility for this information not explicitly given.

Results

Uncorrected results reported with appropriate significant figures. For soils, the % moisture should be given even if results are on a wet weight basis

Data Sheets

Chapter One indicates that full CLP (2/88) data sheets, or adaptations of these forms, for sample results and QC documentation comprise the full analytical package. This package should be obtained from the data generator upon request (i.e., not an automatic deliverable).

Back-up Documentation

Records

Records must be maintained which document the quality of the data generated.

QAPjP

Not required.

<u>Variable</u>	<u>Default Condition</u>
<u>INITIATION</u>	
Sample Container	Concentrated Waste Samples and Soil/ Sediments and Sludges: 8 oz. widemouth glass with Teflon liner. Liquid Samples: 1 gal. or 2.5 gal. amber glass with Teflon liner.
Preservative	Concentrated wastes: none. Soil/Sediments and Sludges and Liquid Samples with No Residual Chlorine: Cool to 4°C Liquid Samples with Residual Chlorine: Add 3 mL 10% sodium thiosulfate/gallon and cool to 4°C.
Holding Time	Concentrated Wastes and Soil/Sediment Samples: Samples must be extracted within 14 days and extracts analyzed within 40 days following extraction. Liquid Samples: Samples must be extracted within 7 days and extracts analyzed within 40 days following extraction.
Holding Time Start	Sample collection.
Sample Storage	4°C
Sample Disposal	Not specified
Chain-of-Custody	Not specified explicitly; however, field operations responsible for correct Chain- of-Custody forms being sent to lab.

PREPARATION

Sample Pre-treatment	None for waters, Soils Decanted and foreign objects removed, pH may be needed and %moisture determination required. Dry Waste samples that may be extracted by Soxhlets or Sonication are ground or subdivided so that the waste passes through a 1 mm sieve or can be extruded through a 1 mm hole.
Extraction Technique	Waters = SepFunnel or CLLE; Soils = Soxhlets or Sonication; Wastes = Waste Dilution, Sonication or Soxhlets.

<u>Variable</u>	<u>Default Condition</u>
Solvent	Waters (SepFunnel or CLLE) = MeCl ₂ ; Soxhlets = Toluene/Methanol (10:1 v/v) or Acetone/Hexane (1:1 v/v) for aqueous sludges and Soils/sediments; all other matrices by use MeCl ₂ ; Sonication = Low-level samples use MeCl ₂ / Acetone (1:1 v/v); High-level samples use MeCl ₂ . Waste Dilution = MeCl ₂ .
pH Conditions	Waters = pH >11 followed by pH <2; Soils and wastes as received.
Sample Size	Waters = 1.0L; Soils by Soxhlets = 10g; Low-Level Soils by Sonication = 30g; High- level Soils by Sonication = 2g; Wastes by Waste Dilution = 1g.
Final Volume	1.0 mL for all samples except for Waste Dilution samples which are 5.0 mL.
Concentration Technique	KD and/or N ₂ blowdown (solvent exchange required for various cleanup procedures)
Cleanup Requirements	Optional.
Screening Requirements	Optional. It's recommended that samples be screened by GC/FID or GC/PID prior to GC/MS analysis.

ANALYSIS CONDITIONS

Instrumentation	GC/MS/DS
Mass Range	35 to 500 amu
Scan Time	not to exceed 1 sec/scan
GC Conditions	
Column Type	30m X 0.25mm ID or 0.32mm ID fused-silica column with 1u film thickness (DB-5 or equiv.)
Operating Conditions	RECOMMENDED: Temp. Prog. = 40°C (4min) to 270°C at 10°C/min; hold at 270°C until Benzo(g,h,i)perylene elutes GC Injector and Transfer Line = 250-300°C Carrier Gas = He at 30 mL/min or H ₂ at 50 mL/min
Injection Technique	Grob-type, splitless injection
Injection Volume	1-2 uL

<u>Variable</u>	<u>Default Condition</u>
Tuning	
Component(s)	DFTPP at 50 ng. It is suggested that the tuning standard SHOULD also contain 50 ng/uL each of 4,4'-DDT, Benzidine, and Pentachlorophenol to verify column performance.
Acquisition	Mass Spec acquired straight forwardly - background subtraction must be done only to eliminate column bleed or instrument background ions.
Criteria	Table 3 (8270-9) (old criteria).
Frequency	Every 12 hours
Standard Integrity	Store at $\leq 4^{\circ}\text{C}$, replace after 1 year or sooner, if a problem.
Initial Calibration	
Component List	Not specified. Some or all of the compounds listed in Table 1 may be included.
Number of Points	5-Level
Concentration Requirements	One level should be near, but above, the MDL. All others should define the working range.
Acceptance Criteria	%RSD across 5-levels for CCC compounds MUST be $< 30\%$ (all other compounds SHOULD be $< 30\%$); SPCC compounds must have average RF > 0.05; and RRT across all standards for a particular compound should agree within ± 0.06 RRT units. CCCs = Acenaphthene, 1,4-Dichlorobenzene, Hexachlorobutadiene, N-Nitroso-di-n-phenylamine, Di-n-octylphthalate, Fluoranthene, Benzo(a)pyrene, 4-Chloro-3-methylphenol, 2,4-Dichlorophenol, 2-Nitrophenol, Phenol, Pentachlorophenol, and 2,4,6-Trichlorophenol. SPCCs = N-Nitroso-di-n-propylamine, Hexachlorocyclopentadiene, 2,4-Dinitrophenol, and 4-Nitrophenol.
Frequency	At beginning of contract and if CC std fails.
Standard Integrity	Store at -10 to -20°C , replace after 1 year or sooner, if there's a problem.
Continuing Calibration	
Frequency	• Every 12 Hours

<u>Variable</u>	<u>Default Condition</u>
Concentration	Mid-level concentration
Acceptance Criteria	%D relative to ICAL for CCCs MUST be < 30% (all other compounds SHOULD be < 30%); RF of SPCCs MUST be > 0.05; RT for ISs must not be > + 30 sec from those in last CC standard; and EICP area of an IS must not change by more than -50% to +100% from last CC standard.
Standard Integrity	Store at 4°C, prepare fresh weekly.
Analytical Run Sequence	
What constitutes sequence	12 hour sequence from Tune based on injection.
What is acceptable run	1) Quantitation ions for analytes of interest are within calibration range; 2) Surrogates for aqueous and soil matrices are within limits given in Table 8 for extracts without dilution. For other matrices, recoveries within lab generated limits; 3) Standard criteria met and sample analyzed within 12 hour tune time.
Linearity?	Dilute and reanalyze if compound outside of calibration range. Spike additional IS into the diluted sample to maintain the IS spike level at 40 ng/uL.
Quantitation Technique	Internal Standard. Recommend: 1,4-Dichlorobenzene-D4, Naphthalene-D8, Acenaphthene-D10, Phenanthrene-D10, Chrysene-D12, and Perylene-D12 at 4000 ng/uL. Spike 10 uL into each 1 mL sample results in 40 ng/uL in each IS.
Daily vs. Average RFs	Average RFs from ICAL (oversight in method- EPA believes should be daily RFs but method ambiguous).
What is an acceptable ID	Compare sample Mass Spec with that of a standard obtained from the daily CC standard - two criteria must be satisfied for qualitative ID: sample RRT must be within +0.06 RRT units of the standard RRT and all ions in the standard with relative intensities >10% must be in the sample and these intensities must agree to + 20% For Tentatively Identified Compounds (TICs) the following criteria apply: major ions (>10%) in library spectrum should be in sample spectrum and agree to ± 20% in terms

VariableDefault Condition

of relative intensities; molecular ions in the library spectrum should be in the sample spectrum; and ions in the sample and not in the library (and vice versa) should be reviewed and their importance evaluated.

QUALITY CONTROL

Blanks

Type(s) Required

MB

Frequency

For each analytical batch (up to a maximum of 20 samples)

Criteria

Surrogates within limits given in Table 8 for waters and soils and within lab generated limits for all other matrices. No discussion given about allowable levels of interferences; however, the blank must be evaluated for interferences and corrective action taken to eliminate problems found.

Composition

Waters = 1.0L Reagent Water spiked with surrogates. Soils = all reagents less sample matrix (i.e., sodium sulfate).

Matrix Spikes

Components/Conc. in Spike

If Regulatory Compliance monitoring is being performed, the matrix spike should contain each analyte of interest at the regulatory level or 1-5 times higher than the background concentration, whichever is higher. If not looking at Regulatory Compliance, recommend for waters and soils: BN = 1,2,4-Trichlorobenzene, Acenaphthene, 2,4-Dinitrotoluene, Pyrene, N-Nitroso-di-n-propylamine, and 1,4-Dichlorobenzene at 100 ug/mL each in MeOH; Acid = Pentachlorophenol, Phenol, 2-Chlorophenol, 4-Chloro-3-methylphenol, and 4-Nitrophenol at 200 ug/mL each in MeOH. For wastes, apparently, either a larger volume of the water/soil MS spike may be used or a spiking solution containing each MS compound at a 5 times higher concentration may be prepared and used.

Level of Spike

Waters and soils by Soxhlets and LOW-level sonication = 1.0 mL; soils by HIGH-level sonication = 2.0 mL; Wastes (by Waste Dilution) = 2.0 mL.

If GPC to be done, add twice as much volume of the MS.

VariableDefault Condition

Frequency	MS/MSD required per analytical batch.
Criteria for Acceptability	Compare recovery results with those given in Table 6 of the method. If performing compliance monitoring, and one or more of the analytes are not within acceptance criteria, a new single QC check sample, containing only those analytes that failed, must be analyzed and those results compared to Table 6. If analyte is still out, lab is out-of-control and corrective action must take place (the result for that analyte in the unspiked sample must be flagged as being suspect and may not be reported for regulatory compliance purposes). If QC check good, may infer matrix effect presumably. If not performing compliance monitoring, if the LCS or QC check result for that analyte is also not within limits, the lab is out-of-control and corrective action must occur. If the LCS or QC check result for that analyte is within limits, a matrix effect may be inferred. (NOTE: LCS NOT REQUIRED FOR PERFORMANCE OF THIS MODIFICATION OF THE METHOD). Matrix-by-matrix recovery limits must be generated by lab on a regular basis (every 5-10 samples of same matrix).
Standard Integrity	Store at 4°C, replace in 6 months or sooner, if there's a problem.
Surrogates	
Frequency	In all samples, MS/MSDs, and MBs
Components/Conc. in Spike	Recommend: BN = Nitrobenzene-D5, Terphenyl-D14, and 2-Fluorobiphenyl at 100ug/mL; Acid = Phenol-D6, 2,4,6-Tribromophenol, and 2-Fluorophenol at 200 ug/mL. For wastes, apparently, either a larger volume of the water/soil surrogate spike may be used or a spiking solution containing each surrogate compound at a 5 times higher concentration may be prepared and used.
Level of Spiking	Waters and soils by Soxhlets and LOW-level sonication = 1.0 mL; soils by HIGH-level sonication = 2.0 mL; Wastes (by Waste Dilution) = 2.0 mL. If GPC to be done, add twice as much volume of the MS.

<u>Variable</u>	<u>Default Condition</u>
Criteria for Acceptability	All must be within QC limits. For soils and waters, limits given in Table 8 may be used, for other matrices, limits developed by lab should be used. All QC limits should be updated annually. If a surrogate is outside of QC limits: check calculations, standards, instrument performance, etc., correct problems uncovered and reanalyze sample. If no problem is found, either reextract and reanalyze sample or flag data as "estimated concentration".
GPC Calibration	From Method 3640. NOTE: GPC NOT REQUIRED
Frequency	Calibrate at least once/week.
Component/Conc	Corn Oil (200 mg/mL); and Bis(2-ethylhexyl)-phthalate (4.0 mg/mL) and Pentachlorophenol (4.0 mg/mL). If a UV detector is to be used, mix these two solutions together.
Criteria for Acceptability	Choose a dump time which allows $\geq 85\%$ of the corn oil removal and $\geq 85\%$ recovery of the phthalate. Choose the collect time to extend ≥ 10 min after the elution of the pentachlorophenol.
Standard Integrity	Not specified.
Requirements to verify Method Performance	
MDL Studies	Matrix-specific MDLs required for all analytes being reported - Chapter One indicates a minimum of 3 analyses on a matrix spike containing the analytes of interest at 3-5 times the estimated MDL is required. $MDL = (one-sided Student's t \text{ value at } 99\% \text{ confidence interval for } n-1 \text{ degrees of freedom})(\text{standard deviation of the replicate measurements})$. This definition adopted from SW-846 Update I as recommended by MICE.
Acceptability criteria	Through analysis of QC Check samples to determine accuracy and precision.
Frequency	Each analyst must make an initial one-time demonstration of their ability to generate data with acceptable accuracy and precision. If the method is changed (e.g., a new GC column type used), the quadruplicate QC check sample analysis must be repeated. If MS recoveries are not within limits, a single QC Check sample,

VariableDefault Condition

	containing only those MS compounds that were out, must be analyzed to verify whether or not the analytical system was in control (for compliance monitoring only - LCS may be used instead of QC check otherwise).
Components/Conc. in Spike	QC concentrate = each analyte of interest at a concentration of 100 ug/mL in Acetone. Should be prepared from an independent source from which the calibration standards are made.
Level of Spiking	1.0 mL into four 1-L aliquots of reagent water. The QC check samples are then extracted and analyzed the same as waters.
Concentration of Spike	100 ug/L
Criteria for Acceptability	Average recovery and standard deviation for four analyses must be within Acceptance criteria given in Table 6 Method 8270. If not within limits, study must be redone only with those analytes that fail. For the single QC check analysis (MS results verification), the recovery of the compound of interest must be within the limits given in Table 6.
Standard Integrity	Store at 4°C, replace in 6 months or sooner, if there's a problem.

REPORTING

Deliverables

Sample information

Not specified for laboratory - instructions for C-O-C for field operations given which include sample collection date and time and date of sample receipt; however, lab responsibility for this information not explicitly given.

Results

Uncorrected results reported with appropriate significant figures. For soils, the % moisture should be given even if results are on a wet weight basis

Data Sheets

Chapter One indicates that full CLP (2/88) data sheets, or adaptations of these forms, for sample results and QC documentation comprise the full analytical package. This package should be obtained from the data generator upon request (i.e., not an automatic deliverable).

Variable

Default Condition

Back-up Documentation

Records

Records must be maintained which document the quality of the data generated.

QAPJP

Not required.

APPENDIX III
Laboratory Results
April 13 through 19, 1993 Sampling Event



Summary Package
For Cooper Environmental
Enseco-East Project No. 28187

Enseco Incorporated
2200 Cottontail Lane
Somerset, NJ 08875-6745
908/469-5800 Fax: 908/469-7516

01 004 0835

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB2-45

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-01-SA

Sample wt/vol: 1.0 (g/mL) G Lab File ID: C4785

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: not dec. 18 Date Analyzed: 04/25/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q
74-87-3-----	Chloromethane	61	U
74-83-9-----	Bromomethane	61	U
75-01-4-----	Vinyl Chloride	61	U
75-00-3-----	Chloroethane	61	U
75-09-2-----	Methylene Chloride	11	J
67-64-1-----	Acetone	500	B
75-15-0-----	Carbon Disulfide	61	U
75-35-4-----	1,1-Dichloroethene	61	U
75-34-3-----	1,1-Dichloroethane	61	U
540-59-0-----	1,2-Dichloroethene (total)	61	U
67-66-3-----	Chloroform	61	U
107-06-2-----	1,2-Dichloroethane	61	U
78-93-3-----	2-Butanone	39	BJ
71-55-6-----	1,1,1-Trichloroethane	61	U
56-23-5-----	Carbon Tetrachloride	61	U
75-27-4-----	Bromodichloromethane	61	U
78-87-5-----	1,2-Dichloropropane	61	U
10061-01-5-----	cis-1,3-Dichloropropene	61	U
79-01-6-----	Trichloroethene	61	U
124-48-1-----	Dibromochloromethane	61	U
79-00-5-----	1,1,2-Trichloroethane	61	U
71-43-2-----	Benzene	17	J
10061-02-6-----	trans-1,3-Dichloropropene	61	U
75-25-2-----	Bromoform	61	U
108-10-1-----	4-Methyl-2-Pentanone	61	U
591-78-6-----	2-Hexanone	61	U
127-18-4-----	Tetrachloroethene	61	U
79-34-5-----	1,1,2,2-Tetrachloroethane	61	U
108-88-3-----	Toluene	61	U
108-90-7-----	Chlorobenzene	61	U
100-41-4-----	Ethylbenzene	290	
100-42-5-----	Styrene	61	U
1330-20-7-----	Xylene (total)	7	J

0001

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB2-45

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-01-SA

Sample wt/vol: 1.0 (g/mL) G Lab File ID: C4785

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: not dec. 18 Date Analyzed: 04/25/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	HYDROCARBON	11.29	440	J
2.	C-4 BENZENE	25.92	590	J
3.	UNKNOWN	26.21	670	J
4.	C-4 BENZENE	26.78	250	J
5.	C-4 BENZENE	27.57	790	J
6.	C10H12 ISOMER	28.18	280	J
7.	C-4 BENZENE	28.88	410	J
8.	C10H12 ISOMER	30.40	230	J
9.	C10H12 ISOMER	31.02	360	J
10.	UNKNOWN	32.18	230	J

0002

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: Cooper Environmental

Client ID: HB2-4.5

Lab ID: 028187-0001-SA

Matrix: SOIL

Authorized: 20 APR 93

Sampled: 16 APR 93

Prepared: 25 APR 93

Received: 20 APR 93

Analyzed: 25 APR 93

Parameter	Result	Dry Weight Units	Reporting Limit	
1,2-Dibromoethane (EDB)	ND	ug/kg	30	u
tert-Butyl Methyl ether	880	ug/kg	61	
n-Propylbenzene	480	ug/kg	30	

Note u : All reporting limits raised due to high levels of target analytes.

Percent Moisture is 18%. All results and limits are reported on a dry weight basis. 0003

ND = Not detected

NA = Not applicable

Reported By: Bhaskar Patel

Approved By: Neil Costanza

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB3-30

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-02-SA

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C4815

Level: (low/med) MED Date Received: 04/20/93

% Moisture: not dec. 25 Date Analyzed: 04/27/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
74-87-3	Chloromethane	1600	U
74-83-9	Bromomethane	1600	U
75-01-4	Vinyl Chloride	1600	U
75-00-3	Chloroethane	1600	U
75-09-2	Methylene Chloride	1600	U
67-64-1	Acetone	1000	BJ
75-15-0	Carbon Disulfide	1600	U
75-35-4	1,1-Dichloroethene	1600	U
75-34-3	1,1-Dichloroethane	1600	U
540-59-0	1,2-Dichloroethene (total)	1600	U
67-66-3	Chloroform	1600	U
107-06-2	1,2-Dichloroethane	1600	U
78-93-3	2-Butanone	1600	U
71-55-6	1,1,1-Trichloroethane	1600	U
56-23-5	Carbon Tetrachloride	1600	U
75-27-4	Bromodichloromethane	1600	U
78-87-5	1,2-Dichloropropane	1600	U
10061-01-5	cis-1,3-Dichloropropene	1600	U
79-01-6	Trichloroethene	1600	U
124-48-1	Dibromochloromethane	1600	U
79-00-5	1,1,2-Trichloroethane	1600	U
71-43-2	Benzene	1600	U
10061-02-6	trans-1,3-Dichloropropene	1600	U
75-25-2	Bromoform	1600	U
108-10-1	4-Methyl-2-Pentanone	1600	U
591-78-6	2-Hexanone	1600	U
127-18-4	Tetrachloroethene	1600	U
79-34-5	1,1,2,2-Tetrachloroethane	1600	U
108-88-3	Toluene	1600	U
108-90-7	Chlorobenzene	1600	U
100-41-4	Ethylbenzene	1600	U
100-42-5	Styrene	1600	U
1330-20-7	Xylene (total)	1600	U

0004

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB3-30

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-02-SA

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C4815

Level: (low/med) MED Date Received: 04/20/93

% Moisture: not dec. 25 Date Analyzed: 04/27/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C-3 BENZENE	23.13	830	J
2.	C-3 BENZENE	23.60	2300	J
3.	C-3 BENZENE	25.21	1300	J
4.	C-4 BENZENE	25.92	1000	J
5.	UNKNOWN	26.22	1800	J
6.	C-4 BENZENE	27.18	830	J
7.	C-4 BENZENE	27.56	1300	J
8.	C-4 BENZENE	28.88	1000	J
9.	C10H8 ISOMER	33.46	1300	J

0005

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: Cooper Environmental
Client ID: HB3-3.0
Lab ID: 028187-0002-SA
Matrix: SOIL
Authorized: 20 APR 93

Sampled: 16 APR 93
Prepared: 27 APR 93

Received: 20 APR 93
Analyzed: 27 APR 93

Parameter	Result	Dry Weight Reporting		
		Units	Limit	
1,2-Dibromoethane (EDB)	ND	ug/kg	830	d
tert-Butyl Methyl ether	410	ug/kg	1700	J
n-Propylbenzene	210	ug/kg	830	J

Note d : All reporting limits raised due to matrix interferences.

Percent Moisture is 25%. All results and limits are reported on a dry weight basis.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected
NA = Not applicable

0006

Reported By: Joey J. Buaron

Approved By: Neil Costanza

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB4-25

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-03-SA

Sample wt/vol: 1.0 (g/mL) G Lab File ID: C4787

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: not dec. 18 Date Analyzed: 04/25/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
74-87-3	-----Chloromethane	61	U
74-83-9	-----Bromomethane	61	U
75-01-4	-----Vinyl Chloride	61	U
75-00-3	-----Chloroethane	61	U
75-09-2	-----Methylene Chloride	10	J
67-64-1	-----Acetone	270	B
75-15-0	-----Carbon Disulfide	61	U
75-35-4	-----1,1-Dichloroethene	61	U
75-34-3	-----1,1-Dichloroethane	61	U
540-59-0	-----1,2-Dichloroethene (total)	61	U
67-66-3	-----Chloroform	61	U
107-06-2	-----1,2-Dichloroethane	61	U
78-93-3	-----2-Butanone	35	BJ
71-55-6	-----1,1,1-Trichloroethane	61	U
56-23-5	-----Carbon Tetrachloride	61	U
75-27-4	-----Bromodichloromethane	61	U
78-87-5	-----1,2-Dichloropropane	61	U
10061-01-5	-----cis-1,3-Dichloropropene	61	U
79-01-6	-----Trichloroethene	61	U
124-48-1	-----Dibromochloromethane	61	U
79-00-5	-----1,1,2-Trichloroethane	61	U
71-43-2	-----Benzene	61	U
10061-02-6	-----trans-1,3-Dichloropropene	61	U
75-25-2	-----Bromoform	61	U
108-10-1	-----4-Methyl-2-Pentanone	61	U
591-78-6	-----2-Hexanone	61	U
127-18-4	-----Tetrachloroethene	61	U
79-34-5	-----1,1,2,2-Tetrachloroethane	61	U
108-88-3	-----Toluene	61	U
108-90-7	-----Chlorobenzene	61	U
100-41-4	-----Ethylbenzene	61	U
100-42-5	-----Styrene	61	U
1330-20-7	-----Xylene (total)	61	U

0007

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB4-25

Lab Name: ENSECO-EAST Contract: _____
Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: 28187-03-SA
Sample wt/vol: 1.0 (g/mL) G Lab File ID: C4787
Level: (low/med) LOW Date Received: 04/20/93
% Moisture: not dec. 18 Date Analyzed: 04/25/93
GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	HYDROCARBON	11.29	190	J
2.	UNKNOWN	20.01	200	J
3.	HYDROCARBON	21.68	120	J
4.	UNKNOWN	24.24	120	J
5.	C-4 BENZENE	25.92	420	J
6.	UNKNOWN	26.22	350	J
7.	C-4 BENZENE	27.57	570	J
8.	C10H12 ISOMER	28.18	140	J
9.	C-4 BENZENE	28.87	290	J
10.	C10H12 ISOMER	31.01	180	J

0008

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: Cooper Environmental

Client ID: HB4-2.5

Lab ID: 028187-0003-SA

Matrix: SOIL

Authorized: 20 APR 93

Sampled: 17 APR 93

Prepared: 25 APR 93

Received: 20 APR 93

Analyzed: 25 APR 93

Parameter	Result	Dry Weight Reporting		
		Units	Limit	
1,2-Dibromoethane (EDB)	ND	ug/kg	31	u
tert-Butyl Methyl ether	250	ug/kg	1500	DJ
n-Propylbenzene	9.1	ug/kg	31	J

Note u : All reporting limits raised due to high levels of target analytes.

Percent Moisture is 19%. All results and limits are reported on a dry weight basis.

Note D : Compound quantitated using a secondary dilution.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected
NA = Not applicable

0009

Reported By: Bhaskar Patel

Approved By: Neil Costanza

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB4-25DL

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-03DL-SA

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C4816

Level: (low/med) MED Date Received: 04/20/93

% Moisture: not dec. 18 Date Analyzed: 04/27/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
74-87-3	Chloromethane	1500	U
74-83-9	Bromomethane	1500	U
75-01-4	Vinyl Chloride	1500	U
75-00-3	Chloroethane	1500	U
75-09-2	Methylene Chloride	1500	U
67-64-1	Acetone	1500	BD
75-15-0	Carbon Disulfide	1500	U
75-35-4	1,1-Dichloroethene	1500	U
75-34-3	1,1-Dichloroethane	1500	U
540-59-0	1,2-Dichloroethene (total)	1500	U
67-66-3	Chloroform	1500	U
107-06-2	1,2-Dichloroethane	1500	U
78-93-3	2-Butanone	1900	D
71-55-6	1,1,1-Trichloroethane	1500	U
56-23-5	Carbon Tetrachloride	1500	U
75-27-4	Bromodichloromethane	1500	U
78-87-5	1,2-Dichloropropane	1500	U
10061-01-5	cis-1,3-Dichloropropene	1500	U
79-01-6	Trichloroethene	1500	U
124-48-1	Dibromochloromethane	1500	U
79-00-5	1,1,2-Trichloroethane	1500	U
71-43-2	Benzene	1500	U
10061-02-6	trans-1,3-Dichloropropene	1500	U
75-25-2	Bromoform	1500	U
108-10-1	4-Methyl-2-Pentanone	1500	U
591-78-6	2-Hexanone	1500	U
127-18-4	Tetrachloroethene	1500	U
79-34-5	1,1,2,2-Tetrachloroethane	1500	U
108-88-3	Toluene	1500	U
108-90-7	Chlorobenzene	1500	U
100-41-4	Ethylbenzene	1500	U
100-42-5	Styrene	1500	U
1330-20-7	Xylene (total)	1500	U

0010

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB4-25DL

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-03DL-SA

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C4816

Level: (low/med) MED Date Received: 04/20/93

% Moisture: not dec. 18 Date Analyzed: 04/27/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 5 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C-3 BENZENE	23.59	910	J
2.	C-4 BENZENE	25.93	910	J
3.	UNKNOWN	26.22	1200	J
4.	C-4 BENZENE	27.55	1400	J
5.	C-4 BENZENE	28.87	760	J

0011

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB5-23

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-04-SA

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C4800

Level: (low/med) MED Date Received: 04/20/93

% Moisture: not dec. 18 Date Analyzed: 04/26/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	<u>UG/KG</u>	
74-87-3	-----Chloromethane	1500		U
74-83-9	-----Bromomethane	1500		U
75-01-4	-----Vinyl Chloride	1500		U
75-00-3	-----Chloroethane	1500		U
75-09-2	-----Methylene Chloride	1500		U
67-64-1	-----Acetone	800		BJ
75-15-0	-----Carbon Disulfide	1500		U
75-35-4	-----1,1-Dichloroethene	1500		U
75-34-3	-----1,1-Dichloroethane	1500		U
540-59-0	-----1,2-Dichloroethene (total)	1500		U
67-66-3	-----Chloroform	1500		U
107-06-2	-----1,2-Dichloroethane	1500		U
78-93-3	-----2-Butanone	1000		J
71-55-6	-----1,1,1-Trichloroethane	1500		U
56-23-5	-----Carbon Tetrachloride	1500		U
75-27-4	-----Bromodichloromethane	1500		U
78-87-5	-----1,2-Dichloropropane	1500		U
10061-01-5	-----cis-1,3-Dichloropropene	1500		U
79-01-6	-----Trichloroethene	1500		U
124-48-1	-----Dibromochloromethane	1500		U
79-00-5	-----1,1,2-Trichloroethane	1500		U
71-43-2	-----Benzene	1500		U
10061-02-6	-----trans-1,3-Dichloropropene	1500		U
75-25-2	-----Bromoform	1500		U
108-10-1	-----4-Methyl-2-Pentanone	1500		U
591-78-6	-----2-Hexanone	1500		U
127-18-4	-----Tetrachloroethene	1500		U
79-34-5	-----1,1,2,2-Tetrachloroethane	1500		U
108-88-3	-----Toluene	1500		U
108-90-7	-----Chlorobenzene	1500		U
100-41-4	-----Ethylbenzene	190		J
100-42-5	-----Styrene	1500		U
1330-20-7	-----Xylene (total)	1500		U

0012

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB5-23

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-04-SA

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C4800

Level: (low/med) MED Date Received: 04/20/93

% Moisture: not dec. 18 Date Analyzed: 04/26/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C-3 BENZENE	23.57	910	J
2.	UNKNOWN	26.22	1100	J
3.	C-4 BENZENE	27.56	1100	J
4.	C11H10 ISOMER	29.49	1100	J

0013

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: Cooper Environmental

Client ID: HB5-2.3

Lab ID: 028187-0004-SA

Matrix: SOIL

Authorized: 20 APR 93

Sampled: 17 APR 93

Prepared: 26 APR 93

Received: 20 APR 93

Analyzed: 26 APR 93

Parameter	Result	Dry Weight Reporting Units	Limit	
1,2-Dibromoethane (EDB)	ND	ug/kg	770	d
tert-Butyl Methyl ether	490	ug/kg	1500	J
n-Propylbenzene	380	ug/kg	770	J

Note d : All reporting limits raised due to matrix interferences.

Percent Moisture is 19%. All results and limits are reported on a dry weight basis.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected
NA = Not applicable

0014

Reported By: Joey J. Buaron

Approved By: Neil Costanza

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB6-15

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-05-SA

Sample wt/vol: 5.0 (g/mL) G Lab File ID: C4778

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: not dec. 14 Date Analyzed: 04/25/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	3	J
67-64-1	Acetone	75	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	11	BJ
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

0015

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB6-15

Lab Name: ENSECO-EAST Contract: _____
Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: 28187-05-SA
Sample wt/vol: 5.0 (g/mL) G Lab File ID: C4778
Level: (low/med) LOW Date Received: 04/20/93
% Moisture: not dec. 14 Date Analyzed: 04/25/93
GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	26.27	14	J

0016

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: Cooper Environmental
Client ID: HB6-1.5
Lab ID: 028187-0005-SA
Matrix: SOIL
Authorized: 20 APR 93

Sampled: 18 APR 93
Prepared: 25 APR 93
Received: 20 APR 93
Analyzed: 25 APR 93

Parameter	Result	Dry Weight Units	Reporting Limit
1,2-Dibromoethane (EDB)	ND	ug/kg	5.8
tert-Butyl Methyl ether	ND	ug/kg	12
n-Propylbenzene	ND	ug/kg	5.8

Percent Moisture is 14%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

0017

Reported By: Bhaskar Patel

Approved By: Neil Costanza

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB7-125

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-06-SA

Sample wt/vol: 5.0 (g/mL) G Lab File ID: C4779

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: not dec. 15 Date Analyzed: 04/25/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/KG	
74-87-3	-----Chloromethane	12	U	
74-83-9	-----Bromomethane	12	U	
75-01-4	-----Vinyl Chloride	12	U	
75-00-3	-----Chloroethane	12	U	
75-09-2	-----Methylene Chloride	4	J	
67-64-1	-----Acetone	240	BE	
75-15-0	-----Carbon Disulfide	1	J	
75-35-4	-----1,1-Dichloroethene	12	U	
75-34-3	-----1,1-Dichloroethane	12	U	
540-59-0	-----1,2-Dichloroethene (total)	12	U	
67-66-3	-----Chloroform	12	U	
107-06-2	-----1,2-Dichloroethane	12	U	
78-93-3	-----2-Butanone	37	B	
71-55-6	-----1,1,1-Trichloroethane	12	U	
56-23-5	-----Carbon Tetrachloride	12	U	
75-27-4	-----Bromodichloromethane	12	U	
78-87-5	-----1,2-Dichloropropane	12	U	
10061-01-5	-----cis-1,3-Dichloropropene	12	U	
79-01-6	-----Trichloroethene	12	U	
124-48-1	-----Dibromochloromethane	12	U	
79-00-5	-----1,1,2-Trichloroethane	12	U	
71-43-2	-----Benzene	2	J	
10061-02-6	-----trans-1,3-Dichloropropene	12	U	
75-25-2	-----Bromoform	12	U	
108-10-1	-----4-Methyl-2-Pentanone	12	U	
591-78-6	-----2-Hexanone	12	U	
127-18-4	-----Tetrachloroethene	12	U	
79-34-5	-----1,1,2,2-Tetrachloroethane	12	U	
108-88-3	-----Toluene	12	U	
108-90-7	-----Chlorobenzene	12	U	
100-41-4	-----Ethylbenzene	12	U	
100-42-5	-----Styrene	12	U	
1330-20-7	-----Xylene (total)	12	U	

0018

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB7-125

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-06-SA

Sample wt/vol: 5.0 (g/mL) G Lab File ID: C4779

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: not dec. 15 Date Analyzed: 04/25/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 2 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 556672	CYCLOTETRASILOXANE, OCTAMETH	20.13	35	JN
2.	UNKNOWN	26.24	27	J

0019

FORM I VOA-TIC

3/90

TUT 004 0854

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: Cooper Environmental

Client ID: HB7-1.25

Lab ID: 028187-0006-SA

Matrix: SOIL

Authorized: 20 APR 93

Sampled: 18 APR 93

Prepared: 25 APR 93

Received: 20 APR 93

Analyzed: 25 APR 93

Parameter	Result	Dry Weight Units	Reporting Limit
1,2-Dibromoethane (EDB)	ND	ug/kg	5.9
tert-Butyl Methyl ether	29	ug/kg	12
n-Propylbenzene	ND	ug/kg	5.9

Percent Moisture is 15%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

0020

Reported By: Bhaskar Patel

Approved By: Neil Costanza

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB7-125DL

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-06DL-SA

Sample wt/vol: 2.5 (g/mL) G Lab File ID: C4864

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: not dec. 15 Date Analyzed: 04/29/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg) <u>UG/KG</u>	<u>Q</u>
74-87-3	-----Chloromethane	24	U
74-83-9	-----Bromomethane	24	U
75-01-4	-----Vinyl Chloride	24	U
75-00-3	-----Chloroethane	24	U
75-09-2	-----Methylene Chloride	8	BDJ
67-64-1	-----Acetone	370	BD
75-15-0	-----Carbon Disulfide	24	U
75-35-4	-----1,1-Dichloroethene	24	U
75-34-3	-----1,1-Dichloroethane	24	U
540-59-0	-----1,2-Dichloroethene (total)	24	U
67-66-3	-----Chloroform	24	U
107-06-2	-----1,2-Dichloroethane	24	U
78-93-3	-----2-Butanone	58	BD
71-55-6	-----1,1,1-Trichloroethane	4	BDJ
56-23-5	-----Carbon Tetrachloride	24	U
75-27-4	-----Bromodichloromethane	24	U
78-87-5	-----1,2-Dichloropropane	24	U
10061-01-5	-----cis-1,3-Dichloropropene	24	U
79-01-6	-----Trichloroethene	24	U
124-48-1	-----Dibromochloromethane	24	U
79-00-5	-----1,1,2-Trichloroethane	24	U
71-43-2	-----Benzene	24	U
10061-02-6	-----trans-1,3-Dichloropropene	24	U
75-25-2	-----Bromoform	24	U
108-10-1	-----4-Methyl-2-Pentanone	24	U
591-78-6	-----2-Hexanone	24	U
127-18-4	-----Tetrachloroethene	24	U
79-34-5	-----1,1,2,2-Tetrachloroethane	24	U
108-88-3	-----Toluene	24	U
108-90-7	-----Chlorobenzene	24	U
100-41-4	-----Ethylbenzene	24	U
100-42-5	-----Styrene	24	U
1330-20-7	-----Xylene (total)	24	U

0021

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB7-125DL

Lab Name: ENSECO-EAST Contract: _____
Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: 28187-06DL-SA
Sample wt/vol: 2.5 (g/mL) G Lab File ID: C4864
Level: (low/med) LOW Date Received: 04/20/93
% Moisture: not dec. 15 Date Analyzed: 04/29/93
GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 556672	CYCLOTETRAILOXANE, OCTAMETH	20.16	52	JN
2.	UNKNOWN	26.27	40	BJ
3. 124196	NONANAL (8CI9CI)	27.95	21	JN

0022

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB8-2

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-07-SA

Sample wt/vol: 5.0 (g/mL) G Lab File ID: C4780

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: not dec. 16 Date Analyzed: 04/25/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

74-87-3-----	Chloromethane	12	U
74-83-9-----	Bromomethane	12	U
75-01-4-----	Vinyl Chloride	12	U
75-00-3-----	Chloroethane	12	U
75-09-2-----	Methylene Chloride	2	J
67-64-1-----	Acetone	3	BJ
75-15-0-----	Carbon Disulfide	12	U
75-35-4-----	1,1-Dichloroethene	12	U
75-34-3-----	1,1-Dichloroethane	12	U
540-59-0-----	1,2-Dichloroethene (total)	12	U
67-66-3-----	Chloroform	12	U
107-06-2-----	1,2-Dichloroethane	12	U
78-93-3-----	2-Butanone	12	U
71-55-6-----	1,1,1-Trichloroethane	12	U
56-23-5-----	Carbon Tetrachloride	12	U
75-27-4-----	Bromodichloromethane	12	U
78-87-5-----	1,2-Dichloropropane	12	U
10061-01-5-----	cis-1,3-Dichloropropene	12	U
79-01-6-----	Trichloroethene	12	U
124-48-1-----	Dibromochloromethane	12	U
79-00-5-----	1,1,2-Trichloroethane	12	U
71-43-2-----	Benzene	12	U
10061-02-6-----	trans-1,3-Dichloropropene	12	U
75-25-2-----	Bromoform	12	U
108-10-1-----	4-Methyl-2-Pentanone	12	U
591-78-6-----	2-Hexanone	12	U
127-18-4-----	Tetrachloroethene	12	U
79-34-5-----	1,1,2,2-Tetrachloroethane	12	U
108-88-3-----	Toluene	12	U
108-90-7-----	Chlorobenzene	12	U
100-41-4-----	Ethylbenzene	12	U
100-42-5-----	Styrene	12	U
1330-20-7-----	Xylene (total)	12	U

0023

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB8-2

Lab Name: ENSECO-EAST Contract: _____
Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: 28187-07-SA
Sample wt/vol: 5.0 (g/mL) G Lab File ID: C4780
Level: (low/med) LOW Date Received: 04/20/93
% Moisture: not dec. 16 Date Analyzed: 04/25/93
GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

0024

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: Cooper Environmental

Client ID: HB8-2

Lab ID: 028187-0007-SA

Matrix: SOIL

Authorized: 20 APR 93

Sampled: 18 APR 93

Prepared: 25 APR 93

Received: 20 APR 93

Analyzed: 25 APR 93

Parameter	Result	Dry Weight Units	Reporting Limit
1,2-Dibromoethane (EDB)	ND	ug/kg	5.9
tert-Butyl Methyl ether	ND	ug/kg	12
n-Propylbenzene	ND	ug/kg	5.9

Percent Moisture is 15%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

Reported By: Bhaskar Patel

Approved By: Neil Costanza

0025

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB10-S

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-08-SA

Sample wt/vol: 5.0 (g/mL) G Lab File ID: C4781

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: not dec. 16 Date Analyzed: 04/25/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
74-87-3	-----Chloromethane	12	U
74-83-9	-----Bromomethane	12	U
75-01-4	-----Vinyl Chloride	12	U
75-00-3	-----Chloroethane	12	U
75-09-2	-----Methylene Chloride	3	J
67-64-1	-----Acetone	7	BJ
75-15-0	-----Carbon Disulfide	12	U
75-35-4	-----1,1-Dichloroethene	12	U
75-34-3	-----1,1-Dichloroethane	12	U
540-59-0	-----1,2-Dichloroethene (total)	12	U
67-66-3	-----Chloroform	12	U
107-06-2	-----1,2-Dichloroethane	12	U
78-93-3	-----2-Butanone	12	U
71-55-6	-----1,1,1-Trichloroethane	12	U
56-23-5	-----Carbon Tetrachloride	12	U
75-27-4	-----Bromodichloromethane	12	U
78-87-5	-----1,2-Dichloropropane	12	U
10061-01-5	-----cis-1,3-Dichloropropene	12	U
79-01-6	-----Trichloroethene	12	U
124-48-1	-----Dibromochloromethane	12	U
79-00-5	-----1,1,2-Trichloroethane	12	U
71-43-2	-----Benzene	12	U
10061-02-6	-----trans-1,3-Dichloropropene	12	U
75-25-2	-----Bromoform	12	U
108-10-1	-----4-Methyl-2-Pentanone	12	U
591-78-6	-----2-Hexanone	12	U
127-18-4	-----Tetrachloroethene	12	U
79-34-5	-----1,1,2,2-Tetrachloroethane	12	U
108-88-3	-----Toluene	12	U
108-90-7	-----Chlorobenzene	12	U
100-41-4	-----Ethylbenzene	12	U
100-42-5	-----Styrene	12	U
1330-20-7	-----Xylene (total)	12	U

0026

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB10-S

Lab Name: ENSECO-EAST

Contract: _____

Lab Code: EEAST

Case No.: 28187

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) SOIL

Lab Sample ID: 28187-08-SA

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: C4781

Level: (low/med) LOW

Date Received: 04/20/93

% Moisture: not dec. 16

Date Analyzed: 04/25/93

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	26.24	11	J

0027

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: Cooper Environmental
Client ID: HB10-S
Lab ID: 028187-0008-SA
Matrix: SOIL
Authorized: 20 APR 93

Sampled: 18 APR 93
Prepared: 25 APR 93

Received: 20 APR 93
Analyzed: 25 APR 93

Parameter	Result	Dry Weight Units	Reporting Limit
1,2-Dibromoethane (EDB)	ND	ug/kg	6.0
tert-Butyl Methyl ether	ND	ug/kg	12
n-Propylbenzene	ND	ug/kg	6.0

Percent Moisture is 16%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel

Approved By: Neil Costanza

0028

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB10-SRE

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-08RE-SA

Sample wt/vol: 5.0 (g/mL) G Lab File ID: C4860

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: not dec. 16 Date Analyzed: 04/29/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	Q
74-87-3	Chloromethane	12 U
74-83-9	Bromomethane	12 U
75-01-4	Vinyl Chloride	12 U
75-00-3	Chloroethane	12 U
75-09-2	Methylene Chloride	6 BJ
67-64-1	Acetone	6 BJ
75-15-0	Carbon Disulfide	12 U
75-35-4	1,1-Dichloroethene	12 U
75-34-3	1,1-Dichloroethane	12 U
540-59-0	1,2-Dichloroethene (total)	12 U
67-66-3	Chloroform	12 U
107-06-2	1,2-Dichloroethane	12 U
78-93-3	2-Butanone	3 BJ
71-55-6	1,1,1-Trichloroethane	4 BJ
56-23-5	Carbon Tetrachloride	12 U
75-27-4	Bromodichloromethane	12 U
78-87-5	1,2-Dichloropropane	12 U
10061-01-5	cis-1,3-Dichloropropene	12 U
79-01-6	Trichloroethene	12 U
124-48-1	Dibromochloromethane	12 U
79-00-5	1,1,2-Trichloroethane	12 U
71-43-2	Benzene	12 U
10061-02-6	trans-1,3-Dichloropropene	12 U
75-25-2	Bromoform	12 U
108-10-1	4-Methyl-2-Pentanone	12 U
591-78-6	2-Hexanone	12 U
127-18-4	Tetrachloroethene	12 U
79-34-5	1,1,2,2-Tetrachloroethane	12 U
108-88-3	Toluene	12 U
108-90-7	Chlorobenzene	12 U
100-41-4	Ethylbenzene	12 U
100-42-5	Styrene	12 U
1330-20-7	Xylene (total)	12 U

0029

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB10-SRE

Lab Name: ENSECO-EAST Contract: _____
Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: 28187-08RE-SA
Sample wt/vol: 5.0 (g/mL) G Lab File ID: C4860
Level: (low/med) LOW Date Received: 04/20/93
% Moisture: not dec. 16 Date Analyzed: 04/29/93
GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	26.26	40	BJ
2.	UNKNOWN	32.70	8	J

0030

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB3-L_OIL

Lab Name: ENSECO-EAST

Contract:

Lab Code: EEAST

Case No.: 28187

SAS No.:

SDG No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 28187-09-SA

Sample wt/vol: 1.0 (g/mL) G

Lab File ID: C4835

Level: (low/med) MED

Date Received: 04/20/93

% Moisture: not dec. 96

Date Analyzed: 04/28/93

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q

74-87-3-----	Chloromethane	120000	U
74-83-9-----	Bromomethane	120000	U
75-01-4-----	Vinyl Chloride	120000	U
75-00-3-----	Chloroethane	120000	U
75-09-2-----	Methylene Chloride	120000	U
67-64-1-----	Acetone	450000	B
75-15-0-----	Carbon Disulfide	120000	U
75-35-4-----	1,1-Dichloroethene	120000	U
75-34-3-----	1,1-Dichloroethane	120000	U
540-59-0-----	1,2-Dichloroethene (total)	120000	U
67-66-3-----	Chloroform	120000	U
107-06-2-----	1,2-Dichloroethane	120000	U
78-93-3-----	2-Butanone	120000	U
71-55-6-----	1,1,1-Trichloroethane	120000	U
56-23-5-----	Carbon Tetrachloride	120000	U
75-27-4-----	Bromodichloromethane	120000	U
78-87-5-----	1,2-Dichloropropane	120000	U
10061-01-5-----	cis-1,3-Dichloropropene	120000	U
79-01-6-----	Trichloroethene	120000	U
124-48-1-----	Dibromochloromethane	120000	U
79-00-5-----	1,1,2-Trichloroethane	120000	U
71-43-2-----	Benzene	340000	
10061-02-6-----	trans-1,3-Dichloropropene	120000	U
75-25-2-----	Bromoform	120000	U
108-10-1-----	4-Methyl-2-Pentanone	120000	U
591-78-6-----	2-Hexanone	120000	U
127-18-4-----	Tetrachloroethene	120000	U
79-34-5-----	1,1,2,2-Tetrachloroethane	120000	U
108-88-3-----	Toluene	79000	J
108-90-7-----	Chlorobenzene	120000	U
100-41-4-----	Ethylbenzene	2300000	
100-42-5-----	Styrene	120000	U
1330-20-7-----	Xylene (total)	2600000	

0031

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB3-L_OIL

Lab Name: ENSECO-EAST Contract: _____
Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: 28187-09-SA
Sample wt/vol: 1.0 (g/mL) G Lab File ID: C4835
Level: (low/med) MED Date Received: 04/20/93
% Moisture: not dec. 96 Date Analyzed: 04/28/93
GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0
Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 10 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C-3 BENZENE	22.14	2100000	J
2.	C-3 BENZENE	23.11	1400000	J
3.	C-3 BENZENE	23.60	2400000	J
4.	C-3 BENZENE	25.20	1200000	J
5.	C-4 BENZENE	25.93	1600000	J
6.	UNKNOWN	26.22	2000000	J
7.	C-4 BENZENE	27.18	1200000	J
8.	C-4 BENZENE	27.57	1600000	J
9.	C-4 BENZENE	28.87	1200000	J
10.	C10H12 ISOMER	31.04	1100000	J

0032

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: Cooper Environmental
Client ID: HB3-L OIL LAYER
Lab ID: 028187-0009-SA
Matrix: WASTE
Authorized: 20 APR 93

Sampled: 17 APR 93
Prepared: 27 APR 93

Received: 20 APR 93
Analyzed: 28 APR 93

Parameter	Result	Wet Weight Reporting Units	Reporting Limit	
1,2-Dibromoethane (EDB)	ND	ug/kg	2500	u
tert-Butyl Methyl ether	ND	ug/kg	5000	
n-Propylbenzene	89000	ug/kg	5000	D

Note u : All reporting limits raised due to high levels of target analytes.

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: Joey J. Buaron

Approved By: Neil Costanza

0033

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB3-L_OILDL

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-09DL-SA

Sample wt/vol: 1.0 (g/mL) G Lab File ID: C4817

Level: (low/med) MED Date Received: 04/20/93

% Moisture: not dec. 96 Date Analyzed: 04/27/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 50.0(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/KG	
74-87-3-----	Chloromethane	240000	U	
74-83-9-----	Bromomethane	240000	U	
75-01-4-----	Vinyl Chloride	240000	U	
75-00-3-----	Chloroethane	240000	U	
75-09-2-----	Methylene Chloride	240000	U	
67-64-1-----	Acetone	480000	BD	
75-15-0-----	Carbon Disulfide	240000	U	
75-35-4-----	1,1-Dichloroethene	240000	U	
75-34-3-----	1,1-Dichloroethane	240000	U	
540-59-0-----	1,2-Dichloroethene (total)	240000	U	
67-66-3-----	Chloroform	240000	U	
107-06-2-----	1,2-Dichloroethane	240000	U	
78-93-3-----	2-Butanone	250000	D	
71-55-6-----	1,1,1-Trichloroethane	240000	U	
56-23-5-----	Carbon Tetrachloride	240000	U	
75-27-4-----	Bromodichloromethane	240000	U	
78-87-5-----	1,2-Dichloropropane	240000	U	
10061-01-5-----	cis-1,3-Dichloropropene	240000	U	
79-01-6-----	Trichloroethene	240000	U	
124-48-1-----	Dibromochloromethane	240000	U	
79-00-5-----	1,1,2-Trichloroethane	240000	U	
71-43-2-----	Benzene	290000	D	
10061-02-6-----	trans-1,3-Dichloropropene	240000	U	
75-25-2-----	Bromoform	240000	U	
108-10-1-----	4-Methyl-2-Pentanone	240000	U	
591-78-6-----	2-Hexanone	240000	U	
127-18-4-----	Tetrachloroethene	240000	U	
79-34-5-----	1,1,2,2-Tetrachloroethane	240000	U	
108-88-3-----	Toluene	240000	U	
108-90-7-----	Chlorobenzene	240000	U	
100-41-4-----	Ethylbenzene	1700000	D	
100-42-5-----	Styrene	240000	U	
1330-20-7-----	Xylene (total)	2000000	D	

0034

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB3-L_OILDL

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-09DL-SA

Sample wt/vol: 1.0 (g/mL) G Lab File ID: C4817

Level: (low/med) MED Date Received: 04/20/93

% Moisture: not dec. 96 Date Analyzed: 04/27/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 50.0(uL)

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C-3 BENZENE	22.13	3000000	J
2.	C-3 BENZENE	23.11	2000000	J
3.	C-3 BENZENE	23.60	4200000	J
4.	C-3 BENZENE	25.19	1700000	J
5.	C-4 BENZENE	25.93	1800000	J
6.	UNKNOWN	26.21	3000000	J
7.	C-4 BENZENE	27.17	1600000	J
8.	C-4 BENZENE	27.55	2400000	J
9.	C-4 BENZENE	28.88	1600000	J
10.	C11H10 ISOMER	39.48	1600000	J

0035

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TREATED_TAP

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 28187-10-SA

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C4827

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: not dec. _____ Date Analyzed: 04/27/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO. COMPOUND Q

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	10	U
67-64-1-----	Acetone	5	BJ
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

0036

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TREATED_TAP

Lab Name: ENSECO-EAST Contract: _____
Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
Matrix: (soil/water) WATER Lab Sample ID: 28187-10-SA
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C4827
Level: (low/med) LOW Date Received: 04/20/93
% Moisture: not dec. _____ Date Analyzed: 04/27/93
GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 1 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	26.26	6	BJ

0037

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: Cooper Environmental
Client ID: TREATED TAP
Lab ID: 028187-0010-SA
Matrix: AQUEOUS
Authorized: 20 APR 93

Sampled: 18 APR 93
Prepared: 27 APR 93

Received: 20 APR 93
Analyzed: 27 APR 93

Parameter	Result	Units	Reporting Limit
1,2-Dibromoethane (EDB)	ND	ug/L	5.0
tert-Butyl Methyl ether	ND	ug/L	10
n-Propylbenzene	ND	ug/L	5.0

ND = Not detected
NA = Not applicable

Reported By: Joey J. Buaron

Approved By: Neil Costanza

0038

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB3-L_WATER

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 28187-11-SA

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C4834

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: not dec. _____ Date Analyzed: 04/28/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 50.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg) <u>UG/L</u>	<u>Q</u>
74-87-3	-----Chloromethane	500	U
74-83-9	-----Bromomethane	500	U
75-01-4	-----Vinyl Chloride	500	U
75-00-3	-----Chloroethane	500	U
75-09-2	-----Methylene Chloride	500	U
67-64-1	-----Acetone	250	BJ
75-15-0	-----Carbon Disulfide	500	U
75-35-4	-----1,1-Dichloroethene	500	U
75-34-3	-----1,1-Dichloroethane	500	U
540-59-0	-----1,2-Dichloroethene (total)	500	U
67-66-3	-----Chloroform	500	U
107-06-2	-----1,2-Dichloroethane	500	U
78-93-3	-----2-Butanone	74	J
71-55-6	-----1,1,1-Trichloroethane	500	U
56-23-5	-----Carbon Tetrachloride	500	U
75-27-4	-----Bromodichloromethane	500	U
78-87-5	-----1,2-Dichloropropane	500	U
10061-01-5	-----cis-1,3-Dichloropropene	500	U
79-01-6	-----Trichloroethene	500	U
124-48-1	-----Dibromochloromethane	500	U
79-00-5	-----1,1,2-Trichloroethane	500	U
71-43-2	-----Benzene	360	J
10061-02-6	-----trans-1,3-Dichloropropene	500	U
75-25-2	-----Bromoform	500	U
108-10-1	-----4-Methyl-2-Pentanone	500	U
591-78-6	-----2-Hexanone	500	U
127-18-4	-----Tetrachloroethene	500	U
79-34-5	-----1,1,2,2-Tetrachloroethane	500	U
108-88-3	-----Toluene	500	U
108-90-7	-----Chlorobenzene	500	U
100-41-4	-----Ethylbenzene	150	J
100-42-5	-----Styrene	500	U
1330-20-7	-----Xylene (total)	230	J

0039

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB3-L_WATER

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 28187-11-SA

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C4834

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: not dec. _____ Date Analyzed: 04/28/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 50.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C-3 BENZENE	22.13	300	J
2.	C-3 BENZENE	23.59	500	J
3.	UNKNOWN	26.23	450	J

0040

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: Cooper Environmental
Client ID: HB3-L WATER LAYER
Lab ID: 028187-0011-SA
Matrix: AQUEOUS
Authorized: 20 APR 93

Sampled: 17 APR 93
Prepared: 28 APR 93

Received: 20 APR 93
Analyzed: 28 APR 93

Parameter	Result	Units	Reporting Limit	
1,2-Dibromoethane (EDB)	ND	ug/L	250	u
tert-Butyl Methyl ether	6200	ug/L	500	
n-Propylbenzene	86	ug/L	250	J

Note u : All reporting limits raised due to high levels of target analytes.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected
NA = Not applicable

0041

Reported By: Joey J. Buaron

Approved By: Neil Costanza

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB2-4_5

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-01-SA

Sample wt/vol: 30.2 (g/mL) G Lab File ID: B9738

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/05/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.

COMPOUND

Q

108-95-2-----	Phenol	410	U
111-44-4-----	bis(2-Chloroethyl) ether	410	U
95-57-8-----	2-Chlorophenol	410	U
541-73-1-----	1,3-Dichlorobenzene	410	U
106-46-7-----	1,4-Dichlorobenzene	410	U
95-50-1-----	1,2-Dichlorobenzene	410	U
95-48-7-----	2-Methylphenol	410	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	410	U
106-44-5-----	4-Methylphenol	410	U
621-64-7-----	N-Nitroso-di-n-propylamine	410	U
67-72-1-----	Hexachloroethane	410	U
98-95-3-----	Nitrobenzene	410	U
78-59-1-----	Isophorone	410	U
88-75-5-----	2-Nitrophenol	410	U
105-67-9-----	2,4-Dimethylphenol	410	U
111-91-1-----	bis(2-Chloroethoxy) methane	410	U
120-83-2-----	2,4-Dichlorophenol	410	U
120-82-1-----	1,2,4-Trichlorobenzene	410	U
91-20-3-----	Naphthalene	110	J
106-47-8-----	4-Chloroaniline	410	U
87-68-3-----	Hexachlorobutadiene	410	U
59-50-7-----	4-Chloro-3-methylphenol	410	U
91-57-6-----	2-Methylnaphthalene	140	J
77-47-4-----	Hexachlorocyclopentadiene	410	U
88-06-2-----	2,4,6-Trichlorophenol	410	U
95-95-4-----	2,4,5-Trichlorophenol	990	U
91-58-7-----	2-Chloronaphthalene	410	U
88-74-4-----	2-Nitroaniline	990	U
131-11-3-----	Dimethylphthalate	410	U
208-96-8-----	Acenaphthylene	410	U
606-20-2-----	2,6-Dinitrotoluene	410	U
99-09-2-----	3-Nitroaniline	990	U
83-32-9-----	Acenaphthene	410	U

0042

FORM I SV-1

3/90

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB2-4_5

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-01-SA

Sample wt/vol: 30.2 (g/mL) G Lab File ID: B9738

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/05/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	990 U
100-02-7-----	4-Nitrophenol	990 U
132-64-9-----	Dibenzofuran	410 U
121-14-2-----	2,4-Dinitrotoluene	410 U
84-66-2-----	Diethylphthalate	410 U
7005-72-3-----	4-Chlorophenyl-phenylether	410 U
86-73-7-----	Fluorene	75 J
100-01-6-----	4-Nitroaniline	990 U
534-52-1-----	4,6-Dinitro-2-methylphenol	990 U
86-30-6-----	N-Nitrosodiphenylamine (1)	410 U
101-55-3-----	4-Bromophenyl-phenylether	410 U
118-74-1-----	Hexachlorobenzene	410 U
87-86-5-----	Pentachlorophenol	990 U
85-01-8-----	Phenanthrene	85 J
120-12-7-----	Anthracene	410 U
86-74-8-----	Carbazole	410 U
84-74-2-----	Di-n-butylphthalate	410 U
206-44-0-----	Fluoranthene	410 U
129-00-0-----	Pyrene	410 U
85-68-7-----	Butylbenzylphthalate	410 U
91-94-1-----	3,3'-Dichlorobenzidine	410 U
56-55-3-----	Benzo(a)anthracene	410 U
218-01-9-----	Chrysene	410 U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	82 J
117-84-0-----	Di-n-octylphthalate	410 U
205-99-2-----	Benzo(b)fluoranthene	410 U
207-08-9-----	Benzo(k)fluoranthene	410 U
50-32-8-----	Benzo(a)pyrene	410 U
193-39-5-----	Indeno(1,2,3-cd)pyrene	410 U
53-70-3-----	Dibenz(a,h)anthracene	410 U
191-24-2-----	Benzo(g,h,i)perylene	410 U

(1) - Cannot be separated from Diphenylamine

0043

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB2-4_5

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-01-SA

Sample wt/vol: 30.2 (g/mL) G Lab File ID: B9738

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/05/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

Number TICs found: 17 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.51	8200	ABJ
2. 100527	BENZALDEHYDE	8.23	310	BJ
3.	C-4 BENZENE ISOMER	10.16	120	J
4.	UNKNOWN	10.36	170	J
5.	C-4 BENZENE ISOMER	11.67	120	J
6.	C-4 BENZENE ISOMER	12.33	83	J
7.	C-5 BENZENE ISOMER	13.29	83	J
8. 90120	NAPHTHALENE, 1-METHYL-	15.57	83	JN
9.	UNKNOWN	21.85	120	J
10.	UNKNOWN	23.84	120	J
11.	HYDROCARBON	24.49	170	J
12.	HYDROCARBON	24.65	290	J
13.	UNKNOWN	25.18	170	J
14.	UNKNOWN	25.49	120	J
15.	HYDROCARBON	25.97	330	J
16.	UNKNOWN	26.87	330	J
17.	UNKNOWN	27.22	210	J

0044

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB3-3_0

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-02-SA

Sample wt/vol: 30.2 (g/mL) G Lab File ID: B9739

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 24 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/05/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
108-95-2-----	Phenol	430	U
111-44-4-----	bis(2-Chloroethyl) ether	430	U
95-57-8-----	2-Chlorophenol	430	U
541-73-1-----	1,3-Dichlorobenzene	430	U
106-46-7-----	1,4-Dichlorobenzene	430	U
95-50-1-----	1,2-Dichlorobenzene	430	U
95-48-7-----	2-Methylphenol	430	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	430	U
106-44-5-----	4-Methylphenol	430	U
621-64-7-----	N-Nitroso-di-n-propylamine	430	U
67-72-1-----	Hexachloroethane	430	U
98-95-3-----	Nitrobenzene	430	U
78-59-1-----	Isophorone	430	U
88-75-5-----	2-Nitrophenol	430	U
105-67-9-----	2,4-Dimethylphenol	430	U
111-91-1-----	bis(2-Chloroethoxy) methane	430	U
120-83-2-----	2,4-Dichlorophenol	430	U
120-82-1-----	1,2,4-Trichlorobenzene	430	U
91-20-3-----	Naphthalene	430	U
106-47-8-----	4-Chloroaniline	430	U
87-68-3-----	Hexachlorobutadiene	430	U
59-50-7-----	4-Chloro-3-methylphenol	430	U
91-57-6-----	2-Methylnaphthalene	47	J
77-47-4-----	Hexachlorocyclopentadiene	430	U
88-06-2-----	2,4,6-Trichlorophenol	430	U
95-95-4-----	2,4,5-Trichlorophenol	1000	U
91-58-7-----	2-Chloronaphthalene	430	U
88-74-4-----	2-Nitroaniline	1000	U
131-11-3-----	Dimethylphthalate	430	U
208-96-8-----	Acenaphthylene	430	U
606-20-2-----	2,6-Dinitrotoluene	430	U
99-09-2-----	3-Nitroaniline	1000	U
83-32-9-----	Acenaphthene	430	U

0045

FORM I SV-1

3/90

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB3-3_0

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-02-SA

Sample wt/vol: 30.2 (g/mL) G Lab File ID: B9739

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 24 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/05/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
51-28-5-----	2,4-Dinitrophenol	1000	U
100-02-7-----	4-Nitrophenol	1000	U
132-64-9-----	Dibenzofuran	430	U
121-14-2-----	2,4-Dinitrotoluene	430	U
84-66-2-----	Diethylphthalate	430	U
7005-72-3-----	4-Chlorophenyl-phenylether	430	U
86-73-7-----	Fluorene	430	U
100-01-6-----	4-Nitroaniline	1000	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1000	U
86-30-6-----	N-Nitrosodiphenylamine (1)	430	U
101-55-3-----	4-Bromophenyl-phenylether	430	U
118-74-1-----	Hexachlorobenzene	430	U
87-86-5-----	Pentachlorophenol	1000	U
85-01-8-----	Phenanthrene	430	U
120-12-7-----	Anthracene	430	U
86-74-8-----	Carbazole	430	U
84-74-2-----	Di-n-butylphthalate	430	U
206-44-0-----	Fluoranthene	430	U
129-00-0-----	Pyrene	430	U
85-68-7-----	Butylbenzylphthalate	430	U
91-94-1-----	3,3'-Dichlorobenzidine	430	U
56-55-3-----	Benzo(a)anthracene	430	U
218-01-9-----	Chrysene	430	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	49	J
117-84-0-----	Di-n-octylphthalate	430	U
205-99-2-----	Benzo(b)fluoranthene	430	U
207-08-9-----	Benzo(k)fluoranthene	430	U
50-32-8-----	Benzo(a)pyrene	430	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	430	U
53-70-3-----	Dibenz(a,h)anthracene	430	U
191-24-2-----	Benzo(g,h,i)perylene	430	U

(1) - Cannot be separated from Diphenylamine

0046

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB3-3_0

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-02-SA

Sample wt/vol: 30.2 (g/mL) G Lab File ID: B9739

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 24 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/05/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.55	10000	ABJ
2. 100527	BENZALDEHYDE	8.25	150	BJ
3.	HYDROCARBON	26.84	130	J
4.	UNKNOWN	28.84	170	J
5.	UNKNOWN	29.90	87	J

0047

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB4-2_5

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-03-SA

Sample wt/vol: 30.1 (g/mL) G Lab File ID: B9740

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/05/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

108-95-2-----	Phenol	410	U
111-44-4-----	bis(2-Chloroethyl) ether	410	U
95-57-8-----	2-Chlorophenol	410	U
541-73-1-----	1,3-Dichlorobenzene	410	U
106-46-7-----	1,4-Dichlorobenzene	410	U
95-50-1-----	1,2-Dichlorobenzene	410	U
95-48-7-----	2-Methylphenol	410	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	410	U
106-44-5-----	4-Methylphenol	410	U
621-64-7-----	N-Nitroso-di-n-propylamine	410	U
67-72-1-----	Hexachloroethane	410	U
98-95-3-----	Nitrobenzene	410	U
78-59-1-----	Isophorone	410	U
88-75-5-----	2-Nitrophenol	410	U
105-67-9-----	2,4-Dimethylphenol	410	U
111-91-1-----	bis(2-Chloroethoxy) methane	410	U
120-83-2-----	2,4-Dichlorophenol	410	U
120-82-1-----	1,2,4-Trichlorobenzene	410	U
91-20-3-----	Naphthalene	410	U
106-47-8-----	4-Chloroaniline	410	U
87-68-3-----	Hexachlorobutadiene	410	U
59-50-7-----	4-Chloro-3-methylphenol	410	U
91-57-6-----	2-Methylnaphthalene	130	J
77-47-4-----	Hexachlorocyclopentadiene	410	U
88-06-2-----	2,4,6-Trichlorophenol	410	U
95-95-4-----	2,4,5-Trichlorophenol	1000	U
91-58-7-----	2-Chloronaphthalene	410	U
88-74-4-----	2-Nitroaniline	1000	U
131-11-3-----	Dimethylphthalate	410	U
208-96-8-----	Acenaphthylene	410	U
606-20-2-----	2,6-Dinitrotoluene	410	U
99-09-2-----	3-Nitroaniline	1000	U
83-32-9-----	Acenaphthene	410	U

FORM I SV-1

3/90

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB4-2_5

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-03-SA

Sample wt/vol: 30.1 (g/mL) G Lab File ID: B9740

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/05/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	1000 U
100-02-7-----	4-Nitrophenol	1000 U
132-64-9-----	Dibenzofuran	410 U
121-14-2-----	2,4-Dinitrotoluene	410 U
84-66-2-----	Diethylphthalate	410 U
7005-72-3-----	4-Chlorophenyl-phenylether	410 U
86-73-7-----	Fluorene	93 J
100-01-6-----	4-Nitroaniline	1000 U
534-52-1-----	4,6-Dinitro-2-methylphenol	1000 U
86-30-6-----	N-Nitrosodiphenylamine (1)	410 U
101-55-3-----	4-Bromophenyl-phenylether	410 U
118-74-1-----	Hexachlorobenzene	410 U
87-86-5-----	Pentachlorophenol	1000 U
85-01-8-----	Phenanthrene	160 J
120-12-7-----	Anthracene	410 U
86-74-8-----	Carbazole	410 U
84-74-2-----	Di-n-butylphthalate	410 U
206-44-0-----	Fluoranthene	410 U
129-00-0-----	Pyrene	410 U
85-68-7-----	Butylbenzylphthalate	410 U
91-94-1-----	3,3'-Dichlorobenzidine	410 U
56-55-3-----	Benzo(a)anthracene	410 U
218-01-9-----	Chrysene	43 J
117-81-7-----	bis(2-Ethylhexyl) Phthalate	51 J
117-84-0-----	Di-n-octylphthalate	410 U
205-99-2-----	Benzo(b)fluoranthene	410 U
207-08-9-----	Benzo(k)fluoranthene	410 U
50-32-8-----	Benzo(a)pyrene	410 U
193-39-5-----	Indeno(1,2,3-cd)pyrene	410 U
53-70-3-----	Dibenz(a,h)anthracene	410 U
191-24-2-----	Benzo(g,h,i)perylene	410 U

(1) - Cannot be separated from Diphenylamine

0049

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB4-2_5

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-03-SA

Sample wt/vol: 30.1 (g/mL) G Lab File ID: B9740

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/05/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

Number TICs found: 21 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.54	9200	ABJ
2. 100527	BENZALDEHYDE	8.24	600	BJ
3.	C-4 BENZENE ISOMER	10.16	330	J
4.	C-4 BENZENE ISOMER	10.35	330	J
5.	C-4 BENZENE ISOMER	10.55	170	J
6.	HYDROCARBON	11.32	120	J
7.	C-4 BENZENE ISOMER	11.67	250	J
8.	C-4 BENZENE ISOMER	11.74	120	J
9.	2,3-DIHYDROMETHYL 1H-INDENE	12.15	120	J
10.	2,3-DIHYDROMETHYL 1H-INDENE	12.34	170	J
11.	UNKNOWN	12.56	120	J
12.	UNKNOWN	14.24	120	J
13.	2,3-DIHYDRODIMETHYL 1H-INDEN	14.35	120	J
14. 90120	NAPHTHALENE, 1-METHYL-	15.57	120	JN
15.	UNKNOWN	16.28	120	J
16.	UNKNOWN	19.08	210	J
17.	HYDROCARBON	21.88	210	J
18.	UNKNOWN	21.96	120	J
19.	HYDROCARBON	24.48	170	J
20.	UNKNOWN	24.64	120	J
21.	UNKNOWN	26.85	330	J

0050

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB5-2_3

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-04-SA

Sample wt/vol: 30.1 (g/mL) G Lab File ID: F2707

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 22 decanted: (Y/N) N Date Extracted: 05/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/21/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

108-95-2-----	Phenol	420	U
111-44-4-----	bis(2-Chloroethyl) ether	420	U
95-57-8-----	2-Chlorophenol	420	U
541-73-1-----	1,3-Dichlorobenzene	420	U
106-46-7-----	1,4-Dichlorobenzene	420	U
95-50-1-----	1,2-Dichlorobenzene	420	U
95-48-7-----	2-Methylphenol	420	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	420	U
106-44-5-----	4-Methylphenol	420	U
621-64-7-----	N-Nitroso-di-n-propylamine	420	U
67-72-1-----	Hexachloroethane	420	U
98-95-3-----	Nitrobenzene	420	U
78-59-1-----	Isophorone	420	U
88-75-5-----	2-Nitrophenol	420	U
105-67-9-----	2,4-Dimethylphenol	420	U
111-91-1-----	bis(2-Chloroethoxy) methane	420	U
120-83-2-----	2,4-Dichlorophenol	420	U
120-82-1-----	1,2,4-Trichlorobenzene	420	U
91-20-3-----	Naphthalene	610	
106-47-8-----	4-Chloroaniline	420	U
87-68-3-----	Hexachlorobutadiene	420	U
59-50-7-----	4-Chloro-3-methylphenol	420	U
91-57-6-----	2-Methylnaphthalene	920	
77-47-4-----	Hexachlorocyclopentadiene	420	U
88-06-2-----	2,4,6-Trichlorophenol	420	U
95-95-4-----	2,4,5-Trichlorophenol	1000	U
91-58-7-----	2-Chloronaphthalene	420	U
88-74-4-----	2-Nitroaniline	1000	U
131-11-3-----	Dimethylphthalate	420	U
208-96-8-----	Acenaphthylene	420	U
606-20-2-----	2,6-Dinitrotoluene	420	U
99-09-2-----	3-Nitroaniline	1000	U
83-32-9-----	Acenaphthene	420	U

0051

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB5-2_3

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-04-SA

Sample wt/vol: 30.1 (g/mL) G Lab File ID: F2707

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 22 decanted: (Y/N) N Date Extracted: 05/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/21/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	1000 U
100-02-7-----	4-Nitrophenol	1000 U
132-64-9-----	Dibenzofuran	420 U
121-14-2-----	2,4-Dinitrotoluene	420 U
84-66-2-----	Diethylphthalate	420 U
7005-72-3-----	4-Chlorophenyl-phenylether	420 U
86-73-7-----	Fluorene	170 J
100-01-6-----	4-Nitroaniline	1000 U
534-52-1-----	4,6-Dinitro-2-methylphenol	1000 U
86-30-6-----	N-Nitrosodiphenylamine (1)	420 U
101-55-3-----	4-Bromophenyl-phenylether	420 U
118-74-1-----	Hexachlorobenzene	420 U
87-86-5-----	Pentachlorophenol	1000 U
85-01-8-----	Phenanthrene	340 J
120-12-7-----	Anthracene	420 U
86-74-8-----	Carbazole	420 U
84-74-2-----	Di-n-butylphthalate	420 U
206-44-0-----	Fluoranthene	51 J
129-00-0-----	Pyrene	210 J
85-68-7-----	Butylbenzylphthalate	420 U
91-94-1-----	3,3'-Dichlorobenzidine	420 U
56-55-3-----	Benzo(a)anthracene	420 U
218-01-9-----	Chrysene	100 J
117-81-7-----	bis(2-Ethylhexyl) Phthalate	290 J
117-84-0-----	Di-n-octylphthalate	420 U
205-99-2-----	Benzo(b)fluoranthene	49 J
207-08-9-----	Benzo(k)fluoranthene	420 U
50-32-8-----	Benzo(a)pyrene	420 U
193-39-5-----	Indeno(1,2,3-cd)pyrene	420 U
53-70-3-----	Dibenz(a,h)anthracene	420 U
191-24-2-----	Benzo(g,h,i)perylene	67 J

(1) - Cannot be separated from Diphenylamine

0052

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB5-2_3

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-04-SA

Sample wt/vol: 30.1 (g/mL) G Lab File ID: F2707

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 22 decanted: (Y/N) N Date Extracted: 05/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/21/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 21

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123422	2-PENTANONE, 4-HYDROXY-4-MET	6.93	2900	ABJN
2. 103651	BENZENE, PROPYL-	9.63	260	JN
3.	C-3 BENZENE ISOMER	9.88	260	J
4.	C-3 BENZENE ISOMER	11.25	300	J
5.	C-4 BENZENE ISOMER	11.84	470	J
6.	C-4 BENZENE ISOMER	12.04	720	J
7.	C-4 BENZENE ISOMER	12.48	300	J
8.	HYDROCARBON	12.97	210	J
9.	C-4 BENZENE ISOMER	13.38	380	J
10.	C-4 BENZENE ISOMER	13.46	260	J
11.	2,3-DIHYDROMETHYL 1H-INDENE	13.90	260	J
12.	2,3-DIHYDROMETHYL 1H-INDENE	14.09	340	J
13.	C-4 BENZENE ISOMER	14.13	260	J
14.	2,3-DIHYDRODIMETHYL 1H-INDEN	16.13	170	J
15. 90120	NAPHTHALENE, 1-METHYL-	17.41	510	JN
16.	C-12 H-10 ISOMER	18.63	300	J
17.	DIMETHYL NAPHTHALENE ISOMER	19.36	300	J
18.	C-14 H-14 ISOMER	22.33	170	J
19.	HYDROCARBON	23.71	850	J
20.	HYDROCARBON	26.35	470	J
21.	UNKNOWN	30.72	810	J

0053

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB5-2_3DL

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-04-DL

Sample wt/vol: 30.1 (g/mL) G Lab File ID: F2709

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 22 decanted: (Y/N) N Date Extracted: 05/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/21/93

Injection Volume: 2.0 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 7.2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
108-95-2	Phenol	4200	U
111-44-4	bis(2-Chloroethyl) ether	4200	U
95-57-8	2-Chlorophenol	4200	U
541-73-1	1,3-Dichlorobenzene	4200	U
106-46-7	1,4-Dichlorobenzene	4200	U
95-50-1	1,2-Dichlorobenzene	4200	U
95-48-7	2-Methylphenol	4200	U
108-60-1	2,2'-oxybis(1-Chloropropane)	4200	U
106-44-5	4-Methylphenol	4200	U
621-64-7	N-Nitroso-di-n-propylamine	4200	U
67-72-1	Hexachloroethane	4200	U
98-95-3	Nitrobenzene	4200	U
78-59-1	Isophorone	4200	U
88-75-5	2-Nitrophenol	4200	U
105-67-9	2,4-Dimethylphenol	4200	U
111-91-1	bis(2-Chloroethoxy) methane	4200	U
120-83-2	2,4-Dichlorophenol	4200	U
120-82-1	1,2,4-Trichlorobenzene	4200	U
91-20-3	Naphthalene	910	DJ
106-47-8	4-Chloroaniline	4200	U
87-68-3	Hexachlorobutadiene	4200	U
59-50-7	4-Chloro-3-methylphenol	4200	U
91-57-6	2-Methylnaphthalene	1200	DJ
77-47-4	Hexachlorocyclopentadiene	4200	U
88-06-2	2,4,6-Trichlorophenol	4200	U
95-95-4	2,4,5-Trichlorophenol	10000	U
91-58-7	2-Chloronaphthalene	4200	U
88-74-4	2-Nitroaniline	10000	U
131-11-3	Dimethylphthalate	4200	U
208-96-8	Acenaphthylene	4200	U
606-20-2	2,6-Dinitrotoluene	4200	U
99-09-2	3-Nitroaniline	10000	U
83-32-9	Acenaphthene	4200	U

0054

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB5-2_3DL

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-04-DL

Sample wt/vol: 30.1 (g/mL) G Lab File ID: F2709

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 22 decanted: (Y/N) N Date Extracted: 05/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/21/93

Injection Volume: 2.0 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 7.2

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123422	2-PENTANONE, 4-HYDROXY-4-MET	6.84	4700	ABJN
2.	UNKNOWN	25.70	850	J
3.	HYDROCARBON	28.69	1300	J

0055

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB6-1_5

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-05-SA

Sample wt/vol: 30.2 (g/mL) G Lab File ID: B9742

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/05/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
108-95-2	Phenol	410	U
111-44-4	bis(2-Chloroethyl) ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
95-50-1	1,2-Dichlorobenzene	410	U
95-48-7	2-Methylphenol	410	U
108-60-1	2,2'-oxybis(1-Chloropropane)	410	U
106-44-5	4-Methylphenol	410	U
621-64-7	N-Nitroso-di-n-propylamine	410	U
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
111-91-1	bis(2-Chloroethoxy) methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	410	U
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-methylphenol	410	U
91-57-6	2-Methylnaphthalene	410	U
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	990	U
91-58-7	2-Chloronaphthalene	410	U
88-74-4	2-Nitroaniline	990	U
131-11-3	Dimethylphthalate	410	U
208-96-8	Acenaphthylene	410	U
606-20-2	2,6-Dinitrotoluene	410	U
99-09-2	3-Nitroaniline	990	U
83-32-9	Acenaphthene	410	U

0056

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB6-1_5

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-05-SA

Sample wt/vol: 30.2 (g/mL) G Lab File ID: B9742

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/05/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
51-28-5-----	2,4-Dinitrophenol	990	U
100-02-7-----	4-Nitrophenol	990	U
132-64-9-----	Dibenzofuran	410	U
121-14-2-----	2,4-Dinitrotoluene	410	U
84-66-2-----	Diethylphthalate	410	U
7005-72-3-----	4-Chlorophenyl-phenylether	410	U
86-73-7-----	Fluorene	46	J
100-01-6-----	4-Nitroaniline	990	U
534-52-1-----	4,6-Dinitro-2-methylphenol	990	U
86-30-6-----	N-Nitrosodiphenylamine (1)	410	U
101-55-3-----	4-Bromophenyl-phenylether	410	U
118-74-1-----	Hexachlorobenzene	410	U
87-86-5-----	Pentachlorophenol	990	U
85-01-8-----	Phenanthrene	320	J
120-12-7-----	Anthracene	72	J
86-74-8-----	Carbazole	410	U
84-74-2-----	Di-n-butylphthalate	410	U
206-44-0-----	Fluoranthene	390	J
129-00-0-----	Pyrene	430	
85-68-7-----	Butylbenzylphthalate	410	U
91-94-1-----	3,3'-Dichlorobenzidine	410	U
56-55-3-----	Benzo(a)anthracene	250	J
218-01-9-----	Chrysene	230	J
117-81-7-----	bis(2-Ethylhexyl)Phthalate	51	J
117-84-0-----	Di-n-octylphthalate	410	U
205-99-2-----	Benzo(b)fluoranthene	330	J
207-08-9-----	Benzo(k)fluoranthene	57	J
50-32-8-----	Benzo(a)pyrene	200	J
193-39-5-----	Indeno(1,2,3-cd)pyrene	120	J
53-70-3-----	Dibenz(a,h)anthracene	410	U
191-24-2-----	Benzo(g,h,i)perylene	130	J

(1) - Cannot be separated from Diphenylamine

0057

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB6-1_5

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-05-SA

Sample wt/vol: 30.2 (g/mL) G Lab File ID: B9742

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/05/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.6

Number TICs found: 12

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.80	28000	ABJ
2.	UNKNOWN	6.19	83	J
3. 100527	BENZALDEHYDE	8.27	400	BJ
4.	UNKNOWN	13.23	170	J
5.	HYDROCARBON	14.75	83	J
6.	HYDROCARBON	17.08	120	J
7.	HYDROCARBON	18.10	83	J
8.	HYDROCARBON	21.90	290	J
9.	UNKNOWN	24.50	83	J
10.	HYDROCARBON	24.66	83	J
11.	HYDROCARBON	25.97	83	J
12.	UNKNOWN	27.31	330	J

0058

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB7-1_25

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-06-SA

Sample wt/vol: 30.2 (g/mL) G Lab File ID: B9743

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/05/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

108-95-2-----	Phenol	410	U
111-44-4-----	bis(2-Chloroethyl)ether	410	U
95-57-8-----	2-Chlorophenol	410	U
541-73-1-----	1,3-Dichlorobenzene	410	U
106-46-7-----	1,4-Dichlorobenzene	410	U
95-50-1-----	1,2-Dichlorobenzene	410	U
95-48-7-----	2-Methylphenol	410	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	410	U
106-44-5-----	4-Methylphenol	410	U
621-64-7-----	N-Nitroso-di-n-propylamine	410	U
67-72-1-----	Hexachloroethane	410	U
98-95-3-----	Nitrobenzene	410	U
78-59-1-----	Isophorone	410	U
88-75-5-----	2-Nitrophenol	410	U
105-67-9-----	2,4-Dimethylphenol	410	U
111-91-1-----	bis(2-Chloroethoxy)methane	410	U
120-83-2-----	2,4-Dichlorophenol	410	U
120-82-1-----	1,2,4-Trichlorobenzene	410	U
91-20-3-----	Naphthalene	410	U
106-47-8-----	4-Chloroaniline	410	U
87-68-3-----	Hexachlorobutadiene	410	U
59-50-7-----	4-Chloro-3-methylphenol	410	U
91-57-6-----	2-Methylnaphthalene	410	U
77-47-4-----	Hexachlorocyclopentadiene	410	U
88-06-2-----	2,4,6-Trichlorophenol	410	U
95-95-4-----	2,4,5-Trichlorophenol	990	U
91-58-7-----	2-Chloronaphthalene	410	U
88-74-4-----	2-Nitroaniline	990	U
131-11-3-----	Dimethylphthalate	410	U
208-96-8-----	Acenaphthylene	410	U
606-20-2-----	2,6-Dinitrotoluene	410	U
99-09-2-----	3-Nitroaniline	990	U
83-32-9-----	Acenaphthene	410	U

0059

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB7-1_25

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-06-SA

Sample wt/vol: 30.2 (g/mL) G Lab File ID: B9743

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/05/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
51-28-5-----	2,4-Dinitrophenol	990	U
100-02-7-----	4-Nitrophenol	990	U
132-64-9-----	Dibenzofuran	410	U
121-14-2-----	2,4-Dinitrotoluene	410	U
84-66-2-----	Diethylphthalate	410	U
7005-72-3-----	4-Chlorophenyl-phenylether	410	U
86-73-7-----	Fluorene	410	U
100-01-6-----	4-Nitroaniline	990	U
534-52-1-----	4,6-Dinitro-2-methylphenol	990	U
86-30-6-----	N-Nitrosodiphenylamine (1)	410	U
101-55-3-----	4-Bromophenyl-phenylether	410	U
118-74-1-----	Hexachlorobenzene	410	U
87-86-5-----	Pentachlorophenol	51	J
85-01-8-----	Phenanthrene	410	U
120-12-7-----	Anthracene	410	U
86-74-8-----	Carbazole	410	U
84-74-2-----	Di-n-butylphthalate	410	U
206-44-0-----	Fluoranthene	410	U
129-00-0-----	Pyrene	410	U
85-68-7-----	Butylbenzylphthalate	410	U
91-94-1-----	3,3'-Dichlorobenzidine	410	U
56-55-3-----	Benzo(a)anthracene	410	U
218-01-9-----	Chrysene	410	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	410	U
117-84-0-----	Di-n-octylphthalate	410	U
205-99-2-----	Benzo(b)fluoranthene	410	U
207-08-9-----	Benzo(k)fluoranthene	410	U
50-32-8-----	Benzo(a)pyrene	410	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	410	U
53-70-3-----	Dibenz(a,h)anthracene	410	U
191-24-2-----	Benzo(g,h,i)perylene	410	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB7-1_25

Lab Name: ENSECO-EAST Contract: _____
Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: 28187-06-SA
Sample wt/vol: 30.2 (g/mL) G Lab File ID: B9743
Level: (low/med) LOW Date Received: 04/20/93
% Moisture: 20 decanted: (Y/N) N Date Extracted: 04/23/93
Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/05/93
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 7.2

Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.54	9100	ABJ
2. 100527	BENZALDEHYDE	8.23	490	BJ
3.	HYDROCARBON	18.07	120	J
4.	UNKNOWN	19.75	120	J
5.	UNKNOWN	21.88	83	J
6.	UNKNOWN	27.27	170	J
7.	UNKNOWN	33.63	120	J
8.	UNKNOWN	39.22	170	J

0051

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB8-2

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-07-SA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B9748

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 14 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/06/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

108-95-2-----	Phenol	380	U
111-44-4-----	bis(2-Chloroethyl) ether	380	U
95-57-8-----	2-Chlorophenol	380	U
541-73-1-----	1,3-Dichlorobenzene	380	U
106-46-7-----	1,4-Dichlorobenzene	380	U
95-50-1-----	1,2-Dichlorobenzene	380	U
95-48-7-----	2-Methylphenol	380	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	380	U
106-44-5-----	4-Methylphenol	380	U
621-64-7-----	N-Nitroso-di-n-propylamine	380	U
67-72-1-----	Hexachloroethane	380	U
98-95-3-----	Nitrobenzene	380	U
78-59-1-----	Isophorone	380	U
88-75-5-----	2-Nitrophenol	380	U
105-67-9-----	2,4-Dimethylphenol	380	U
111-91-1-----	bis(2-Chloroethoxy) methane	380	U
120-83-2-----	2,4-Dichlorophenol	380	U
120-82-1-----	1,2,4-Trichlorobenzene	380	U
91-20-3-----	Naphthalene	380	U
106-47-8-----	4-Chloroaniline	380	U
87-68-3-----	Hexachlorobutadiene	380	U
59-50-7-----	4-Chloro-3-methylphenol	380	U
91-57-6-----	2-Methylnaphthalene	380	U
77-47-4-----	Hexachlorocyclopentadiene	380	U
88-06-2-----	2,4,6-Trichlorophenol	380	U
95-95-4-----	2,4,5-Trichlorophenol	930	U
91-58-7-----	2-Chloronaphthalene	380	U
88-74-4-----	2-Nitroaniline	930	U
131-11-3-----	Dimethylphthalate	380	U
208-96-8-----	Acenaphthylene	380	U
606-20-2-----	2,6-Dinitrotoluene	380	U
99-09-2-----	3-Nitroaniline	930	U
83-32-9-----	Acenaphthene	380	U

0052

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB8-2

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-07-SA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B9748

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 14 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/06/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q
51-28-5-----	2,4-Dinitrophenol	930	U
100-02-7-----	4-Nitrophenol	930	U
132-64-9-----	Dibenzofuran	380	U
121-14-2-----	2,4-Dinitrotoluene	380	U
84-66-2-----	Diethylphthalate	380	U
7005-72-3-----	4-Chlorophenyl-phenylether	380	U
86-73-7-----	Fluorene	380	U
100-01-6-----	4-Nitroaniline	930	U
534-52-1-----	4,6-Dinitro-2-methylphenol	930	U
86-30-6-----	N-Nitrosodiphenylamine (1)	380	U
101-55-3-----	4-Bromophenyl-phenylether	380	U
118-74-1-----	Hexachlorobenzene	380	U
87-86-5-----	Pentachlorophenol	930	U
85-01-8-----	Phenanthrene	380	U
120-12-7-----	Anthracene	380	U
86-74-8-----	Carbazole	380	U
84-74-2-----	Di-n-butylphthalate	380	U
206-44-0-----	Fluoranthene	180	J
129-00-0-----	Pyrene	180	J
85-68-7-----	Butylbenzylphthalate	380	U
91-94-1-----	3,3'-Dichlorobenzidine	380	U
56-55-3-----	Benzo(a)anthracene	120	J
218-01-9-----	Chrysene	150	J
117-81-7-----	bis(2-Ethylhexyl)Phthalate	84	J
117-84-0-----	Di-n-octylphthalate	380	U
205-99-2-----	Benzo(b)fluoranthene	200	J
207-08-9-----	Benzo(k)fluoranthene	70	J
50-32-8-----	Benzo(a)pyrene	110	J
193-39-5-----	Indeno(1,2,3-cd)pyrene	58	J
53-70-3-----	Dibenz(a,h)anthracene	380	U
191-24-2-----	Benzo(g,h,i)perylene	77	J

(1) - Cannot be separated from Diphenylamine

0063

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB8-2

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-07-SA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B9748

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 14 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/06/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.0

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.61	11000	ABJ
2.	UNKNOWN	6.13	77	J
3. 100527	BENZALDEHYDE	8.26	380	BJ
4.	UNKNOWN	37.20	77	J

0064

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB10-S

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-08-SA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B9749

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 19 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/06/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
108-95-2	Phenol	410	U
111-44-4	bis(2-Chloroethyl) ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
95-50-1	1,2-Dichlorobenzene	410	U
95-48-7	2-Methylphenol	410	U
108-60-1	2,2'-oxybis(1-Chloropropane)	410	U
106-44-5	4-Methylphenol	410	U
621-64-7	N-Nitroso-di-n-propylamine	410	U
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
111-91-1	bis(2-Chloroethoxy) methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	410	U
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-methylphenol	410	U
91-57-6	2-Methylnaphthalene	410	U
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	990	U
91-58-7	2-Chloronaphthalene	410	U
88-74-4	2-Nitroaniline	990	U
131-11-3	Dimethylphthalate	410	U
208-96-8	Acenaphthylene	410	U
606-20-2	2,6-Dinitrotoluene	410	U
99-09-2	3-Nitroaniline	990	U
83-32-9	Acenaphthene	410	U

0065

FORM I SV-1

3/90

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB10-S

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-08-SA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B9749

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 19 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/06/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	990 U
100-02-7-----	4-Nitrophenol	990 U
132-64-9-----	Dibenzofuran	410 U
121-14-2-----	2,4-Dinitrotoluene	410 U
84-66-2-----	Diethylphthalate	410 U
7005-72-3-----	4-Chlorophenyl-phenylether	410 U
86-73-7-----	Fluorene	410 U
100-01-6-----	4-Nitroaniline	990 U
534-52-1-----	4,6-Dinitro-2-methylphenol	990 U
86-30-6-----	N-Nitrosodiphenylamine (1)	410 U
101-55-3-----	4-Bromophenyl-phenylether	410 U
118-74-1-----	Hexachlorobenzene	410 U
87-86-5-----	Pentachlorophenol	990 U
85-01-8-----	Phenanthrene	410 U
120-12-7-----	Anthracene	410 U
86-74-8-----	Carbazole	410 U
84-74-2-----	Di-n-butylphthalate	97 J
206-44-0-----	Fluoranthene	410 U
129-00-0-----	Pyrene	410 U
85-68-7-----	Butylbenzylphthalate	970 U
91-94-1-----	3,3'-Dichlorobenzidine	410 U
56-55-3-----	Benzo(a)anthracene	410 U
218-01-9-----	Chrysene	410 U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	190 J
117-84-0-----	Di-n-octylphthalate	410 U
205-99-2-----	Benzo(b)fluoranthene	410 U
207-08-9-----	Benzo(k)fluoranthene	410 U
50-32-8-----	Benzo(a)pyrene	410 U
193-39-5-----	Indeno(1,2,3-cd)pyrene	410 U
53-70-3-----	Dibenz(a,h)anthracene	410 U
191-24-2-----	Benzo(g,h,i)perylene	340 J

0066

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB10-S

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-08-SA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B9749

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 19 decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/06/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

Number TICs found: 21

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.54	9700	ABJ
2. 100527	BENZALDEHYDE	8.25	280	BJ
3.	UNKNOWN	17.51	82	J
4.	UNKNOWN	20.20	120	J
5. 1002842	PENTADECANOIC ACID	23.63	160	JN
6.	UNKNOWN	25.18	120	J
7. 57103	HEXADECANOIC ACID	25.53	330	JN
8.	UNKNOWN	26.06	120	J
9.	UNKNOWN	27.34	82	J
10.	UNKNOWN	33.28	210	J
11.	UNKNOWN	33.65	410	J
12.	UNKNOWN	35.49	450	J
13.	HYDROCARBON	37.21	820	J
14.	UNKNOWN	37.56	250	J
15.	UNKNOWN	38.69	450	J
16.	UNKNOWN	39.25	740	J
17.	UNKNOWN	39.40	330	J
18.	UNKNOWN	39.73	530	J
19.	UNKNOWN	39.88	1200	J
20.	UNKNOWN	40.23	330	J
21.	UNKNOWN	40.54	620	J

0067

TCL Semivolatile Organics

Method 8270

Client Name: Cooper Environmental

Client ID: HB3-L OIL LAYER

Lab ID: 028187-0009-SA

Matrix: WASTE

Authorized: 20 APR 93

Sampled: 17 APR 93

Prepared: 13 MAY 93

Received: 20 APR 93

Analyzed: 14 MAY 93

Parameter	Result	Units	Reporting Limit	
Phenol	ND	mg/kg	250	u
bis(2-Chloroethyl) ether	ND	mg/kg	250	
2-Chlorophenol	ND	mg/kg	250	
1,3-Dichlorobenzene	ND	mg/kg	250	
1,4-Dichlorobenzene	ND	mg/kg	250	
Benzyl alcohol	ND	mg/kg	250	
1,2-Dichlorobenzene	ND	mg/kg	250	
2-Methylphenol	ND	mg/kg	250	
bis(2-Chloroisopropyl) ether	ND	mg/kg	250	
4-Methylphenol	ND	mg/kg	250	
N-Nitroso-di-n-propylamine	ND	mg/kg	250	
Hexachloroethane	ND	mg/kg	250	
Nitrobenzene	ND	mg/kg	250	
Isophorone	ND	mg/kg	250	
2-Nitrophenol	ND	mg/kg	250	
2,4-Dimethylphenol	ND	mg/kg	1200	
Benzoic acid	ND	mg/kg	250	
bis(2-Chloroethoxy)-methane	ND	mg/kg	250	
2,4-Dichlorophenol	ND	mg/kg	250	
1,2,4-Trichlorobenzene	ND	mg/kg	250	
Naphthalene	680	mg/kg	250	
4-Chloroaniline	ND	mg/kg	250	
Hexachlorobutadiene	ND	mg/kg	250	
4-Chloro-3-methylphenol	ND	mg/kg	250	
2-Methylnaphthalene	810	mg/kg	250	
Hexachlorocyclopentadiene	ND	mg/kg	250	
2,4,6-Trichlorophenol	ND	mg/kg	250	
2,4,5-Trichlorophenol	ND	mg/kg	1200	
2-Chloronaphthalene	ND	mg/kg	250	
2-Nitroaniline	ND	mg/kg	1200	
Dimethyl phthalate	ND	mg/kg	250	
Acenaphthylene	ND	mg/kg	250	
3-Nitroaniline	ND	mg/kg	1200	
Acenaphthene	ND	mg/kg	250	
2,4-Dinitrophenol	ND	mg/kg	1200	
4-Nitrophenol	ND	mg/kg	1200	
Dibenzofuran	ND	mg/kg	250	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Stacey Miller

Approved By: Faiza Botros

0068

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental
 Client ID: HB3-L OIL LAYER
 Lab ID: 028187-0009-SA
 Matrix: WASTE
 Authorized: 20 APR 93

Sampled: 17 APR 93
 Prepared: 13 MAY 93

Received: 20 APR 93
 Analyzed: 14 MAY 93

Parameter	Result	Units	Reporting Limit	
2,4-Dinitrotoluene	ND	mg/kg	250	
2,6-Dinitrotoluene	ND	mg/kg	250	
Diethyl phthalate	ND	mg/kg	250	
4-Chlorophenyl phenyl ether	ND	mg/kg	250	
Fluorene	110	mg/kg	250	J
4-Nitroaniline	ND	mg/kg	1200	
4,6-Dinitro- 2-methylphenol	ND	mg/kg	1200	
N-Nitrosodiphenylamine	ND	mg/kg	250	
4-Bromophenyl phenyl ether	ND	mg/kg	250	
Hexachlorobenzene	ND	mg/kg	250	
Pentachlorophenol	ND	mg/kg	1200	
Phenanthrene	180	mg/kg	250	J
Anthracene	29	mg/kg	250	J
Di-n-butyl phthalate	ND	mg/kg	250	
Fluoranthene	41	mg/kg	250	J
Pyrene	89	mg/kg	250	J
Butyl benzyl phthalate	ND	mg/kg	250	
3,3'-Dichlorobenzidine	ND	mg/kg	500	
Benzo(a)anthracene	45	mg/kg	250	J
bis(2-Ethylhexyl) phthalate	280	mg/kg	250	
Chrysene	46	mg/kg	250	J
Di-n-octyl phthalate	28	mg/kg	250	J
Benzo(b)fluoranthene	30	mg/kg	250	J
Benzo(k)fluoranthene	ND	mg/kg	250	
Benzo(a)pyrene	28	mg/kg	250	J
Indeno(1,2,3-cd)pyrene	ND	mg/kg	250	
Dibenz(a,h)anthracene	ND	mg/kg	250	
Benzo(g,h,i)perylene	33	mg/kg	250	J
Surrogate	Recovery			
Nitrobenzene-d5	.74	%		
2-Fluorobiphenyl	101	%		
Terphenyl-d14	126	%		
Phenol-d5	86	%		
2-Fluorophenol	82	%		
2,4,6-Tribromophenol	76	%		

(continued on following page)

0069

ND = Not detected
 NA = Not applicable

Reported By: Stacey Miller

Approved By: Faiza Botros

TCL Semivolatile Organics (CONT.)

Enseco
A Chemtec Company

Method 8270

Client Name: Cooper Environmental
Client ID: HB3-L OIL LAYER
Lab ID: 028187-0009-SA
Matrix: WASTE
Authorized: 20 APR 93

Sampled: 17 APR 93
Prepared: 13 MAY 93

Received: 20 APR 93
Analyzed: 14 MAY 93

Note u : All reporting limits raised due to high levels of target analytes.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected
NA = Not applicable

Reported By: Stacey Miller

Approved By: Faiza Botros

0070

Semivolatiles Library Search (20 Compound TID)

Method 8270

Client Name: Cooper Environmental

Client ID: HB3-L OIL LAYER

Lab ID: 028187-0009-SA

Matrix: WASTE

Authorized: 20 APR 93

Sampled: 17 APR 93

Prepared: NA

Received: 20 APR 93

Analyzed: 14 MAY 93

Parameter	Result	Units	Reporting Limit
Unknown	340	mg/kg	J
n-Propylbenzene	720	mg/kg	J
C-3 Benzene	580	mg/kg	J
C-3 Benzene	2000	mg/kg	J
C-3 Benzene	740	mg/kg	J
C-9 H-10 Isomer	600	mg/kg	J
C-4 Benzene	490	mg/kg	J
C-4 Benzene	1200	mg/kg	J
C-4 Benzene	410	mg/kg	J
Hydrocarbon	250	mg/kg	J
C-4 Benzene	450	mg/kg	J
C-4 Benzene	520	mg/kg	J
Methyl 2,3-dihydro 1 H Indene Isomer	350	mg/kg	J
Methyl 2,3-dihydro 1 H Indene Isomer	380	mg/kg	J
C-4 Benzene	340	mg/kg	J
C-5 Benzene	340	mg/kg	J
1-Methylnaphthalene	460	mg/kg	J
Hydrocarbon	440	mg/kg	J
Unknown	390	mg/kg	J
Hydrocarbon	410	mg/kg	J

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Faiza Botros

0071

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TREATED_TAP

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 28187-10-SA

Sample wt/vol: 1000 (g/mL) ML Lab File ID: H5395

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/22/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/24/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl) ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-di-n-propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
111-91-1-----	bis(2-Chloroethoxy) methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	25	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	25	U
131-11-3-----	Dimethylphthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U
99-09-2-----	3-Nitroaniline	25	U
83-32-9-----	Acenaphthene	10	U

0072

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TREATED_TAP

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 28187-10-SA

Sample wt/vol: 1000 (g/mL) ML Lab File ID: H5395

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/22/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/24/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND		
51-28-5-----	2,4-Dinitrophenol	25	U
100-02-7-----	4-Nitrophenol	25	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-01-6-----	4-Nitroaniline	25	U
534-52-1-----	4,6-Dinitro-2-methylphenol	25	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	25	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
86-74-8-----	Carbazole	10	U
84-74-2-----	Di-n-butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	10	U
56-55-3-----	Benzo(a)anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	10	U
117-84-0-----	Di-n-octylphthalate	10	U
205-99-2-----	Benzo(b)fluoranthene	10	U
207-08-9-----	Benzo(k)fluoranthene	10	U
50-32-8-----	Benzo(a)pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10	U
53-70-3-----	Dibenz(a,h)anthracene	10	U
191-24-2-----	Benzo(g,h,i)perylene	10	U

0073

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TREATED_TAP

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 28187-10-SA

Sample wt/vol: 1000 (g/mL) ML Lab File ID: H5395

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/22/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/24/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 3 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123422	2-PENTANONE, 4-HYDROXY-4-MET	6.22	27	JNB
2.	UNKNOWN	6.95	2	J
3.	UNKNOWN	11.09	7	J

0074

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB3-L WATER

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 28187-11-SA

Sample wt/vol: 250 (g/mL) ML Lab File ID: B9712

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/03/93

Injection Volume: 2.0 (uL) Dilution Factor: 50.0

GPC Cleanup: (Y/N) N pH: 9.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
108-95-2-----	Phenol	2000	U
111-44-4-----	bis(2-Chloroethyl) ether	2000	U
95-57-8-----	2-Chlorophenol	2000	U
541-73-1-----	1,3-Dichlorobenzene	2000	U
106-46-7-----	1,4-Dichlorobenzene	2000	U
95-50-1-----	1,2-Dichlorobenzene	2000	U
95-48-7-----	2-Methylphenol	2000	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	2000	U
106-44-5-----	4-Methylphenol	2000	U
621-64-7-----	N-Nitroso-di-n-propylamine	2000	U
67-72-1-----	Hexachloroethane	2000	U
98-95-3-----	Nitrobenzene	2000	U
78-59-1-----	Isophorone	2000	U
88-75-5-----	2-Nitrophenol	2000	U
105-67-9-----	2,4-Dimethylphenol	2000	U
111-91-1-----	bis(2-Chloroethoxy) methane	2000	U
120-83-2-----	2,4-Dichlorophenol	2000	U
120-82-1-----	1,2,4-Trichlorobenzene	2000	U
91-20-3-----	Naphthalene	2900	U
106-47-8-----	4-Chloroaniline	2000	U
87-68-3-----	Hexachlorobutadiene	2000	U
59-50-7-----	4-Chloro-3-methylphenol	2000	U
91-57-6-----	2-Methylnaphthalene	3100	U
77-47-4-----	Hexachlorocyclopentadiene	2000	U
88-06-2-----	2,4,6-Trichlorophenol	2000	U
95-95-4-----	2,4,5-Trichlorophenol	5000	U
91-58-7-----	2-Chloronaphthalene	2000	U
88-74-4-----	2-Nitroaniline	5000	U
131-11-3-----	Dimethylphthalate	2000	U
208-96-8-----	Acenaphthylene	2000	U
606-20-2-----	2,6-Dinitrotoluene	2000	U
99-09-2-----	3-Nitroaniline	5000	U
83-32-9-----	Acenaphthene	2000	U

0075

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB5-2_3DL

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 28187-04-DL

Sample wt/vol: 30.1 (g/mL) G Lab File ID: F2709

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: 22 decanted: (Y/N) N Date Extracted: 05/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/21/93

Injection Volume: 2.0 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 7.2

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

51-28-5-----	2,4-Dinitrophenol	10000	U
100-02-7-----	4-Nitrophenol	10000	U
132-64-9-----	Dibenzofuran	4200	U
121-14-2-----	2,4-Dinitrotoluene	4200	U
84-66-2-----	Diethylphthalate	4200	U
7005-72-3-----	4-Chlorophenyl-phenylether	4200	U
86-73-7-----	Fluorene	4200	U
100-01-6-----	4-Nitroaniline	10000	U
534-52-1-----	4,6-Dinitro-2-methylphenol	10000	U
86-30-6-----	N-Nitrosodiphenylamine (1)	4200	U
101-55-3-----	4-Bromophenyl-phenylether	4200	U
118-74-1-----	Hexachlorobenzene	4200	U
87-86-5-----	Pentachlorophenol	10000	U
85-01-8-----	Phenanthrene	470	DJ
120-12-7-----	Anthracene	4200	U
86-74-8-----	Carbazole	4200	U
84-74-2-----	Di-n-butylphthalate	4200	U
206-44-0-----	Fluoranthene	4200	U
129-00-0-----	Pyrene	4200	U
85-68-7-----	Butylbenzylphthalate	4200	U
91-94-1-----	3,3'-Dichlorobenzidine	4200	U
56-55-3-----	Benzo(a)anthracene	4200	U
218-01-9-----	Chrysene	4200	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	470	DJ
117-84-0-----	Di-n-octylphthalate	4200	U
205-99-2-----	Benzo(b)fluoranthene	4200	U
207-08-9-----	Benzo(k)fluoranthene	4200	U
50-32-8-----	Benzo(a)pyrene	4200	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	4200	U
53-70-3-----	Dibenz(a,h)anthracene	4200	U
191-24-2-----	Benzo(g,h,i)perylene	4200	U

(1) - Cannot be separated from Diphenylamine

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HB3-L_WATER

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 28187-11-SA

Sample wt/vol: 250 (g/mL) ML Lab File ID: B9712

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/03/93

Injection Volume: 2.0 (uL) Dilution Factor: 50.0

GPC Cleanup: (Y/N) N pH: 9.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
51-28-5-----	2,4-Dinitrophenol	5000	U
100-02-7-----	4-Nitrophenol	5000	U
132-64-9-----	Dibenzofuran	2000	U
121-14-2-----	2,4-Dinitrotoluene	2000	U
84-66-2-----	Diethylphthalate	2000	U
7005-72-3-----	4-Chlorophenyl-phenylether	2000	U
86-73-7-----	Fluorene	530	J
100-01-6-----	4-Nitroaniline	5000	U
534-52-1-----	4,6-Dinitro-2-methylphenol	5000	U
86-30-6-----	N-Nitrosodiphenylamine (1)	2000	U
101-55-3-----	4-Bromophenyl-phenylether	2000	U
118-74-1-----	Hexachlorobenzene	2000	U
87-86-5-----	Pentachlorophenol	5000	U
85-01-8-----	Phenanthrene	790	J
120-12-7-----	Anthracene	2000	U
86-74-8-----	Carbazole	2000	U
84-74-2-----	Di-n-butylphthalate	2000	U
206-44-0-----	Fluoranthene	2000	U
129-00-0-----	Pyrene	410	J
85-68-7-----	Butylbenzylphthalate	2000	U
91-94-1-----	3,3'-Dichlorobenzidine	2000	U
56-55-3-----	Benzo(a)anthracene	2000	U
218-01-9-----	Chrysene	2000	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	1100	J
117-84-0-----	Di-n-octylphthalate	2000	U
205-99-2-----	Benzo(b)fluoranthene	2000	U
207-08-9-----	Benzo(k)fluoranthene	2000	U
50-32-8-----	Benzo(a)pyrene	2000	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	2000	U
53-70-3-----	Dibenz(a,h)anthracene	2000	U
191-24-2-----	Benzo(g,h,i)perylene	220	J

(1) - Cannot be separated from Diphenylamine

0076

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HB3-L_WATER

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 28187-11-SA

Sample wt/vol: 250 (g/mL) ML Lab File ID: B9712

Level: (low/med) LOW Date Received: 04/20/93

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/03/93

Injection Volume: 2.0 (uL) Dilution Factor: 50.0

GPC Cleanup: (Y/N) N pH: 9.0

Number TICs found: 18 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 103651	BENZENE, PROPYL-	7.87	2300	JN
2.	C-3 BENZENE ISOMER	8.13	1900	J
3.	C-3 BENZENE ISOMER	8.45	2500	J
4.	C-3 BENZENE ISOMER	8.84	5200	J
5.	C-4 BENZENE ISOMER	10.27	4500	J
6.	C-4 BENZENE ISOMER	10.67	1900	J
7.	C-4 BENZENE ISOMER	10.87	4700	J
8.	HYDROCARBON	11.23	1500	J
9.	C-4 BENZENE ISOMER	11.56	1800	J
10.	C-4 BENZENE ISOMER	11.63	2100	J
11.	2,3-DIHYDROMETHYL 1H-INDENE	12.05	1500	J
12.	2,3-DIHYDROMETHYL 1H-INDENE	12.23	1800	J
13.	C-4 BENZENE ISOMER	12.28	1500	J
14.	C-5 BENZENE ISOMER	13.19	1500	J
15. 90120	NAPHTHALENE, 1-METHYL-	15.45	1900	JN
16.	DIMTHYL NAPHTHALENE ISOMER	17.13	1100	J
17.	HYDROCARBON	21.77	2200	J
18.	HYDROCARBON	24.37	1300	J

0077

Total Petroleum Hydrocarbons by IR

Client Name: Cooper Environmental
Client ID: HB2-4.5
Lab ID: 028187-0001-SA
Matrix: SOIL
Authorized: 20 APR 93

Sampled: 16 APR 93
Prepared: See Below

Received: 20 APR 93
Analyzed: See Below

Parameter	Result	Dry Weight Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	670	mg/kg	120	418.1	28 APR 93	29 APR 93 1

Note 1 : All results taken from a 1:5 dilution.

Percent Moisture is 18%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Richard Bozenbury

Approved By: Joe Dininno

Total Petroleum Hydrocarbons by IR

Client Name: Cooper Environmental

Client ID: HB3-3.0

Lab ID: 028187-0002-SA

Matrix: SOIL

Authorized: 20 APR 93

Sampled: 16 APR 93

Prepared: See Below

Received: 20 APR 93

Analyzed: See Below

Parameter	Result	Dry Weight Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	ND	mg/kg	27	418.1	28 APR 93	29 APR 93

Percent Moisture is 25%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

0079

Reported By: Richard Bozenbury

Approved By: Joe Dininno

Total Petroleum Hydrocarbons by IR

Client Name: Cooper Environmental
Client ID: HB4-2.5
Lab ID: 028187-0003-SA
Matrix: SOIL
Authorized: 20 APR 93

Sampled: 17 APR 93
Prepared: See Below

Received: 20 APR 93
Analyzed: See Below

Parameter	Result	Dry Weight Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	200	mg/kg	25	418.1	28 APR 93	29 APR 93

Percent Moisture is 19%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

0080

Reported By: Richard Bozenbury

Approved By: Joe Dininno

Total Petroleum Hydrocarbons by IR

Client Name: Cooper Environmental

Client ID: HB5-2.3

Lab ID: 028187-0004-SA

Matrix: SOIL

Authorized: 20 APR 93

Sampled: 17 APR 93

Prepared: See Below

Received: 20 APR 93

Analyzed: See Below

Parameter	Result	Dry Weight Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	1800	mg/kg	610	418.1	28 APR 93	29 APR 93 1

Note 1 : All results taken from a 1:25 dilution.

Percent Moisture is 19%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

0081

Reported By: Richard Bozenbury

Approved By: Joe Dininno

Total Petroleum Hydrocarbons by IR

Client Name: Cooper Environmental

Client ID: HB6-1.5

Lab ID: 028187-0005-SA

Matrix: SOIL

Authorized: 20 APR 93

Sampled: 18 APR 93

Prepared: See Below

Received: 20 APR 93

Analyzed: See Below

Parameter	Result	Dry Weight Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	170	mg/kg	23	418.1	28 APR 93	29 APR 93

Percent Moisture is 14%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

0082

Reported By: Richard Bozenbury

Approved By: Joe Dininno

Total Petroleum Hydrocarbons by IR

Client Name: Cooper Environmental

Client ID: HB7-1.25

Lab ID: 028187-0006-SA

Matrix: SOIL

Authorized: 20 APR 93

Sampled: 18 APR 93

Prepared: See Below

Received: 20 APR 93

Analyzed: See Below

Parameter	Result	Dry Weight Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	67	mg/kg	24	418.1	28 APR 93	29 APR 93

Percent Moisture is 15%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

0083

Reported By: Richard Bozenbury

Approved By: Joe Dininno

Total Petroleum Hydrocarbons by IR

Enseco
A Cuming Company

Client Name: Cooper Environmental
Client ID: HB8-2
Lab ID: 028187-0007-SA
Matrix: SOIL
Authorized: 20 APR 93

Sampled: 18 APR 93
Prepared: See Below

Received: 20 APR 93
Analyzed: See Below

Parameter	Result	Dry Weight Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	24	mg/kg	24	418.1	28 APR 93	29 APR 93

Percent Moisture is 15%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

0084

Reported By: Richard Bozenbury

Approved By: Joe Dininno

Total Petroleum Hydrocarbons by IR

Enseco
A Cushing Company

Client Name: Cooper Environmental
Client ID: HB10-S
Lab ID: 028187-0008-SA
Matrix: SOIL
Authorized: 20 APR 93

Sampled: 18 APR 93
Prepared: See Below

Received: 20 APR 93
Analyzed: See Below

Parameter	Result	Dry Weight Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	73	mg/kg	24	418.1	28 APR 93	29 APR 93

Percent Moisture is 16%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

0085

Reported By: Richard Bozenbury

Approved By: Joe Dininno

Total Petroleum Hydrocarbons by IR

Enseco
A Cummins Company

Client Name: Cooper Environmental
Client ID: HB3-L OIL LAYER
Lab ID: 028187-0009-SA
Matrix: WASTE
Authorized: 20 APR 93

Sampled: 17 APR 93
Prepared: See Below

Received: 20 APR 93
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	1200000	mg/kg	1000000	3550/418.1 Mod.	03 MAY 93	04 MAY 93 1

Note 1 : All results taken from a 1:1000 dilution.

ND = Not detected
NA = Not applicable

0086

Reported By: David Hricko

Approved By: Joe Dininno

Total Petroleum Hydrocarbons by IR

Client Name: Cooper Environmental
Client ID: TREATED TAP
Lab ID: 028187-0010-SA
Matrix: AQUEOUS
Authorized: 20 APR 93

Sampled: 18 APR 93
Prepared: See Below

Received: 20 APR 93
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	ND	mg/L	0.50	418.1	22 APR 93	23 APR 93

ND = Not detected
NA = Not applicable

0087

Reported By: Richard Bozenbury

Approved By: Neil Costanza

Total Petroleum Hydrocarbons by IR

Client Name: Cooper Environmental
Client ID: HB3-L WATER LAYER
Lab ID: 028187-0011-SA
Matrix: AQUEOUS
Authorized: 20 APR 93

Sampled: 17 APR 93
Prepared: See Below

Received: 20 APR 93
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	1900	mg/L	250	418.1	28 APR 93	29 APR 93 1R

Note 1 : All results taken from a 1:100 dilution.

Note R : Reporting limit changed due to sample volume limitations.

ND = Not detected
NA = Not applicable

0088

Reported By: Richard Bozenbury

Approved By: Joe Dininno

2B
SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Level: (low/med) LOW

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
	=====	=====	=====	=====	=====	=====
01	HB10-S	110	92	105	0	0
02	HB10-SRE	110	92	100	0	0
03	HB2-45	99	96	97	0	0
04	HB4-25	101	94	97	0	0
05	HB6-15	105	95	100	0	0
06	HB7-125	105	91	100	0	0
07	HB7-125DL	105	95	100	0	0
08	HB8-2	102	92	98	0	0
09	VLK01	99	102	97	0	0
10	VLK07	102	100	102	0	0

QC LIMITS

SMC1 (TOL) = Toluene-d8 (84-138)
 SMC2 (BFB) = Bromofluorobenzene (59-113)
 SMC3 (DCE) = 1,2-Dichloroethane-d4 (70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

0089

2B
SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Level: (low/med) MED

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
	=====	=====	=====	=====	=====	=====
01	HB3-30	95	102	99	0	0
02	HB3-L_OIL	94	96	93	0	0
03	HB3-L_OILDL	88	97	88	0	0
04	HB4-25DL	101	106	104	0	0
05	HB5-23	98	105	105	0	0
06	VLK02	101	103	104	0	0
07	VLK04	100	103	102	0	0
08	VLK06	99	101	103	0	0

QC LIMITS

SMC1 (TOL) = Toluene-d8 (84-138)
 SMC2 (BFB) = Bromofluorobenzene (59-113)
 SMC3 (DCE) = 1,2-Dichloroethane-d4 (70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

0090

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ENSECO-EAST Contract: _____
Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

	EPA SAMPLE NO. =====	SMC1 (TOL) # =====	SMC2 (BFB) # =====	SMC3 (DCE) # =====	OTHER =====	TOT OUT =====
01	HB3-L WATER	100	106	102	0	0
02	TREATED TAP	98	102	104	0	0
03	VBK03	100	105	102	0	0
04	VBK05	98	98	102	0	0

QC LIMITS

SMC1 (TOL) = Toluene-d8 (88-110)
SMC2 (BFB) = Bromofluorobenzene (86-115)
SMC3 (DCE) = 1,2-Dichloroethane-d4(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

0091

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 (2CP) #	S8 (DCB) #	TOT OUT
01	HB3-L WATER	60	22 *	32 *	45	41	47	59	46	2
02	TREATED TAP	59	56	64	58	60	60	56	56	0
03	SBLK02	55	49	60	52	55	57	51	54	0
04	SBLK01	59	56	75	52	52	79	55	57	0

QC LIMITS

S1 (NBZ) = Nitrobenzene-d5 (35-114)
 S2 (FBP) = 2-Fluorobiphenyl (43-116)
 S3 (TPH) = Terphenyl-d14 (33-141)
 S4 (PHL) = Phenol-d5 (10-110)
 S5 (2FP) = 2-Fluorophenol (21-110)
 S6 (TBP) = 2,4,6-Tribromophenol (10-123)
 S7 (2CP) = 2-Chlorophenol-d4 (33-110) (advisory)
 S8 (DCB) = 1,2-Dichlorobenzene-d4 (16-110) (advisory)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

0092

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 (2CP) #	S8 (DCB) #	TOT OUT
01	HB10-S	47	55	67	47	39	71	45	40	0
02	HB2-4_5	37	43	58	34	34	52	36	39	0
03	HB3-3_0	49	53	61	42	42	62	44	47	0
04	HB4-2_5	41	51	65	39	37	54	39	44	0
05	HB5-2_3	34	42	80	33	37	38	35	37	0
06	HB5-2_3DL	26	52	79	24	51	37	40	63	0
07	HB6-1_5	45	52	75	38	35	48	40	47	0
08	HB7-1_25	39	48	56	36	33	58	36	39	0
09	HB8-2	53	57	70	47	39	60	43	47	0
10	SBLK03	56	54	63	51	50	58	53	56	0
11	SBLK04	34	40	60	34	41	53	37	39	0

QC LIMITS

S1 (NBZ) = Nitrobenzene-d5 (23-120)
 S2 (FBP) = 2-Fluorobiphenyl (30-115)
 S3 (TPH) = Terphenyl-d14 (18-137)
 S4 (PHL) = Phenol-d5 (24-113)
 S5 (2FP) = 2-Fluorophenol (25-121)
 S6 (TBP) = 2,4,6-Tribromophenol (19-122)
 S7 (2CP) = 2-Chlorophenol-d4 (20-130) (advisory)
 S8 (DCB) = 1,2-Dichlorobenzene-d4 (20-130) (advisory)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

0093

Surrogate Recoveries
WASTE Method 8270

Client Name: Cooper Environmental

Enaeco Sample ID:		028187-0009-SA			
Client Sample ID:		HB3-L OIL LAYER			
QC Run Number:		13 MAY 93- V			
Analyte	Units	Surrogate Value	Footnote	Method Blank	Advisory QC Limits
Nitrobenzene-d5	X	74		87	23-120
2-Fluorobiphenyl	X	101		102	30-115
Terphenyl-d14	X	126		89	18-137
Phenol-d5	X	86		100	24-113
2-Fluorophenol	X	82		94	25-121
2,4,6-Tribromophenol	X	76		81	19-122

0094

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBK01

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Lab File ID: C4777 Lab Sample ID: MB 25APR93-A

Date Analyzed: 04/25/93 Time Analyzed: 1016

GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) Y

Instrument ID: HP-V3

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
	=====	=====	=====	=====
01	HB10-S	28187-08-SA	C4781	1246
02	HB2-45	28187-01-SA	C4785	1514
03	HB4-25	28187-03-SA	C4787	1628
04	HB6-15	28187-05-SA	C4778	1054
05	HB7-125	28187-06-SA	C4779	1131
06	HB8-2	28187-07-SA	C4780	1209

COMMENTS:

0095

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBK01

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: MB 25APR93-A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: C4777

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 04/25/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	10	U
67-64-1	-----Acetone	2	J
75-15-0	-----Carbon Disulfide	10	U
75-35-4	-----1,1-Dichloroethene	10	U
75-34-3	-----1,1-Dichloroethane	10	U
540-59-0	-----1,2-Dichloroethene (total)	10	U
67-66-3	-----Chloroform	10	U
107-06-2	-----1,2-Dichloroethane	10	U
78-93-3	-----2-Butanone	2	J
71-55-6	-----1,1,1-Trichloroethane	10	U
56-23-5	-----Carbon Tetrachloride	10	U
75-27-4	-----Bromodichloromethane	10	U
78-87-5	-----1,2-Dichloropropane	10	U
10061-01-5	-----cis-1,3-Dichloropropene	10	U
79-01-6	-----Trichloroethene	10	U
124-48-1	-----Dibromochloromethane	10	U
79-00-5	-----1,1,2-Trichloroethane	10	U
71-43-2	-----Benzene	10	U
10061-02-6	-----trans-1,3-Dichloropropene	10	U
75-25-2	-----Bromoform	10	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	10	U
79-34-5	-----1,1,2,2-Tetrachloroethane	10	U
108-88-3	-----Toluene	10	U
108-90-7	-----Chlorobenzene	10	U
100-41-4	-----Ethylbenzene	10	U
100-42-5	-----Styrene	10	U
1330-20-7	-----Xylene (total)	10	U

0095

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK01

Lab Name: ENSECO-EAST Contract: _____
Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: MB_25APR93-A
Sample wt/vol: 5.0 (g/mL) G Lab File ID: C4777
Level: (low/med) LOW Date Received: _____
% Moisture: not dec. _____ Date Analyzed: 04/25/93
GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

0097

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBK02

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Lab File ID: C4794 Lab Sample ID: MB 26APR93-A

Date Analyzed: 04/26/93 Time Analyzed: 1227

GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) N

Instrument ID: HP-V3

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	HB5-23	28187-04-SA	C4800	1612

COMMENTS:

0093

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK02

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28167 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: MB 26APR93-A

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C4794

Level: (low/med) MED Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 04/26/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg) <u>UG/L</u>	<u>Q</u>
74-87-3	-----Chloromethane	1200	U
74-83-9	-----Bromomethane	1200	U
75-01-4	-----Vinyl Chloride	1200	U
75-00-3	-----Chloroethane	1200	U
75-09-2	-----Methylene Chloride	1200	U
67-64-1	-----Acetone	1200	
75-15-0	-----Carbon Disulfide	1200	U
75-35-4	-----1,1-Dichloroethene	1200	U
75-34-3	-----1,1-Dichloroethane	1200	U
540-59-0	-----1,2-Dichloroethene (total)	1200	U
67-66-3	-----Chloroform	1200	U
107-06-2	-----1,2-Dichloroethane	1200	U
78-93-3	-----2-Butanone	1200	U
71-55-6	-----1,1,1-Trichloroethane	1200	U
56-23-5	-----Carbon Tetrachloride	1200	U
75-27-4	-----Bromodichloromethane	1200	U
78-87-5	-----1,2-Dichloropropane	1200	U
10061-01-5	-----cis-1,3-Dichloropropene	1200	U
79-01-6	-----Trichloroethene	1200	U
124-48-1	-----Dibromochloromethane	1200	U
79-00-5	-----1,1,2-Trichloroethane	1200	U
71-43-2	-----Benzene	1200	U
10061-02-6	-----trans-1,3-Dichloropropene	1200	U
75-25-2	-----Bromoform	1200	U
108-10-1	-----4-Methyl-2-Pentanone	1200	U
591-78-6	-----2-Hexanone	1200	U
127-18-4	-----Tetrachloroethene	1200	U
79-34-5	-----1,1,2,2-Tetrachloroethane	1200	U
108-88-3	-----Toluene	1200	U
108-90-7	-----Chlorobenzene	1200	U
100-41-4	-----Ethylbenzene	1200	U
100-42-5	-----Styrene	1200	U
1330-20-7	-----Xylene (total)	1200	U

0099

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK02

Lab Name: ENSECO-EAST

Contract: _____

Lab Code: EEAST

Case No.: 28187

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) SOIL

Lab Sample ID: MB 26APR93-A

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: C4794

Level: (low/med) MED

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/26/93

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100 (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

99A

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBK03

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Lab File ID: C4813 Lab Sample ID: MB-27APR93-A

Date Analyzed: 04/27/93 Time Analyzed: 1257

GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) N

Instrument ID: HP-V3

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	TREATED_TAP	28187-10-SA	C4827	2233

COMMENTS:

0100

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK03

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: MB-27APR93-A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C4813

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 04/27/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	10	U
67-64-1-----	Acetone	4	J
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

0101

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBK03

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: MB-27APR93-A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C4813

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 04/27/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	26.24	7	J

0102

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBK04

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Lab File ID: C4814 Lab Sample ID: MB 27APR93-B

Date Analyzed: 04/27/93 Time Analyzed: 1335

GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) N

Instrument ID: HP-V3

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	HB3-30	28187-02-SA	C4815	1413
02	HB3-L_OILDL	28187-09DL-SA	C4817	1543
03	HB4-25DL	28187-03DL-SA	C4816	1458

COMMENTS:

0103

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBK04

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: MB 27APR93-B

Sample wt/vol: 4.0 (g/mL) G Lab File ID: C4814

Level: (low/med) MED Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 04/27/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg) <u>UG/KG</u>	Q
74-87-3	Chloromethane	1200	U
74-83-9	Bromomethane	1200	U
75-01-4	Vinyl Chloride	1200	U
75-00-3	Chloroethane	1200	U
75-09-2	Methylene Chloride	1200	U
67-64-1	Acetone	580	J
75-15-0	Carbon Disulfide	1200	U
75-35-4	1,1-Dichloroethene	1200	U
75-34-3	1,1-Dichloroethane	1200	U
540-59-0	1,2-Dichloroethene (total)	1200	U
67-66-3	Chloroform	1200	U
107-06-2	1,2-Dichloroethane	1200	U
78-93-3	2-Butanone	1200	U
71-55-6	1,1,1-Trichloroethane	1200	U
56-23-5	Carbon Tetrachloride	1200	U
75-27-4	Bromodichloromethane	1200	U
78-87-5	1,2-Dichloropropane	1200	U
10061-01-5	cis-1,3-Dichloropropene	1200	U
79-01-6	Trichloroethene	1200	U
124-48-1	Dibromochloromethane	1200	U
79-00-5	1,1,2-Trichloroethane	1200	U
71-43-2	Benzene	1200	U
10061-02-6	trans-1,3-Dichloropropene	1200	U
75-25-2	Bromoform	1200	U
108-10-1	4-Methyl-2-Pentanone	1200	U
591-78-6	2-Hexanone	1200	U
127-18-4	Tetrachloroethene	1200	U
79-34-5	1,1,2,2-Tetrachloroethane	1200	U
108-88-3	Toluene	1200	U
108-90-7	Chlorobenzene	1200	U
100-41-4	Ethylbenzene	1200	U
100-42-5	Styrene	1200	U
1330-20-7	Xylene (total)	1200	U

0104

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBK04

Lab Name: ENSECO-EAST

Contract: _____

Lab Code: EEAST

Case No.: 28187

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) SOIL

Lab Sample ID: MB 27APR93-B

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: C4814

Level: (low/med) MED

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/27/93

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100 (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

0105

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK05

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Lab File ID: C4831 Lab Sample ID: MB 28APR93-A

Date Analyzed: 04/28/93 Time Analyzed: 1233

GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) N

Instrument ID: HP-V3

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	HB3-L_WATER	28187-11-SA	C4834	1425

COMMENTS:

0106

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK05

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: MB 28APR93-A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C4831

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 04/28/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	4	J
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

0107

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK05

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: MB 28APR93-A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C4831

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 04/28/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

0108

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK06

Lab Name: ENSECO-EAST Contract: _____
Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
Lab File ID: C4832 Lab Sample ID: MB 28APR93-B
Date Analyzed: 04/28/93 Time Analyzed: 1311
GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) N
Instrument ID: HP-V3

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	HB3-L_OIL	28187-09-SA	C4835	1503

COMMENTS:

0109

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBK06

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Matrix: (soil/water) SOIL Lab Sample ID: MB 28APR93-B
 Sample wt/vol: 4.0 (g/mL) G Lab File ID: C4832
 Level: (low/med) MED Date Received: _____
 % Moisture: not dec. _____ Date Analyzed: 04/28/93
 GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0
 Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

74-87-3	-----Chloromethane	1200	U
74-83-9	-----Bromomethane	1200	U
75-01-4	-----Vinyl Chloride	1200	U
75-00-3	-----Chloroethane	1200	U
75-09-2	-----Methylene Chloride	1200	U
67-64-1	-----Acetone	430	J
75-15-0	-----Carbon Disulfide	1200	U
75-35-4	-----1,1-Dichloroethene	1200	U
75-34-3	-----1,1-Dichloroethane	1200	U
540-59-0	-----1,2-Dichloroethene (total)	1200	U
67-66-3	-----Chloroform	1200	U
107-06-2	-----1,2-Dichloroethane	1200	U
78-93-3	-----2-Butanone	1200	U
71-55-6	-----1,1,1-Trichloroethane	1200	U
56-23-5	-----Carbon Tetrachloride	1200	U
75-27-4	-----Bromodichloromethane	1200	U
78-87-5	-----1,2-Dichloropropane	1200	U
10061-01-5	-----cis-1,3-Dichloropropene	1200	U
79-01-6	-----Trichloroethene	1200	U
124-48-1	-----Dibromochloromethane	1200	U
79-00-5	-----1,1,2-Trichloroethane	1200	U
71-43-2	-----Benzene	1200	U
10061-02-6	-----trans-1,3-Dichloropropene	1200	U
75-25-2	-----Bromoform	1200	U
108-10-1	-----4-Methyl-2-Pentanone	1200	U
591-78-6	-----2-Hexanone	1200	U
127-18-4	-----Tetrachloroethene	1200	U
79-34-5	-----1,1,2,2-Tetrachloroethane	1200	U
108-88-3	-----Toluene	1200	U
108-90-7	-----Chlorobenzene	1200	U
100-41-4	-----Ethylbenzene	1200	U
100-42-5	-----Styrene	1200	U
1330-20-7	-----Xylene (total)	1200	U

0110

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBK06

Lab Name: ENSECO-EAST Contract: _____
Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: MB 28APR93-B
Sample wt/vol: 4.0 (g/mL) G Lab File ID: C4832
Level: (low/med) MED Date Received: _____
% Moisture: not dec. _____ Date Analyzed: 04/28/93
GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0
Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

0111

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBK07

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Lab File ID: C4859 Lab Sample ID: MB 29APR93-C

Date Analyzed: 04/29/93 Time Analyzed: 1800

GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) Y

Instrument ID: HP-V3

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO. =====	LAB SAMPLE ID =====	LAB FILE ID =====	TIME ANALYZED =====
01	HB10-SRE	28187-08RE-SA	C4860	1837
02	HB7-125DL	28187-06DL-SA	C4864	2110

COMMENTS:

0112

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK07

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: MB 29APR93-C

Sample wt/vol: 5.0 (g/mL) G Lab File ID: C4859

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 04/29/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	Q
74-87-3	Chloromethane	10 U
74-83-9	Bromomethane	10 U
75-01-4	Vinyl Chloride	10 U
75-00-3	Chloroethane	10 U
75-09-2	Methylene Chloride	2 J
67-64-1	Acetone	9 J
75-15-0	Carbon Disulfide	10 U
75-35-4	1,1-Dichloroethene	10 U
75-34-3	1,1-Dichloroethane	10 U
540-59-0	1,2-Dichloroethene (total)	10 U
67-66-3	Chloroform	10 U
107-06-2	1,2-Dichloroethane	10 U
78-93-3	2-Butanone	2 J
71-55-6	1,1,1-Trichloroethane	1 J
56-23-5	Carbon Tetrachloride	10 U
75-27-4	Bromodichloromethane	10 U
78-87-5	1,2-Dichloropropane	10 U
10061-01-5	cis-1,3-Dichloropropene	10 U
79-01-6	Trichloroethene	10 U
124-48-1	Dibromochloromethane	10 U
79-00-5	1,1,2-Trichloroethane	10 U
71-43-2	Benzene	10 U
10061-02-6	trans-1,3-Dichloropropene	10 U
75-25-2	Bromoform	10 U
108-10-1	4-Methyl-2-Pentanone	10 U
591-78-6	2-Hexanone	10 U
127-18-4	Tetrachloroethene	10 U
79-34-5	1,1,2,2-Tetrachloroethane	10 U
108-88-3	Toluene	10 U
108-90-7	Chlorobenzene	10 U
100-41-4	Ethylbenzene	10 U
100-42-5	Styrene	10 U
1330-20-7	Xylene (total)	10 U

0113

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK07

Lab Name: ENSECO-EAST

Contract: _____

Lab Code: EEAST

Case No.: 28187

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) SOIL

Lab Sample ID: MB 29APR93-C

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: C4859

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/29/93

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	26.27	7	J

0114

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK01

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Lab File ID: B9706 Lab Sample ID: WMB-28APR93B

Instrument ID: HP-S1 Date Extracted: 04/28/93

Matrix: (soil/water) WATER Date Analyzed: 05/03/93

Level: (low/med) LOW Time Analyzed: 1622

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	HB3-L_WATER	28187-11-SA	B9712	05/03/93

COMMENTS:

0115

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK01

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: WMB-28APR93B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B9706

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/03/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 5.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl) ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-di-n-propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
111-91-1-----	bis(2-Chloroethoxy) methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	25	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	25	U
131-11-3-----	Dimethylphthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U
99-09-2-----	3-Nitroaniline	25	U
83-32-9-----	Acenaphthene	10	U

0116

FORM I SV-1

3/90

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK01

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: WMB-28APR93B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B9706

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/03/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 5.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

51-28-5-----	2,4-Dinitrophenol	25	U
100-02-7-----	4-Nitrophenol	25	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-01-6-----	4-Nitroaniline	25	U
534-52-1-----	4,6-Dinitro-2-methylphenol	25	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	25	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
86-74-8-----	Carbazole	10	U
84-74-2-----	Di-n-butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	10	U
56-55-3-----	Benzo(a)anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0-----	Di-n-octylphthalate	10	U
205-99-2-----	Benzo(b)fluoranthene	10	U
207-08-9-----	Benzo(k)fluoranthene	10	U
50-32-8-----	Benzo(a)pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10	U
53-70-3-----	Dibenz(a,h)anthracene	10	U
191-24-2-----	Benzo(g,h,i)perylene	10	U

0117

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK01

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: WMB-28APR93B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B9706

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/28/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/03/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 5.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

0118

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK02

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Lab File ID: H5404 Lab Sample ID: WMB-22APR93B

Instrument ID: HP-S6 Date Extracted: 04/22/93

Matrix: (soil/water) WATER Date Analyzed: 04/25/93

Level: (low/med) LOW Time Analyzed: 1231

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	TREATED_TAP	28187-10-SA	H5395	04/24/93

COMMENTS:

0119

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK02

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: WMB-22APR93B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: H5404

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/22/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/25/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 5.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl) ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-di-n-propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
111-91-1-----	bis(2-Chloroethoxy) methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	25	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	25	U
131-11-3-----	Dimethylphthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U
99-09-2-----	3-Nitroaniline	25	U
83-32-9-----	Acenaphthene	10	U

0120

FORM I SV-1

3/90

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK02

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: WMB-22APR93B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: H5404

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/22/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/25/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 5.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

51-28-5-----	2,4-Dinitrophenol	25	U
100-02-7-----	4-Nitrophenol	25	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-01-6-----	4-Nitroaniline	25	U
534-52-1-----	4,6-Dinitro-2-methylphenol	25	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	25	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
86-74-8-----	Carbazole	10	U
84-74-2-----	Di-n-butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	10	U
56-55-3-----	Benzo(a)anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	1	J
117-84-0-----	Di-n-octylphthalate	10	U
205-99-2-----	Benzo(b)fluoranthene	10	U
207-08-9-----	Benzo(k)fluoranthene	10	U
50-32-8-----	Benzo(a)pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10	U
53-70-3-----	Dibenz(a,h)anthracene	10	U
191-24-2-----	Benzo(g,h,i)perylene	10	U

0121

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK02

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: WMB-22APR93B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: H5404

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/22/93

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/25/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 5.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123422	2-PENTANONE, 4-HYDROXY-4-MET	6.20	23	JN

0122

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK03

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Lab File ID: B9715 Lab Sample ID: SMB-23APR93A

Instrument ID: HP-S1 Date Extracted: 04/23/93

Matrix: (soil/water) SOIL Date Analyzed: 05/04/93

Level: (low/med) LOW Time Analyzed: 1016

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	HB10-S	28187-08-SA	B9749	05/06/93
02	HB2-4_5	28187-01-SA	B9738	05/05/93
03	HB3-3_0	28187-02-SA	B9739	05/05/93
04	HB4-2_5	28187-03-SA	B9740	05/05/93
05	HB6-1_5	28187-05-SA	B9742	05/05/93
06	HB7-1_25	28187-06-SA	B9743	05/05/93
07	HB8-2	28187-07-SA	B9748	05/06/93

COMMENTS:

0123

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK03

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: SMB-23APR93A

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B9715

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/04/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

108-95-2-----	Phenol	330	U
111-44-4-----	bis(2-Chloroethyl) ether	330	U
95-57-8-----	2-Chlorophenol	330	U
541-73-1-----	1,3-Dichlorobenzene	330	U
106-46-7-----	1,4-Dichlorobenzene	330	U
95-50-1-----	1,2-Dichlorobenzene	330	U
95-48-7-----	2-Methylphenol	330	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5-----	4-Methylphenol	330	U
621-64-7-----	N-Nitroso-di-n-propylamine	330	U
67-72-1-----	Hexachloroethane	330	U
98-95-3-----	Nitrobenzene	330	U
78-59-1-----	Isophorone	330	U
88-75-5-----	2-Nitrophenol	330	U
105-67-9-----	2,4-Dimethylphenol	330	U
111-91-1-----	bis(2-Chloroethoxy) methane	330	U
120-83-2-----	2,4-Dichlorophenol	330	U
120-82-1-----	1,2,4-Trichlorobenzene	330	U
91-20-3-----	Naphthalene	330	U
106-47-8-----	4-Chloroaniline	330	U
87-68-3-----	Hexachlorobutadiene	330	U
59-50-7-----	4-Chloro-3-methylphenol	330	U
91-57-6-----	2-Methylnaphthalene	330	U
77-47-4-----	Hexachlorocyclopentadiene	330	U
88-06-2-----	2,4,6-Trichlorophenol	330	U
95-95-4-----	2,4,5-Trichlorophenol	800	U
91-58-7-----	2-Chloronaphthalene	330	U
88-74-4-----	2-Nitroaniline	800	U
131-11-3-----	Dimethylphthalate	330	U
208-96-8-----	Acenaphthylene	330	U
606-20-2-----	2,6-Dinitrotoluene	330	U
99-09-2-----	3-Nitroaniline	800	U
83-32-9-----	Acenaphthene	330	U

0124

FORM I SV-1

3/90

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK03

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: SMB-23APR93A

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B9715

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/04/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.

COMPOUND

Q

51-28-5-----	2,4-Dinitrophenol	800	U
100-02-7-----	4-Nitrophenol	800	U
132-64-9-----	Dibenzofuran	330	U
121-14-2-----	2,4-Dinitrotoluene	330	U
84-66-2-----	Diethylphthalate	330	U
7005-72-3-----	4-Chlorophenyl-phenylether	330	U
86-73-7-----	Fluorene	330	U
100-01-6-----	4-Nitroaniline	800	U
534-52-1-----	4,6-Dinitro-2-methylphenol	800	U
86-30-6-----	N-Nitrosodiphenylamine (1)	330	U
101-55-3-----	4-Bromophenyl-phenylether	330	U
118-74-1-----	Hexachlorobenzene	330	U
87-86-5-----	Pentachlorophenol	800	U
85-01-8-----	Phenanthrene	330	U
120-12-7-----	Anthracene	330	U
86-74-8-----	Carbazole	330	U
84-74-2-----	Di-n-butylphthalate	330	U
206-44-0-----	Fluoranthene	330	U
129-00-0-----	Pyrene	330	U
85-68-7-----	Butylbenzylphthalate	330	U
91-94-1-----	3,3'-Dichlorobenzidine	330	U
56-55-3-----	Benzo(a)anthracene	330	U
218-01-9-----	Chrysene	330	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	330	U
117-84-0-----	Di-n-octylphthalate	330	U
205-99-2-----	Benzo(b)fluoranthene	330	U
207-08-9-----	Benzo(k)fluoranthene	330	U
50-32-8-----	Benzo(a)pyrene	330	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	330	U
53-70-3-----	Dibenz(a,h)anthracene	330	U
191-24-2-----	Benzo(g,h,i)perylene	330	U

0125

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK03

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: SMB-23APR93A

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B9715

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Extracted: 04/23/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/04/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.51	12000	AJ
2. 100527	BENZALDEHYDE	8.23	110	J
3.	SUBSTITUTED HEXANEDIOIC ACID	30.44	67	J

0126

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK04

Lab Name: ENSECO-EAST Contract: _____
Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
Lab File ID: F2708 Lab Sample ID: SMB-18MAY93D
Instrument ID: HP-S4 Date Extracted: 05/18/93
Matrix: (soil/water) SOIL Date Analyzed: 05/21/93
Level: (low/med) LOW Time Analyzed: 1318

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	HB5-2_3	28187-04-SA	F2707	05/21/93
02	HB5-2_3DL	28187-04-DL	F2709	05/21/93

COMMENTS:

0127

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK04

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: SMB-18MAY93D

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F2708

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Extracted: 05/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/21/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl) ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy) methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	800	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	800	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	330	U

0128

FORM I SV-1

3/90

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK04

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: SMB-18MAY93D

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F2708

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Extracted: 05/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 05/21/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

51-28-5-----	2,4-Dinitrophenol	800	U
100-02-7-----	4-Nitrophenol	800	U
132-64-9-----	Dibenzofuran	330	U
121-14-2-----	2,4-Dinitrotoluene	330	U
84-66-2-----	Diethylphthalate	330	U
7005-72-3-----	4-Chlorophenyl-phenylether	330	U
86-73-7-----	Fluorene	330	U
100-01-6-----	4-Nitroaniline	800	U
534-52-1-----	4,6-Dinitro-2-methylphenol	800	U
86-30-6-----	N-Nitrosodiphenylamine (1)	330	U
101-55-3-----	4-Bromophenyl-phenylether	330	U
118-74-1-----	Hexachlorobenzene	330	U
87-86-5-----	Pentachlorophenol	800	U
85-01-8-----	Phenanthrene	330	U
120-12-7-----	Anthracene	330	U
86-74-8-----	Carbazole	330	U
84-74-2-----	Di-n-butylphthalate	330	U
206-44-0-----	Fluoranthene	330	U
129-00-0-----	Pyrene	330	U
85-68-7-----	Butylbenzylphthalate	330	U
91-94-1-----	3,3'-Dichlorobenzidine	330	U
56-55-3-----	Benzo(a)anthracene	330	U
218-01-9-----	Chrysene	330	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	330	U
117-84-0-----	Di-n-octylphthalate	330	U
205-99-2-----	Benzo(b)fluoranthene	330	U
207-08-9-----	Benzo(k)fluoranthene	330	U
50-32-8-----	Benzo(a)pyrene	330	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	330	U
53-70-3-----	Dibenz(a,h)anthracene	330	U
191-24-2-----	Benzo(g,h,i)perylene	330	U

0129

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK04

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL

Lab Sample ID: SMB-18MAY93D

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: F2708

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) N

Date Extracted: 05/18/93

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 05/21/93

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.79	200	J
2. 123422	2-PENTANONE, 4-HYDROXY-4-MET	6.95	4300	AJN

0130

FORM I SV-TIC

3/90

1117 004 0967

QC LOT ASSIGNMENT REPORT
UST - Dedicated Work-Cell Laboratory

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
028187-0001-SA	SOIL	TPH-IR-S	28 APR 93-A	28 APR 93-A
028187-0002-SA	SOIL	TPH-IR-S	28 APR 93-A	28 APR 93-A
028187-0003-SA	SOIL	TPH-IR-S	28 APR 93-A	28 APR 93-A
028187-0004-SA	SOIL	TPH-IR-S	28 APR 93-A	28 APR 93-A
028187-0005-SA	SOIL	TPH-IR-S	28 APR 93-A	28 APR 93-A
028187-0006-SA	SOIL	TPH-IR-S	28 APR 93-A	28 APR 93-A
028187-0007-SA	SOIL	TPH-IR-S	28 APR 93-A	28 APR 93-A
028187-0008-SA	SOIL	TPH-IR-S	28 APR 93-A	28 APR 93-A
028187-0009-SA	WASTE	TPH-IR-W	03 MAY 93-C	03 MAY 93-C
028187-0010-SA	AQUEOUS	TPH-IR-A	26 MAR 93-A	22 APR 93-A
028187-0011-SA	AQUEOUS	TPH-IR-A	28 APR 93-A	28 APR 93-B

0131

DUPLICATE CONTROL SAMPLE REPORT
UST - Dedicated Work-Cell Laboratory

Analyte	Spiked	Concentration		AVG	Accuracy		Precision
		DCS1	Measured DCS2		Average(%)	(RPD)	
					DCS	Limits	DCS Li

Category: TPH-IR-S
Matrix: SOIL
QC Lot: 28 APR 93-A
Concentration Units: mg/kg

Total Petroleum Hydrocarbons	50	49.7	51.6	50.6	101	75-125	3.8

Category: TPH-IR-W
Matrix: WASTE
QC Lot: 03 MAY 93-C
Concentration Units: mg/kg

Total Petroleum Hydrocarbons	2500	2460	2900	2680	107	75-125	16

Category: TPH-IR-A
Matrix: AQUEOUS
QC Lot: 26 MAR 93-A
Concentration Units: mg/L

Total Petroleum Hydrocarbons	5.0	4.4	4.6	4.5	90	75-125	4.4

Category: TPH-IR-A
Matrix: AQUEOUS
QC Lot: 28 APR 93-A
Concentration Units: mg/L

Total Petroleum Hydrocarbons	5.0	4.8	4.7	4.8	95	75-125	2.1

Calculations are performed before rounding to avoid round-off errors in calculated results

0132

METHOD BLANK REPORT
UST - Dedicated Work-Cell Laboratory

Analyte	Result	Units	Reporting Limit
Test: TPH-IR-SOX-S Matrix: SOIL QC Lot: 28 APR 93-A QC Run: 28 APR 93-A			
Total Petroleum Hydrocarbons	ND	mg/kg	20
Test: TPH-IR-W Matrix: WASTE QC Lot: 03 MAY 93-C QC Run: 03 MAY 93-C			
Total Petroleum Hydrocarbons	ND	mg/kg	1000
Test: TPH-IR-LAB-CHRON-A Matrix: AQUEOUS QC Lot: 26 MAR 93-A QC Run: 22 APR 93-A			
Total Petroleum Hydrocarbons	ND	mg/L	0.50
Test: TPH-IR-LAB-CHRON-A Matrix: AQUEOUS QC Lot: 28 APR 93-A QC Run: 28 APR 93-B			
Total Petroleum Hydrocarbons	ND	mg/L	0.50

0133

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____

Lab File ID (Standard): C4776 Date Analyzed: 04/25/93

Instrument ID: HP-V3 Time Analyzed: 0939

GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) Y

	IS1(BCM)	RT	IS2(DFB)	RT	IS3(CBZ)	RT
	AREA #	#	AREA #	#	AREA #	#
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	75477	7.70	340956	9.50	286316	17.24
UPPER LIMIT	150954	8.20	681912	10.00	572632	17.74
LOWER LIMIT	37738	7.20	170478	9.00	143158	16.74
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 HB10-S	38545	7.73	160344 *	9.51	112139 *	17.28
02 HB2-45	75982	7.72	350722	9.50	283982	17.25
03 HB4-25	85117	7.72	386090	9.51	309685	17.27
04 HB6-15	68287	7.72	302809	9.52	239577	17.28
05 HB7-125	51626	7.72	227857	9.52	176014	17.27
06 HB8-2	86847	7.71	383607	9.51	303817	17.27
07 VBLK01	76141	7.72	342222	9.50	286908	17.27

IS1 (BCM) = Bromochloromethane
 IS2 (DFB) = 1,4-Difluorobenzene
 IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = +0.50 minutes of internal standard RT.
 RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.
 * Values outside of QC limits.

0134

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): C4792 Date Analyzed: 04/26/93
 Instrument ID: HP-V3 Time Analyzed: 1106
 GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) N

	IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	95999	7.73	436437	9.51	356783	17.26
UPPER LIMIT	191998	8.23	872874	10.01	713566	17.76
LOWER LIMIT	48000	7.23	218218	9.01	178392	16.76
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 HB5-23	86505	7.71	399654	9.52	343188	17.26
02 VBLK02	90438	7.74	406269	9.52	345181	17.26

IS1 (BCM) = Bromochloromethane
 IS2 (DFB) = 1,4-Difluorobenzene
 IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = +0.50 minutes of internal standard RT.
 RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.
 * Values outside of QC limits.

0135

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): C4811 Date Analyzed: 04/27/93
 Instrument ID: HP-V3 Time Analyzed: 1142
 GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) N

	IS1 (BCM) AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (CBZ) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	97826	7.71	447429	9.51	372350	17.26
UPPER LIMIT	195652	8.21	894858	10.01	744700	17.76
LOWER LIMIT	48913	7.21	223714	9.01	186175	16.76
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 HB3-3.0	82992	7.72	393071	9.52	336542	17.28
02 HB3-L_OILDL	80256	7.71	373134	9.50	309421	17.27
03 HB4-25DL	84222	7.71	392416	9.51	333183	17.27
04 TREATED_TAP	87555	7.72	403567	9.52	347387	17.28
05 VBLK03	88021	7.72	393765	9.50	341100	17.26
06 VBLK04	87350	7.72	395028	9.50	337017	17.25

IS1 (BCM) = Bromochloromethane
 IS2 (DFB) = 1,4-Difluorobenzene
 IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = +0.50 minutes of internal standard RT.
 RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.
 * Values outside of QC limits.

0136

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): C4829 Date Analyzed: 04/28/93
 Instrument ID: HP-V3 Time Analyzed: 1118
 GC Column: CAP ID: 0.530 (mm) Heated Purge: (Y/N) N

	IS1 (BCM)	RT	IS2 (DFB)	RT	IS3 (CBZ)	RT
	AREA #	#	AREA #	#	AREA #	#
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	94595	7.71	426010	9.51	355879	17.26
UPPER LIMIT	189190	8.21	852020	10.01	711758	17.76
LOWER LIMIT	47298	7.21	213005	9.01	177940	16.76
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 HB3-L_OIL	82070	7.73	391026	9.52	314284	17.25
02 HB3-L_WATER	88183	7.74	401510	9.53	344465	17.26
03 VBLK05	87549	7.72	403330	9.52	348556	17.26
04 VBLK06	87548	7.73	406220	9.53	346932	17.26

IS1 (BCM) = Bromochloromethane
 IS2 (DFB) = 1,4-Difluorobenzene
 IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = +0.50 minutes of internal standard RT.
 RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.
 * Values outside of QC limits.

0137

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): C4856 Date Analyzed: 04/29/93
 Instrument ID: HP-V3 Time Analyzed: 1608
 GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) Y

	IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	58475	7.71	274041	9.51	229712	17.28
UPPER LIMIT	116950	8.21	548082	10.01	459424	17.78
LOWER LIMIT	29238	7.21	137020	9.01	114856	16.78
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 HB10-SRE	34449	7.71	147948	9.51	107759 *	17.28
02 HB7-125DL	55972	7.71	251332	9.52	202733	17.29
03 VBLK07	52410	7.72	246013	9.50	213369	17.28

IS1 (BCM) = Bromochloromethane
 IS2 (DFB) = 1,4-Difluorobenzene
 IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = +0.50 minutes of internal standard RT.
 RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.
 * Values outside of QC limits.

0138

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): B9704 Date Analyzed: 05/03/93
 Instrument ID: HP-S1 Time Analyzed: 1416

	IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
12 HOUR STD	5057	9.28	20271	12.96	14163	18.37
UPPER LIMIT	10114	9.78	40542	13.46	28326	18.87
LOWER LIMIT	2528	8.78	10136	12.46	7082	17.87
EPA SAMPLE NO.						
01 HB3-L WATER	6812	9.27	26464	12.95	19230	18.37
02 SBLK01	5273	9.27	17408	12.94	12372	18.36

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

0139

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): B9704 Date Analyzed: 05/03/93
 Instrument ID: HP-S1 Time Analyzed: 1416

	IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
12 HOUR STD	24647	23.00	25032	31.33	27409	35.46
UPPER LIMIT	49294	23.50	50064	31.83	54818	35.96
LOWER LIMIT	12324	22.50	12516	30.83	13704	34.96
EPA SAMPLE NO.						
01 HB3-L WATER	30028	23.01	20262	31.40	21354	35.52
02 SBLK01	25080	22.98	26504	31.29	30390	35.43

IS4 (PHN) = Phenanthrene-d10
 IS5 (CRY) = Chrysene-d12
 IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = +0.50 minutes of internal standard RT.
 RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.
 * Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): B9714 Date Analyzed: 05/04/93
 Instrument ID: HP-S1 Time Analyzed: 0914

	IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
12 HOUR STD	5273	9.36	23091	13.05	17639	18.48
UPPER LIMIT	10546	9.86	46182	13.55	35278	18.98
LOWER LIMIT	2636	8.86	11546	12.55	8820	17.98
EPA SAMPLE NO.						
01 SBLK03	5841	9.38	22850	13.06	17478	18.48

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

0141

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): B9714 Date Analyzed: 05/04/93
 Instrument ID: HP-S1 Time Analyzed: 0914

	IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
12 HOUR STD	31741	23.12	35868	31.47	40113	35.60
UPPER LIMIT	63482	23.62	71736	31.97	80226	36.10
LOWER LIMIT	15870	22.62	17934	30.97	20056	35.10
EPA SAMPLE NO.						
01 SBLK03	31944	23.13	41510	31.46	51103	35.61

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

0142

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): B9731 Date Analyzed: 05/05/93
 Instrument ID: HP-S1 Time Analyzed: 0829

	IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	37392	23.14	43202	31.50	46052	35.63
UPPER LIMIT	74784	23.64	86404	32.00	92104	36.13
LOWER LIMIT	18696	22.64	21601	31.00	23026	35.13
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 HB2-4_5	52730	23.15	45258	31.56	52501	35.69
02 HB3-3_0	58730	23.15	63525	31.51	63137	35.66
03 HB4-2_5	56333	23.15	50168	31.54	54504	35.67
04 HB6-1_5	58392	23.16	45933	31.58	43145	35.74
05 HB7-1_25	59817	23.14	69547	31.50	66882	35.64

IS4 (PHN) = Phenanthrene-d10
 IS5 (CRY) = Chrysene-d12
 IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = +0.50 minutes of internal standard RT.
 RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.
 * Values outside of QC limits.

0143

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): B9731 Date Analyzed: 05/05/93
 Instrument ID: HP-S1 Time Analyzed: 0829

	IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
12 HOUR STD	6629	9.38	27288	13.07	21035	18.50
UPPER LIMIT	13258	9.88	54576	13.57	42070	19.00
LOWER LIMIT	3314	8.88	13644	12.57	10518	18.00
EPA SAMPLE NO.						
01 HB2-4_5	10896	9.38	39597	13.06	30372	18.50
02 HB3-3_0	10969	9.40	39125	13.08	30771	18.51
03 HB4-2_5	11216	9.38	42488	13.07	31573	18.50
04 HB6-1_5	12176	9.40	44321	13.09	33866	18.52
05 HB7-1_25	11499	9.39	41664	13.07	31436	18.50

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

0144

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): B9746 Date Analyzed: 05/06/93
 Instrument ID: HP-S1 Time Analyzed: 0909

	IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	8701	9.38	34657	13.08	25994	18.50
UPPER LIMIT	17402	9.88	69314	13.58	51988	19.00
LOWER LIMIT	4350	8.88	17328	12.58	12997	18.00
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 HB10-S	11003	9.39	36957	13.07	28760	18.51
02 HB8-2	13061	9.41	46516	13.08	36466	18.51

IS1 (DCB) = 1,4-Dichlorobenzene-d4
 IS2 (NPT) = Naphthalene-d8
 IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = +0.50 minutes of internal standard RT.
 RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.
 * Values outside of QC limits.

0145

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): B9746 Date Analyzed: 05/06/93
 Instrument ID: HP-S1 Time Analyzed: 0909

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	46794	23.15	51157	31.51	54024	35.65
	UPPER LIMIT	93588	23.65	102314	32.01	108048	36.15
	LOWER LIMIT	23397	22.65	25578	31.01	27012	35.15
	EPA SAMPLE NO.						
01	HB10-S	53641	23.15	54660	31.51	35079	35.65
02	HB8-2	71284	23.16	74857	31.53	58110	35.67

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

0146

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): H5384 Date Analyzed: 04/24/93
 Instrument ID: HP-S6 Time Analyzed: 0704

	IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
12 HOUR STD	540972	10.37	2365285	14.12	1431785	19.62
UPPER LIMIT	1081944	10.87	4730570	14.62	2863570	20.12
LOWER LIMIT	270486	9.87	1182642	13.62	715892	19.12
EPA SAMPLE NO.						
01 TREATED_TAP	598913	10.37	2510947	14.10	1543664	19.61

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

0147

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): H5384 Date Analyzed: 04/24/93
 Instrument ID: HP-S6 Time Analyzed: 0704

	IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
12 HOUR STD	2533360	24.32	2607767	32.75	3620244	36.89
UPPER LIMIT	5066720	24.82	5215534	33.25	7240488	37.39
LOWER LIMIT	1266680	23.82	1303884	32.25	1810122	36.39
EPA SAMPLE NO.						
01 TREATED_TAP	2631195	24.31	3183022	32.72	3826446	36.89

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

0148

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): H5403 Date Analyzed: 04/25/93
 Instrument ID: HP-S6 Time Analyzed: 1121

	IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	794213	10.37	3310486	14.12	2195832	19.62
UPPER LIMIT	1588426	10.87	6620972	14.62	4391664	20.12
LOWER LIMIT	397106	9.87	1655243	13.62	1097916	19.12
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 SBLK02	824631	10.37	3402121	14.12	2279115	19.63

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

0149

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): H5403 Date Analyzed: 04/25/93
 Instrument ID: HP-S6 Time Analyzed: 1121

	IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
12 HOUR STD	3941418	24.33	4532705	32.75	6168898	36.90
UPPER LIMIT	7882836	24.83	9065410	33.25	12337796	37.40
LOWER LIMIT	1970709	23.83	2266352	32.25	3084449	36.40
EPA SAMPLE NO.						
01 SBLK02	4081400	24.33	5173104	32.73	6560722	36.89

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

0150

88
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ENSECO EAST

Contract: _____

Lab Code: _____ Case No: _____ SAS no: _____ SDG no: _____

Lab File ID (Standard): >P2689::D5

Date Analyzed: 05/14/93

Instrument ID: HP-S2

Time Analyzed: 10:17

	IS1(DCB)	RT	IS2(NPT)	RT	IS3(ANT)	RT
	AREA #		AREA #		AREA #	
12 Hour Std	10119	9.99	39295	13.72	24400	19.19
UPPER LIMIT	20238		78590		48800	
LOWER LIMIT	5060		19648		12200	
EPA SAMPLE						
NO						
1 SMB-13MAY93W	8656	10.00	32300	13.71	21243	19.19
2 SMS-13MAY93W	9251	10.02	34653	13.74	22453	19.22
3 SSD-13MAY93W	8168	9.99	31315	13.71	20513	19.19
4 28187-09-SA	9622	10.02	35592	13.74	23815	19.22

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d8

UPPER LIMIT = +100% of
internal standard area.
LOWER LIMIT = -50% of
internal standard area.

Column used to flag internal standard area values with an asterisk

8C
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ENSECO EAST

Contract: _____

Lab Code: _____ Case No: _____ SAS no: _____ SUG no: _____

Lab File ID (Standard): >P2689::05

Date Analyzed: 05/14/93

Instrument ID: HP-S2

Time Analyzed: 10:17

	IS4(PHN)		IS5(CRY)		IS6(PRY)	
	AREA #	RT	AREA #	RT	AREA #	RT
12 Hour Std	43768	23.87	41191	32.26	51090	36.42
UPPER LIMIT	87536		82382		102180	
LOWER LIMIT	21884		20596		25545	
EPA SAMPLE						
NO						
1 ISMB-13MAY93W	34708	23.86	37068	32.23	40683	36.39
2 ISMS-13MAY93W	37542	23.91	39703	32.27	43539	36.44
3 ISSD-13MAY93W	33095	23.87	33818	32.23	36529	36.40
4 I28187-09-SA	38319	23.91	31340	32.34	32062	36.52

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

UPPER LIMIT = +100% of
internal standard area.

LOWER LIMIT = -50% of
internal standard area.

Column used to flag internal standard area values with an asterisk

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): F2704 Date Analyzed: 05/21/93
 Instrument ID: HP-S4 Time Analyzed: 0921

	IS1 (DCB)	RT	IS2 (NPT)	RT	IS3 (ANT)	RT
	AREA #	#	AREA #	#	AREA #	#
12 HOUR STD	9609	11.07	34542	14.87	22659	20.42
UPPER LIMIT	19218	11.57	69084	15.37	45318	20.92
LOWER LIMIT	4804	10.57	17271	14.37	11330	19.92
EPA SAMPLE NO.						
01 HB5-2_3	12078	11.07	41042	14.86	26901	20.40
02 HB5-2_3DL	8004	11.07	28260	14.86	20023	20.40
03 SBLK04	10021	11.07	34218	14.85	23908	20.40

IS1 (DCB) = 1,4-Dichlorobenzene-d4
 IS2 (NPT) = Naphthalene-d8
 IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = +0.50 minutes of internal standard RT.
 RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.
 * Values outside of QC limits.

0153

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO-EAST Contract: _____
 Lab Code: EEAST Case No.: 28187 SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): F2704 Date Analyzed: 05/21/93
 Instrument ID: HP-S4 Time Analyzed: 0921

	IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	41325	25.17	42494	33.64	55789	37.82
UPPER LIMIT	82650	25.67	84988	34.14	111578	38.32
LOWER LIMIT	20662	24.66	21247	33.14	27894	37.32
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 HB5-2_3	40075	25.17	15990 *	33.73	20753 *	37.97
02 HB5-2_3DL	35487	25.15	35590	33.61	42723	37.82
03 SBLK04	43315	25.15	47957	33.60	37225	37.79

IS4 (PHN) = Phenanthrene-d10
 IS5 (CRY) = Chrysene-d12
 IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = +0.50 minutes of internal standard RT.
 RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.
 * Values outside of QC limits.

Total Petroleum Hydrocarbons by IR

Client Name: Cooper Environmental
Client ID: HB2-4.5
Lab ID: 028187-0001-SA
Matrix: SOIL
Authorized: 20 APR 93

Sampled: 16 APR 93
Prepared: See Below

Received: 20 APR 93
Analyzed: See Below

Parameter	Result	Dry Weight Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	670	mg/kg	120	418.1	28 APR 93	29 APR 93 1

Note 1 : All results taken from a 1:5 dilution.

Percent Moisture is 18%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

0155-

Reported By: Richard Bozenbury

Approved By: Joe Dininno

Total Petroleum Hydrocarbons by IR

Client Name: Cooper Environmental

Client ID: HB3-3.0

Lab ID: 028187-0002-SA

Matrix: SOIL

Authorized: 20 APR 93

Sampled: 16 APR 93

Prepared: See Below

Received: 20 APR 93

Analyzed: See Below

Parameter	Result	Dry Weight Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	ND	mg/kg	27	418.1	28 APR 93	29 APR 93

Percent Moisture is 25%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

Reported By: Richard Bozenbury

Approved By: Joe Dininno

0156

Total Petroleum Hydrocarbons by IR

Client Name: Cooper Environmental
Client ID: HB4-2.5
Lab ID: 028187-0003-SA
Matrix: SOIL
Authorized: 20 APR 93

Sampled: 17 APR 93
Prepared: See Below

Received: 20 APR 93
Analyzed: See Below

Parameter	Result	Dry Weight Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	200	mg/kg	25	418.1	28 APR 93	29 APR 93

Percent Moisture is 19%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

0157

Reported By: Richard Bozenbury

Approved By: Joe Dininno

Total Petroleum Hydrocarbons by IR

Client Name: Cooper Environmental

Client ID: HB5-2.3

Lab ID: 028187-0004-SA

Matrix: SOIL

Authorized: 20 APR 93

Sampled: 17 APR 93

Prepared: See Below

Received: 20 APR 93

Analyzed: See Below

Parameter	Result	Dry Weight Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	1800	mg/kg	610	418.1	28 APR 93	29 APR 93 1

Note 1 : All results taken from a 1:25 dilution.

Percent Moisture is 19%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

0158

Reported By: Richard Bozenbury

Approved By: Joe Dininno

Total Petroleum Hydrocarbons by IR

Enseco
A Cummins Company

Client Name: Cooper Environmental

Client ID: HB6-1.5

Lab ID: 028187-0005-SA

Matrix: SOIL

Authorized: 20 APR 93

Sampled: 18 APR 93

Prepared: See Below

Received: 20 APR 93

Analyzed: See Below

Parameter	Result	Dry Weight Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	170	mg/kg	23	418.1	28 APR 93	29 APR 93

Percent Moisture is 14%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

Reported By: Richard Bozenbury

Approved By: Joe Dininno

0150

Total Petroleum Hydrocarbons by IR

Client Name: Cooper Environmental

Client ID: HB7-1.25

Lab ID: 028187-0006-SA

Matrix: SOIL

Authorized: 20 APR 93

Sampled: 18 APR 93

Prepared: See Below

Received: 20 APR 93

Analyzed: See Below

Parameter	Result	Dry Weight Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	67	mg/kg	24	418.1	28 APR 93	29 APR 93

Percent Moisture is 15%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

Reported By: Richard Bozenbury

Approved By: Joe Dininno

0160

Total Petroleum Hydrocarbons by IR

Client Name: Cooper Environmental

Client ID: HB8-2

Lab ID: 028187-0007-SA

Matrix: SOIL

Authorized: 20 APR 93

Sampled: 18 APR 93

Prepared: See Below

Received: 20 APR 93

Analyzed: See Below

Parameter	Result	Dry Weight Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	24	mg/kg	24	418.1	28 APR 93	29 APR 93

Percent Moisture is 15%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

Reported By: Richard Bozenbury

Approved By: Joe Dininno

0161

Total Petroleum Hydrocarbons by IR

Enseco
A Cuming Company

Client Name: Cooper Environmental

Client ID: HB10-S

Lab ID: 028187-0008-SA

Matrix: SOIL

Authorized: 20 APR 93

Sampled: 18 APR 93

Prepared: See Below

Received: 20 APR 93

Analyzed: See Below

Parameter	Result	Dry Weight Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	73	mg/kg	24	418.1	28 APR 93	29 APR 93

Percent Moisture is 16%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

Reported By: Richard Bozenbury

Approved By: Joe Dininno

0162

Total Petroleum Hydrocarbons by IR

Client Name: Cooper Environmental

Client ID: HB3-L OIL LAYER

Lab ID: 028187-0009-SA

Matrix: WASTE

Authorized: 20 APR 93

Sampled: 17 APR 93

Prepared: See Below

Received: 20 APR 93

Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	1200000	mg/kg	1000000	3550/418.1 Mod.	03 MAY 93	04 MAY 93

Note 1 : All results taken from a 1:1000 dilution.

ND = Not detected

NA = Not applicable

Reported By: David Hricko

Approved By: Joe Dininno

0163

Total Petroleum Hydrocarbons by IR

Client Name: Cooper Environmental
Client ID: TREATED TAP
Lab ID: 028187-0010-SA
Matrix: AQUEOUS
Authorized: 20 APR 93

Sampled: 18 APR 93
Prepared: See Below

Received: 20 APR 93
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	ND	mg/L	0.50	418.1	22 APR 93	23 APR 93

ND = Not detected
NA = Not applicable

Reported By: Richard Bozenbury

Approved By: Neil Costanza

0164

Total Petroleum Hydrocarbons by IR

Client Name: Cooper Environmental
Client ID: HB3-L WATER LAYER
Lab ID: 028187-0011-SA
Matrix: AQUEOUS
Authorized: 20 APR 93

Sampled: 17 APR 93
Prepared: See Below

Received: 20 APR 93
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Total Petroleum Hydrocarbons	1900	mg/L	250	418.1	28 APR 93	29 APR 93 1R

Note 1 : All results taken from a 1:100 dilution.

Note R : Reporting limit changed due to sample volume limitations.

ND = Not detected
NA = Not applicable

0165

Reported By: Richard Bozenbury

Approved By: Joe Dininno

APPENDIX IV
Laboratory Results
July 1 through 5, 1993 Sampling Event



Summary Result Package
for Cooper Environmental
Enseco-East Project No. 029182

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3. Semivolatile Organic Datasheets
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 - b. DCS - Duplicate Control Sample
 - c. Method Blank

Appendix

SAMPLE DESCRIPTION INFORMATION
for
Cooper Environmental

Lab ID	Client ID	Matrix	Sampled Date	Time	Received Date
029182-0001-SA	SAMPLE 1	WASTE	02 JUL 93	10:20	03 JUL 93
029182-0002-SA	SAMPLE 2	WASTE	02 JUL 93	10:45	03 JUL 93
029182-0003-SA	SAMPLE 3	WASTE	02 JUL 93	11:10	03 JUL 93
029182-0004-SA	SAMPLE 4	WASTE	02 JUL 93	12:20	03 JUL 93
029182-0005-SA	SB-1	SOIL	02 JUL 93	08:50	03 JUL 93
029182-0006-SA	SB-3	SOIL	02 JUL 93	09:55	03 JUL 93
029182-0007-SA	SB-4	SOIL	02 JUL 93	10:40	03 JUL 93
029182-0008-SA	SB-5	SOIL	02 JUL 93	11:05	03 JUL 93
029182-0009-SA	SB-9	SOIL	02 JUL 93	13:15	03 JUL 93
029182-0010-SA	SB-10	SOIL	02 JUL 93	13:00	03 JUL 93
029182-0011-SA	SB-11	SOIL	02 JUL 93	13:53	03 JUL 93
029182-0012-SA	SB-12	SOIL	02 JUL 93	14:10	03 JUL 93
029182-0013-FB	FIELD BLANK	AQUEOUS	02 JUL 93	11:50	03 JUL 93

0001

TCL Volatile Organics

Method 8240

Client Name: Cooper Environmental

Client ID: SAMPLE 1

Lab ID: 029182-0001-SA

Matrix: WASTE

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 13 JUL 93

Received: 03 JUL 93

Analyzed: 13 JUL 93

Parameter	Result	Units	Reporting Limit	
Chloromethane	ND	mg/kg	50	u
Bromomethane	ND	mg/kg	50	
Vinyl Chloride	ND	mg/kg	50	
Chloroethane	ND	mg/kg	50	
Methylene chloride	ND	mg/kg	25	
Acetone	ND	mg/kg	50	
Carbon disulfide	ND	mg/kg	25	
1,1-Dichloroethene	ND	mg/kg	25	
1,1-Dichloroethane	ND	mg/kg	25	
1,2-Dichloroethene (cis/trans)	ND	mg/kg	25	
Chloroform	ND	mg/kg	25	
1,2-Dichloroethane	ND	mg/kg	25	
2-Butanone	ND	mg/kg	50	
1,1,1-Trichloroethane	77	mg/kg	25	
Carbon tetrachloride	ND	mg/kg	25	
Vinyl Acetate	ND	mg/kg	50	
Bromodichloromethane	ND	mg/kg	25	
1,2-Dichloropropane	ND	mg/kg	25	
cis-1,3-Dichloropropene	ND	mg/kg	25	
Trichloroethene	ND	mg/kg	25	
Dibromochloromethane	ND	mg/kg	25	
1,1,2-Trichloroethane	ND	mg/kg	25	
Benzene	29	mg/kg	25	
trans-1,3-Dichloropropene	ND	mg/kg	25	
Bromoform	ND	mg/kg	25	
4-Methyl-2-Pentanone	ND	mg/kg	50	
2-Hexanone	ND	mg/kg	50	
1,1,2,2-Tetrachloroethane	ND	mg/kg	25	
Tetrachloroethene	99	mg/kg	25	
Toluene	1600	mg/kg	50	D
Chlorobenzene	ND	mg/kg	25	
Ethylbenzene	310	mg/kg	25	
Styrene	ND	mg/kg	25	
Xylenes (total)	2200	mg/kg	25	
Surrogate	Recovery			
1,2-Dichloroethane-d4	91	%		
Toluene-d8	88	%		
4-Bromofluorobenzene	94	%		

(continued on following page)

ND = Not detected
NA = Not applicable

0002

Reported By: Salman Qazi

Approved By: Neil Costanza

TCL Volatile Organics (CONT.)

Method 8240

Client Name: Cooper Environmental

Client ID: SAMPLE 1

Lab ID: 029182-0001-SA

Matrix: WASTE

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 13 JUL 93

Received: 03 JUL 93

Analyzed: 13 JUL 93

Note u : All reporting limits raised due to high levels of target analytes.

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

0003

Reported By: Salman Qazi

Approved By: Neil Costanza

TCL Volatile Organics

Method 8240

Client Name: Cooper Environmental

Client ID: SAMPLE 2

Lab ID: 029182-0002-SA

Matrix: WASTE

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 13 JUL 93

Received: 03 JUL 93

Analyzed: 13 JUL 93

Parameter	Result	Units	Reporting Limit	
Chloromethane	ND	mg/kg	100	u
Bromomethane	ND	mg/kg	100	
Vinyl Chloride	ND	mg/kg	100	
Chloroethane	ND	mg/kg	100	
Methylene chloride	ND	mg/kg	50	
Acetone	ND	mg/kg	100	
Carbon disulfide	ND	mg/kg	50	
1,1-Dichloroethene	ND	mg/kg	50	
1,1-Dichloroethane	ND	mg/kg	50	
1,2-Dichloroethene (cis/trans)	ND	mg/kg	50	
Chloroform	ND	mg/kg	50	
1,2-Dichloroethane	ND	mg/kg	50	
2-Butanone	ND	mg/kg	100	
1,1,1-Trichloroethane	180	mg/kg	50	
Carbon tetrachloride	ND	mg/kg	50	
Vinyl Acetate	ND	mg/kg	100	
Bromodichloromethane	ND	mg/kg	50	
1,2-Dichloropropane	ND	mg/kg	50	
cis-1,3-Dichloropropene	ND	mg/kg	50	
Trichloroethene	ND	mg/kg	50	
Dibromochloromethane	ND	mg/kg	50	
1,1,2-Trichloroethane	ND	mg/kg	50	
Benzene	39	mg/kg	50	J
trans-1,3-Dichloropropene	ND	mg/kg	50	
Bromoform	ND	mg/kg	50	
4-Methyl-2-Pentanone	ND	mg/kg	100	
2-Hexanone	ND	mg/kg	100	
1,1,2,2-Tetrachloroethane	ND	mg/kg	50	
Tetrachloroethene	260	mg/kg	50	
Toluene	1600	mg/kg	50	
Chlorobenzene	ND	mg/kg	50	
Ethylbenzene	260	mg/kg	50	
Styrene	ND	mg/kg	50	
Xylenes (total)	1800	mg/kg	50	
Surrogate	Recovery			
1,2-Dichloroethane-d4	95	%		
Toluene-d8	96	%		
4-Bromofluorobenzene	96	%		

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0004

TCL Volatile Organics (CONT.)

Enseco
A Corning Company

Method 8240

Client Name: Cooper Environmental

Client ID: SAMPLE 2

Lab ID: 029182-0002-SA

Matrix: WASTE

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 13 JUL 93

Received: 03 JUL 93

Analyzed: 13 JUL 93

Note u : All reporting limits raised due to high levels of target analytes.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected

NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0005

TCL Volatile Organics

Method 8240

Client Name: Cooper Environmental

Client ID: SAMPLE 3

Lab ID: 029182-0003-SA

Matrix: WASTE

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 13 JUL 93

Received: 03 JUL 93

Analyzed: 13 JUL 93

Parameter	Result	Units	Reporting Limit	
Chloromethane	ND	mg/kg	50	u
Bromomethane	ND	mg/kg	50	
Vinyl Chloride	ND	mg/kg	50	
Chloroethane	ND	mg/kg	50	
Methylene chloride	ND	mg/kg	25	
Acetone	ND	mg/kg	50	
Carbon disulfide	ND	mg/kg	25	
1,1-Dichloroethene	ND	mg/kg	25	
1,1-Dichloroethane	ND	mg/kg	25	
1,2-Dichloroethene (cis/trans)	ND	mg/kg	25	
Chloroform	ND	mg/kg	25	
1,2-Dichloroethane	ND	mg/kg	25	
2-Butanone	ND	mg/kg	50	
1,1,1-Trichloroethane	410	mg/kg	25	
Carbon tetrachloride	ND	mg/kg	25	
Vinyl Acetate	ND	mg/kg	50	
Bromodichloromethane	ND	mg/kg	25	
1,2-Dichloropropane	ND	mg/kg	25	
cis-1,3-Dichloropropene	ND	mg/kg	25	
Trichloroethene	ND	mg/kg	25	
Dibromochloromethane	ND	mg/kg	25	
1,1,2-Trichloroethane	ND	mg/kg	25	
Benzene	40	mg/kg	25	
trans-1,3-Dichloropropene	ND	mg/kg	25	
Bromoform	ND	mg/kg	25	
4-Methyl-2-Pentanone	ND	mg/kg	50	
2-Hexanone	ND	mg/kg	50	
1,1,2,2-Tetrachloroethane	ND	mg/kg	25	
Tetrachloroethene	210	mg/kg	25	
Toluene	1100	mg/kg	50	D
Chlorobenzene	ND	mg/kg	25	
Ethylbenzene	160	mg/kg	25	
Styrene	ND	mg/kg	25	
Xylenes (total)	1000	mg/kg	25	
Surrogate	Recovery			
1,2-Dichloroethane-d4	95	%		
Toluene-d8	92	%		
4-Bromofluorobenzene	96	%		

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0006

TCL Volatile Organics (CONT.)

Method 8240

Client Name: Cooper Environmental

Client ID: SAMPLE 3

Lab ID: 029182-0003-SA

Matrix: WASTE

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 13 JUL 93

Received: 03 JUL 93

Analyzed: 13 JUL 93

Note u : All reporting limits raised due to high levels of target analytes.

Note D : Compound quantitated using a secondary dilution.

ND = Not detected

NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0007

TCL Volatile Organics

Method 8240

Client Name: Cooper Environmental
Client ID: SAMPLE 4
Lab ID: 029182-0004-SA
Matrix: WASTE
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: 13 JUL 93

Received: 03 JUL 93
Analyzed: 13 JUL 93

Parameter	Result	Units	Reporting Limit	
Chloromethane	ND	mg/kg	50	u
Bromomethane	ND	mg/kg	50	
Vinyl Chloride	ND	mg/kg	50	
Chloroethane	ND	mg/kg	50	
Methylene chloride	ND	mg/kg	25	
Acetone	ND	mg/kg	50	
Carbon disulfide	ND	mg/kg	25	
1,1-Dichloroethene	ND	mg/kg	25	
1,1-Dichloroethane	ND	mg/kg	25	
1,2-Dichloroethene				
(cis/trans)	ND	mg/kg	25	
Chloroform	ND	mg/kg	25	
1,2-Dichloroethane	ND	mg/kg	25	
2-Butanone	ND	mg/kg	50	
1,1,1-Trichloroethane	370	mg/kg	25	
Carbon tetrachloride	ND	mg/kg	25	
Vinyl Acetate	ND	mg/kg	50	
Bromodichloromethane	ND	mg/kg	25	
1,2-Dichloropropane	ND	mg/kg	25	
cis-1,3-Dichloropropene	ND	mg/kg	25	
Trichloroethene	ND	mg/kg	25	
Dibromochloromethane	ND	mg/kg	25	
1,1,2-Trichloroethane	ND	mg/kg	25	
Benzene	79	mg/kg	25	
trans-1,3-Dichloropropene	ND	mg/kg	25	
Bromoform	ND	mg/kg	25	
4-Methyl-2-Pentanone	ND	mg/kg	50	
2-Hexanone	ND	mg/kg	50	
1,1,2,2-Tetrachloroethane	ND	mg/kg	25	
Tetrachloroethene	160	mg/kg	25	
Toluene	1600	mg/kg	50	D
Chlorobenzene	ND	mg/kg	25	
Ethylbenzene	320	mg/kg	25	
Styrene	ND	mg/kg	25	
Xylenes (total)	2200	mg/kg	25	
Surrogate	Recovery			
1,2-Dichloroethane-d4	93	%		
Toluene-d8	91	%		
4-Bromofluorobenzene	93	%		

(continued on following page)

ND = Not detected
NA = Not applicable

0008

Reported By: Salman Qazi

Approved By: Neil Costanza

TCL Volatile Organics (CONT.)

Enseco
A Cuming Comp

Method 8240

Client Name: Cooper Environmental

Client ID: SAMPLE 4

Lab ID: 029182-0004-SA

Matrix: WASTE

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 13 JUL 93

Received: 03 JUL 93

Analyzed: 13 JUL 93

Note u : All reporting limits raised due to high levels of target analytes.

Note D : Compound quantitated using a secondary dilution.

ND = Not detected

NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0009

TCL Volatile Organics

Method 8240

Client Name: Cooper Environmental

Client ID: SB-1

Lab ID: 029182-0005-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: NA

Received: 03 JUL 93

Analyzed: 09 JUL 93

Parameter	Result	Dry Weight Reporting Units	Limit
Chloromethane	ND	ug/kg	11
Bromomethane	ND	ug/kg	11
Vinyl Chloride	ND	ug/kg	11
Chloroethane	ND	ug/kg	11
Methylene chloride	ND	ug/kg	5.4
Acetone	ND	ug/kg	11
Carbon disulfide	ND	ug/kg	5.4
1,1-Dichloroethene	ND	ug/kg	5.4
1,1-Dichloroethane	ND	ug/kg	5.4
1,2-Dichloroethene			
(cis/trans)	ND	ug/kg	5.4
Chloroform	ND	ug/kg	5.4
1,2-Dichloroethane	ND	ug/kg	5.4
2-Butanone	ND	ug/kg	11
1,1,1-Trichloroethane	ND	ug/kg	5.4
Carbon tetrachloride	ND	ug/kg	5.4
Vinyl Acetate	ND	ug/kg	11
Bromodichloromethane	ND	ug/kg	5.4
1,2-Dichloropropane	ND	ug/kg	5.4
cis-1,3-Dichloropropene	ND	ug/kg	5.4
Trichloroethene	ND	ug/kg	5.4
Dibromochloromethane	ND	ug/kg	5.4
1,1,2-Trichloroethane	ND	ug/kg	5.4
Benzene	ND	ug/kg	5.4
trans-1,3-Dichloropropene	ND	ug/kg	5.4
Bromoform	ND	ug/kg	5.4
4-Methyl-2-Pentanone	ND	ug/kg	11
2-Hexanone	ND	ug/kg	11
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.4
Tetrachloroethene	ND	ug/kg	5.4
Toluene	ND	ug/kg	5.4
Chlorobenzene	ND	ug/kg	5.4
Ethylbenzene	ND	ug/kg	5.4
Styrene	ND	ug/kg	5.4
Xylenes (total)	ND	ug/kg	5.4

Surrogate

Recovery

1,2-Dichloroethane-d4	112	%
Toluene-d8	123	%
4-Bromofluorobenzene	74	%

v

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0010

TCL Volatile Organics (CONT.)

Method 8240

Client Name: Cooper Environmental

Client ID: SB-1

Lab ID: 029182-0005-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: NA

Received: 03 JUL 93

Analyzed: 09 JUL 93

Percent Moisture is 8.1%. All results and limits are reported on a dry weight basis.

Note v : Surrogate recovery outside of QC limits due to sample matrix interference as verified by reanalysis.

ND = Not detected

NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0011

TCL Volatile Organics

Method 8240

Client Name: Cooper Environmental
Client ID: SB-3
Lab ID: 029182-0006-SA
Matrix: SOIL
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: NA

Received: 03 JUL 93
Analyzed: 12 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit
Chloromethane	ND	ug/kg	13
Bromomethane	ND	ug/kg	13
Vinyl Chloride	ND	ug/kg	13
Chloroethane	ND	ug/kg	13
Methylene chloride	ND	ug/kg	6.3
Acetone	ND	ug/kg	13
Carbon disulfide	ND	ug/kg	6.3
1,1-Dichloroethene	ND	ug/kg	6.3
1,1-Dichloroethane	ND	ug/kg	6.3
1,2-Dichloroethene (cis/trans)	ND	ug/kg	6.3
Chloroform	ND	ug/kg	6.3
1,2-Dichloroethane	ND	ug/kg	6.3
2-Butanone	ND	ug/kg	13
1,1,1-Trichloroethane	ND	ug/kg	6.3
Carbon tetrachloride	ND	ug/kg	6.3
Vinyl Acetate	ND	ug/kg	13
Bromodichloromethane	ND	ug/kg	6.3
1,2-Dichloropropane	ND	ug/kg	6.3
cis-1,3-Dichloropropene	ND	ug/kg	6.3
Trichloroethene	ND	ug/kg	6.3
Dibromochloromethane	ND	ug/kg	6.3
1,1,2-Trichloroethane	ND	ug/kg	6.3
Benzene	ND	ug/kg	6.3
trans-1,3-Dichloropropene	ND	ug/kg	6.3
Bromoform	ND	ug/kg	6.3
4-Methyl-2-Pentanone	ND	ug/kg	13
2-Hexanone	ND	ug/kg	13
1,1,2,2-Tetrachloroethane	ND	ug/kg	6.3
Tetrachloroethene	ND	ug/kg	6.3
Toluene	ND	ug/kg	6.3
Chlorobenzene	ND	ug/kg	6.3
Ethylbenzene	ND	ug/kg	6.3
Styrene	ND	ug/kg	6.3
Xylenes (total)	ND	ug/kg	6.3
Surrogate	Recovery		
1,2-Dichloroethane-d4	106	%	
Toluene-d8	105	%	
4-Bromofluorobenzene	89	%	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0012

TCL Volatile Organics (CONT.)

Method 8240

Client Name: Cooper Environmental
Client ID: SB-3
Lab ID: 029182-0006-SA
Matrix: SOIL
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: NA

Received: 03 JUL 93
Analyzed: 12 JUL 93

Percent Moisture is 21%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0013

TCL Volatile Organics

Method 8240

Client Name: Cooper Environmental

Client ID: SB-4

Lab ID: 029182-0007-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: NA

Received: 03 JUL 93

Analyzed: 09 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit
Chloromethane	ND	ug/kg	12
Bromomethane	ND	ug/kg	12
Vinyl Chloride	ND	ug/kg	12
Chloroethane	ND	ug/kg	12
Methylene chloride	ND	ug/kg	5.8
Acetone	ND	ug/kg	12
Carbon disulfide	ND	ug/kg	5.8
1,1-Dichloroethene	ND	ug/kg	5.8
1,1-Dichloroethane	ND	ug/kg	5.8
1,2-Dichloroethene (cis/trans)	ND	ug/kg	5.8
Chloroform	ND	ug/kg	5.8
1,2-Dichloroethane	ND	ug/kg	5.8
2-Butanone	ND	ug/kg	12
1,1,1-Trichloroethane	ND	ug/kg	5.8
Carbon tetrachloride	ND	ug/kg	5.8
Vinyl Acetate	ND	ug/kg	12
Bromodichloromethane	ND	ug/kg	5.8
1,2-Dichloropropane	ND	ug/kg	5.8
cis-1,3-Dichloropropene	ND	ug/kg	5.8
Trichloroethene	ND	ug/kg	5.8
Dibromochloromethane	ND	ug/kg	5.8
1,1,2-Trichloroethane	ND	ug/kg	5.8
Benzene	ND	ug/kg	5.8
trans-1,3-Dichloropropene	ND	ug/kg	5.8
Bromoform	ND	ug/kg	5.8
4-Methyl-2-Pentanone	ND	ug/kg	12
2-Hexanone	ND	ug/kg	12
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.8
Tetrachloroethene	ND	ug/kg	5.8
Toluene	ND	ug/kg	5.8
Chlorobenzene	ND	ug/kg	5.8
Ethylbenzene	ND	ug/kg	5.8
Styrene	ND	ug/kg	5.8
Xylenes (total)	ND	ug/kg	5.8
Surrogate	Recovery		
1,2-Dichloroethane-d4	117	%	
Toluene-d8	102	%	
4-Bromofluorobenzene	89	%	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0014

TCL Volatile Organics (CONT.)

Method 8240

Client Name: Cooper Environmental

Client ID: SB-4

Lab ID: 029182-0007-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: NA

Received: 03 JUL 93

Analyzed: 09 JUL 93

Percent Moisture is 13%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0015

TCL Volatile Organics

Method 8240

Client Name: Cooper Environmental
Client ID: SB-5
Lab ID: 029182-0008-SA
Matrix: SOIL
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: NA

Received: 03 JUL 93
Analyzed: 12 JUL 93

Parameter	Result	Dry Weight Reporting Units	Limit
Chloromethane	ND	ug/kg	12
Bromomethane	ND	ug/kg	12
Vinyl Chloride	ND	ug/kg	12
Chloroethane	ND	ug/kg	12
Methylene chloride	ND	ug/kg	6.2
Acetone	ND	ug/kg	12
Carbon disulfide	ND	ug/kg	6.2
1,1-Dichloroethene	ND	ug/kg	6.2
1,1-Dichloroethane	ND	ug/kg	6.2
1,2-Dichloroethene	ND	ug/kg	6.2
(cis/trans)	ND	ug/kg	6.2
Chloroform	ND	ug/kg	6.2
1,2-Dichloroethane	ND	ug/kg	6.2
2-Butanone	ND	ug/kg	12
1,1,1-Trichloroethane	ND	ug/kg	6.2
Carbon tetrachloride	ND	ug/kg	6.2
Vinyl Acetate	ND	ug/kg	12
Bromodichloromethane	ND	ug/kg	6.2
1,2-Dichloropropane	ND	ug/kg	6.2
cis-1,3-Dichloropropene	ND	ug/kg	6.2
Trichloroethene	ND	ug/kg	6.2
Dibromochloromethane	ND	ug/kg	6.2
1,1,2-Trichloroethane	ND	ug/kg	6.2
Benzene	ND	ug/kg	6.2
trans-1,3-Dichloropropene	ND	ug/kg	6.2
Bromoform	ND	ug/kg	6.2
4-Methyl-2-Pentanone	ND	ug/kg	12
2-Hexanone	ND	ug/kg	12
1,1,2,2-Tetrachloroethane	ND	ug/kg	6.2
Tetrachloroethene	ND	ug/kg	6.2
Toluene	ND	ug/kg	6.2
Chlorobenzene	ND	ug/kg	6.2
Ethylbenzene	ND	ug/kg	6.2
Styrene	ND	ug/kg	6.2
Xylenes (total)	ND	ug/kg	6.2

Surrogate	Recovery
1,2-Dichloroethane-d4	102 %
Toluene-d8	103 %
4-Bromofluorobenzene	95 %

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0016

TCL Volatile Organics (CONT.)

Method 8240

Client Name: Cooper Environmental
Client ID: SB-5
Lab ID: 029182-0008-SA
Matrix: SOIL
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: NA

Received: 03 JUL 93
Analyzed: 12 JUL 93

Percent Moisture is 20%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0017

TCL Volatile Organics

Method 8240

Client Name: Cooper Environmental
Client ID: SB-9
Lab ID: 029182-0009-SA
Matrix: SOIL
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: NA

Received: 03 JUL 93
Analyzed: 12 JUL 93

Parameter	Result	Dry Weight Reporting Units	Limit
Chloromethane	ND	ug/kg	12
Bromomethane	ND	ug/kg	12
Vinyl Chloride	ND	ug/kg	12
Chloroethane	ND	ug/kg	12
Methylene chloride	2.3	ug/kg	6.0 J
Acetone	160	ug/kg	12
Carbon disulfide	ND	ug/kg	6.0
1,1-Dichloroethene	ND	ug/kg	6.0
1,1-Dichloroethane	ND	ug/kg	6.0
1,2-Dichloroethene (cis/trans)	ND	ug/kg	6.0
Chloroform	ND	ug/kg	6.0
1,2-Dichloroethane	ND	ug/kg	6.0
2-Butanone	ND	ug/kg	12
1,1,1-Trichloroethane	ND	ug/kg	6.0
Carbon tetrachloride	ND	ug/kg	6.0
Vinyl Acetate	ND	ug/kg	12
Bromodichloromethane	ND	ug/kg	6.0
1,2-Dichloropropane	ND	ug/kg	6.0
cis-1,3-Dichloropropene	ND	ug/kg	6.0
Trichloroethene	ND	ug/kg	6.0
Dibromochloromethane	ND	ug/kg	6.0
1,1,2-Trichloroethane	ND	ug/kg	6.0
Benzene	ND	ug/kg	6.0
trans-1,3-Dichloropropene	ND	ug/kg	6.0
Bromoform	ND	ug/kg	6.0
4-Methyl-2-Pentanone	ND	ug/kg	12
2-Hexanone	ND	ug/kg	12
1,1,2,2-Tetrachloroethane	ND	ug/kg	6.0
Tetrachloroethene	ND	ug/kg	6.0
Toluene	ND	ug/kg	6.0
Chlorobenzene	ND	ug/kg	6.0
Ethylbenzene	ND	ug/kg	6.0
Styrene	ND	ug/kg	6.0
Xylenes (total)	ND	ug/kg	6.0

Surrogate	Recovery
1,2-Dichloroethane-d4	107 %
Toluene-d8	105 %
4-Bromofluorobenzene	90 %

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0018

TCL Volatile Organics (CONT.)

Method 8240

Client Name: Cooper Environmental

Client ID: SB-9

Lab ID: 029182-0009-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: NA

Received: 03 JUL 93

Analyzed: 12 JUL 93

Percent Moisture is 16%. All results and limits are reported on a dry weight basis.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected

NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0019

TCL Volatile Organics

Method 8240

Client Name: Cooper Environmental

Client ID: SB-10

Lab ID: 029182-0010-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: NA

Received: 03 JUL 93

Analyzed: 12 JUL 93

Parameter	Result	Dry Weight Reporting Units	Limit
Chloromethane	ND	ug/kg	12
Bromomethane	ND	ug/kg	12
Vinyl Chloride	ND	ug/kg	12
Chloroethane	ND	ug/kg	12
Methylene chloride	ND	ug/kg	6.1
Acetone	ND	ug/kg	12
Carbon disulfide	ND	ug/kg	6.1
1,1-Dichloroethene	ND	ug/kg	6.1
1,1-Dichloroethane	ND	ug/kg	6.1
1,2-Dichloroethene (cis/trans)	ND	ug/kg	6.1
Chloroform	ND	ug/kg	6.1
1,2-Dichloroethane	ND	ug/kg	6.1
2-Butanone	ND	ug/kg	12
1,1,1-Trichloroethane	ND	ug/kg	6.1
Carbon tetrachloride	ND	ug/kg	6.1
Vinyl Acetate	ND	ug/kg	12
Bromodichloromethane	ND	ug/kg	6.1
1,2-Dichloropropane	ND	ug/kg	6.1
cis-1,3-Dichloropropene	ND	ug/kg	6.1
Trichloroethene	ND	ug/kg	6.1
Dibromochloromethane	ND	ug/kg	6.1
1,1,2-Trichloroethane	ND	ug/kg	6.1
Benzene	ND	ug/kg	6.1
trans-1,3-Dichloropropene	ND	ug/kg	6.1
Bromoform	ND	ug/kg	6.1
4-Methyl-2-Pentanone	ND	ug/kg	12
2-Hexanone	ND	ug/kg	12
1,1,2,2-Tetrachloroethane	ND	ug/kg	6.1
Tetrachloroethene	ND	ug/kg	6.1
Toluene	ND	ug/kg	6.1
Chlorobenzene	ND	ug/kg	6.1
Ethylbenzene	ND	ug/kg	6.1
Styrene	ND	ug/kg	6.1
Xylenes (total)	ND	ug/kg	6.1

Surrogate	Recovery
1,2-Dichloroethane-d4	109 %
Toluene-d8	106 %
4-Bromofluorobenzene	93 %

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0020

TCL Volatile Organics (CONT.)

Method 8240

Client Name: Cooper Environmental

Client ID: SB-10

Lab ID: 029182-0010-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: NA

Received: 03 JUL 93

Analyzed: 12 JUL 93

Percent Moisture is 18%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0021

TCL Volatile Organics

Method 8240

Client Name: Cooper Environmental

Client ID: SB-11

Lab ID: 029182-0011-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: NA

Received: 03 JUL 93

Analyzed: 12 JUL 93

Parameter	Result	Dry Weight Reporting Units	Limit
Chloromethane	ND	ug/kg	12
Bromomethane	ND	ug/kg	12
Vinyl Chloride	ND	ug/kg	12
Chloroethane	ND	ug/kg	12
Methylene chloride	ND	ug/kg	5.8
Acetone	ND	ug/kg	12
Carbon disulfide	ND	ug/kg	5.8
1,1-Dichloroethene	ND	ug/kg	5.8
1,1-Dichloroethane	ND	ug/kg	5.8
1,2-Dichloroethene	ND	ug/kg	5.8
(cis/trans)	ND	ug/kg	5.8
Chloroform	ND	ug/kg	5.8
1,2-Dichloroethane	ND	ug/kg	5.8
2-Butanone	ND	ug/kg	12
1,1,1-Trichloroethane	ND	ug/kg	5.8
Carbon tetrachloride	ND	ug/kg	5.8
Vinyl Acetate	ND	ug/kg	12
Bromodichloromethane	ND	ug/kg	5.8
1,2-Dichloropropane	ND	ug/kg	5.8
cis-1,3-Dichloropropene	ND	ug/kg	5.8
Trichloroethene	ND	ug/kg	5.8
Dibromochloromethane	ND	ug/kg	5.8
1,1,2-Trichloroethane	ND	ug/kg	5.8
Benzene	ND	ug/kg	5.8
trans-1,3-Dichloropropene	ND	ug/kg	5.8
Bromoform	ND	ug/kg	5.8
4-Methyl-2-Pentanone	ND	ug/kg	12
2-Hexanone	ND	ug/kg	12
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.8
Tetrachloroethene	ND	ug/kg	5.8
Toluene	ND	ug/kg	5.8
Chlorobenzene	ND	ug/kg	5.8
Ethylbenzene	ND	ug/kg	5.8
Styrene	ND	ug/kg	5.8
Xylenes (total)	ND	ug/kg	5.8

Surrogate	Recovery
1,2-Dichloroethane-d4	110 %
Toluene-d8	103 %
4-Bromofluorobenzene	92 %

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0022

TCL Volatile Organics (CONT.)

Enseco
A Corning Company

Method 8240

Client Name: Cooper Environmental

Client ID: SB-11

Lab ID: 029182-0011-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: NA

Received: 03 JUL 93

Analyzed: 12 JUL 93

Percent Moisture is 14%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0023

TCL Volatile Organics

Method 8240

Client Name: Cooper Environmental

Client ID: SB-12

Lab ID: 029182-0012-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: NA

Received: 03 JUL 93

Analyzed: 12 JUL 93

Parameter	Result	Dry Weight Reporting Units	Limit
Chloromethane	ND	ug/kg	12
Bromomethane	ND	ug/kg	12
Vinyl Chloride	ND	ug/kg	12
Chloroethane	ND	ug/kg	12
Methylene chloride	ND	ug/kg	6.0
Acetone	ND	ug/kg	12
Carbon disulfide	ND	ug/kg	6.0
1,1-Dichloroethene	ND	ug/kg	6.0
1,1-Dichloroethane	ND	ug/kg	6.0
1,2-Dichloroethene	ND	ug/kg	6.0
(cis/trans)	ND	ug/kg	6.0
Chloroform	ND	ug/kg	6.0
1,2-Dichloroethane	ND	ug/kg	6.0
2-Butanone	ND	ug/kg	12
1,1,1-Trichloroethane	ND	ug/kg	6.0
Carbon tetrachloride	ND	ug/kg	6.0
Vinyl Acetate	ND	ug/kg	12
Bromodichloromethane	ND	ug/kg	6.0
1,2-Dichloropropane	ND	ug/kg	6.0
cis-1,3-Dichloropropene	ND	ug/kg	6.0
Trichloroethene	ND	ug/kg	6.0
Dibromochloromethane	ND	ug/kg	6.0
1,1,2-Trichloroethane	ND	ug/kg	6.0
Benzene	ND	ug/kg	6.0
trans-1,3-Dichloropropene	ND	ug/kg	6.0
Bromoform	ND	ug/kg	6.0
4-Methyl-2-Pentanone	ND	ug/kg	12
2-Hexanone	ND	ug/kg	12
1,1,2,2-Tetrachloroethane	ND	ug/kg	6.0
Tetrachloroethene	ND	ug/kg	6.0
Toluene	ND	ug/kg	6.0
Chlorobenzene	ND	ug/kg	6.0
Ethylbenzene	ND	ug/kg	6.0
Styrene	ND	ug/kg	6.0
Xylenes (total)	ND	ug/kg	6.0

Surrogate Recovery

1,2-Dichloroethane-d4	107	%
Toluene-d8	103	%
4-Bromofluorobenzene	90	%

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0024

TCL Volatile Organics (CONT.)

Enseco
A Corning Company

Method 8240

Client Name: Cooper Environmental

Client ID: SB-12

Lab ID: 029182-0012-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: NA

Received: 03 JUL 93

Analyzed: 12 JUL 93

Percent Moisture is 16%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

Reported By: Salman Qazi

Approved By: Neil Costanza

0025

TCL Volatile Organics

Method 8240

Client Name: Cooper Environmental

Client ID: FIELD BLANK

Lab ID: 029182-0013-FB

Matrix: AQUEOUS

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: NA

Received: 03 JUL 93

Analyzed: 07 JUL 93

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/L	10
Bromomethane	ND	ug/L	10
Vinyl Chloride	ND	ug/L	10
Chloroethane	ND	ug/L	10
Methylene chloride	ND	ug/L	5.0
Acetone	4.7	ug/L	10
Carbon disulfide	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	5.0
1,1-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethene	ND	ug/L	5.0
(cis/trans)	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
2-Butanone	ND	ug/L	10
1,1,1-Trichloroethane	ND	ug/L	5.0
Carbon tetrachloride	ND	ug/L	5.0
Vinyl Acetate	ND	ug/L	10
Bromodichloromethane	ND	ug/L	5.0
1,2-Dichloropropane	ND	ug/L	5.0
trans-1,3-Dichloropropene	ND	ug/L	5.0
Trichloroethene	ND	ug/L	5.0
Dibromochloromethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Benzene	ND	ug/L	5.0
cis-1,3-Dichloropropene	ND	ug/L	5.0
Bromoform	ND	ug/L	5.0
4-Methyl-2-Pentanone	ND	ug/L	10
2-Hexanone	ND	ug/L	10
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Ethylbenzene	ND	ug/L	5.0
Styrene	ND	ug/L	5.0
Xylenes (total)	ND	ug/L	5.0

Surrogate	Recovery
Toluene-d8	110 %
4-Bromofluorobenzene	105 %
1,2-Dichloroethane-d4	107 %

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Jyoti Kumar

Approved By: Neil Costanza

0026

TCL Volatile Organics (CONT.)

Method 8240

Client Name: Cooper Environmental
Client ID: FIELD BLANK
Lab ID: 029182-0013-FB
Matrix: AQUEOUS
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: NA

Received: 03 JUL 93
Analyzed: 07 JUL 93

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected
NA = Not applicable

Reported By: Jyoti Kumar

Approved By: Neil Costanza

0027

QC LOT ASSIGNMENT REPORT
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
029182-0001-SA	WASTE	8240-W	13 JUL 93-S	13 JUL 93-A
029182-0002-SA	WASTE	8240-W	13 JUL 93-S	13 JUL 93-A
029182-0003-SA	WASTE	8240-W	13 JUL 93-S	13 JUL 93-A
029182-0004-SA	WASTE	8240-W	13 JUL 93-S	13 JUL 93-A
029182-0005-SA	SOLID	8240-SL	09 JUL 93-S	09 JUL 93-A
029182-0006-SA	SOLID	8240-SL	09 JUL 93-S	12 JUL 93-A
029182-0007-SA	SOLID	8240-SL	09 JUL 93-S	09 JUL 93-A
029182-0008-SA	SOLID	8240-SL	09 JUL 93-S	12 JUL 93-A
029182-0009-SA	SOLID	8240-SL	09 JUL 93-S	12 JUL 93-A
029182-0010-SA	SOLID	8240-SL	09 JUL 93-S	12 JUL 93-A
029182-0011-SA	SOLID	8240-SL	09 JUL 93-S	12 JUL 93-A
029182-0012-SA	SOLID	8240-SL	09 JUL 93-S	12 JUL 93-A
029182-0013-FB	AQUEOUS	8240-AQ	02 JUL 93-A	07 JUL 93-A

0028

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits

Category: 8240-W
Matrix: WASTE
QC Lot: 13 JUL 93-S QC Run: 13 JUL 93-A
Concentration Units: mg/kg

1,2-Dichloroethane-d4	5.00	5.19	104	70-121
4-Bromofluorobenzene	5.00	5.11	102	74-121
Toluene-d8	5.00	5.27	105	81-117

Category: 8240-SL
Matrix: SOLID
QC Lot: 09 JUL 93-S QC Run: 09 JUL 93-A
Concentration Units: UG/KG

1,2-Dichloroethane-d4	50.0	54.1	108	70-121
4-Bromofluorobenzene	50.0	52.6	105	74-121
Toluene-d8	50.0	52.1	104	81-117

Category: 8240-SL
Matrix: SOLID
QC Lot: 09 JUL 93-S QC Run: 12 JUL 93-A
Concentration Units: UG/KG

1,2-Dichloroethane-d4	50.0	50.9	102	70-121
4-Bromofluorobenzene	50.0	48.8	98	74-121
Toluene-d8	50.0	51.1	102	81-117

Category: 8240-AQ
Matrix: AQUEOUS
QC Lot: 02 JUL 93-A QC Run: 07 JUL 93-A
Concentration Units: ug/L

1,2-Dichloroethane-d4	50.0	50.7	101	76-114
4-Bromofluorobenzene	50.0	51.0	102	86-115
Toluene-d8	50.0	53.4	107	88-110

Calculations are performed before rounding to avoid round-off errors in calculated results.

0029

METHOD BLANK REPORT
Volatile Organics by GC/MS

Analyte	Result	Units	Reporting Limit
Test: 8240-TCL-W			
Matrix: WASTE			
QC Lot: 13 JUL 93-S QC Run: 13 JUL 93-A			
Chloromethane	ND	mg/kg	10
Bromomethane	ND	mg/kg	10
Vinyl Chloride	ND	mg/kg	10
Chloroethane	ND	mg/kg	10
Methylene chloride	ND	mg/kg	5.0
Acetone	ND	mg/kg	10
Carbon disulfide	ND	mg/kg	5.0
1,1-Dichloroethene	ND	mg/kg	5.0
1,1-Dichloroethane	ND	mg/kg	5.0
1,2-Dichloroethene	ND	mg/kg	5.0
(cis/trans)	ND	mg/kg	5.0
Chloroform	ND	mg/kg	5.0
1,2-Dichloroethane	ND	mg/kg	5.0
2-Butanone	ND	mg/kg	10
1,1,1-Trichloroethane	ND	mg/kg	5.0
Carbon tetrachloride	ND	mg/kg	5.0
Vinyl Acetate	ND	mg/kg	10
Bromodichloromethane	ND	mg/kg	5.0
1,2-Dichloropropane	ND	mg/kg	5.0
cis-1,3-Dichloropropene	ND	mg/kg	5.0
Trichloroethene	ND	mg/kg	5.0
Dibromochloromethane	ND	mg/kg	5.0
1,1,2-Trichloroethane	ND	mg/kg	5.0
Benzene	ND	mg/kg	5.0
trans-1,3-Dichloropropene	ND	mg/kg	5.0
Bromoform	ND	mg/kg	5.0
4-Methyl-2-Pentanone	ND	mg/kg	10
2-Hexanone	ND	mg/kg	10
1,1,2,2-Tetrachloroethane	ND	mg/kg	5.0
Tetrachloroethene	ND	mg/kg	5.0
Toluene	ND	mg/kg	5.0
Chlorobenzene	ND	mg/kg	5.0
Ethylbenzene	ND	mg/kg	5.0
Styrene	ND	mg/kg	5.0
Xylenes (total)	ND	mg/kg	5.0

0030

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8240-TCL-L-S			
Matrix: SOIL			
QC Lot: 09 JUL 93-S QC Run: 09 JUL 93-A			
Chloromethane	ND	ug/kg	10
Bromomethane	ND	ug/kg	10
Vinyl Chloride	ND	ug/kg	10
Chloroethane	ND	ug/kg	10
Methylene chloride	ND	ug/kg	5.0
Acetone	ND	ug/kg	10
Carbon disulfide	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
1,2-Dichloroethene			
(cis/trans)	ND	ug/kg	5.0
Chloroform	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
2-Butanone	ND	ug/kg	10
1,1,1-Trichloroethane	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Vinyl Acetate	ND	ug/kg	10
Bromodichloromethane	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
cis-1,3-Dichloropropene	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Dibromochloromethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Benzene	ND	ug/kg	5.0
trans-1,3-Dichloropropene	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
4-Methyl-2-Pentanone	ND	ug/kg	10
2-Hexanone	ND	ug/kg	10
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
Tetrachloroethene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Styrene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8240-TCL-L-S			
Matrix: SOIL			
QC Lot: 09 JUL 93-S QC Run: 12 JUL 93-A			
Chloromethane	ND	ug/kg	10
Bromomethane	ND	ug/kg	10
Vinyl Chloride	ND	ug/kg	10
Chloroethane	ND	ug/kg	10
Methylene chloride	ND	ug/kg	5.0
Acetone	ND	ug/kg	10
Carbon disulfide	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
1,2-Dichloroethene			
(cis/trans)	ND	ug/kg	5.0
Chloroform	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
2-Butanone	ND	ug/kg	10
1,1,1-Trichloroethane	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Vinyl Acetate	ND	ug/kg	10
Bromodichloromethane	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
cis-1,3-Dichloropropene	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Dibromochloromethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Benzene	ND	ug/kg	5.0
trans-1,3-Dichloropropene	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
4-Methyl-2-Pentanone	ND	ug/kg	10
2-Hexanone	ND	ug/kg	10
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
Tetrachloroethene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Styrene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8240-TCL-A			
Matrix: AQUEOUS			
QC Lot: 02 JUL 93-A QC Run: 07 JUL 93-A			
Chloromethane	ND	ug/L	10
Bromomethane	ND	ug/L	10
Vinyl Chloride	ND	ug/L	10
Chloroethane	ND	ug/L	10
Methylene chloride	1.1	ug/L	5.0
Acetone	ND	ug/L	10
Carbon disulfide	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	5.0
1,1-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethene			
(cis/trans)	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
2-Butanone	ND	ug/L	10
1,1,1-Trichloroethane	ND	ug/L	5.0
Carbon tetrachloride	ND	ug/L	5.0
Vinyl Acetate	ND	ug/L	10
Bromodichloromethane	ND	ug/L	5.0
1,2-Dichloropropane	ND	ug/L	5.0
trans-1,3-Dichloropropene	ND	ug/L	5.0
Trichloroethene	ND	ug/L	5.0
Dibromochloromethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Benzene	ND	ug/L	5.0
cis-1,3-Dichloropropene	ND	ug/L	5.0
Bromoform	ND	ug/L	5.0
4-Methyl-2-Pentanone	ND	ug/L	10
2-Hexanone	ND	ug/L	10
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Ethylbenzene	ND	ug/L	5.0
Styrene	ND	ug/L	5.0
Xylenes (total)	ND	ug/L	5.0

J = Result is detected below the reporting limit or is an estimated concentration.

0033

TCL Semivolatile Organics

Method 8270

Client Name: Cooper Environmental

Client ID: SAMPLE 1

Lab ID: 029182-0001-SA

Matrix: WASTE

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 21 JUL 93

Received: 03 JUL 93

Analyzed: 23 JUL 93

Parameter	Result	Units	Reporting Limit	
Phenol	ND	mg/kg	480	d
bis(2-Chloroethyl) ether	ND	mg/kg	480	
2-Chlorophenol	ND	mg/kg	480	
1,3-Dichlorobenzene	ND	mg/kg	480	
1,4-Dichlorobenzene	ND	mg/kg	480	
Benzyl alcohol	ND	mg/kg	480	
1,2-Dichlorobenzene	ND	mg/kg	480	
2-Methylphenol	ND	mg/kg	480	
bis(2-Chloroisopropyl) ether	ND	mg/kg	480	
4-Methylphenol	ND	mg/kg	480	
N-Nitroso-di-n-propylamine	ND	mg/kg	480	
Hexachloroethane	ND	mg/kg	480	
Nitrobenzene	ND	mg/kg	480	
Isophorone	ND	mg/kg	480	
2-Nitrophenol	ND	mg/kg	480	
2,4-Dimethylphenol	ND	mg/kg	2400	
Benzoic acid	ND	mg/kg	480	
bis(2-Chloroethoxy)-methane	ND	mg/kg	480	
2,4-Dichlorophenol	ND	mg/kg	480	
1,2,4-Trichlorobenzene	ND	mg/kg	480	
Naphthalene	840	mg/kg	480	
4-Chloroaniline	ND	mg/kg	480	
Hexachlorobutadiene	ND	mg/kg	480	
4-Chloro-3-methylphenol	ND	mg/kg	480	
2-Methylnaphthalene	850	mg/kg	480	
Hexachlorocyclopentadiene	ND	mg/kg	480	
2,4,6-Trichlorophenol	ND	mg/kg	480	
2,4,5-Trichlorophenol	ND	mg/kg	2400	
2-Chloronaphthalene	ND	mg/kg	480	
2-Nitroaniline	ND	mg/kg	2400	
Dimethyl phthalate	ND	mg/kg	480	
Acenaphthylene	ND	mg/kg	480	
3-Nitroaniline	ND	mg/kg	2400	
Acenaphthene	ND	mg/kg	480	
2,4-Dinitrophenol	ND	mg/kg	2400	
4-Nitrophenol	ND	mg/kg	2400	
Dibenzofuran	ND	mg/kg	480	

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0034

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental
 Client ID: SAMPLE 1
 Lab ID: 029182-0001-SA
 Matrix: WASTE
 Authorized: 06 JUL 93

Sampled: 02 JUL 93
 Prepared: 21 JUL 93

Received: 03 JUL 93
 Analyzed: 23 JUL 93

Parameter	Result	Units	Reporting Limit	
2,4-Dinitrotoluene	ND	mg/kg	480	
2,6-Dinitrotoluene	ND	mg/kg	480	
Diethyl phthalate	ND	mg/kg	480	
4-Chlorophenyl phenyl ether	ND	mg/kg	480	
Fluorene	ND	mg/kg	480	
4-Nitroaniline	ND	mg/kg	2400	
4,6-Dinitro-2-methylphenol	ND	mg/kg	2400	
N-Nitrosodiphenylamine	ND	mg/kg	480	
4-Bromophenyl phenyl ether	ND	mg/kg	480	
Hexachlorobenzene	ND	mg/kg	480	
Pentachlorophenol	ND	mg/kg	2400	
Phenanthrene	150	mg/kg	480	J
Anthracene	ND	mg/kg	480	
Di-n-butyl phthalate	ND	mg/kg	480	
Fluoranthene	59	mg/kg	480	J
Pyrene	130	mg/kg	480	J
Butyl benzyl phthalate	ND	mg/kg	480	
3,3'-Dichlorobenzidine	ND	mg/kg	950	
Benzo(a)anthracene	80	mg/kg	480	J
bis(2-Ethylhexyl) phthalate	130	mg/kg	480	J
Chrysene	69	mg/kg	480	J
Di-n-octyl phthalate	ND	mg/kg	480	
Benzo(b)fluoranthene	ND	mg/kg	480	
Benzo(k)fluoranthene	ND	mg/kg	480	
Benzo(a)pyrene	ND	mg/kg	480	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	480	
Dibenz(a,h)anthracene	ND	mg/kg	480	
Benzo(g,h,i)perylene	ND	mg/kg	480	
Surrogate	Recovery			
Nitrobenzene-d5	56	%		
2-Fluorobiphenyl	88	%		
Terphenyl-d14	109	%		
Phenol-d5	65	%		
2-Fluorophenol	73	%		
2,4,6-Tribromophenol	35	%		

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0035

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental
Client ID: SAMPLE 1
Lab ID: 029182-0001-SA
Matrix: WASTE
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: 21 JUL 93

Received: 03 JUL 93
Analyzed: 23 JUL 93

Note d : All reporting limits raised due to matrix interferences.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected
NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0036

TCL Semivolatile Organics

Method 8270

Client Name: Cooper Environmental
Client ID: SAMPLE 2
Lab ID: 029182-0002-SA
Matrix: WASTE
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: 21 JUL 93

Received: 03 JUL 93
Analyzed: 23 JUL 93

Parameter	Result	Units	Reporting Limit	
Phenol	ND	mg/kg	480	d
bis(2-Chloroethyl) ether	ND	mg/kg	480	
2-Chlorophenol	ND	mg/kg	480	
1,3-Dichlorobenzene	ND	mg/kg	480	
1,4-Dichlorobenzene	ND	mg/kg	480	
Benzyl alcohol	ND	mg/kg	480	
1,2-Dichlorobenzene	ND	mg/kg	480	
2-Methylphenol	ND	mg/kg	480	
bis(2-Chloroisopropyl) ether	ND	mg/kg	480	
4-Methylphenol	ND	mg/kg	480	
N-Nitroso-di-n-propylamine	ND	mg/kg	480	
Hexachloroethane	ND	mg/kg	480	
Nitrobenzene	ND	mg/kg	480	
Isophorone	ND	mg/kg	480	
2-Nitrophenol	ND	mg/kg	480	
2,4-Dimethylphenol	ND	mg/kg	2400	
Benzoic acid	ND	mg/kg	480	
bis(2-Chloroethoxy)-methane	ND	mg/kg	480	
2,4-Dichlorophenol	ND	mg/kg	480	
1,2,4-Trichlorobenzene	ND	mg/kg	480	
Naphthalene	600	mg/kg	480	
4-Chloroaniline	ND	mg/kg	480	
Hexachlorobutadiene	ND	mg/kg	480	
4-Chloro-3-methylphenol	ND	mg/kg	480	
2-Methylnaphthalene	620	mg/kg	480	
Hexachlorocyclopentadiene	ND	mg/kg	480	
2,4,6-Trichlorophenol	ND	mg/kg	480	
2,4,5-Trichlorophenol	ND	mg/kg	2400	
2-Chloronaphthalene	ND	mg/kg	480	
2-Nitroaniline	ND	mg/kg	2400	
Dimethyl phthalate	ND	mg/kg	480	
Acenaphthylene	ND	mg/kg	480	
3-Nitroaniline	ND	mg/kg	2400	
Acenaphthene	ND	mg/kg	480	
2,4-Dinitrophenol	ND	mg/kg	2400	
4-Nitrophenol	ND	mg/kg	2400	
Dibenzofuran	ND	mg/kg	480	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0037

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental

Client ID: SAMPLE 2

Lab ID: 029182-0002-SA

Matrix: WASTE

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 21 JUL 93

Received: 03 JUL 93

Analyzed: 23 JUL 93

Parameter	Result	Units	Reporting Limit	
2,4-Dinitrotoluene	ND	mg/kg	480	
2,6-Dinitrotoluene	ND	mg/kg	480	
Diethyl phthalate	ND	mg/kg	480	
4-Chlorophenyl phenyl ether	ND	mg/kg	480	
Fluorene	110	mg/kg	480	J
4-Nitroaniline	ND	mg/kg	2400	
4,6-Dinitro- 2-methylphenol	ND	mg/kg	2400	
N-Nitrosodiphenylamine	ND	mg/kg	480	
4-Bromophenyl phenyl ether	ND	mg/kg	480	
Hexachlorobenzene	ND	mg/kg	480	
Pentachlorophenol	ND	mg/kg	2400	
Phenanthrene	230	mg/kg	480	J
Anthracene	ND	mg/kg	480	
Di-n-butyl phthalate	ND	mg/kg	480	
Fluoranthene	51	mg/kg	480	J
Pyrene	98	mg/kg	480	J
Butyl benzyl phthalate	ND	mg/kg	480	
3,3'-Dichlorobenzidine	ND	mg/kg	950	
Benzo(a)anthracene	61	mg/kg	480	J
bis(2-Ethylhexyl) phthalate	170	mg/kg	480	J
Chrysene	ND	mg/kg	480	
Di-n-octyl phthalate	ND	mg/kg	480	
Benzo(b)fluoranthene	ND	mg/kg	480	
Benzo(k)fluoranthene	ND	mg/kg	480	
Benzo(a)pyrene	ND	mg/kg	480	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	480	
Dibenz(a,h)anthracene	ND	mg/kg	480	
Benzo(g,h,i)perylene	ND	mg/kg	480	
Surrogate	Recovery			
Nitrobenzene-d5	65	%		
2-Fluorobiphenyl	95	%		
Terphenyl-d14	116	%		
Phenol-d5	63	%		
2-Fluorophenol	54	%		
2,4,6-Tribromophenol	38	%		

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0038

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental
Client ID: SAMPLE 2
Lab ID: 029182-0002-SA
Matrix: WASTE
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: 21 JUL 93

Received: 03 JUL 93
Analyzed: 23 JUL 93

Note d : All reporting limits raised due to matrix interferences.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected
NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0039

TCL Semivolatile Organics

Method 8270

Client Name: Cooper Environmental

Client ID: SAMPLE 3

Lab ID: 029182-0003-SA

Matrix: WASTE

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 21 JUL 93

Received: 03 JUL 93

Analyzed: 23 JUL 93

Parameter	Result	Units	Reporting Limit	
Phenol	ND	mg/kg	490	d
bis(2-Chloroethyl) ether	ND	mg/kg	490	
2-Chlorophenol	ND	mg/kg	490	
1,3-Dichlorobenzene	ND	mg/kg	490	
1,4-Dichlorobenzene	ND	mg/kg	490	
Benzyl alcohol	ND	mg/kg	490	
1,2-Dichlorobenzene	ND	mg/kg	490	
2-Methylphenol	ND	mg/kg	490	
bis(2-Chloroisopropyl) ether	ND	mg/kg	490	
4-Methylphenol	ND	mg/kg	490	
N-Nitroso-di-n-propylamine	ND	mg/kg	490	
Hexachloroethane	ND	mg/kg	490	
Nitrobenzene	ND	mg/kg	490	
Isophorone	ND	mg/kg	490	
2-Nitrophenol	ND	mg/kg	490	
2,4-Dimethylphenol	ND	mg/kg	2500	
Benzoic acid	ND	mg/kg	490	
bis(2-Chloroethoxy)-methane	ND	mg/kg	490	
2,4-Dichlorophenol	ND	mg/kg	490	
1,2,4-Trichlorobenzene	ND	mg/kg	490	
Naphthalene	390	mg/kg	490	J
4-Chloroaniline	ND	mg/kg	490	
Hexachlorobutadiene	ND	mg/kg	490	
4-Chloro-3-methylphenol	ND	mg/kg	490	
2-Methylnaphthalene	450	mg/kg	490	J
Hexachlorocyclopentadiene	ND	mg/kg	490	
2,4,6-Trichlorophenol	ND	mg/kg	490	
2,4,5-Trichlorophenol	ND	mg/kg	2500	
2-Chloronaphthalene	ND	mg/kg	490	
2-Nitroaniline	ND	mg/kg	2500	
Dimethyl phthalate	ND	mg/kg	490	
Acenaphthylene	ND	mg/kg	490	
3-Nitroaniline	ND	mg/kg	2500	
Acenaphthene	ND	mg/kg	490	
2,4-Dinitrophenol	ND	mg/kg	2500	
4-Nitrophenol	ND	mg/kg	2500	
Dibenzofuran	ND	mg/kg	490	

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0040

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental

Client ID: SAMPLE 3

Lab ID: 029182-0003-SA

Matrix: WASTE

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 21 JUL 93

Received: 03 JUL 93

Analyzed: 23 JUL 93

Parameter	Result	Units	Reporting Limit	
2,4-Dinitrotoluene	ND	mg/kg	490	
2,6-Dinitrotoluene	ND	mg/kg	490	
Diethyl phthalate	ND	mg/kg	490	
4-Chlorophenyl phenyl ether	ND	mg/kg	490	
Fluorene	ND	mg/kg	490	
4-Nitroaniline	ND	mg/kg	2500	
4,6-Dinitro- 2-methylphenol	ND	mg/kg	2500	
N-Nitrosodiphenylamine	ND	mg/kg	490	
4-Bromophenyl phenyl ether	ND	mg/kg	490	
Hexachlorobenzene	ND	mg/kg	490	
Pentachlorophenol	ND	mg/kg	2500	
Phenanthrene	80	mg/kg	490	J
Anthracene	ND	mg/kg	490	
Di-n-butyl phthalate	ND	mg/kg	490	
Fluoranthene	ND	mg/kg	490	
Pyrene	72	mg/kg	490	J
Butyl benzyl phthalate	ND	mg/kg	490	
3,3'-Dichlorobenzidine	ND	mg/kg	990	
Benzo(a)anthracene	ND	mg/kg	490	
bis(2-Ethylhexyl) phthalate	160	mg/kg	490	J
Chrysene	ND	mg/kg	490	
Di-n-octyl phthalate	ND	mg/kg	490	
Benzo(b)fluoranthene	ND	mg/kg	490	
Benzo(k)fluoranthene	ND	mg/kg	490	
Benzo(a)pyrene	ND	mg/kg	490	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	490	
Dibenz(a,h)anthracene	ND	mg/kg	490	
Benzo(g,h,i)perylene	ND	mg/kg	490	
Surrogate	Recovery			
Nitrobenzene-d5	50	%		
2-Fluorobiphenyl	85	%		
Terphenyl-d14	105	%		
Phenol-d5	59	%		
2-Fluorophenol	54	%		
2,4,6-Tribromophenol	35	%		

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0041

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental

Client ID: SAMPLE 3

Lab ID: 029182-0003-SA

Matrix: WASTE

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 21 JUL 93

Received: 03 JUL 93

Analyzed: 23 JUL 93

Note d : All reporting limits raised due to matrix interferences.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0042

TCL Semivolatile Organics

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A Coming Corp.

Method 8270

Client Name: Cooper Environmental

Client ID: SAMPLE 4

Lab ID: 029182-0004-SA

Matrix: WASTE

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 21 JUL 93

Received: 03 JUL 93

Analyzed: 23 JUL 93

Parameter	Result	Units	Reporting Limit	
Phenol	ND	mg/kg	500	d
bis(2-Chloroethyl) ether	ND	mg/kg	500	
2-Chlorophenol	ND	mg/kg	500	
1,3-Dichlorobenzene	ND	mg/kg	500	
1,4-Dichlorobenzene	ND	mg/kg	500	
Benzyl alcohol	ND	mg/kg	500	
1,2-Dichlorobenzene	ND	mg/kg	500	
2-Methylphenol	ND	mg/kg	500	
bis(2-Chloroisopropyl) ether	ND	mg/kg	500	
4-Methylphenol	ND	mg/kg	500	
N-Nitroso-di-n-propylamine	ND	mg/kg	500	
Hexachloroethane	ND	mg/kg	500	
Nitrobenzene	ND	mg/kg	500	
Isophorone	ND	mg/kg	500	
2-Nitrophenol	ND	mg/kg	500	
2,4-Dimethylphenol	ND	mg/kg	2500	
Benzoic acid	ND	mg/kg	500	
bis(2-Chloroethoxy)-methane	ND	mg/kg	500	
2,4-Dichlorophenol	ND	mg/kg	500	
1,2,4-Trichlorobenzene	ND	mg/kg	500	
Naphthalene	710	mg/kg	500	
4-Chloroaniline	ND	mg/kg	500	
Hexachlorobutadiene	ND	mg/kg	500	
4-Chloro-3-methylphenol	ND	mg/kg	500	
2-Methylnaphthalene	790	mg/kg	500	
Hexachlorocyclopentadiene	ND	mg/kg	500	
2,4,6-Trichlorophenol	ND	mg/kg	500	
2,4,5-Trichlorophenol	ND	mg/kg	2500	
2-Chloronaphthalene	ND	mg/kg	500	
2-Nitroaniline	ND	mg/kg	2500	
Dimethyl phthalate	ND	mg/kg	500	
Acenaphthylene	ND	mg/kg	500	
3-Nitroaniline	ND	mg/kg	2500	
Acenaphthene	ND	mg/kg	500	
2,4-Dinitrophenol	ND	mg/kg	2500	
4-Nitrophenol	ND	mg/kg	2500	
Dibenzofuran	ND	mg/kg	500	

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0043

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental

Client ID: SAMPLE 4

Lab ID: 029182-0004-SA

Matrix: WASTE

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 21 JUL 93

Received: 03 JUL 93

Analyzed: 23 JUL 93

Parameter	Result	Units	Reporting Limit	
2,4-Dinitrotoluene	ND	mg/kg	500	
2,6-Dinitrotoluene	ND	mg/kg	500	
Diethyl phthalate	ND	mg/kg	500	
4-Chlorophenyl phenyl ether	ND	mg/kg	500	
Fluorene	57	mg/kg	500	J
4-Nitroaniline	ND	mg/kg	2500	
4,6-Dinitro- 2-methylphenol	ND	mg/kg	2500	
N-Nitrosodiphenylamine	ND	mg/kg	500	
4-Bromophenyl phenyl ether	ND	mg/kg	500	
Hexachlorobenzene	ND	mg/kg	500	
Pentachlorophenol	ND	mg/kg	2500	
Phenanthrene	150	mg/kg	500	J
Anthracene	ND	mg/kg	500	
Di-n-butyl phthalate	ND	mg/kg	500	
Fluoranthene	54	mg/kg	500	J
Pyrene	130	mg/kg	500	J
Butyl benzyl phthalate	ND	mg/kg	500	
3,3'-Dichlorobenzidine	ND	mg/kg	1000	
Benzo(a)anthracene	73	mg/kg	500	J
bis(2-Ethylhexyl) phthalate	170	mg/kg	500	J
Chrysene	ND	mg/kg	500	
Di-n-octyl phthalate	ND	mg/kg	500	
Benzo(b)fluoranthene	ND	mg/kg	500	
Benzo(k)fluoranthene	ND	mg/kg	500	
Benzo(a)pyrene	ND	mg/kg	500	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	500	
Dibenz(a,h)anthracene	ND	mg/kg	500	
Benzo(g,h,i)perylene	ND	mg/kg	500	
Surrogate	Recovery			
Nitrobenzene-d5	59	%		
2-Fluorobiphenyl	92	%		
Terphenyl-d14	104	%		
Phenol-d5	65	%		
2-Fluorophenol	45	%		
2,4,6-Tribromophenol	38	%		

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0044

TCL Semivolatile Organics (CONT.)

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A Corning Company

Method 8270

Client Name: Cooper Environmental

Client ID: SAMPLE 4

Lab ID: 029182-0004-SA

Matrix: WASTE

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 21 JUL 93

Received: 03 JUL 93

Analyzed: 23 JUL 93

Note d : All reporting limits raised due to matrix interferences.

Note J : Result is detected below the reporting limit or is an
estimated concentration.

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0045

TUT 004 1050

TCL Semivolatile Organics

Method 8270

Client Name: Cooper Environmental

Client ID: SB-1

Lab ID: 029182-0005-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 09 JUL 93

Received: 03 JUL 93

Analyzed: 21 JUL 93

Parameter	Result	Dry Weight Reporting Units	Limit	
Phenol	180	ug/kg	720	dJ
bis(2-Chloroethyl) ether	ND	ug/kg	720	
2-Chlorophenol	ND	ug/kg	720	
1,3-Dichlorobenzene	ND	ug/kg	720	
1,4-Dichlorobenzene	ND	ug/kg	720	
1,2-Dichlorobenzene	ND	ug/kg	720	
2-Methylphenol	530	ug/kg	720	J
bis(2-Chloroisopropyl) ether	ND	ug/kg	720	
4-Methylphenol	220	ug/kg	720	J
N-Nitroso-di-n-propylamine	ND	ug/kg	720	
Hexachloroethane	ND	ug/kg	720	
Nitrobenzene	ND	ug/kg	720	
Isophorone	ND	ug/kg	720	
2-Nitrophenol	ND	ug/kg	720	
2,4-Dimethylphenol	ND	ug/kg	720	
bis(2-Chloroethoxy)-methane	ND	ug/kg	720	
2,4-Dichlorophenol	ND	ug/kg	720	
1,2,4-Trichlorobenzene	ND	ug/kg	720	
Naphthalene	ND	ug/kg	720	
4-Chloroaniline	ND	ug/kg	720	
Hexachlorobutadiene	ND	ug/kg	720	
4-Chloro-3-methylphenol	ND	ug/kg	720	
2-Methylnaphthalene	ND	ug/kg	720	
Hexachlorocyclopentadiene	ND	ug/kg	720	
2,4,6-Trichlorophenol	ND	ug/kg	720	
2,4,5-Trichlorophenol	ND	ug/kg	3500	
2-Chloronaphthalene	ND	ug/kg	720	
2-Nitroaniline	ND	ug/kg	3500	
Dimethyl phthalate	ND	ug/kg	720	
Acenaphthylene	ND	ug/kg	720	
3-Nitroaniline	ND	ug/kg	3500	
Acenaphthene	ND	ug/kg	720	
2,4-Dinitrophenol	ND	ug/kg	3500	
4-Nitrophenol	ND	ug/kg	3500	
Dibenzofuran	ND	ug/kg	720	
2,4-Dinitrotoluene	ND	ug/kg	720	
2,6-Dinitrotoluene	ND	ug/kg	720	

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0046

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental
Client ID: SB-1
Lab ID: 029182-0005-SA
Matrix: SOIL
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: 09 JUL 93

Received: 03 JUL 93
Analyzed: 21 JUL 93

Parameter	Result	Dry Weight Reporting Units	Limit	
Diethyl phthalate	ND	ug/kg	720	
4-Chlorophenyl phenyl ether	ND	ug/kg	720	
Fluorene	ND	ug/kg	720	
4-Nitroaniline	ND	ug/kg	3500	
4,6-Dinitro- 2-methylphenol	ND	ug/kg	3500	
N-Nitrosodiphenylamine	ND	ug/kg	720	
4-Bromophenyl phenyl ether	ND	ug/kg	720	
Hexachlorobenzene	ND	ug/kg	720	
Pentachlorophenol	ND	ug/kg	3500	
Phenanthrene	ND	ug/kg	720	
Anthracene	ND	ug/kg	720	
9H-Carbazole	ND	ug/kg	720	
Di-n-butyl phthalate	ND	ug/kg	720	
Fluoranthene	ND	ug/kg	720	
Pyrene	180	ug/kg	720	J
Butyl benzyl phthalate	ND	ug/kg	720	
3,3'-Dichlorobenzidine	ND	ug/kg	1400	
Benzo(a)anthracene	ND	ug/kg	720	
bis(2-Ethylhexyl) phthalate	110	ug/kg	720	J
Chrysene	200	ug/kg	720	J
Di-n-octyl phthalate	120	ug/kg	720	J
Benzo(b)fluoranthene	170	ug/kg	720	J
Benzo(k)fluoranthene	ND	ug/kg	720	
Benzo(a)pyrene	340	ug/kg	720	J
Indeno(1,2,3-cd)pyrene	ND	ug/kg	720	
Dibenz(a,h)anthracene	ND	ug/kg	720	
Benzo(g,h,i)perylene	1200	ug/kg	720	
Surrogate	Recovery			
Nitrobenzene-d5	81	%		
2-Fluorobiphenyl	86	%		
Terphenyl-d14	159	%		
Phenol-d5	83	%		
2-Fluorophenol	78	%		
2,4,6-Tribromophenol	84	%		

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0047

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental
Client ID: SB-1
Lab ID: 029182-0005-SA
Matrix: SOIL
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: 09 JUL 93

Received: 03 JUL 93
Analyzed: 21 JUL 93

Note d : All reporting limits raised due to matrix interferences.

Note J : Result is detected below the reporting limit or is an
estimated concentration.

Percent Moisture is 8.1%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0048

TCL Semivolatile Organics

Method 8270

Client Name: Cooper Environmental
Client ID: SB-3
Lab ID: 029182-0006-SA
Matrix: SOIL
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: 09 JUL 93

Received: 03 JUL 93
Analyzed: 20 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit	
Phenol	ND	ug/kg	4200	d
bis(2-Chloroethyl) ether	ND	ug/kg	4200	
2-Chlorophenol	ND	ug/kg	4200	
1,3-Dichlorobenzene	ND	ug/kg	4200	
1,4-Dichlorobenzene	ND	ug/kg	4200	
1,2-Dichlorobenzene	ND	ug/kg	4200	
2-Methylphenol	ND	ug/kg	4200	
bis(2-Chloroisopropyl) ether	ND	ug/kg	4200	
4-Methylphenol	ND	ug/kg	4200	
N-Nitroso-di- n-propylamine	ND	ug/kg	4200	
Hexachloroethane	ND	ug/kg	4200	
Nitrobenzene	ND	ug/kg	4200	
Isophorone	ND	ug/kg	4200	
2-Nitrophenol	ND	ug/kg	4200	
2,4-Dimethylphenol	ND	ug/kg	4200	
bis(2-Chloroethoxy)- methane	ND	ug/kg	4200	
2,4-Dichlorophenol	ND	ug/kg	4200	
1,2,4-Trichlorobenzene	ND	ug/kg	4200	
Naphthalene	ND	ug/kg	4200	
4-Chloroaniline	ND	ug/kg	4200	
Hexachlorobutadiene	ND	ug/kg	4200	
4-Chloro-3-methylphenol	ND	ug/kg	4200	
2-Methylnaphthalene	ND	ug/kg	4200	
Hexachlorocyclo- pentadiene	ND	ug/kg	4200	
2,4,6-Trichlorophenol	ND	ug/kg	4200	
2,4,5-Trichlorophenol	ND	ug/kg	20000	
2-Chloronaphthalene	ND	ug/kg	4200	
2-Nitroaniline	ND	ug/kg	20000	
Dimethyl phthalate	ND	ug/kg	4200	
Acenaphthylene	ND	ug/kg	4200	
3-Nitroaniline	ND	ug/kg	20000	
Acenaphthene	ND	ug/kg	4200	
2,4-Dinitrophenol	ND	ug/kg	20000	
4-Nitrophenol	ND	ug/kg	20000	
Dibenzofuran	ND	ug/kg	4200	
2,4-Dinitrotoluene	ND	ug/kg	4200	
2,6-Dinitrotoluene	ND	ug/kg	4200	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani

Approved By: Lori Ann Quinn

0049

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental

Client ID: SB-3

Lab ID: 029182-0006-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 09 JUL 93

Received: 03 JUL 93

Analyzed: 20 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit	
Diethyl phthalate	ND	ug/kg	4200	
4-Chlorophenyl phenyl ether	ND	ug/kg	4200	
Fluorene	ND	ug/kg	4200	
4-Nitroaniline	ND	ug/kg	20000	
4,6-Dinitro- 2-methylphenol	ND	ug/kg	20000	
N-Nitrosodiphenylamine	ND	ug/kg	4200	
4-Bromophenyl phenyl ether	ND	ug/kg	4200	
Hexachlorobenzene	ND	ug/kg	4200	
Pentachlorophenol	ND	ug/kg	20000	
Phenanthrene	ND	ug/kg	4200	
Anthracene	ND	ug/kg	4200	
9H-Carbazole	ND	ug/kg	4200	
Di-n-butyl phthalate	ND	ug/kg	4200	
Fluoranthene	ND	ug/kg	4200	
Pyrene	780	ug/kg	4200	J
Butyl benzyl phthalate	ND	ug/kg	4200	
3,3'-Dichlorobenzidine	ND	ug/kg	8300	
Benzo(a)anthracene	ND	ug/kg	4200	
bis(2-Ethylhexyl) phthalate	660	ug/kg	4200	J
Chrysene	790	ug/kg	4200	J
Di-n-octyl phthalate	450	ug/kg	4200	J
Benzo(b)fluoranthene	1100	ug/kg	4200	J
Benzo(k)fluoranthene	ND	ug/kg	4200	
Benzo(a)pyrene	420	ug/kg	4200	J
Indeno(1,2,3-cd)pyrene	ND	ug/kg	4200	
Dibenz(a,h)anthracene	ND	ug/kg	4200	
Benzo(g,h,i)perylene	3400	ug/kg	4200	J
Surrogate	Recovery			
Nitrobenzene-d5	84	%		
2-Fluorobiphenyl	80	%		
Terphenyl-d14	126	%		
Phenol-d5	84	%		
2-Fluorophenol	80	%		
2,4,6-Tribromophenol	73	%		

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani

Approved By: Lori Ann Quinn

0050

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental
Client ID: SB-3
Lab ID: 029182-0006-SA
Matrix: SOIL
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: 09 JUL 93

Received: 03 JUL 93
Analyzed: 20 JUL 93

Note d : All reporting limits raised due to matrix interferences.

Percent Moisture is 21%. All results and limits are reported on a dry weight basis.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani

Approved By: Lori Ann Quinn

0051

TCL Semivolatile Organics

Method 8270

Client Name: Cooper Environmental
Client ID: SB-4
Lab ID: 029182-0007-SA
Matrix: SOIL
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: 09 JUL 93

Received: 03 JUL 93
Analyzed: 14 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit
Phenol	ND	ug/kg	380
bis(2-Chloroethyl) ether	ND	ug/kg	380
2-Chlorophenol	ND	ug/kg	380
1,3-Dichlorobenzene	ND	ug/kg	380
1,4-Dichlorobenzene	ND	ug/kg	380
1,2-Dichlorobenzene	ND	ug/kg	380
2-Methylphenol	ND	ug/kg	380
bis(2-Chloroisopropyl) ether	ND	ug/kg	380
4-Methylphenol	ND	ug/kg	380
N-Nitroso-di- n-propylamine	ND	ug/kg	380
Hexachloroethane	ND	ug/kg	380
Nitrobenzene	ND	ug/kg	380
Isophorone	ND	ug/kg	380
2-Nitrophenol	ND	ug/kg	380
2,4-Dimethylphenol	ND	ug/kg	380
bis(2-Chloroethoxy)- methane	ND	ug/kg	380
2,4-Dichlorophenol	ND	ug/kg	380
1,2,4-Trichlorobenzene	ND	ug/kg	380
Naphthalene	ND	ug/kg	380
4-Chloroaniline	ND	ug/kg	380
Hexachlorobutadiene	ND	ug/kg	380
4-Chloro-3-methylphenol	ND	ug/kg	380
2-Methylnaphthalene	ND	ug/kg	380
Hexachlorocyclo- pentadiene	ND	ug/kg	380
2,4,6-Trichlorophenol	ND	ug/kg	380
2,4,5-Trichlorophenol	ND	ug/kg	1800
2-Chloronaphthalene	ND	ug/kg	380
2-Nitroaniline	ND	ug/kg	1800
Dimethyl phthalate	ND	ug/kg	380
Acenaphthylene	ND	ug/kg	380
3-Nitroaniline	ND	ug/kg	1800
Acenaphthene	ND	ug/kg	380
2,4-Dinitrophenol	ND	ug/kg	1800
4-Nitrophenol	ND	ug/kg	1800
Dibenzofuran	ND	ug/kg	380
2,4-Dinitrotoluene	ND	ug/kg	380
2,6-Dinitrotoluene	ND	ug/kg	380

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0052

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental

Client ID: SB-4

Lab ID: 029182-0007-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 09 JUL 93

Received: 03 JUL 93

Analyzed: 14 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit
Diethyl phthalate	ND	ug/kg	380
4-Chlorophenyl phenyl ether	ND	ug/kg	380
Fluorene	ND	ug/kg	380
4-Nitroaniline	ND	ug/kg	1800
4,6-Dinitro- 2-methylphenol	ND	ug/kg	1800
N-Nitrosodiphenylamine	ND	ug/kg	380
4-Bromophenyl phenyl ether	ND	ug/kg	380
Hexachlorobenzene	ND	ug/kg	380
Pentachlorophenol	ND	ug/kg	1800
Phenanthrene	ND	ug/kg	380
Anthracene	ND	ug/kg	380
9H-Carbazole	ND	ug/kg	380
Di-n-butyl phthalate	ND	ug/kg	380
Fluoranthene	ND	ug/kg	380
Pyrene	ND	ug/kg	380
Butyl benzyl phthalate	44	ug/kg	380
3,3'-Dichlorobenzidine	ND	ug/kg	760
Benzo(a)anthracene	ND	ug/kg	380
bis(2-Ethylhexyl) phthalate	ND	ug/kg	380
Chrysene	ND	ug/kg	380
Di-n-octyl phthalate	ND	ug/kg	380
Benzo(b)fluoranthene	ND	ug/kg	380
Benzo(k)fluoranthene	ND	ug/kg	380
Benzo(a)pyrene	ND	ug/kg	380
Indeno(1,2,3-cd)pyrene	ND	ug/kg	380
Dibenz(a,h)anthracene	ND	ug/kg	380
Benzo(g,h,i)perylene	ND	ug/kg	380
Surrogate	Recovery		
Nitrobenzene-d5	75	%	
2-Fluorobiphenyl	75	%	
Terphenyl-d14	89	%	
Phenol-d5	73	%	
2-Fluorophenol	82	%	
2,4,6-Tribromophenol	88	%	

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0053

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental
Client ID: SB-4
Lab ID: 029182-0007-SA
Matrix: SOIL
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: 09 JUL 93

Received: 03 JUL 93
Analyzed: 14 JUL 93

Percent Moisture is 13%. All results and limits are reported on a dry weight basis.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected
NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0054

TCL Semivolatile Organics

Method 8270

Client Name: Cooper Environmental

Client ID: SB-5

Lab ID: 029182-0008-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 09 JUL 93

Received: 03 JUL 93

Analyzed: 14 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit
Phenol	ND	ug/kg	410
bis(2-Chloroethyl) ether	ND	ug/kg	410
2-Chlorophenol	ND	ug/kg	410
1,3-Dichlorobenzene	ND	ug/kg	410
1,4-Dichlorobenzene	ND	ug/kg	410
1,2-Dichlorobenzene	ND	ug/kg	410
2-Methylphenol	ND	ug/kg	410
bis(2-Chloroisopropyl) ether	ND	ug/kg	410
4-Methylphenol	ND	ug/kg	410
N-Nitroso-di- n-propylamine	ND	ug/kg	410
Hexachloroethane	ND	ug/kg	410
Nitrobenzene	ND	ug/kg	410
Isophorone	ND	ug/kg	410
2-Nitrophenol	ND	ug/kg	410
2,4-Dimethylphenol	ND	ug/kg	410
bis(2-Chloroethoxy)- methane	ND	ug/kg	410
2,4-Dichlorophenol	ND	ug/kg	410
1,2,4-Trichlorobenzene	ND	ug/kg	410
Naphthalene	ND	ug/kg	410
4-Chloroaniline	ND	ug/kg	410
Hexachlorobutadiene	ND	ug/kg	410
4-Chloro-3-methylphenol	ND	ug/kg	410
2-Methylnaphthalene	ND	ug/kg	410
Hexachlorocyclo- pentadiene	ND	ug/kg	410
2,4,6-Trichlorophenol	ND	ug/kg	410
2,4,5-Trichlorophenol	ND	ug/kg	2000
2-Chloronaphthalene	ND	ug/kg	410
2-Nitroaniline	ND	ug/kg	2000
Dimethyl phthalate	ND	ug/kg	410
Acenaphthylene	ND	ug/kg	410
3-Nitroaniline	ND	ug/kg	2000
Acenaphthene	ND	ug/kg	410
2,4-Dinitrophenol	ND	ug/kg	2000
4-Nitrophenol	ND	ug/kg	2000
Dibenzofuran	ND	ug/kg	410
2,4-Dinitrotoluene	ND	ug/kg	410
2,6-Dinitrotoluene	ND	ug/kg	410

(continued on following page)

ND = Not detected
NA = Not applicable

0055

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental

Client ID: SB-5

Lab ID: 029182-0008-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 09 JUL 93

Received: 03 JUL 93

Analyzed: 14 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit
Diethyl phthalate	ND	ug/kg	410
4-Chlorophenyl phenyl ether	ND	ug/kg	410
Fluorene	ND	ug/kg	410
4-Nitroaniline	ND	ug/kg	2000
4,6-Dinitro-2-methylphenol	ND	ug/kg	2000
N-Nitrosodiphenylamine	ND	ug/kg	410
4-Bromophenyl phenyl ether	ND	ug/kg	410
Hexachlorobenzene	ND	ug/kg	410
Pentachlorophenol	ND	ug/kg	2000
Phenanthrene	ND	ug/kg	410
Anthracene	ND	ug/kg	410
9H-Carbazole	ND	ug/kg	410
Di-n-butyl phthalate	ND	ug/kg	410
Fluoranthene	ND	ug/kg	410
Pyrene	ND	ug/kg	410
Butyl benzyl phthalate	680	ug/kg	410
3,3'-Dichlorobenzidine	ND	ug/kg	820
Benzo(a)anthracene	ND	ug/kg	410
bis(2-Ethylhexyl) phthalate	100	ug/kg	410
Chrysene	ND	ug/kg	410
Di-n-octyl phthalate	ND	ug/kg	410
Benzo(b)fluoranthene	ND	ug/kg	410
Benzo(k)fluoranthene	ND	ug/kg	410
Benzo(a)pyrene	ND	ug/kg	410
Indeno(1,2,3-cd)pyrene	ND	ug/kg	410
Dibenz(a,h)anthracene	ND	ug/kg	410
Benzo(g,h,i)perylene	ND	ug/kg	410
Surrogate	Recovery		
Nitrobenzene-d5	71	%	
2-Fluorobiphenyl	78	%	
Terphenyl-d14	94	%	
Phenol-d5	72	%	
2-Fluorophenol	77	%	
2,4,6-Tribromophenol	87	%	

J

(continued on following page)

 ND = Not detected
 NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0056

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental

Client ID: SB-5

Lab ID: 029182-0008-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 09 JUL 93

Received: 03 JUL 93

Analyzed: 14 JUL 93

Percent Moisture is 20%. All results and limits are reported on a dry weight basis.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0057

TCL Semivolatile Organics

Method 8270

Client Name: Cooper Environmental

Client ID: SB-9

Lab ID: 029182-0009-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 09 JUL 93

Received: 03 JUL 93

Analyzed: 14 JUL 93

Parameter	Result	Dry Weight Reporting Units	Limit
Phenol	ND	ug/kg	390
bis(2-Chloroethyl) ether	ND	ug/kg	390
2-Chlorophenol	ND	ug/kg	390
1,3-Dichlorobenzene	ND	ug/kg	390
1,4-Dichlorobenzene	ND	ug/kg	390
1,2-Dichlorobenzene	ND	ug/kg	390
2-Methylphenol	ND	ug/kg	390
bis(2-Chloroisopropyl) ether	ND	ug/kg	390
4-Methylphenol	ND	ug/kg	390
N-Nitroso-di- n-propylamine	ND	ug/kg	390
Hexachloroethane	ND	ug/kg	390
Nitrobenzene	ND	ug/kg	390
Isophorone	ND	ug/kg	390
2-Nitrophenol	ND	ug/kg	390
2,4-Dimethylphenol	ND	ug/kg	390
bis(2-Chloroethoxy)- methane	ND	ug/kg	390
2,4-Dichlorophenol	ND	ug/kg	390
1,2,4-Trichlorobenzene	ND	ug/kg	390
Naphthalene	ND	ug/kg	390
4-Chloroaniline	ND	ug/kg	390
Hexachlorobutadiene	ND	ug/kg	390
4-Chloro-3-methylphenol	ND	ug/kg	390
2-Methylnaphthalene	ND	ug/kg	390
Hexachlorocyclo- pentadiene	ND	ug/kg	390
2,4,6-Trichlorophenol	ND	ug/kg	390
2,4,5-Trichlorophenol	ND	ug/kg	1900
2-Chloronaphthalene	ND	ug/kg	390
2-Nitroaniline	ND	ug/kg	1900
Dimethyl phthalate	ND	ug/kg	390
Acenaphthylene	ND	ug/kg	390
3-Nitroaniline	ND	ug/kg	1900
Acenaphthene	ND	ug/kg	390
2,4-Dinitrophenol	ND	ug/kg	1900
4-Nitrophenol	ND	ug/kg	1900
Dibenzofuran	ND	ug/kg	390
2,4-Dinitrotoluene	ND	ug/kg	390
2,6-Dinitrotoluene	ND	ug/kg	390

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0058

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental

Client ID: SB-9

Lab ID: 029182-0009-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 09 JUL 93

Received: 03 JUL 93

Analyzed: 14 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit
Diethyl phthalate	ND	ug/kg	390
4-Chlorophenyl phenyl ether	ND	ug/kg	390
Fluorene	ND	ug/kg	390
4-Nitroaniline	ND	ug/kg	1900
4,6-Dinitro- 2-methylphenol	ND	ug/kg	1900
N-Nitrosodiphenylamine	ND	ug/kg	390
4-Bromophenyl phenyl ether	ND	ug/kg	390
Hexachlorobenzene	ND	ug/kg	390
Pentachlorophenol	ND	ug/kg	1900
Phenanthrene	ND	ug/kg	390
Anthracene	ND	ug/kg	390
9H-Carbazole	ND	ug/kg	390
Di-n-butyl phthalate	ND	ug/kg	390
Fluoranthene	ND	ug/kg	390
Pyrene	ND	ug/kg	390
Butyl benzyl phthalate	110	ug/kg	390
3,3'-Dichlorobenzidine	ND	ug/kg	790
Benzo(a)anthracene	ND	ug/kg	390
bis(2-Ethylhexyl) phthalate	48	ug/kg	390
Chrysene	ND	ug/kg	390
Di-n-octyl phthalate	ND	ug/kg	390
Benzo(b)fluoranthene	ND	ug/kg	390
Benzo(k)fluoranthene	ND	ug/kg	390
Benzo(a)pyrene	ND	ug/kg	390
Indeno(1,2,3-cd)pyrene	ND	ug/kg	390
Dibenz(a,h)anthracene	ND	ug/kg	390
Benzo(g,h,i)perylene	ND	ug/kg	390

Surrogate	Recovery
Nitrobenzene-d5	66 %
2-Fluorobiphenyl	74 %
Terphenyl-d14	89 %
Phenol-d5	71 %
2-Fluorophenol	75 %
2,4,6-Tribromophenol	84 %

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0059

TCL Semivolatile Organics (CONT.)

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Method 8270

Client Name: Cooper Environmental

Client ID: SB-9

Lab ID: 029182-0009-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 09 JUL 93

Received: 03 JUL 93

Analyzed: 14 JUL 93

Percent Moisture is 16%. All results and limits are reported on a dry weight basis.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected
NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0060

TCL Semivolatile Organics

Method 8270

Client Name: Cooper Environmental

Client ID: SB-10

Lab ID: 029182-0010-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 09 JUL 93

Received: 03 JUL 93

Analyzed: 16 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit
Phenol	ND	ug/kg	400
bis(2-Chloroethyl) ether	ND	ug/kg	400
2-Chlorophenol	ND	ug/kg	400
1,3-Dichlorobenzene	ND	ug/kg	400
1,4-Dichlorobenzene	ND	ug/kg	400
1,2-Dichlorobenzene	ND	ug/kg	400
2-Methylphenol	ND	ug/kg	400
bis(2-Chloroisopropyl) ether	ND	ug/kg	400
4-Methylphenol	ND	ug/kg	400
N-Nitroso-di- n-propylamine	ND	ug/kg	400
Hexachloroethane	ND	ug/kg	400
Nitrobenzene	ND	ug/kg	400
Isophorone	ND	ug/kg	400
2-Nitrophenol	ND	ug/kg	400
2,4-Dimethylphenol	ND	ug/kg	400
bis(2-Chloroethoxy)- methane	ND	ug/kg	400
2,4-Dichlorophenol	ND	ug/kg	400
1,2,4-Trichlorobenzene	ND	ug/kg	400
Naphthalene	ND	ug/kg	400
4-Chloroaniline	ND	ug/kg	400
Hexachlorobutadiene	ND	ug/kg	400
4-Chloro-3-methylphenol	ND	ug/kg	400
2-Methylnaphthalene	ND	ug/kg	400
Hexachlorocyclo- pentadiene	ND	ug/kg	400
2,4,6-Trichlorophenol	ND	ug/kg	400
2,4,5-Trichlorophenol	ND	ug/kg	2000
2-Chloronaphthalene	ND	ug/kg	400
2-Nitroaniline	ND	ug/kg	2000
Dimethyl phthalate	ND	ug/kg	400
Acenaphthylene	ND	ug/kg	400
3-Nitroaniline	ND	ug/kg	2000
Acenaphthene	ND	ug/kg	400
2,4-Dinitrophenol	ND	ug/kg	2000
4-Nitrophenol	ND	ug/kg	2000
Dibenzofuran	ND	ug/kg	400
2,4-Dinitrotoluene	ND	ug/kg	400
2,6-Dinitrotoluene	ND	ug/kg	400

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0061

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental
Client ID: SB-10
Lab ID: 029182-0010-SA
Matrix: SOIL
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: 09 JUL 93

Received: 03 JUL 93
Analyzed: 16 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit
Diethyl phthalate	ND	ug/kg	400
4-Chlorophenyl phenyl ether	ND	ug/kg	400
Fluorene	ND	ug/kg	400
4-Nitroaniline	ND	ug/kg	2000
4,6-Dinitro-2-methylphenol	ND	ug/kg	2000
N-Nitrosodiphenylamine	ND	ug/kg	400
4-Bromophenyl phenyl ether	ND	ug/kg	400
Hexachlorobenzene	ND	ug/kg	400
Pentachlorophenol	ND	ug/kg	2000
Phenanthrene	ND	ug/kg	400
Anthracene	ND	ug/kg	400
9H-Carbazole	ND	ug/kg	400
Di-n-butyl phthalate	ND	ug/kg	400
Fluoranthene	ND	ug/kg	400
Pyrene	ND	ug/kg	400
Butyl benzyl phthalate	1000	ug/kg	400
3,3'-Dichlorobenzidine	ND	ug/kg	810
Benzo(a)anthracene	ND	ug/kg	400
bis(2-Ethylhexyl) phthalate	130	ug/kg	400
Chrysene	ND	ug/kg	400
Di-n-octyl phthalate	ND	ug/kg	400
Benzo(b)fluoranthene	ND	ug/kg	400
Benzo(k)fluoranthene	ND	ug/kg	400
Benzo(a)pyrene	ND	ug/kg	400
Indeno(1,2,3-cd)pyrene	ND	ug/kg	400
Dibenz(a,h)anthracene	ND	ug/kg	400
Benzo(g,h,i)perylene	ND	ug/kg	400
Surrogate	Recovery		
Nitrobenzene-d5	48	%	
2-Fluorobiphenyl	49	%	
Terphenyl-d14	65	%	
Phenol-d5	49	%	
2-Fluorophenol	54	%	
2,4,6-Tribromophenol	46	%	

J

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0062

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental

Client ID: SB-10

Lab ID: 029182-0010-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 09 JUL 93

Received: 03 JUL 93

Analyzed: 16 JUL 93

Percent Moisture is 18%. All results and limits are reported on a dry weight basis.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0063

TCL Semivolatile Organics

Method 8270

Client Name: Cooper Environmental

Client ID: SB-11

Lab ID: 029182-0011-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 09 JUL 93

Received: 03 JUL 93

Analyzed: 14 JUL 93

Parameter	Result	Dry Weight Reporting	
		Units	Limit
Phenol	ND	ug/kg	380
bis(2-Chloroethyl) ether	ND	ug/kg	380
2-Chlorophenol	ND	ug/kg	380
1,3-Dichlorobenzene	ND	ug/kg	380
1,4-Dichlorobenzene	ND	ug/kg	380
1,2-Dichlorobenzene	ND	ug/kg	380
2-Methylphenol	ND	ug/kg	380
bis(2-Chloroisopropyl) ether	ND	ug/kg	380
4-Methylphenol	ND	ug/kg	380
N-Nitroso-di- n-propylamine	ND	ug/kg	380
Hexachloroethane	ND	ug/kg	380
Nitrobenzene	ND	ug/kg	380
Isophorone	ND	ug/kg	380
2-Nitrophenol	ND	ug/kg	380
2,4-Dimethylphenol	ND	ug/kg	380
bis(2-Chloroethoxy)- methane	ND	ug/kg	380
2,4-Dichlorophenol	ND	ug/kg	380
1,2,4-Trichlorobenzene	ND	ug/kg	380
Naphthalene	ND	ug/kg	380
4-Chloroaniline	ND	ug/kg	380
Hexachlorobutadiene	ND	ug/kg	380
4-Chloro-3-methylphenol	ND	ug/kg	380
2-Methylnaphthalene	ND	ug/kg	380
Hexachlorocyclo- pentadiene	ND	ug/kg	380
2,4,6-Trichlorophenol	ND	ug/kg	380
2,4,5-Trichlorophenol	ND	ug/kg	1900
2-Chloronaphthalene	ND	ug/kg	380
2-Nitroaniline	ND	ug/kg	1900
Dimethyl phthalate	ND	ug/kg	380
Acenaphthylene	ND	ug/kg	380
3-Nitroaniline	ND	ug/kg	1900
Acenaphthene	ND	ug/kg	380
2,4-Dinitrophenol	ND	ug/kg	1900
4-Nitrophenol	ND	ug/kg	1900
Dibenzofuran	ND	ug/kg	380
2,4-Dinitrotoluene	ND	ug/kg	380
2,6-Dinitrotoluene	ND	ug/kg	380

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0064

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental
Client ID: SB-11
Lab ID: 029182-0011-SA
Matrix: SOIL
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: 09 JUL 93

Received: 03 JUL 93
Analyzed: 14 JUL 93

Parameter	Result	Dry Weight Reporting Units	Limit	
Diethyl phthalate	ND	ug/kg	380	
4-Chlorophenyl phenyl ether	ND	ug/kg	380	
Fluorene	ND	ug/kg	380	
4-Nitroaniline	ND	ug/kg	1900	
4,6-Dinitro-2-methylphenol	ND	ug/kg	1900	
N-Nitrosodiphenylamine	ND	ug/kg	380	
4-Bromophenyl phenyl ether	ND	ug/kg	380	
Hexachlorobenzene	ND	ug/kg	380	
Pentachlorophenol	ND	ug/kg	1900	
Phenanthrene	ND	ug/kg	380	
Anthracene	ND	ug/kg	380	
9H-Carbazole	ND	ug/kg	380	
Di-n-butyl phthalate	ND	ug/kg	380	
Fluoranthene	43	ug/kg	380	J
Pyrene	61	ug/kg	380	J
Butyl benzyl phthalate	140	ug/kg	380	J
3,3'-Dichlorobenzidine	ND	ug/kg	770	
Benzo(a)anthracene	ND	ug/kg	380	
bis(2-Ethylhexyl) phthalate	70	ug/kg	380	J
Chrysene	ND	ug/kg	380	
Di-n-octyl phthalate	49	ug/kg	380	J
Benzo(b)fluoranthene	87	ug/kg	380	J
Benzo(k)fluoranthene	ND	ug/kg	380	
Benzo(a)pyrene	ND	ug/kg	380	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	380	
Dibenz(a,h)anthracene	ND	ug/kg	380	
Benzo(g,h,i)perylene	87	ug/kg	380	J
Surrogate	Recovery			
Nitrobenzene-d5	78	%		
2-Fluorobiphenyl	85	%		
Terphenyl-d14	124	%		
Phenol-d5	77	%		
2-Fluorophenol	85	%		
2,4,6-Tribromophenol	90	%		

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0065

TCL Semivolatile Organics (CONT.)

Enseco
A Corning Company

Method 8270

Client Name: Cooper Environmental

Client ID: SB-11

Lab ID: 029182-0011-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 09 JUL 93

Received: 03 JUL 93

Analyzed: 14 JUL 93

Percent Moisture is 14%. All results and limits are reported on a dry weight basis.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0066

TCL Semivolatile Organics

Method 8270

Client Name: Cooper Environmental

Client ID: SB-12

Lab ID: 029182-0012-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 09 JUL 93

Received: 03 JUL 93

Analyzed: 14 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit
Phenol	ND	ug/kg	390
bis(2-Chloroethyl) ether	ND	ug/kg	390
2-Chlorophenol	ND	ug/kg	390
1,3-Dichlorobenzene	ND	ug/kg	390
1,4-Dichlorobenzene	ND	ug/kg	390
1,2-Dichlorobenzene	ND	ug/kg	390
2-Methylphenol	ND	ug/kg	390
bis(2-Chloroisopropyl) ether	ND	ug/kg	390
4-Methylphenol	ND	ug/kg	390
N-Nitroso-di- n-propylamine	ND	ug/kg	390
Hexachloroethane	ND	ug/kg	390
Nitrobenzene	ND	ug/kg	390
Isophorone	ND	ug/kg	390
2-Nitrophenol	ND	ug/kg	390
2,4-Dimethylphenol	ND	ug/kg	390
bis(2-Chloroethoxy)- methane	ND	ug/kg	390
2,4-Dichlorophenol	ND	ug/kg	390
1,2,4-Trichlorobenzene	ND	ug/kg	390
Naphthalene	ND	ug/kg	390
4-Chloroaniline	ND	ug/kg	390
Hexachlorobutadiene	ND	ug/kg	390
4-Chloro-3-methylphenol	ND	ug/kg	390
2-Methylnaphthalene	ND	ug/kg	390
Hexachlorocyclo- pentadiene	ND	ug/kg	390
2,4,6-Trichlorophenol	ND	ug/kg	390
2,4,5-Trichlorophenol	ND	ug/kg	1900
2-Chloronaphthalene	ND	ug/kg	390
2-Nitroaniline	ND	ug/kg	1900
Dimethyl phthalate	ND	ug/kg	390
Acenaphthylene	ND	ug/kg	390
3-Nitroaniline	ND	ug/kg	1900
Acenaphthene	ND	ug/kg	390
2,4-Dinitrophenol	ND	ug/kg	1900
4-Nitrophenol	ND	ug/kg	1900
Dibenzofuran	ND	ug/kg	390
2,4-Dinitrotoluene	ND	ug/kg	390
2,6-Dinitrotoluene	ND	ug/kg	390

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0067

TCL Semivolatile Organics (CONT.)

Method 8270

Client Name: Cooper Environmental

Client ID: SB-12

Lab ID: 029182-0012-SA

Matrix: SOIL

Authorized: 06 JUL 93

Sampled: 02 JUL 93

Prepared: 09 JUL 93

Received: 03 JUL 93

Analyzed: 14 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit	
Diethyl phthalate	ND	ug/kg	390	
4-Chlorophenyl phenyl ether	ND	ug/kg	390	
Fluorene	ND	ug/kg	390	
4-Nitroaniline	ND	ug/kg	1900	
4,6-Dinitro- 2-methylphenol	ND	ug/kg	1900	
N-Nitrosodiphenylamine	ND	ug/kg	390	
4-Bromophenyl phenyl ether	ND	ug/kg	390	
Hexachlorobenzene	ND	ug/kg	390	
Pentachlorophenol	ND	ug/kg	1900	
Phenanthrene	ND	ug/kg	390	
Anthracene	ND	ug/kg	390	
9H-Carbazole	ND	ug/kg	390	
Di-n-butyl phthalate	ND	ug/kg	390	
Fluoranthene	ND	ug/kg	390	
Pyrene	ND	ug/kg	390	
Butyl benzyl phthalate	1200	ug/kg	390	
3,3'-Dichlorobenzidine	ND	ug/kg	790	
Benzo(a)anthracene	ND	ug/kg	390	
bis(2-Ethylhexyl) phthalate	91	ug/kg	390	J
Chrysene	ND	ug/kg	390	
Di-n-octyl phthalate	ND	ug/kg	390	
Benzo(b)fluoranthene	46	ug/kg	390	J
Benzo(k)fluoranthene	ND	ug/kg	390	
Benzo(a)pyrene	ND	ug/kg	390	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	390	
Dibenz(a,h)anthracene	ND	ug/kg	390	
Benzo(g,h,i)perylene	ND	ug/kg	390	
Surrogate	Recovery			
Nitrobenzene-d5	73	%		
2-Fluorobiphenyl	83	%		
Terphenyl-d14	106	%		
Phenol-d5	74	%		
2-Fluorophenol	78	%		
2,4,6-Tribromophenol	89	%		

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0068

TCL Semivolatile Organics (CONT.)

Enseco
A Corning Company

Method 8270

Client Name: Cooper Environmental
Client ID: SB-12
Lab ID: 029182-0012-SA
Matrix: SOIL
Authorized: 06 JUL 93

Sampled: 02 JUL 93
Prepared: 09 JUL 93

Received: 03 JUL 93
Analyzed: 14 JUL 93

Percent Moisture is 16%. All results and limits are reported on a dry weight basis.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected
NA = Not applicable

Reported By: Stacey Miller

Approved By: Lori Ann Quinn

0069

QC LOT ASSIGNMENT REPORT
Semivolatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
029182-0001-SA	WASTE	8270-W	21 JUN 93-W	21 JUL 93-W
029182-0002-SA	WASTE	8270-W	21 JUN 93-W	21 JUL 93-W
029182-0003-SA	WASTE	8270-W	21 JUN 93-W	21 JUL 93-W
029182-0004-SA	WASTE	8270-W	21 JUN 93-W	21 JUL 93-W
029182-0005-SA	SOIL	8270-S	08 JUL 93-A	09 JUL 93-A
029182-0006-SA	SOIL	8270-S	08 JUL 93-A	09 JUL 93-A
029182-0007-SA	SOIL	8270-S	08 JUL 93-A	09 JUL 93-A
029182-0008-SA	SOIL	8270-S	08 JUL 93-A	09 JUL 93-A
029182-0009-SA	SOIL	8270-S	08 JUL 93-A	09 JUL 93-A
029182-0010-SA	SOIL	8270-S	08 JUL 93-A	09 JUL 93-A
029182-0011-SA	SOIL	8270-S	08 JUL 93-A	09 JUL 93-A
029182-0012-SA	SOIL	8270-S	08 JUL 93-A	09 JUL 93-A

0070

SINGLE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits

Category: 8270-W
Matrix: WASTE
QC Lot: 21 JUN 93-W QC Run: 21 JUL 93-W
Concentration Units: mg/kg

Nitrobenzene-d5	50.0	38.1	76	23-120
2-Fluorobiphenyl	50.0	50.4	101	30-115
Terphenyl-d14	50.0	49.5	99	18-137
2-Fluorophenol	100	98.1	98	25-121
Phenol-d5	100	89.5	90	24-113
2,4,6-Tribromophenol	100	58.6	59	19-122

Category: 8270-S
Matrix: SOIL
QC Lot: 08 JUL 93-A QC Run: 09 JUL 93-A
Concentration Units: ug/kg

Nitrobenzene-d5	1670	1340	80	23-120
2-Fluorobiphenyl	1670	1320	79	30-115
Terphenyl-d14	1670	1490	89	18-137
2-Fluorophenol	3330	2530	76	25-121
Phenol-d5	3330	2590	78	24-113
2,4,6-Tribromophenol	3330	2060	62	19-122

Calculations are performed before rounding to avoid round-off errors in calculated results.

0071

METHOD BLANK REPORT
Semivolatile Organics by GC/MS

Analyte	Result	Units	Reporting Limit
Test: 8270-TCL-W			
Matrix: WASTE			
QC Lot: 21 JUN 93-W QC Run: 21 JUL 93-W			
Phenol	ND	mg/kg	50
bis(2-Chloroethyl) ether	ND	mg/kg	50
2-Chlorophenol	ND	mg/kg	50
1,3-Dichlorobenzene	ND	mg/kg	50
1,4-Dichlorobenzene	ND	mg/kg	50
Benzyl alcohol	ND	mg/kg	50
1,2-Dichlorobenzene	ND	mg/kg	50
2-Methylphenol	ND	mg/kg	50
bis(2-Chloroisopropyl) ether	ND	mg/kg	50
4-Methylphenol	ND	mg/kg	50
N-Nitroso-di-n-propylamine	ND	mg/kg	50
Hexachloroethane	ND	mg/kg	50
Nitrobenzene	ND	mg/kg	50
Isophorone	ND	mg/kg	50
2-Nitrophenol	ND	mg/kg	50
2,4-Dimethylphenol	ND	mg/kg	250
Benzoic acid	ND	mg/kg	50
bis(2-Chloroethoxy)-methane	ND	mg/kg	50
2,4-Dichlorophenol	ND	mg/kg	50
1,2,4-Trichlorobenzene	ND	mg/kg	50
Naphthalene	ND	mg/kg	50
4-Chloroaniline	ND	mg/kg	50
Hexachlorobutadiene	ND	mg/kg	50
4-Chloro-3-methylphenol	ND	mg/kg	50
2-Methylnaphthalene	ND	mg/kg	50
Hexachlorocyclopentadiene	ND	mg/kg	50
2,4,6-Trichlorophenol	ND	mg/kg	50
2,4,5-Trichlorophenol	ND	mg/kg	250
2-Chloronaphthalene	ND	mg/kg	50
2-Nitroaniline	ND	mg/kg	250
Dimethyl phthalate	ND	mg/kg	50
Acenaphthylene	ND	mg/kg	50
3-Nitroaniline	ND	mg/kg	250
Acenaphthene	ND	mg/kg	50
2,4-Dinitrophenol	ND	mg/kg	250
4-Nitrophenol	ND	mg/kg	250
Dibenzofuran	ND	mg/kg	50

0072

Hydrocarbon Fingerprinting

Modified ASTM Method D3328

Client Name: Cooper Environmental
Client ID: Sample 2
Lab ID: 014751-0002-SA
Matrix: WASTE
Authorized: 07 JUL 93

Sampled: 02 JUL 93
Prepared: 22 JUL 93

Received: 07 JUL 93
Analyzed: 21 JUL 93

Parameter	Result	Wet Weight Reporting	
		Units	Limit
Total Petroleum Hydrocarbons	280000	mg/kg	See below 1
Individual Hydrocarbon	----	mg/kg	290
Total Product	----	mg/kg	12000
Surrogate	Recovery		
o-Terphenyl	98	%	--

Note 1 : QUALITATIVE IDENTIFICATION: This sample has GC/FID characteristics that are similar to a mixture of kerosene and lubricating oil. This mixture is characteristic of cutting oils, such as WD-40.

ND = Not detected
NA = Not applicable

Reported By: Fred Morrison

Approved By: Andrew Yaroshefski

0078

Hydrocarbon Fingerprinting

Enseco
A Corning Company

Modified ASTM Method D3328

Client Name: Cooper Environmental
Client ID: SB-12
Lab ID: 014751-0012-SA
Matrix: SOIL
Authorized: 07 JUL 93

Sampled: 02 JUL 93
Prepared: 12 JUL 93

Received: 07 JUL 93
Analyzed: 21 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit
Total Petroleum Hydrocarbons	150	mg/kg	See below 1
Individual Hydrocarbon	----	mg/kg	3.0
Total Product	----	mg/kg	120
Surrogate	Recovery		
o-Terphenyl	76	%	--

Note 1 : QUALITATIVE IDENTIFICATION: This sample has GC/FID characteristics that are similar to products in the range of fuel oil #6 and lubricating oil.

Percent Moisture is 16%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Fred Morrison

Approved By: Andrew Yaroshefski

0089

Hydrocarbon Fingerprinting

Enseco
A Corning Company

Modified ASTM Method D3328

Client Name: Cooper Environmental

Client ID: Field Blank

Lab ID: 014751-0013-SA

Matrix: AQUEOUS

Authorized: 07 JUL 93

Sampled: 02 JUL 93

Prepared: 21 JUL 93

Received: 07 JUL 93

Analyzed: 21 JUL 93

Parameter	Result	Units	Reporting Limit
Total Petroleum Hydrocarbons	0.062	mg/L	See below 1
Individual Hydrocarbon	----	mg/L	0.010
Total Product	----	mg/L	0.50
Surrogate	Recovery		
o-Terphenyl	65	%	--

Note 1 : QUALITATIVE IDENTIFICATION: This sample is below the qualification limit.

ND = Not detected

NA = Not applicable

Reported By: Fred Morrison

Approved By: Andrew Yaroshefski

0090

TUT 004 1080

QC LOT ASSIGNMENT REPORT
Hydrocarbons

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
014751-0001-SA	SOIL	MHYD-S	25 JUN 93-WA	20 JUL 93-W1
014751-0002-SA	SOIL	MHYD-S	25 JUN 93-WA	20 JUL 93-W1
014751-0003-SA	SOIL	MHYD-S	25 JUN 93-WA	20 JUL 93-W1
014751-0004-SA	SOIL	MHYD-S	25 JUN 93-WA	20 JUL 93-W1
014751-0005-SA	SOIL	MHYD-S	12 JUL 93-SHA	12 JUL 93-SH1
014751-0006-SA	SOIL	MHYD-S	12 JUL 93-SHA	12 JUL 93-SH1
014751-0007-SA	SOIL	MHYD-S	12 JUL 93-SHA	12 JUL 93-SH1
014751-0008-SA	SOIL	MHYD-S	12 JUL 93-SHA	12 JUL 93-SH1
014751-0009-SA	SOIL	MHYD-S	12 JUL 93-SHA	12 JUL 93-SH1
014751-0010-SA	SOIL	MHYD-S	12 JUL 93-SHA	12 JUL 93-SH1
014751-0011-SA	SOIL	MHYD-S	12 JUL 93-SHA	12 JUL 93-SH1
014751-0012-SA	SOIL	MHYD-S	12 JUL 93-SHA	12 JUL 93-SH1
014751-0013-SA	AQUEOUS	MHYD-A	12 JUL 93-LA	12 JUL 93-L1

DUPLICATE CONTROL SAMPLE REPORT

Hydrocarbons
Project: 014751

Category: MHYD-S Petroleum Hydrocarbons
Matrix: SOIL
QC Lot: 25 JUN 93-WA
Concentration Units: mg/kg

Analyte	Spiked	Concentration			Accuracy		Precision
		DCS1	DCS2	AVG	Average(%)	(RPD)	
					DCS Limits	DCS Limit	
Fuel Oil #2	5930	7250	7160	7200	122 22-138	1.2	66

Category: MHYD-S Petroleum Hydrocarbons
Matrix: SOIL
QC Lot: 12 JUL 93-SHA
Concentration Units: mg/kg

Analyte	Spiked	Concentration			Accuracy		Precision
		DCS1	DCS2	AVG	Average(%)	(RPD)	
					DCS Limits	DCS Limit	
Fuel Oil #2	32.7	13.7	14.7	14.2	43 22-138	7.0	6

Category: MHYD-A Petroleum Hydrocarbons
Matrix: AQUEOUS
QC Lot: 12 JUL 93-LA
Concentration Units: mg/L

Analyte	Spiked	Concentration			Accuracy		Precision
		DCS1	DCS2	AVG	Average(%)	(RPD)	
					DCS Limits	DCS Limit	
Fuel Oil #2	0.981	0.640	0.717	0.678	69 55-112	11	1

Calculations are performed before rounding to avoid round-off errors in calculated results

0092

SINGLE CONTROL SAMPLE REPORT

Hydrocarbons
Project: 014751

Category: MHYD-S Petroleum Hydrocarbons
Matrix: SOIL
QC Lot: 25 JUN 93-WA QC Run: 20 JUL 93-W1
Concentration Units: mg/kg

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits
o-Terphenyl	200	162	81	33-123

Category: MHYD-S Petroleum Hydrocarbons
Matrix: SOIL
QC Lot: 12 JUL 93-SHA QC Run: 12 JUL 93-SH1
Concentration Units: mg/kg

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits
o-Terphenyl	1.67	0.825	49	33-123

Category: MHYD-A Petroleum Hydrocarbons
Matrix: AQUEOUS
QC Lot: 12 JUL 93-LA QC Run: 12 JUL 93-L1
Concentration Units: mg/L

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits
o-Terphenyl	0.0500	0.0305	61	49-117

Calculations are performed before rounding to avoid round-off errors in calculated results.

0094

Hydrocarbon Fingerprinting

Enseco
A Coming Company

Modified ASTM Method D3328

Client Name: Cooper Environmental
Client ID: SB-3
Lab ID: 014751-0006-SA
Matrix: SOIL
Authorized: 07 JUL 93

Sampled: 02 JUL 93
Prepared: 12 JUL 93

Received: 07 JUL 93
Analyzed: 21 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit
Total Petroleum Hydrocarbons	2000	mg/kg	See below 1
Individual Hydrocarbon	----	mg/kg	2.5
Total Product	----	mg/kg	100
Surrogate	Recovery		
o-Terphenyl	80	%	--

Note 1 : QUALITATIVE IDENTIFICATION: This sample has GC/FID characteristics that are similar to products in the range of lubricating oil.

Percent Moisture is 21%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Fred Morrison

Approved By: Andrew Yaroshefski

0083

Hydrocarbon Fingerprinting

Enseco
A Coming Company

Modified ASTM Method D3328

Client Name: Cooper Environmental

Client ID: SB-4

Lab ID: 014751-0007-SA

Matrix: SOIL

Authorized: 07 JUL 93

Sampled: 02 JUL 93

Prepared: 12 JUL 93

Received: 07 JUL 93

Analyzed: 21 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit
Total Petroleum Hydrocarbons	27	mg/kg	See below 1
Individual Hydrocarbon	----	mg/kg	0.29
Total Product	----	mg/kg	12
Surrogate	Recovery		
o-Terphenyl	56	%	--

Note 1 : QUALITATIVE IDENTIFICATION: This sample has GC/FID characteristics that are similar to products in the range of lubricating oil.

Percent Moisture is 14%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

Reported By: Fred Morrison

Approved By: Andrew Yaroshefski

0084

Hydrocarbon Fingerprinting

Modified ASTM Method D3328

Client Name: Cooper Environmental

Client ID: SB-5

Lab ID: 014751-0008-SA

Matrix: SOIL

Authorized: 07 JUL 93

Sampled: 02 JUL 93

Prepared: 12 JUL 93

Received: 07 JUL 93

Analyzed: 21 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit
Total Petroleum Hydrocarbons	81	mg/kg	See below 1
Individual Hydrocarbon	----	mg/kg	3.1
Total Product	----	mg/kg	120
Surrogate	Recovery		
o-Terphenyl	68	%	--

Note 1 : QUALITATIVE IDENTIFICATION: This sample is below the qualification limit.

Percent Moisture is 20%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

Reported By: Fred Morrison

Approved By: Andrew Yaroshefski

0085

Hydrocarbon Fingerprinting

Modified ASTM Method D3328

Client Name: Cooper Environmental

Client ID: SB-9

Lab ID: 014751-0009-SA

Matrix: SOIL

Authorized: 07 JUL 93

Sampled: 02 JUL 93

Prepared: 12 JUL 93

Received: 07 JUL 93

Analyzed: 21 JUL 93

Parameter	Result	Dry Weight Reporting	
		Units	Limit
Total Petroleum Hydrocarbons	35	mg/kg	See below 1
Individual Hydrocarbon	----	mg/kg	0.29
Total Product	----	mg/kg	11
Surrogate	Recovery		
o-Terphenyl	61	%	--

Note 1 : QUALITATIVE IDENTIFICATION: This sample has GC/FID characteristics that are similar to products in the range of lubricating oil.

Percent Moisture is 13%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

Reported By: Fred Morrison

Approved By: Andrew Yaroshefski

0086

Hydrocarbon Fingerprinting

Enseco
A Corning Company

Modified ASTM Method D3328

Client Name: Cooper Environmental

Client ID: SB-10

Lab ID: 014751-0010-SA

Matrix: SOIL

Authorized: 07 JUL 93

Sampled: 02 JUL 93

Prepared: 12 JUL 93

Received: 07 JUL 93

Analyzed: 21 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit
Total Petroleum Hydrocarbons	230	mg/kg	See below 1
Individual Hydrocarbon	----	mg/kg	0.88
Total Product	----	mg/kg	35
Surrogate	Recovery		
o-Terphenyl	68	%	--

Note 1 : QUALITATIVE IDENTIFICATION: This sample has GC/FID characteristics that are similar to products in the range of lubricating oil.

Percent Moisture is 16%. All results and limits are reported on a dry weight basis.

ND = Not detected

NA = Not applicable

Reported By: Fred Morrison

Approved By: Andrew Yaroshefski

0087

TUE 004 1088

Hydrocarbon Fingerprinting

Enseco
A Corning Company

Modified ASTM Method D3328

Client Name: Cooper Environmental
Client ID: SB-11
Lab ID: 014751-0011-SA
Matrix: SOIL
Authorized: 07 JUL 93

Sampled: 02 JUL 93
Prepared: 12 JUL 93

Received: 07 JUL 93
Analyzed: 21 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit
Total Petroleum Hydrocarbons	230	mg/kg	See below 1
Individual Hydrocarbon	----	mg/kg	2.8
Total Product	----	mg/kg	110
Surrogate	Recovery		
o-Terphenyl	68	%	--

Note 1 : QUALITATIVE IDENTIFICATION: This sample has GC/FID characteristics that are similar to products in the range of lubricating oil.

Percent Moisture is 13%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Fred Morrison

Approved By: Andrew Yaroshefski

0088

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8270-TCL-W			
Matrix: WASTE			
QC Lot: 21 JUN 93-W QC Run: 21 JUL 93-W			
2,4-Dinitrotoluene	ND	mg/kg	50
2,6-Dinitrotoluene	ND	mg/kg	50
Diethyl phthalate	ND	mg/kg	50
4-Chlorophenyl phenyl ether	ND	mg/kg	50
Fluorene	ND	mg/kg	50
4-Nitroaniline	ND	mg/kg	250
4,6-Dinitro- 2-methylphenol	ND	mg/kg	250
N-Nitrosodiphenylamine	ND	mg/kg	50
4-Bromophenyl phenyl ether	ND	mg/kg	50
Hexachlorobenzene	ND	mg/kg	50
Pentachlorophenol	ND	mg/kg	250
Phenanthrene	ND	mg/kg	50
Anthracene	ND	mg/kg	50
Di-n-butyl phthalate	ND	mg/kg	50
Fluoranthene	ND	mg/kg	50
Pyrene	ND	mg/kg	50
Butyl benzyl phthalate	ND	mg/kg	50
3,3'-Dichlorobenzidine	ND	mg/kg	100
Benzo(a)anthracene	ND	mg/kg	50
bis(2-Ethylhexyl) phthalate	ND	mg/kg	50
Chrysene	ND	mg/kg	50
Di-n-octyl phthalate	ND	mg/kg	50
Benzo(b)fluoranthene	ND	mg/kg	50
Benzo(k)fluoranthene	ND	mg/kg	50
Benzo(a)pyrene	ND	mg/kg	50
Indeno(1,2,3-cd)pyrene	ND	mg/kg	50
Dibenz(a,h)anthracene	ND	mg/kg	50
Benzo(g,h,i)perylene	ND	mg/kg	50

Test: 8270-TCL-S
Matrix: SOIL
QC Lot: 08 JUL 93-A QC Run: 09 JUL 93-A

Phenol	ND	ug/kg	330
bis(2-Chloroethyl) ether	ND	ug/kg	330
2-Chlorophenol	ND	ug/kg	330

0073

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8270-TCL-S			
Matrix: SOIL			
QC Lot: 08 JUL 93-A QC Run: 09 JUL 93-A			
1,3-Dichlorobenzene	ND	ug/kg	330
1,4-Dichlorobenzene	ND	ug/kg	330
1,2-Dichlorobenzene	ND	ug/kg	330
2-Methylphenol	ND	ug/kg	330
bis(2-Chloroisopropyl) ether	ND	ug/kg	330
4-Methylphenol	ND	ug/kg	330
N-Nitroso-di- n-propylamine	ND	ug/kg	330
Hexachloroethane	ND	ug/kg	330
Nitrobenzene	ND	ug/kg	330
Isophorone	ND	ug/kg	330
2-Nitrophenol	ND	ug/kg	330
2,4-Dimethylphenol	ND	ug/kg	330
bis(2-Chloroethoxy)- methane	ND	ug/kg	330
2,4-Dichlorophenol	ND	ug/kg	330
1,2,4-Trichlorobenzene	ND	ug/kg	330
Naphthalene	ND	ug/kg	330
4-Chloroaniline	ND	ug/kg	330
Hexachlorobutadiene	ND	ug/kg	330
4-Chloro-3-methylphenol	ND	ug/kg	330
2-Methylnaphthalene	ND	ug/kg	330
Hexachlorocyclo- pentadiene	ND	ug/kg	330
2,4,6-Trichlorophenol	ND	ug/kg	330
2,4,5-Trichlorophenol	ND	ug/kg	1600
2-Chloronaphthalene	ND	ug/kg	330
2-Nitroaniline	ND	ug/kg	1600
Dimethyl phthalate	ND	ug/kg	330
Acenaphthylene	ND	ug/kg	330
3-Nitroaniline	ND	ug/kg	1600
Acenaphthene	ND	ug/kg	330
2,4-Dinitrophenol	ND	ug/kg	1600
4-Nitrophenol	ND	ug/kg	1600
Dibenzofuran	ND	ug/kg	330
2,4-Dinitrotoluene	ND	ug/kg	330
2,6-Dinitrotoluene	ND	ug/kg	330
Diethyl phthalate	ND	ug/kg	330
4-Chlorophenyl phenyl ether	ND	ug/kg	330

0074

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8270-TCL-S			
Matrix: SOIL			
QC Lot: 08 JUL 93-A QC Run: 09 JUL 93-A			
Fluorene	ND	ug/kg	330
4-Nitroaniline	ND	ug/kg	1600
4,6-Dinitro- 2-methylphenol	ND	ug/kg	1600
N-Nitrosodiphenylamine	ND	ug/kg	330
4-Bromophenyl phenyl ether	ND	ug/kg	330
Hexachlorobenzene	ND	ug/kg	330
Pentachlorophenol	ND	ug/kg	1600
Phenanthrene	ND	ug/kg	330
Anthracene	ND	ug/kg	330
9H-Carbazole	ND	ug/kg	330
Di-n-butyl phthalate	ND	ug/kg	330
Fluoranthene	ND	ug/kg	330
Pyrene	ND	ug/kg	330
Butyl benzyl phthalate	ND	ug/kg	330
3,3'-Dichlorobenzidine	ND	ug/kg	660
Benzo(a)anthracene	ND	ug/kg	330
bis(2-Ethylhexyl) phthalate	ND	ug/kg	330
Chrysene	ND	ug/kg	330
Di-n-octyl phthalate	ND	ug/kg	330
Benzo(b)fluoranthene	ND	ug/kg	330
Benzo(k)fluoranthene	ND	ug/kg	330
Benzo(a)pyrene	ND	ug/kg	330
Indeno(1,2,3-cd)pyrene	ND	ug/kg	330
Dibenz(a,h)anthracene	ND	ug/kg	330
Benzo(g,h,i)perylene	ND	ug/kg	330

0075

Appendix

SAMPLE DESCRIPTION INFORMATION
for
Cooper Environmental

Lab ID	Client ID	Matrix	Sampled Date	Time	Received Date
014751-0001-SA	Sample 1	WASTE	02 JUL 93	10:20	07 JUL 93
014751-0002-SA	Sample 2	WASTE	02 JUL 93	10:45	07 JUL 93
014751-0003-SA	Sample 3	WASTE	02 JUL 93	11:10	07 JUL 93
014751-0004-SA	Sample 4	WASTE	02 JUL 93	12:20	07 JUL 93
014751-0005-SA	SB-1	SOIL	02 JUL 93	08:50	07 JUL 93
014751-0006-SA	SB-3	SOIL	02 JUL 93	09:55	07 JUL 93
014751-0007-SA	SB-4	SOIL	02 JUL 93	10:40	07 JUL 93
014751-0008-SA	SB-5	SOIL	02 JUL 93	11:05	07 JUL 93
014751-0009-SA	SB-9	SOIL	02 JUL 93	13:15	07 JUL 93
014751-0010-SA	SB-10	SOIL	02 JUL 93	13:00	07 JUL 93
014751-0011-SA	SB-11	SOIL	02 JUL 93	13:53	07 JUL 93
014751-0012-SA	SB-12	SOIL	02 JUL 93	14:10	07 JUL 93
014751-0013-SA	Field Blank	AQUEOUS	02 JUL 93	11:50	07 JUL 93

0076

Hydrocarbon Fingerprinting

Modified ASTM Method D3328

Enseco
A Coming Company

Client Name: Cooper Environmental

Client ID: Sample 1

Lab ID: 014751-0001-SA

Matrix: WASTE

Authorized: 07 JUL 93

Sampled: 02 JUL 93

Prepared: 22 JUL 93

Received: 07 JUL 93

Analyzed: 21 JUL 93

Parameter	Result	Wet Weight Units	Reporting Limit
Total Petroleum Hydrocarbons	300000	mg/kg	See below 1
Individual Hydrocarbon	----	mg/kg	380
Total Product	----	mg/kg	15000
Surrogate	Recovery		
o-Terphenyl	94	%	--

Note 1 : QUALITATIVE IDENTIFICATION: This sample has GC/FID characteristics that are similar to a mixture of kerosene and lubricating oil. This mixture is characteristic of cutting oils, such as WD-40.

ND = Not detected

NA = Not applicable

Reported By: Fred Morrison

Approved By: Andrew Yaroshefski

0077

Hydrocarbon Fingerprinting

Modified ASTM Method D3328

Enseco
A Cuming Company

Client Name: Cooper Environmental
Client ID: Sample 3
Lab ID: 014751-0003-SA
Matrix: WASTE
Authorized: 07 JUL 93

Sampled: 02 JUL 93
Prepared: 22 JUL 93

Received: 07 JUL 93
Analyzed: 21 JUL 93

Parameter	Result	Wet Weight Reporting Units	Limit
Total Petroleum Hydrocarbons	320000	mg/kg	See below
Individual Hydrocarbon	----	mg/kg	480
Total Product	----	mg/kg	19000
Surrogate	Recovery		
o-Terphenyl	92	%	--

ND = Not detected
NA = Not applicable

Reported By: Fred Morrison

Approved By: Andrew Yaroshefski

0079

Hydrocarbon Fingerprinting

Modified ASTM Method D3328

Client Name: Cooper Environmental

Client ID: Sample 4

Lab ID: 014751-0004-SA

Matrix: WASTE

Authorized: 07 JUL 93

Sampled: 02 JUL 93

Prepared: 22 JUL 93

Received: 07 JUL 93

Analyzed: 21 JUL 93

Parameter	Result	Wet Weight Units	Reporting Limit
Total Petroleum Hydrocarbons	290000	mg/kg	See below 1
Individual Hydrocarbon	----	mg/kg	400
Total Product	----	mg/kg	16000
Surrogate	Recovery		
o-Terphenyl	90	%	--

Note 1 : QUALITATIVE IDENTIFICATION: This sample has GC/FID characteristics that are similar to a mixture of kerosene and lubricating oil. This mixture is characteristic of cutting oils, such as WD-40.

ND - Not detected

NA - Not applicable

Reported By: Fred Morrison

Approved By: Andrew Yaroshefski

0080

Hydrocarbon Fingerprinting

Modified ASTM Method D3328

Client Name: Cooper Environmental
Client ID: Sample 4
Lab ID: 014751-0004-SA
Matrix: WASTE
Authorized: 07 JUL 93

Sampled: 02 JUL 93
Prepared: 22 JUL 93

Received: 07 JUL 93
Analyzed: 21 JUL 93

Parameter	Result	Wet Weight Units	Reporting Limit
Total Petroleum Hydrocarbons	290000	mg/kg	See below 1
Individual Hydrocarbon	----	mg/kg	400
Total Product	----	mg/kg	16000
Surrogate	Recovery		
o-Terphenyl	90	%	--

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Note 1 : QUALITATIVE IDENTIFICATION: This sample has GC/FID characteristics that are similar to a mixture of kerosene and lubricating oil. This mixture is characteristic of cutting oils, such as WD-40.

ND - Not detected
NA - Not applicable

Reported By: Fred Morrison

Approved By: Andrew Yaroshefski

0081

Hydrocarbon Fingerprinting

Modified ASTM Method D3328

Enseco
A Corning Company

Client Name: Cooper Environmental
Client ID: SB-1
Lab ID: 014751-0005-SA
Matrix: SOIL
Authorized: 07 JUL 93

Sampled: 02 JUL 93
Prepared: 12 JUL 93

Received: 07 JUL 93
Analyzed: 21 JUL 93

Parameter	Result	Dry Weight Units	Reporting Limit	
Total Petroleum Hydrocarbons	420	mg/kg	See below	1
Individual Hydrocarbon	----	mg/kg	1.4	
Total Product	----	mg/kg	56	
Surrogate	Recovery			
o-Terphenyl	21	%	--	&

Note 1 : QUALITATIVE IDENTIFICATION: This sample has GC/FID characteristics that are similar to products in the range of lubricating oil.

Percent Moisture is 11%. All results and limits are reported on a dry weight basis.

Note & : Surrogate recovery is outside of control limits.

ND = Not detected
NA = Not applicable

Reported By: Fred Morrison

Approved By: Andrew Yaroshefski

0082