Technical Memorandum

LO/CRF, Utilities Upgrade Area, Base Operations Building, and Buildings 754 - 756 Demolition Area Investigations
Langley Air Force Base
Hampton, Virginia

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LIST OF ACRONYMS AND ABBREVIATIONS

bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
EM	Electromagnetic
IRP	Installation Restoration Program
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LO/CRF	Low Observable/Composite Repair Facility
MCL	Maximum Contaminant Level
MS/MSD	Matrix Spike/Matrix Spike Duplicate
mV	Millivolt
OD	Outside Diameter
PAH	Polynuclear Aromatic Hydrocarbon
PID	Photoionization Detector
ppb	Parts Per Billion
ppm	Parts Per Million
PVC	Polyvinyl Chloride
QC	Quality Control
RBC	Risk Based Concentration
RPD	Relative Percent Difference
TM	Technical Memorandum
TPH	Total Petroleum Hydrocarbon
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound

TECHNICAL MEMORANDUM
LO/CRF, UTILITIES UPGRADE AREA, BASE OPERATIONS BUILDING, AND BUILDINGS 754 -756 DEMOLITION AREA SITE INVESTIGATIONS
LANGLEY AIR FORCE BASE
HAMPTON, VIRGINIA

1.0 INTRODUCTION

This document is prepared as a Technical Memorandum (TM) of findings for a multi-stage field investigation conducted at the proposed sites for the Low Observable/ Composite Repair Facility (LO/CRF), Utilities Upgrade Area, and Base Operations Building at Langley Air Force Base, Hampton, Virginia (Figures 1 through 4). The results of a single stage geophysical investigation to support the eventual demolition of Buildings 754 through 756, located in the southeast portion of the base adjacent to the east aircraft parking apron and flightline (Figure 5) are also included in this document. This TM presents a summary of the sampling activities conducted by the U.S. Army Corps of Engineers (USACE) Omaha District, along with the results and conclusions. Field activities were conducted between February and May of 2000.

1.1 Project Objectives

The major objectives of this field investigation were to determine whether petroleum hydrocarbons and/or solvents had impacted the LO/CRF, Utilities Upgrade Area and Base Operations Building Sites, to identify what chemicals, if any, the human population is being exposed to and the risk(s) posed by those chemicals at these above mentioned sites, and to identify potential locations of underground storage tanks (UST's) and/or buried objects for all areas investigated.

1.2 Investigation Tasks

To fulfill the project objectives outlined above, the following field tasks were completed:

<u>LO/CRF Site</u>

- Electromagnetic geophysical survey of an area measuring approximately 8.1 acres. The area of investigation was sufficiently large enough to allow for changes in the location of the proposed facility if needed.

- Digging test pits at four locations to determine the nature of geophysical anomalies that could not be attributed to a specific identifiable surface feature.

- Installation of 94 passive soil gas samplers over the same area encompassed by the electromagnetic geophysical survey.

- Drilling and sampling 8 soil borings, and the installation of temporary groundwater monitoring wells in two of these borings.

- Groundwater sampling of the two temporary monitoring wells.

Utilities Upgrade Area

- Electromagnetic geophysical survey of an area measuring approximately 4.0 acres. The area of investigation was sufficiently sized as the exact area to be impacted by the eventual construction could not be identified prior to the beginning of fieldwork for this investigation.

- Installation of 86 passive soil gas samplers over the same area encompassed by the electromagnetic geophysical survey.

- Drilling and sampling 7 soil borings, and the installation of temporary groundwater monitoring wells in two of these borings.

- Groundwater sampling of the two temporary monitoring wells.

Base Operations Building (Building 351 Site)

- Electromagnetic geophysical survey of an area measuring approximately 1.8 acres.

- Installation of 36 passive soil gas samplers over the same area encompassed by the electromagnetic geophysical survey.

- Drilling and sampling 4 soil borings.

Base Operations Building (Building 375 Site)

- Installation of 13 passive soil gas samplers over an area that measures approximately 0.8 acres.

- Drilling and sampling 3 soil borings, and the installation of a temporary groundwater monitoring well in one of these borings.

- Groundwater sampling of the temporary monitoring well.

Buildings 754 - 756 Demolition Area

- Electromagnetic geophysical survey of an area measuring approximately 4.4 acres including the areas between Buildings 753 and 754, Buildings 754 and 755, Buildings 755 and 756, and the open areas in front of Buildings 754, 755 and 756.

Upon completion of the fieldwork, the USACE Omaha District performed an evaluation of all soils and groundwater chemical data and completed a human health risk screen.

The data evaluation involved review of analytical holding times, surrogate recoveries, method blank analyses, matrix spike/matrix spike duplicate recoveries, laboratory control sample recoveries, and field duplicate samples. The evaluation results, which are located in Section 3.5 indicate that the data is usable to meet the project data quality objectives and the data can be used for the risk screen.

A risk screen was performed by assessing the soil and groundwater analytical data against United States Environmental Protection Agency (USEPA) Region 3 Risk Based Concentrations. The screening provides a conservative assessment of the contaminant concentration and any risk to human health. For soil, the residential screening criteria were used. For groundwater, the tap water screening criteria was used. The risk screening results are discussed in Section 3.6.

1.3 Background

The LO/CRF Project includes the construction of a proposed 3,945 square meter paint facility and composite repair shop for the F-22 stealth fighter aircraft. The area under investigation by USACE Omaha District for the LO/CRF Site encompasses approximately 8.1 acres, and is bounded on the west and south by an inactive taxiway which comprises a portion of Flightline Road and is currently used for vehicular traffic. The eastern boundary is marked by South Ramp 35. The northern-most extent of the area under investigation is bounded by an imaginary line perpendicular to Flightline Road as it turns to a southwest-northeast heading. An outline of the investigation area is shown in Figure 1.

Installation Restoration Program (IRP) Site ST-26, located west of and immediately adjacent to the proposed LO/CRF Site, is composed of several fuel-saturated areas. That portion of IRP Site ST-26 most critical to the LO/CRF Project is known as the Control Tower Area. The Control Tower Area is the area immediately surrounding Building 381 and includes the pumping station (Building 380). Past investigations conducted from 1989 to January 2000 indicated floating (free phase) JP-4 and JP-8 fuel and dissolved phase groundwater plumes in the Control Tower Area. The January 2000 site investigation focused on delineating the extent of the free and dissolved phase plumes at the eastern edge of IRP Site ST-26. Preliminary findings from this latest site investigation indicate that the free and dissolved phase plumes have not migrated sufficiently to the east or southeast to impact the LO/CRF Project.

The Utilities Upgrade Project includes altering and repairing utility systems, pavements and flightline security systems in support of the F-22 beddown. The area of investigation for the Utilities Upgrade Project encompasses approximately 4.0 acres and includes portions of a parking lot and Danforth Avenue. This area is bounded on the northwest by Buildings 754 through 756, and to the Southeast by Buildings 775 and 777. An outline of the investigation area is shown in Figure 2.

IRP Site ST-27 includes a portion of a now abandoned underground JP-4 fuel pipeline where it runs underneath Danforth Avenue through the area investigated for the Utilities Upgrade Project. Past investigations conducted from 1989 to 1998 indicated the existence of several distinct free and dissolved phase plumes and associated soil contamination along the Danforth Avenue portion of the pipeline, including some within the site investigation area for the Utilities Upgrade Project.

IRP Site ST-33 includes an abandoned underground fuel tank and fuel-saturated area covering approximately 0.1 acres between Building 755 and Danforth Avenue. This 60,000-gallon underground tank was used to store No. 2 fuel oil. The location of IRP Site ST-33 is immediately adjacent to the area of investigation for the Utilities Upgrade Project. Past investigations indicated free and dissolved phase plumes of limited extent along with some soil contamination.

The Base Operations Building Project includes the construction of a proposed F-22 Squadron Operations and Maintenance Facility. Two areas were investigated by the USACE Omaha District as potential sites for the Base Operations Building. The first site, located in an open field adjacent to Building 351, encompasses approximately 1.8 acres. This site is bounded to the north by the west aircraft parking apron, to the south by Building 351, and to the east and west by taxiways to the parking apron. An outline of this investigation area is shown in Figure 3. The second area investigated for the Base Operations Building is the location of Building 375, which was demolished in the spring of 2000. This investigation area is approximately 0.8 acres in size and encompasses the majority of the old building foundation. An outline of the second investigation area is shown in Figure 4.

IRP Site ST-49 consisted of underground fuel tanks and is located northwest of Building 351 within the first investigation area for the Base Operations Building. Two 10,000-gallon tanks were used to store heating oil, and have been removed. Past site investigations have not indicated any signs of leakage from these tanks.

The location of Building 375 (second investigation area) is entirely within IRP Site ST-26. The Control Tower Area of IRP Site ST-26 is critical to this Base Operations Building Site. A brief description on the background of the Control Tower Area may be found above.

Buildings 754, 755 and 756, located adjacent to the flightline in the southeast portion of the base, will eventually be demolished. In support of this planned demolition, the USACE Omaha District was asked to determine whether there was any buried objects including underground storage tanks and utilities that may impact the construction work. The investigation area included the paved portions between Buildings 753 and 754, Buildings 754 and 755, Buildings 755 and 756, and the grassy fields in front of Buildings 754, 755 and 756. An outline of these investigation areas is shown in Figure 5.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 Geophysical Survey

The first stage of this field investigation was to conduct an electromagnetic (EM) geophysical survey of the various sites listed above in Section 1.2, and was completed between February 22 and March 7, 2000. A Geonics EM-61 was used to perform all EM geophysical surveys. The EM-61 consists of a portable coincident loop time-domain transmitter and receiver with an additional receiver for depth-to-target estimates and rejection of near surface target response. The transmitter generates 150 EM pulses per second and measures the target response during the off-time between pulses. After each pulse, secondary EM fields are induced briefly in moderately conductive earth and for a longer time in metallic objects. The EM-61 waits until the earth response has dissipated and then measures the prolonged buried metal response. Response from smaller, shallow targets can be readily suppressed using the differential response from the two receivers.

Approximately 18.3 acres were geophysically surveyed in 42 grids of varying sizes. For each grid, the survey lines were spaced 5 feet apart with survey points obtained approximately every 0.67 feet. Six data were recorded or calculated for each survey point. These data and the units of measurement are listed below:

- X Coordinate (feet)
- Y Coordinate (feet)
- Bottom Coil or Channel (millivolts[mV])
- Top Coil or Channel (mV)
- Normalized Channel (mV)
- Differential Channel (mV)

The bottom channel records the actual response of the bottom coil in the instrument. The top channel records the response of the top coil with a gain of approximately 3 and is a somewhat exaggerated response. The normalized channel is a weighted difference of the bottom and top channel responses in which the gain on the top channel has been removed. The differential channel is the difference between the bottom channel and top channel (including gain) responses. Anomalies which are detected on the bottom and top channels but not on the differential channel are generally to a depth of no more than 3 to 5 feet. Anomalies which are detected on the bottom and top channels as well as the differential channel are generally buried to depths of up to 15 feet or more and/or are larger in size. For the purposes of this investigation, the bottom channel was used primarily for data interpretation in order to evaluate all potential sources regardless of size and/or depth.

Surfer (Win 32) Version 7.00 Surface Mapping System software was used for gridding and contouring of the data. The grid interval for the x-coordinate data was set at 5 feet, and the grid interval for the y-coordinate was set at 0.67 feet to match the actual grid data.

2.2 Passive Soil Gas Survey

The second stage of this field investigation involved the collection of passive soil gas samples from four sites (see Section 1.2 above) between the dates of March 27 and April 18, 2000. Soil gas sampling locations may be found on Figures 1 through 4.

A total of 229 passive soil gas collectors (modules) were installed between March 27 and 29, 2000. In general, a 1-inch diameter by 3-foot long pilot hole was drilled using a Simco 200 Earthprobe Direct Push Rig. In areas where asphalt and/or concrete were located, a 2-inch diameter hole was completed through the asphalt/concrete using a portable core drill. The remainder of the pilot hole was then completed using the direct push rig. A pre-measured length of string was cut and tied at one end to the module, and the other end of the string attached to a cork of suitable diameter to snugly fit inside the pilot hole. The module was then lowered to the bottom of the hole using an insertion rod along with the excess string, and the hole was plugged with the cork.

A total of 228 modules were retrieved between the dates of April 17 and 18, 2000 after an exposure time ranging from 19 to 21 days. One module set at the LO/CRF Site (Module No. 325779) was unretrievable as the pilot hole had collapsed. Each module was placed back in the original labeled container and the lid tightly secured. There is no need for preservation (i.e. to keep cool on ice) of the modules. At the end of the module retrieval period, all samples were appropriately packed and shipped via an overnight carrier to W.L. Gore & Associates, Inc, in Elkton, Maryland. Soil gas samples were analyzed for volatile and semi-volatile organic compounds using Modified USEPA Method 8260A/8270B. In addition to the 228 field samples, 12 trip blanks were also sent to the laboratory

2.3 Soil Borings

The last stage of this field investigation included soil and groundwater sampling. A total of 22 soil borings (LAFB-LOCR-SB01 through LAFB-LOCR-SB08, LAFB-UTIL-SB01 through LAFB-UTIL-SB07 and LAFB-BOPS-SB01 through LAFB-BOPS-SB07) located over four sites (see Section 1.2 above) were drilled and sampled between the dates of May 19 and 25, 2000. The location of these borings are shown on Figures 1 through 4.

All borings were completed with a Simco Earthprobe 200 using direct-push technology. Each boring was continuously sampled by hydraulically pushing a 2-inch outside diameter (OD) by 24-inch long stainless steel split-spoon every 2 feet until groundwater was encountered. The five borings completed as temporary monitoring wells (LAFB-LOCR-SB05, LAFB-LOCR-SB07, LAFB-UTIL-SB01, LAFB-UTIL-SB02 and LAFB-BOPS-SB07) were continued from 4.0 feet to 9.0 feet below the water level first encountered during drilling. Total boring depths ranged from 4 to 12 feet below ground surface (bgs). Groundwater was first encountered at depths ranging from 3.0 to 8.0 feet bgs, and was more accurately read in the temporary wells at depths ranging from 4.02 to 8.15 feet bgs immediately following installation of the temporary monitoring wells.

To minimize potential cross-contamination, the split-spoons and rods were decontaminated prior to each use. Decontamination procedures included a Liquinox ® and tap water wash, followed by a tap water rinse.

Drilling log forms were completed for each boring and include boring location, type of drill rig, type of sampler used, soil descriptions, headspace readings, location and types of samples retained, and other pertinent information. Drilling log forms are provided in Appendix A.

Upon retrieval of the split spoon from the boring, the split spoon was opened and samples for headspace reading were collected. Below the water table, soil samples were collected for geologic logging purposes only. The samples for headspace analysis were placed inside a new sandwich bag inside a clean jar. Each jar was sealed with a continuous piece of aluminum foil and the jar lid was used to secure the foil. The jars were allowed to volatilize a minimum of ten minutes before a reading was collected. The headspace reading was collected using an HNu PI 101 Photoionization Detector (PID) with a 10.2 electron volt lamp by inserting the probe tip through the tinfoil after removing the jar lid. A summary of the soil headspace screening results may be found in Table 1.

One soil sample from the interval immediately above the water table in each of the borings was retained for laboratory analysis. The highest elevated headspace reading generally corresponded to this interval. Soil samples for volatile organic compound (VOC) analysis were collected using EnCore® samplers. Soil samples for polynuclear aromatic hydrocarbon (PAH) analysis were placed in 8-ounce wide-mouth glass jars with Teflon®-lined caps. All samples were immediately labeled with identifying numbers and stored in a cooler at 4 degrees Celsius. At the end of the day, the samples were appropriately packed in coolers with fresh ice to maintain 4 degrees Celsius, and shipped via an overnight carrier to NEL Laboratories in Las Vegas, Nevada. Appropriate chain of custody forms were maintained with the laboratory samples from the time of collection until the completion of analysis. The samples were analyzed using USEPA Method SW-846 8260B for VOCs, and 8270C for PAHs.

2.4 Temporary Monitoring Wells

A total of five temporary monitoring wells were installed between May 23 and 24, 2000. The temporary monitoring wells were designated LAFB-LOCR-MW05, LAFB-LOCR-MW07, LAFB-UTIL-MW01, LAFB-UTIL-MW02 and LAFB-BOPS-MW07. The locations of these wells are shown on Figures 1, 2 , and 4.

The temporary monitoring wells were installed to depths (to the bottom of the screened interval) ranging from 10.0 to 12.15 feet bgs. The well screens were placed across the water table in two of the wells (LAFB-LOCR-MW07 and LAFB-BOPS-MW07) at the time of installation. The top of the well screen was located approximately 1.0 to 2.5 feet below the water table at the time of installation for the remaining monitoring wells.

All well casings and screens were constructed of threaded, flush-joint, 1-inch nominal diameter Schedule 40 Polyvinyl Chloride (PVC) pipe. An end-cap was placed at the base of each screen. All well screens were factory slotted with a 0.010-inch slot size and 5 feet long. No adhesives or solvents were used to join sections of well casing or screen.

A filter pack of Colorado Silica Sand was poured down the annular space between the well riser and borehole wall to a point above the top of the well screen, then the remaining annular space was filled with 3/8-inch diameter bentonite pellets to prevent any potential surface water runoff from entering the boring.

No development was performed as these wells were temporary in nature and were designed to provide screening data on water quality only.

Groundwater samples were collected from all five temporary monitoring wells between May 30 and 31, 2000. All groundwater samples were analyzed for VOCs using USEPA Method SW-846 8260B, and PAHs using 8270C. Groundwater samples were handled in a similar manner to the soil samples as described above, and were also analyzed by NEL Laboratories. All groundwater samples to be analyzed for VOCs were preserved with hydrochloric acid to a pH < 2.

Prior to purging and sampling, the static water level was measured with an electronic water level indicator. This data was used to calculate the quantity of water in the casing. A peristaltic pump with Tygon® tubing was then used to purge each monitoring well. A new piece of tubing was used for each well in order to prevent cross-contamination. Each temporary monitoring well was purged of three well volumes, then was sampled. Groundwater samples for PAHs were obtained first using the peristaltic pump and tubing. VOC samples were obtained next using pre-cleaned, dedicated glass bailers at all monitoring wells with the exception of LAFB-BOPS-MW07. This well had been damaged such that a bailer could not pass through it; therefore, the peristaltic pump and Tygon® tubing was also used to sample this monitoring well for VOCs.

3.0 SITE CHARACTERIZATION

3.1 Geophysical Survey Results and Interpretation

Color contour plots of the bottom channel EM-61 results (Figures 6 through 9) indicate numerous small anomalies, most which can be accounted for by visual observations of surface features (i.e., cars, manholes, utilities, etc.). Overall, there were 24 unidentified anomalies distributed over the four site areas where geophysical investigations were conducted. Four of these anomalies have been investigated. Of the remaining 20 unidentified anomalies, 7 are of sufficient size and/or magnitude to warrant some concern and may potentially impact construction activities.

At the LO/CRF Site, 11 unidentified anomalies were mapped as shown on Figure 6. Unidentified anomalies 2, 3, 8 and 9 were investigated on May 16, 2000 with the assistance of a backhoe and operator from Langley Air Force Base. Unidentified

anomalies 2 and 3 were found to be steel planking buried approximately 1 to 2 feet below ground surface. Unidentified anomaly 8 was found to be a small metal tank containing liquids of unknown composition buried right beneath the ground surface, while unidentified anomaly 9 was found to be an abandoned metal pipe located approximately 2 to 3 feet below ground surface. Photographs of the excavations for these anomaly investigations may be found in Figures 10 through 13. Of the remaining unidentified anomalies at the LO/CRF Site (1, 4 through 7, 10 and 11), numbers 5 and 6 are small enough not to be a concern. Unidentified anomalies 1, 4, 7, 10 and 11 are of sufficient size that they should be investigated if it is determined that any excavations will take place where these anomalies are located. It should be noted that unidentified anomalies 4, 7, 10 and 11 may be utility related.

At the Utilities Upgrade Area, 3 unidentified anomalies were mapped as shown on Figure 7. Unidentified anomalies 1 and 2 are of sufficient size that they should be investigated if it is determined that any excavations will take place where these anomalies are located. Both of these anomalies may be utility related.

No unidentified anomalies were mapped at the Base Operations Building 351 Site (see Figure 8).

At the Building 754 - 756 Demolition area, 10 unidentified anomalies were mapped as shown in Figure 9. The concentration of utility lines throughout this geophysical investigation area is extremely high, and most if not all of the unidentified anomalies are likely to be utility associated as they typically are found centered over or immediately adjacent to identified utility lines. No subsurface investigations are recommended for any of the unidentified anomalies within this area.

Large areas of reinforced concrete were encountered between Buildings 753 and 754, 754 and 755, 755 and 756, and underneath Danforth Avenue and the parking lot west of Danforth Avenue. These areas can be identified by the high instrument responses in the range of 1,000 to 5,000 millivolts on Figures 8 and 9. Any potential subsurface obstructions in these areas may be masked by the higher response generated by the metal reinforced concrete.

The depth to all anomaly targets can most likely be constrained by the depth to groundwater, assuming no objects would have been buried to a significant depth below the water table. Groundwater was encountered at depths ranging from approximately 4 to 8 feet at the various sites investigated, and it is assumed that these would represent the greatest depths at which the top of a geophysical anomaly could be encountered.

3.2 Passive Soil Gas Survey Results

A report on the passive soil gas survey was produced by the analytical laboratory W.L. Gore & Associates, Inc. and has been included in Appendix C of this report. Contained within this passive soil gas survey report are color contour maps representing the mass of a particular compound or class of compounds desorbed from the passive soil gas

collectors. Contour maps have been produced for: Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX); Benzene; and Total Petroleum Hydrocarbons (TPH).

At the LO/CRF Site, relatively low soil gas mass levels were reported for BTEX and TPH; however, no well defined soil gas plume was detected. As a result, eight borings and two temporary monitoring wells were located within the LO/CRF Site and samples of both matrices were obtained to verify the nature of any contamination and the relationship to soil gas levels.

At the Utilities Upgrade Area, relatively moderate to high soil gas mass levels were reported for BTEX, Benzene, and TPH. A well defined soil gas plume extends from Danforth Avenue to the southeast underneath the parking lot. This soil gas plume is restricted to the northeastern half of Utilities Upgrade Area. The source of this soil gas plume may be the abandoned JP-4 fuel pipeline running beneath Danforth Avenue. Isolated low level detections were also reported for several of the target analytes in the southwestern half of this investigation area. These detections may be associated with leaks from motor vehicles in the parking lot. One isolated area of soil gas detections is coincident with the location of IRP Site ST-33. Seven borings and two temporary monitoring wells were located within the Utilities Upgrade Area to obtain confirmation samples from both matrices.

At the Base Operations Building 351 Site, low soil gas mass levels were reported for BTEX, Benzene, and TPH; however, once again no well defined soil gas plume was detected. Four borings were located within this investigation area and confirmation samples were obtained for soils only.

At the Base Operations Building 375 Site, moderate to high soil gas mass levels were reported for BTEX, Benzene, and TPH, and a well defined soil gas plume was mapped in the eastern half of this investigation area underneath the old foundation to Building 375. Four borings and one temporary monitoring well were located within the Base Operations Building 375 Site area to obtain confirmation samples from both matrices.

3.3 Soil Analytical Results

The laboratory analytical results for soils from the LO/CRF Site indicate no PAH analytes were present above laboratory reporting limits. VOC analytes not attributed to laboratory contamination were present at low concentrations at two of the sampling locations, LAFB-LOCR-SB01 and LAFB-LOCR-SB06. The highest VOC concentration detected at the LO/CRF Site was m,p-Xylene at 10 μg/kg. The laboratory analytical reports are presented in Appendix B and the results for the LO/CRF Site are summarized in Table 2.

The laboratory analytical results for soils from the Utilities Upgrade Area indicate that napthalene (PAH analyte) was present at one of the sampling locations (LAFB-UTIL-SB02), and several VOC analytes not attributed to laboratory contamination were present at three of the locations sampled (LAFB-UTIL-SB02, LAFB-UTIL-SB03 and LAFB-

UTIL-SB04). These sampling locations are within the northeast portion of the Utilities Upgrade Area where soil gas concentrations were noted to be the highest. Napthalene was detected in the field and duplicate samples at concentrations ranging from 1700 - 2000 μg/kg. The highest VOC concentration detected at the Utilities Upgrade Area was n-Propylbenzene at 1800 μg/kg. The laboratory analytical reports are presented in Appendix B and the results for the Utilities Upgrade Area are summarized in Table 3.

The laboratory analytical results for soils from the Base Operations Building 351 Site indicate no PAH analytes were present above laboratory reporting limits. VOC analytes not attributed to laboratory contamination were present at low concentrations at two of the sampling locations, LAFB-BOPS-SB02 and LAFB-BOPS-SB03. The highest VOC concentration detected at the Base Operations Building 351 Site was Ethylbenzene at 15 μg/kg. The laboratory analytical reports are presented in Appendix B and the results for the Base Operations Building 351 Site are summarized in Table 4.

The laboratory analytical results for soils from the Base Operations Building 375 Site indicate that napthalene (PAH analyte) was present at one of the sampling locations (LAFB-BOPS-SB06), and several VOC analytes not attributed to laboratory contamination were present at two of the locations sampled (LAFB-BOPS-SB06 and LAFB-BOPS-SB07). These sampling locations are within the northeast portion of the Base Operations Building 375 Site where soil gas concentrations were noted to be the highest. Napthalene was detected at a concentration of 4200 μg/kg. The highest VOC concentration detected at the Base Operations Building 375 Site was 1,2,4-trimethylbenzene at 31,000 μg/kg. The laboratory analytical reports are presented in Appendix B and the results for the Base Operations Building 375 Site are summarized in Table 4.

3.4 Groundwater Analytical Results

The laboratory analytical results for groundwater from the LO/CRF Site and Utilities Upgrade Area indicate no PAH or VOC analytes were present above laboratory reporting limits. The laboratory analytical reports are presented in Appendix B and the results for the LO/CRF Site and Utilities Upgrade Area are summarized in Tables 2 and 3, respectively.

The laboratory analytical results for groundwater from the Base Operations Building 375 Site indicate no PAH analytes were present above laboratory reporting limits and some alkylated benzene compounds not attributed to laboratory contamination were present at low concentrations. The only carcinogenic volatile organic compound (risk driver) detected in groundwater was Benzene at a range 71-82 μg/L. The groundwater analytical results for the Base Operations Building 375 Site are summarized in Table 4, and the laboratory analytical report is presented in Appendix B.

3.5 Quality Control Summary

3.5.1 Analytical Procedures

The soil and groundwater samples were analyzed using USEPA SW-846 Methods. The analytical parameters included VOCs by Method 8260B and PAHs by Method 8270C. All field and duplicate samples were analyzed by NEL Laboratories, Las Vegas, Nevada. The laboratory is currently validated by the USACE.

3.5.2 Field Duplicates

One type of measure for precision is the collection and analysis of field duplicate samples. Under ideal field conditions, field duplicates would be collected and placed in a separate container, and identified as a separate sample. Field duplicates are used to test both the precision of a laboratory's analytical procedures and methods, and the consistency of the sampling techniques by field personnel. Field duplicates were collected for two soil (LAFB-UTIL-SB08-04 and LAFB-BOPS-SB08-06) and two water (LAFB-UTIL-MW08 and LAFB-BOPS-MW08) samples. The aqueous matrix duplicates show acceptable precision for the VOC and PAH analyses. The soil matrix duplicates show an acceptable precision for the PAH analyses, but the volatile soil duplicates display some unacceptable precision. The precision was difficult to judge in some instances due to the different sets of results produced from dilution analyses (See comments in the overall project data assessment section [Section 3.5.8] of this report). However, these precision problems are most likely due to the heterogeneous distribution of soil contamination. The highest concentrations will be considered for risk screening.

3.5.3 Matrix Spike/Matrix Spike Duplicates

A matrix spike (MS) is the addition of a known amount of a particular compound to a sample, the subsequent analysis, and the calculated recovery for that compound. A matrix spike is completed by the addition of one or more of the substances that are being analyzed. The percentage recovery of the spike indicates whether there is a high or low bias due to the matrix. Matrix spike samples were performed on each laboratory batch. However, matrix spike duplicate (MSD) analyses were not performed for every laboratory batch of VOC and PAH analyses. The MS/MSD recoveries were within acceptable limits except toluene in the VOC matrix spike analysis performed on 6/4/00, fluorene in the PAH matrix spike analysis performed with samples extracted on 6/2/00, and all the PAH analytes in the matrix spike analysis performed with samples extracted on 5/24/00. Relative percent differences (RPD) for MS/MSD recoveries were within acceptable limits. No matrix spike analyses were reported for the PAH analyses performed under NEL Order #L0006002 and VOC analyses performed on 6/1/00 and 6/5/00 under NEL Order #L0005195 and #L0005271. The low matrix spike recoveries associated with sample LAFB-BOPS-SB01-04 indicate matrix effects; therefore, the associated data should be used with caution to a low bias. The fluorene matrix spike recovery is slightly below acceptable limits and does not affect data usability and toluene result in the sample was non-detect and the matrix spike result does not affect data usability.

3.5.4 Laboratory Blanks

Laboratory or method blanks are laboratory quality control (QC) samples that consist of high purity water or soil-like material free of contaminants. Method blanks are extracted and analyzed with each batch of environmental samples undergoing analysis. If a substance is found in the method blank, at least one of the following scenarios occurred: measurement apparatus or containers were improperly cleaned or maintained; reagents used in the process were contaminated with the substance(s) of interest; or analytical equipment were not properly cleaned. For this investigation no contamination was detected in the VOC and PAH method blank analyses.

3.5.5 Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control sample duplicates (LCSD) are laboratory QC samples that consist of high purity water. The LCS is spiked with the substances that are being analyzed. LCSs are extracted and analyzed with each batch of environmental samples undergoing analysis. The LCS is used to determine recovery of analytes from a pure matrix. LCSs were completed for each batch of analytical results. Relative percent differences (RPD) for LCS/LCSD recoveries were within acceptable limits. No VOC laboratory control sample results were reported in NEL order #0005195. Laboratory control sample duplicate analyses were not performed for every laboratory batch of VOC and PAH analyses. Laboratory control sample recoveries were within acceptable limits.

3.5.6 Surrogate Samples

Surrogate samples are laboratory QC samples that are spiked with a compound that is not expected to be detected within the environmental sample. The surrogate recovery is used to evaluate precision and accuracy. Surrogate samples were completed for each analysis. The laboratory reported surrogate failures for two VOC soil samples (LAFB-BOPS-06-06 and LAFB-UTIL-SB02-04), two PAH soil samples (LAFB-BOPS-SB01-04 and LAFB-BOPS-SB02-06), and four PAH water samples (LAFB-UTIL-MW02, LAFB-BOPS-MW08, LAFB-LOCR-MW07, and LAFB-LOCR-MW05). The two VOC surrogate failures were due to recoveries below acceptable limits; therefore, the results from these samples should be used with caution to a low bias. The six PAH surrogate failures were due to recoveries below acceptable limits; however, all the associated sample results were non-detections. Therefore, the non-detection results associated with the surrogates below acceptable limits are considered estimated. No surrogate recoveries were reported for matrix spike and laboratory control sample analyses.

3.5.7 Holding Times

The majority of the samples were analyzed within the required holding times. The dilution analyses for the volatile organics samples (LAFB-BOPS-06-06, LAFB-BOPS-07-06, LAFB-BOPS-08-06, LAFB-LOCR-SB02-04, LAFB-LOCR-SB06-04) were analyzed

outside acceptable holding time. Also, all the PAH water samples were extracted outside holding time. Therefore, the aqueous PAH results should be used with caution.

3.5.8 Overall Project Data Assessment

The laboratory data was acceptable. However, some problems were encountered during the data assessment. Dilution analyses performed on soil matrix samples for volatile organics produced drastically different results versus the original analyses. In some cases, non-detection results in the original analysis were reported as concentrations that exceeded calibration ranges in the dilution analysis. The dilution analysis was performed using a methanol extraction technique on a new sample. Therefore, it is possible that the differences in the results were due to different extraction techniques or sample heterogeneity. The highest concentration from the analyses was placed into the data summary tables (Tables 2 through 4. The concentrations reported in Tables 2 through 4 should be used for risk assessment and decision-making purposes. No surrogates were reported for matrix spike and laboratory control sample analyses. The data usability for risk assessment or decision-making purposes is acceptable.

3.6 Risk Screen

The soil and groundwater analytical results were compared to USEPA Region 3 Risk Based Concentration (RBC) Table, April 1999. The list below is for the analytes detected in this sampling event:

		Soil -Residential	Tap Water
Acetone	n	7,800 mg/kg	610 µg/L
Benzene	c	22 mg/kg	0.36 µg/L
2-Butanone	n	47,000 mg/kg	1,900 µg/L
n-Butylbenzene	n	780 mg/kg	61 µg/L
sec-Butylbenzene	n	780 mg/kg	61 µg/L
tert-Butylbenzene	n	780 mg/kg	61 µg/L
Carbon disulfide	n	7,800 mg/kg	1,000 µg/L
Ethylbenzene	n	7,800 mg/kg	1,300 µg/L
4-methyl-2-pentanone	n	6,300 mg/kg	140 µg/L
MTBE	n	------	6,300 µg/L
Naphthalene	n	1,600 mg/kg	6.5 µg/L
n-Propylbenzene	n	780 mg/kg	61 µg/L
Toluene	n	16,000 mg/kg	750 µg/L
1,2,4-Trimethylbenzene	n	3,900 mg/kg	12 µg/L
1,3,5-Trimethylbenzene	n	3,900 mg/kg	12 µg/L
Xylene	n	160,000 mg/kg	12,000 µg/L

c =carcinogenic
n = non carcinogenic
MTBE = Methyl tert butyl ether

3.6.1 Volatile Organic Compounds

3.6.1.1 Soil

No soil concentrations exceeded RBC values. The highest soil detection was for 1,2,4-trimethylbenzene at a concentration of 31 mg/kg (ppm) compared to the RBC of 3,900 mg/kg (ppm).

3.6.1.2 Groundwater

At the Base Operations Building 375 Site, benzene and 1,2,4-trimethylbenzene concentrations exceeded RBC values in samples LAFB-BOPS-MW07 and LAFB-BOPS-MW08. The highest observed concentrations for these analytes were 82 μg/L for benzene and 180 μg/L for 1,2,4-trimethylbenzene. The Tap Water RBC values for these analytes are 0.36 μg/L for benzene and 12 μg/L for 1,2,4-trimethylbenzene. The benzene concentrations also exceeded the maximum contaminant level (MCL) of 5 μg/L.

Water results from the LO/CRF Site and Utilities Upgrade Area did not exceed RBC limits.

3.6.2 Polynuclear Aromatic Hydrocarbons

The analytical results were compared to USEPA Region 3 Risk Based Concentration (RBC) Table, April 1999. Naphthalene is detected in both the volatile and semi-volatile analysis. Standard convention is to use the semi-volatile results. The chemical properties of naphthalene indicate that the semi-volatile method should yield the best results. Naphthalene was the only detected PAH analyte.

3.6.2.1 Soil

No soil concentrations exceeded RBC values. The highest soil detection was for naphthalene at a concentration of 4,200 μg/kg (ppb) compared to the RBC of 1,600 mg/kg (ppm).

3.6.2.2 Groundwater

No PAH water analyses produced analyte detections. Therefore, no water concentrations exceeded RBC values.

3.6.3 Risk Screen Conclusions

Benzene and 1,2,4-trimethylbenzene concentrations in two groundwater samples exceeded the RBC limits. The benzene concentrations also exceeded the maximum contaminant level of 5 ppb. No RBC limits were exceeded in soil samples.

The analytical results for the groundwater samples from the Base Operations Building 375 Site indicate that the groundwater has been impacted, and may create an unacceptable risk to human health and the environment.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The results of an EM-61 geophysical survey shows 20 unidentified anomalies remaining that cannot be accounted for by visual observations of surface features. Of these 20 anomalies, 7 are recommended for further investigation should any construction or excavation activities take place at or near these anomalies. Unidentified anomalies recommended for investigation include 1, 4, 7, 10 and 11 at the LO/CRF Site, and at the Utilities Upgrade Area, unidentified anomalies 1 and 2.

The results of the passive soil gas survey indicate that well defined soil gas plumes exist in the Utilities Upgrade Area and Base Operations Building 375 Site, and these two sites have been significantly impacted by petroleum hydrocarbon contamination. The soil gas plume in the Utilities Upgrade Area extends from Danforth Avenue to the southeast underneath the parking lot. This soil gas plume is restricted to the northeastern half of Utilities Upgrade Area. The source of this soil gas plume may be the abandoned JP-4 fuel pipeline running beneath Danforth Avenue. The soil gas plume in the Base Operations Building 375 Site has been mapped in the eastern half of this investigation area underneath the old foundation to Building 375. The source of this plume are several fuel-saturated sources to the north and east associated with IRP Site ST-26.

The soil and groundwater analytical data confirms the passive soil gas results and shows that there is localized petroleum hydrocarbon contamination at four of the sites investigated (LO/CRF Site, Utilities Upgrade Area, Base Operations Building 351 Site, Base Operations Building 375 Site); however, only the Utilities Upgrade Area and Base Operations Building 375 Site exhibit soil and groundwater contamination at levels that may impact construction activities.

A risk screen was performed using the soil and groundwater analytical data collected in this field effort, and comparing them to USEPA Region 3 risk based concentrations (April 1999). The risk screen indicates that groundwater beneath the Base Operations Building 375 Site has been impacted and may pose an unacceptable risk to human health and the environment. The soil and groundwater analytical data from the Utilities Upgrade Area does not fail the risk screen; however, the data supports an area of contamination as defined by the soil gas plume. This area extends approximately 330 feet to the southwest from the northeast side of the Utilities Upgrade investigation area and includes a majority of the parking lot between Danforth Avenue and Building 777.

In summary, the LO/CRF and Base Operations Building 351 Sites have not been adversely impacted by petroleum hydrocarbon contamination and construction activities may take place unimpeded or without any restrictions. Any construction or intrusive activities at the Utilities Upgrade Area and Base Operations Building 375 Site may

require engineering controls to mitigate the potential for migration of hydrocarbon fumes into the buildings, and/or protection of site construction workers.

Technical Memorandum

LO/CRF, Utilities Upgrade Area, Base Operations Building, and Buildings 754 - 756 Demolition Area Investigations
Langley Air Force Base
Hampton, Virginia

Prepared For:

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Langley Air Force Base

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LIST OF ACRONYMS AND ABBREVIATIONS

bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
EM	Electromagnetic
EPA	Environmental Protection Agency
IRP	Installation Restoration Program
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LO/CRF	Low Observable/Composite Repair Facility
MCL	Maximum Contaminant Level
MS/MSD	Matrix Spike/Matrix Spike Duplicate
mV	Millivolt
OD	Outside Diameter
PAH	Polynuclear Aromatic Hydrocarbon
PID	Photoionization Detector
ppb	Parts Per Billion
ppm	Parts Per Million
PVC	Polyvinyl Chloride
QC	Quality Control
RBC	Risk Based Concentration
RPD	Relative Percent Difference
TM	Technical Memorandum
TPH	Total Petroleum Hydrocarbon
USACE	United States Army Corps of Engineers
UST	Underground Storage Tank
VOC	Volatile Organic Compound

TECHNICAL MEMORANDUM
LO/CRF, UTILITIES UPGRADE AREA, BASE OPERATIONS BUILDING, AND BUILDINGS 754 -756 DEMOLITION AREA SITE INVESTIGATIONS
LANGLEY AIR FORCE BASE
HAMPTON, VIRGINIA

1.0 INTRODUCTION

This document is prepared as a Technical Memorandum (TM) of findings for a multi-stage field investigation conducted at the proposed sites for the Low Observable/ Composite Repair Facility (LO/CRF), Utilities Upgrade Area, and Base Operations Building at Langley Air Force Base, Hampton, Virginia (Figures 1 through 4). The results of a single stage geophysical investigation to support the eventual demolition of Buildings 754 through 756, located in the southeast portion of the base adjacent to the east aircraft parking apron and flightline (Figure 5) are also included in this document. This TM presents a summary of the sampling activities conducted by U.S. Army Corps of Engineers (USACE) Omaha District, along with the results and conclusions. Field activities were conducted between February and May of 2000.

1.1 Project Objectives

The major objectives of this field investigation were to determine whether petroleum hydrocarbons and/or solvents had impacted the LO/CRF, Utilities Upgrade Area and Base Operations Building Sites, to identify what chemicals, if any, the human population is being exposed to and the risk(s) posed by those chemicals at these above mentioned sites, and to identify potential locations of underground storage tanks (UST's) and/or buried objects for all areas investigated.

1.2 Investigation Tasks

To fulfill the project objectives outlined above, the following field tasks were completed:

<u>LO/CRF Site</u>

- Electromagnetic geophysical survey of an area measuring approximately 8.1 acres. The area of investigation was sufficiently large enough to allow for changes in the location of the proposed facility if needed.

- Digging test pits at four locations to determine the nature of geophysical anomalies that could not be attributed to a specific identifiable surface feature.

- Installation of 94 passive soil gas samplers over the same area encompassed by the electromagnetic geophysical survey.

- Drilling and sampling 8 soil borings, and the installation of temporary groundwater monitoring wells in two of these borings.

- Groundwater sampling of the two temporary monitoring wells.

Utilities Upgrade Area

- Electromagnetic geophysical survey of an area measuring approximately 4.0 acres. Once again the area of investigation was sufficiently sized as the exact area to be impacted by the eventual construction could not be identified prior to the beginning of fieldwork for this investigation.

- Installation of 86 passive soil gas samplers over the same area encompassed by the electromagnetic geophysical survey.

- Drilling and sampling 7 soil borings, and the installation of temporary groundwater monitoring wells in two of these borings.

- Groundwater sampling of the two temporary monitoring wells.

Base Operations Building (Building 351 Site)

- Electromagnetic geophysical survey of an area measuring approximately 1.8 acres.

- Installation of 36 passive soil gas samplers over the same area encompassed by the electromagnetic geophysical survey.

- Drilling and sampling 4 soil borings.

Base Operations Building (Building 375 Site)

- Installation of 13 passive soil gas samplers over an area that measures approximately 0.8 acres.

- Drilling and sampling 3 soil borings, and the installation of a temporary groundwater monitoring well in one of these borings.

- Groundwater sampling of the temporary monitoring well.

Buildings 754 - 756 Demolition Area

- Electromagnetic geophysical survey of an area measuring approximately 4.4 acres including the areas between Buildings 753 and 754, Buildings 754 and 755, Buildings 755 and 756, and the open areas in front of Buildings 754, 755 and 756.

Upon completion of the fieldwork, the USACE Omaha District performed an evaluation of all soils and groundwater chemical data and completed a human health risk screen.

The data evaluation involved reviewing analysis holding times, surrogate recoveries, method blank analyses, matrix spike/matrix spike duplicate recoveries, laboratory control sample recoveries, and field duplicate samples. The evaluation results, which are located in Section 3.5 indicate that the data is usable to meet the project data quality objectives and the data can be used for the risk screen.

A risk screen was performed by assessing the soil and groundwater analytical data against United States (US) Environmental Protection Agency (EPA) Region 3 Risk Based Concentrations. The screening provides a conservative assessment of the contaminant concentration and any risk to human health. For soil, the residential screening criteria were used. For groundwater, the tap water screening criteria was used. The risk screening results are discussed in Section 3.6.

1.3 Background

The LO/CRF Project includes the construction of a proposed 3,945 square meter paint facility and composite repair shop for the F-22 stealth fighter aircraft. The area under investigation by USACE Omaha District for the LO/CRF Site encompasses approximately 8.1 acres, and is bounded on the west and south by an inactive taxiway which comprises a portion of Flightline Road and is currently used for vehicular traffic. The eastern boundary is marked by South Ramp 35. The northern-most extent of the area under investigation is bounded by an imaginary line perpendicular to Flightline Road as it turns to a southwest-northeast heading. An outline of the investigation area is shown in Figure 1.

Installation Restoration Program (IRP) Site ST-26, located west of and immediately adjacent to the proposed LO/CRF Site, is composed of several fuel-saturated areas. That portion of IRP Site ST-26 most critical to the LO/CRF Project is known as the Control Tower Area. The Control Tower Area is the area immediately surrounding Building 381 and includes the pumping station (Building 380). Past investigations conducted from 1989 to January 2000 indicated floating (free phase) JP-4 and JP-8 fuel and dissolved phase groundwater plumes in the Control Tower Area. The January 2000 site investigation focused on delineating the extent of the free and dissolved phase plumes at the eastern edge of IRP Site ST-26. Preliminary findings from this latest site investigation indicate that the free and dissolved phase plumes have not migrated sufficiently to the east or southeast to impact the LO/CRF Project.

The Utilities Upgrade Project includes altering and repairing utility systems, pavements and flightline security systems in support of the F-22 beddown. The area of investigation for the Utilities Upgrade Project encompasses approximately 4.0 acres and includes portions of a parking lot and Danforth Avenue. This area is bounded on the northwest by Buildings 754 through 756, and to the Southeast by Buildings 775 and 777. An outline of the investigation area is shown in Figure 2.

IRP Site ST-27 includes a portion of a now abandoned underground JP-4 fuel pipeline where it runs underneath Danforth Avenue through the area investigated for the Utilities Upgrade Project. Past investigations conducted from 1989 to 1998 indicated the existence of several distinct free and dissolved phase plumes and associated soil contamination along the Danforth Avenue portion of the pipeline, including some within the site investigation area for the Utilities Upgrade Project.

IRP Site ST-33 includes an abandoned underground fuel tank and fuel-saturated area covering approximately 0.1 acres between Building 755 and Danforth Avenue. This 60,000-gallon underground tank was used to store No. 2 fuel oil. The location of IRP Site ST-33 is immediately adjacent to the area of investigation for the Utilities Upgrade Project. Past investigations indicated free and dissolved phase plumes of limited extent along with some soil contamination.

The Base Operations Building Project includes the construction of a proposed F-22 Squadron Operations and Maintenance Facility. Two areas were investigated by the USACE Omaha District as potential sites for the Base Operations Building. The first site, located in an open field adjacent to Building 351, encompasses approximately 1.8 acres. This site is bounded to the north by the west aircraft parking apron, to the south by Building 351, and to the east and west by taxiways to the parking apron. An outline of this investigation area is shown in Figure 3. The second area investigated for the Base Operations Building is the location of Building 375, which was demolished in the spring of 2000. This investigation area is approximately 0.8 acres in size and encompasses the majority of the old building foundation. An outline of the second investigation area is shown in Figure 4.

IRP Site ST-49 consisted of underground fuel tanks and is located northwest of Building 351 within the first investigation area for the Base Operations Building. Two 10,000-gallon tanks were used to store heating oil, and have been removed. Past site investigations have not indicated any signs of leakage from these tanks.

The location of Building 375 (second investigation area) is entirely within IRP Site ST-26. The Control Tower Area of IRP Site ST-26 is critical to this Base Operations Building Site. A brief description on the background of the Control Tower Area may be found above.

Buildings 754, 755 and 756, located adjacent to the flightline in the southeast portion of the base, will eventually be demolished. In support of this planned demolition, the USACE Omaha District was asked to determine whether there was any buried objects including underground storage tanks and utilities that may impact the construction work. The investigation area included the paved portions between Buildings 753 and 754, Buildings 754 and 755, Buildings 755 and 756, and the grassy fields in front of Buildings 754, 755 and 756. An outline of these investigation areas is shown in Figure 5.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 Geophysical Survey

The first stage of this field investigation was to conduct an electromagnetic (EM) geophysical survey of the various sites listed above in Section 1.2, and was completed between February 22 and March 7, 2000. A Geonics EM-61 was used to perform all EM geophysical surveys. The EM-61 consists of a portable coincident loop time-domain transmitter and receiver with an additional receiver for depth-to-target estimates and rejection of near surface target response. The transmitter generates 150 EM pulses per second and measures the target response during the off-time between pulses. After each pulse, secondary EM fields are induced briefly in moderately conductive earth and for a longer time in metallic objects. The EM-61 waits until the earth response has dissipated and then measures the prolonged buried metal response. Response from smaller, shallow targets can be readily suppressed using the differential response from the two receivers.

Approximately 18.3 acres were geophysically surveyed in 42 grids of varying sizes. For each grid, the survey lines were spaced 5 feet apart with survey points obtained approximately every 0.67 feet. Six data were recorded or calculated for each survey point. These data and the units of measurement are listed below:

- X Coordinate (feet)
- Y Coordinate (feet)
- Bottom Coil or Channel (millivolts[mV])
- Top Coil or Channel (mV)
- Normalized Channel (mV)
- Differential Channel (mV)

The bottom channel records the actual response of the bottom coil in the instrument. The top channel records the response of the top coil with a gain of approximately 3 and is a somewhat exaggerated response. The normalized channel is a weighted difference of the bottom and top channel responses in which the gain on the top channel has been removed. The differential channel is the difference between the bottom channel and top channel (including gain) responses. Anomalies which are detected on the bottom and top channels but not on the differential channel are generally to a depth of no more than 3 to 5 feet. Anomalies which are detected on the bottom and top channels as well as the differential channel are generally buried to depths of up to 15 feet or more and/or are larger in size. For the purposes of this investigation, the bottom channel was used primarily for data interpretation in order to evaluate all potential sources regardless of size and/or depth.

Surfer (Win 32) Version 7.00 Surface Mapping System software was used for gridding and contouring of the data. The grid interval for the x-coordinate data was set at 5 feet, and the grid interval for the y-coordinate was set at 0.67 feet to match the actual grid data.

2.2 Passive Soil Gas Survey

The second stage of this field investigation involved the collection of passive soil gas samples from four sites (see Section 1.2 above) between the dates of March 27 and April 18, 2000. Soil gas sampling locations may be found on Figures 1 through 4.

A total of 229 passive soil gas collectors (modules) were installed between March 27 and 29, 2000. In general, a 1-inch diameter by 3-foot long pilot hole was drilled using a Simco 200 Earthprobe Direct Push Rig. In areas where asphalt and/or concrete were located, a 2-inch diameter hole was completed through the asphalt/concrete using a portable core drill. The remainder of the pilot hole was then completed using the direct push rig. A pre-measured length of string was cut and tied at one end to the module, and the other end of the string attached to a cork of suitable diameter to snugly fit inside the pilot hole. The module was then lowered to the bottom of the hole using an insertion rod along with the excess string, and the hole was plugged with the cork.

A total of 228 modules were retrieved between the dates of April 17 and 18, 2000 after an exposure time ranging from 19 to 21 days. One module set at the LO/CRF Site (Module No. 325779) was unretrievable as the pilot hole had collapsed. Each module was placed back in the original labeled container and the lid tightly secured. There is no need for preservation (i.e. to keep cool on ice) of the modules. At the end of the module retrieval period, all samples were appropriately packed and shipped via an overnight carrier to W.L. Gore & Associates, Inc, in Elkton, Maryland. Soil gas samples were analyzed for volatile and semi-volatile organic compounds using Modified EPA Method 8260A/8270B. In addition to the 228 field samples, 12 trip blanks were also sent to the laboratory

2.3 Soil Borings

The last stage of this field investigation included soil and groundwater sampling. A total of 22 soil borings (LAFB-LOCR-SB01 through LAFB-LOCR-SB08, LAFB-UTIL-SB01 through LAFB-UTIL-SB07 and LAFB-BOPS-SB01 through LAFB-BOPS-SB07) located over four sites (see Section 1.2 above) were drilled and sampled between the dates of May 19 and 25, 2000. The location of these borings are shown on Figures 1 through 4.

All borings were completed with a Simco Earthprobe 200 using direct-push technology. Each boring was continuously sampled by hydraulically pushing a 2-inch outside diameter (OD) by 24-inch long stainless steel split-spoon every 2 feet until groundwater was encountered. The five borings completed as temporary monitoring wells (LAFB-LOCR-SB05, LAFB-LOCR-SB07, LAFB-UTIL-SB01, LAFB-UTIL-SB02 and LAFB-BOPS-SB07) were continued from 4.0 feet to 9.0 feet below the water level first encountered during drilling. Total boring depths ranged from 4 to 12 feet below ground surface (bgs). Groundwater was first encountered at depths ranging from 3.0 to 8.0 feet bgs, and was more accurately read in the temporary wells at depths ranging from 4.02 to 8.15 feet bgs immediately following installation of the temporary monitoring wells.

To minimize potential cross-contamination, the split-spoons and rods were decontaminated prior to each use. Decontamination procedures included a Liquinox ® and tap water wash, followed by a tap water rinse.

Drilling log forms were completed for each boring and include boring location, type of drill rig, type of sampler used, soil descriptions, headspace readings, location and types of samples retained, and other pertinent information. Drilling log forms are provided in Appendix A.

Upon retrieval of the split spoon from the boring, the split spoon was opened and samples for headspace reading were collected. Below the water table, soil samples were collected for geologic logging purposes only. The samples for headspace analysis were placed inside a new sandwich bag inside a clean jar. Each jar was sealed with a continuous piece of aluminum foil and the jar lid was used to secure the foil. The jars were allowed to volatilize a minimum of ten minutes before a reading was collected. The headspace reading was collected using an Hnu PI 101 Photoionization Detector (PID) with a 10.2 electron volt lamp by inserting the probe tip through the tinfoil after removing the jar lid. A summary of the soil headspace screening results may be found in Table 1.

One soil sample from the interval immediately above the water table in each of the borings was retained for laboratory analysis. The highest elevated headspace reading generally corresponded to this interval. Soil samples for volatile organic compound (VOC) analysis were collected using EnCore® samplers. Soil samples for polynuclear aromatic hydrocarbon (PAH) analysis were placed in 8-ounce wide-mouth glass jars with Teflon®-lined caps. All samples were immediately labeled with identifying numbers and stored in a cooler at 4 degrees Celsius. At the end of the day, the samples were appropriately packed in coolers with fresh ice to maintain 4 degrees Celsius, and shipped via an overnight carrier to NEL Laboratories in Las Vegas, Nevada. Appropriate chain of custody forms were maintained with the laboratory samples from the time of collection until the completion of analysis. The samples were analyzed using EPA Method SW-846 8260B for VOCs, and 8270C for PAHs.

2.4 Temporary Monitoring Wells

A total of five temporary monitoring wells were installed between May 23 and 24, 2000. The temporary monitoring wells were designated LAFB-LOCR-MW05, LAFB-LOCR-MW07, LAFB-UTIL-MW01, LAFB-UTIL-MW02 and LAFB-BOPS-MW07. The locations of these wells are shown on Figures 1, 2 , and 4.

The temporary monitoring wells were installed to depths (to the bottom of the screened interval) ranging from 10.0 to 12.15 feet bgs. The well screens were placed across the water table in two of the wells (LAFB-LOCR-MW07 and LAFB-BOPS-MW07) at the time of installation. The top of the well screen was located approximately 1.0 to 2.5 feet below the water table at the time of installation for the remaining monitoring wells.

All well casings and screens were constructed of threaded, flush-joint, 1-inch nominal diameter Schedule 40 Polyvinyl Chloride (PVC) pipe. An end-cap was placed at the base of each screen. All well screens were factory slotted with a 0.010-inch slot size and 5 feet long. No adhesives or solvents were used to join sections of well casing or screen.

A filter pack of Colorado Silica Sand was poured down the annular space between the well riser and borehole wall to a point above the top of the well screen, then the remaining annular space was filled with 3/8-inch diameter bentonite pellets to prevent any potential surface water runoff from entering the boring.

No development was performed as these wells were temporary in nature and were designed to provide screening data on water quality only.

Groundwater samples were collected from all five temporary monitoring wells between May 30 and 31, 2000. All groundwater samples were analyzed for VOCs using EPA Method SW-846 8260B, and PAHs using 8270C. Groundwater samples were handled in a similar manner to the soil samples as described above, and were also analyzed by NEL Laboratories. All groundwater samples to be analyzed for VOCs were preserved with hydrochloric acid to a pH < 2.

Prior to purging and sampling, the static water level was measured with an electronic water level indicator. This data was used to calculate the quantity of water in the casing. A peristaltic pump with Tygon® tubing was then used to purge each monitoring well. A new piece of tubing was used for each well in order to prevent cross-contamination. Each temporary monitoring well was purged of three well volumes, then was sampled. Groundwater samples for PAHs were obtained first using the peristaltic pump and tubing. VOC samples were obtained next using pre-cleaned, dedicated glass bailers at all monitoring wells with the exception of LAFB-BOPS-MW07. This well had been damaged such that a bailer could not pass through it; therefore, the peristaltic pump and Tygon® tubing was also used to sample this monitoring well for VOCs.

3.0 SITE CHARACTERIZATION

3.1 Geophysical Survey Results and Interpretation

Color contour plots of the bottom channel EM-61 results (Figures 6 through 9) indicate numerous small anomalies, most which can be accounted for by visual observations of surface features (i.e., cars, manholes, utilities, etc.). Overall, there were 24 unidentified anomalies distributed over the four site areas where geophysical investigations were conducted. Four of these anomalies have been investigated. Of the remaining 20 unidentified anomalies, 7 are of sufficient size and/or magnitude to warrant some concern and may potentially impact construction activities.

At the LO/CRF Site, 11 unidentified anomalies were mapped as shown on Figure 6. Unidentified anomalies 2, 3, 8 and 9 were investigated on May 16, 2000 with the assistance of a backhoe and operator from Langley Air Force Base. Unidentified

anomalies 2 and 3 were found to be steel planking buried approximately 1 to 2 feet below ground surface. Unidentified anomaly 8 was found to be a small metal tank containing liquids of unknown composition buried right beneath the ground surface, while unidentified anomaly 9 was found to be an abandoned metal pipe located approximately 2 to 3 feet below ground surface. Photographs of the excavations for these anomaly investigations may be found in Figures 10 through 13. Of the remaining unidentified anomalies at the LO/CRF Site (1, 4 through 7, 10 and 11), numbers 5 and 6 are small enough not to be a concern. Unidentified anomalies 1, 4, 7, 10 and 11 are of sufficient size that they should be investigated if it is determined that any excavations will take place where these anomalies are located. It should be noted that unidentified anomalies 4, 7, 10 and 11 may be utility related.

At the Utilities Upgrade Area, 3 unidentified anomalies were mapped as shown on Figure 7. Unidentified anomalies 1 and 2 are of sufficient size that they should be investigated if it is determined that any excavations will take place where these anomalies are located. Both of these anomalies may be utility related.

No unidentified anomalies were mapped at the Base Operations Building 351 Site (see Figure 8).

At the Building 754 - 756 Demolition area, 10 unidentified anomalies were mapped as shown in Figure 9. The concentration of utility lines throughout this geophysical investigation area is extremely high, and most if not all of the unidentified anomalies are likely to be utility associated as they typically are found centered over or immediately adjacent to identified utility lines. No subsurface investigations are recommended for any of the unidentified anomalies within this area.

Large areas of reinforced concrete were encountered between Buildings 753 and 754, 754 and 755, 755 and 756, and underneath Danforth Avenue and the parking lot west of Danforth Avenue. These areas can be identified by the high instrument responses in the range of 1,000 to 5,000 millivolts on Figures 8 and 9. Any potential subsurface obstructions in these areas may be masked by the higher response generated by the metal reinforced concrete.

The depth to all anomaly targets can most likely be constrained by the depth to groundwater, assuming no objects would have been buried to a significant depth below the water table. Groundwater was encountered at depths ranging from approximately 4 to 8 feet at the various sites investigated, and it is assumed that these would represent the greatest depths at which the top of a geophysical anomaly could be encountered.

3.2 Passive Soil Gas Survey Results

A report on the passive soil gas survey was produced by the analytical laboratory W.L. Gore & Associates, Inc. and has been included in Appendix C of this report. Contained within this passive soil gas survey report are color contour maps representing the mass of a particular compound or class of compounds desorbed from the passive soil gas

collectors. Contour maps have been produced for: Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX); Benzene; and Total Petroleum Hydrocarbons (TPH).

At the LO/CRF Site, low soil gas mass levels were reported for BTEX and TPH; however, no well defined soil gas plume was detected. As a result, eight borings and two temporary monitoring wells were located within the LO/CRF Site and samples of both matrices were obtained to verify the nature of any contamination and the relationship to soil gas levels.

At the Utilities Upgrade Area, moderate to high soil gas mass levels were reported for BTEX, Benzene, and TPH. A well defined soil gas plume extends from Danforth Avenue to the southeast underneath the parking lot. This soil gas plume is restricted to the northeastern half of Utilities Upgrade Area. The source of this soil gas plume may be the abandoned JP-4 fuel pipeline running beneath Danforth Avenue. Isolated low level detections were also reported for several of the target analytes in the southwestern half of this investigation area. These detections may be associated with leaks from motor vehicles in the parking lot. One isolated area of soil gas detections is coincident with the location of IRP Site ST-33. Seven borings and two temporary monitoring wells were located within the Utilities Upgrade Area to obtain confirmation samples from both matrices.

At the Base Operations Building 351 Site, low soil gas mass levels were reported for BTEX, Benzene, and TPH; however, once again no well defined soil gas plume was detected. Four borings were located within this investigation area and confirmation samples were obtained for soils only.

At the Base Operations Building 375 Site, moderate to high soil gas mass levels were reported for BTEX, Benzene, and TPH, and a well defined soil gas plume was mapped in the eastern half of this investigation area underneath the old foundation to Building 375. Four borings and one temporary monitoring well were located within the Base Operations Building 375 Site area to obtain confirmation samples from both matrices.

3.3 Soil Analytical Results

The laboratory analytical results for soils from the LO/CRF Site indicate no PAH analytes were present above laboratory reporting limits. VOC analytes not attributed to laboratory contamination were present at low concentrations at two of the sampling locations, LAFB-LOCR-SB01 and LAFB-LOCR-SB06. The highest VOC concentration detected at the LO/CRF Site was 4-Methyl-2-pentanone at 40 µg/kg. The laboratory analytical reports are presented in Appendix B and the results for the LO/CRF Site are summarized in Table 2.

The laboratory analytical results for soils from the Utilities Upgrade Area indicate that napthalene (PAH analyte) was present at one of the sampling locations (LAFB-UTIL-SB02), and several VOC analytes not attributed to laboratory contamination were present at three of the locations sampled (LAFB-UTIL-SB02, LAFB-UTIL-SB03 and LAFB-

UTIL-SB04). These sampling locations are within the northeast portion of the Utilities Upgrade Area where soil gas concentrations were noted to be the highest. Napthalene was detected in the field and duplicate samples at concentrations ranging from 1700 - 2000 μg/kg. The highest VOC concentration detected at the Utilities Upgrade Area was n-Propylbenzene at 1800 μg/kg. The laboratory analytical reports are presented in Appendix B and the results for the Utilities Upgrade Area are summarized in Table 3.

The laboratory analytical results for soils from the Base Operations Building 351 Site indicate no PAH analytes were present above laboratory reporting limits. VOC analytes not attributed to laboratory contamination were present at low concentrations at two of the sampling locations, LAFB-BOPS-SB02 and LAFB-BOPS-SB03. The highest VOC concentration detected at the Base Operations Building 351 Site was Ethylbenzene at 15 μg/kg. The laboratory analytical reports are presented in Appendix B and the results for the Base Operations Building 351 Site are summarized in Table 4.

The laboratory analytical results for soils from the Base Operations Building 375 Site indicate that napthalene (PAH analyte) was present at one of the sampling locations (LAFB-BOPS-SB06), and several VOC analytes not attributed to laboratory contamination were present at two of the locations sampled (LAFB-BOPS-SB06 and LAFB-BOPS-SB07). These sampling locations are within the northeast portion of the Base Operations Building 375 Site where soil gas concentrations were noted to be the highest. Napthalene was detected at a concentration of 4200 μg/kg. The highest VOC concentration detected at the Base Operations Building 375 Site was 1,2,4-trimethylbenzene at 31,000 μg/kg. The laboratory analytical reports are presented in Appendix B and the results for the Base Operations Building 375 Site are summarized in Table 4.

3.4 Groundwater Analytical Results

The laboratory analytical results for groundwater from the LO/CRF Site and Utilities Upgrade Area indicate no PAH or VOC analytes were present above laboratory reporting limits. The laboratory analytical reports are presented in Appendix B and the results for the LO/CRF Site and Utilities Upgrade Area are summarized in Tables 2 and 3, respectively.

The laboratory analytical results for groundwater from the Base Operations Building 375 Site indicate no PAH analytes were present above laboratory reporting limits and some alkylated benzene compounds not attributed to laboratory contamination were present at low concentrations. The only carcinogenic volatile organic compound (risk driver) detected in groundwater was Benzene at a range 71-82 μg/L. The groundwater analytical results for the Base Operations Building 375 Site are summarized in Table 4, and the laboratory analytical report is presented in Appendix B.

3.5 Quality Control Summary

3.5.1 Analytical Procedures

The soil and groundwater samples were analyzed using EPA SW-846 Methods. The analytical parameters included VOCs by Method 8260B and PAHs by Method 8270C. All field and duplicate samples were analyzed by NEL Laboratories, Las Vegas, Nevada. The laboratory is currently validated by the USACE.

3.5.2 Field Duplicates

One type of measure for precision is the collection and analysis of field duplicate samples. Under ideal field conditions, field duplicates would be collected and placed in a separate container, and identified as a separate sample. Field duplicates are used to test both the precision of a laboratory's analytical procedures and methods, and the consistency of the sampling techniques by field personnel. Field duplicates were collected for two soil (LAFB-UTIL-SB08-04 and LAFB-BOPS-SB08-06) and two water (LAFB-UTIL-MW08 and LAFB-BOPS-MW08) samples. The aqueous matrix duplicates show acceptable precision for the VOC and PAH analyses. The soil matrix duplicates show an acceptable precision for the PAH analyses, but the volatile soil duplicates display some unacceptable precision. The precision was difficult to judge in some instances due to the different sets of results produced from dilution analyses (See comments in the overall project data assessment section [Section 3.5.8] of this report). However, these precision problems are most likely due to the inhomogeneous distribution of soil contamination. The highest concentrations will be considered for risk screening.

3.5.3 Matrix Spike/Matrix Spike Duplicates

A matrix spike (MS) is the addition of a known amount of a particular compound to a sample, the subsequent analysis, and the calculated recovery for that compound. A matrix spike is completed by the addition of one or more of the substances that are being analyzed. The percentage recovery of the spike indicates whether there is a high or low bias due to the matrix. Matrix spike samples were performed on each laboratory batch. However, matrix spike duplicate (MSD) analyses were not performed for every laboratory batch of VOC and PAH analyses. The MS/MSD recoveries were within acceptable limits except toluene in the VOC matrix spike analysis performed on 6/4/00, fluorene in the PAH matrix spike analysis performed with samples extracted on 6/2/00, and all the PAH analytes in the matrix spike analysis performed with samples extracted on 5/24/00. Relative percent differences (RPD) for MS/MSD recoveries were within acceptable limits. No matrix spike analyses were reported for the PAH analyses performed under NEL Order #L0006002 and VOC analyses performed on 6/1/00 and 6/5/00 under NEL Order #L0005195 and #L0005271. The low matrix spike recoveries associated with sample LAFB-BOPS-SB01-04 indicate matrix effects; therefore, the associated data should be used with caution to a low bias. The fluorene matrix spike recovery is slightly below acceptable limits and does not affect data usability and toluene result in the sample was non-detect and the matrix spike result does not affect data usability.

3.5.4 Laboratory Blanks

Laboratory or method blanks are laboratory quality control (QC) samples that consist of high purity water or soil-like material free of contaminants. Method blanks are extracted and analyzed with each batch of environmental samples undergoing analysis. If a substance is found in the method blank, at least one of the following scenarios occurred: measurement apparatus or containers were improperly cleaned or maintained; reagents used in the process were contaminated with the substance(s) of interest; or analytical equipment were not properly cleaned. For this investigation no contamination was detected in the VOC and PAH method blank analyses.

3.5.5 Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control sample duplicates (LCSD) are laboratory QC samples that consist of high purity water. The LCS is spiked with the substances that are being analyzed. LCSs are extracted and analyzed with each batch of environmental samples undergoing analysis. The LCS is used to determine recovery of analytes from a pure matrix. LCSs were completed for each batch of analytical results. Relative percent differences (RPD) for LCS/LCSD recoveries were within acceptable limits. No VOC laboratory control sample results were reported in NEL order #0005195. Laboratory control sample duplicate analyses were not performed for every laboratory batch of VOC and PAH analyses. Laboratory control sample recoveries were within acceptable limits.

3.5.6 Surrogate Samples

Surrogate samples are laboratory QC samples that are spiked with a compound that is not expected to be detected within the environmental sample. The surrogate recovery is used to evaluate precision and accuracy. Surrogate samples were completed for each batch of analytical results. The laboratory reported surrogate failures for two VOC soil samples (LAFB-BOPS-06-06 and LAFB-UTIL-SB02-04), two PAH soil samples (LAFB-BOPS-SB01-04 and LAFB-BOPS-SB02-06), and four PAH water samples (LAFB-UTIL-MW02, LAFB-BOPS-MW08, LAFB-LOCR-MW07, and LAFB-LOCR-MW05). The two VOC surrogate failures were due to recoveries below acceptable limits; therefore, the results from these samples should be used with caution to a low bias. The six PAH surrogate failures were due to recoveries below acceptable limits; however, all the associated sample results were non-detections. Therefore, the non-detection results associated with the surrogates below acceptable limits are considered estimated. No surrogate recoveries were reported for matrix spike and laboratory control sample analyses.

3.5.7 Holding Times

The majority of the samples were analyzed within the required holding times. The dilution analyses for the volatile organics samples (LAFB-BOPS-06-06, LAFB-BOPS-07-06, LAFB-BOPS-08-06, LAFB-LOCR-SB02-04, LAFB-LOCR-SB06-04) were analyzed

outside acceptable holding time. Also, all the PAH water samples were extracted outside holding time. Therefore, the aqueous PAH results should be used with caution.

3.5.8 Overall Project Data Assessment

The laboratory data was acceptable. However, some problems were encountered during the data assessment. Dilution analyses performed on soil matrix samples for volatile organics produced drastically different results versus the original analyses. In some cases, non-detection results in the original analysis were reported as concentrations that exceeded calibration ranges in the dilution analysis. The dilution analysis was performed using a methanol extraction technique on a new sample. Therefore, it is possible that the differences in the results were due to different extraction techniques or sample inhomogeneity. The highest concentration from the analyses was placed into the data summary tables (Tables 2 through 4. The concentrations reported in Tables 2 through 4 should be used for risk assessment and decision-making purposes. No surrogates were reported for matrix spike and laboratory control sample analyses. The data usability for risk assessment or decision-making purposes is acceptable.

3.6 Risk Screen

The soil and groundwater analytical results were compared to US EPA Region 3 Risk Based Concentration (RBC) Table, April 1999. The list below is for the analytes detected in this sampling event:

		Soil -Residential	Tap Water
Acetone	n	7,800 mg/kg	610 µg/L
Benzene	c	22 mg/kg	0.36 µg/L
2-Butanone	n	47,000 mg/kg	1,900 µg/L
n-Butylbenzene	n	780 mg/kg	61 µg/L
sec-Butylbenzene	n	780 mg/kg	61 µg/L
tert-Butylbenzene	n	780 mg/kg	61 µg/L
Carbon disulfide	n	7,800 mg/kg	1,000 µg/L
Ethylbenzene	n	7,800 mg/kg	1,300 µg/L
4-methyl-2-pentanone	n	6,300 mg/kg	140 µg/L
MTBE	n	------	6,300 µg/L
Naphthalene	n	1,600 mg/kg	6.5 µg/L
n-Propylbenzene	n	780 mg/kg	61 µg/L
Toluene	n	16,000 mg/kg	750 µg/L
1,2,4-Trimethylbenzene	n	3,900 mg/kg	12 µg/L
1,3,5-Trimethylbenzene	n	3,900 mg/kg	12 µg/L
Xylene	n	160,000 mg/kg	12,000 µg/L

c =carcinogenic
n = non carcinogenic
MTBE = Methyl tert butyl ether

3.6.1 Volatile Organic Compounds

3.6.1.1 Soil

No soil concentrations exceeded RBC values. The highest soil detection was for 1,2,4-trimethylbenzene at a concentration of 31 mg/kg (ppm) compared to the RBC of 3,900 mg/kg (ppm).

3.6.1.2 Groundwater

At the Base Operations Building 375 Site, benzene and 1,2,4-trimethylbenzene concentrations exceeded RBC values in samples LAFB-BOPS-MW07 and LAFB-BOPS-MW08. The highest observed concentrations for these analytes were 82 μg/L for benzene and 180 μg/L for 1,2,4-trimethylbenzene. The Tap Water RBC values for these analytes are 0.36 μg/L for benzene and 12 μg/L for 1,2,4-trimethylbenzene. The benzene concentrations also exceeded the maximum contaminant level (MCL) of 5 μg/L.

Water results from the LO/CRF Site and Utilities Upgrade Area did not exceed RBC limits.

3.6.2 Polynuclear Aromatic Hydrocarbons

The analytical results were compared to US EPA Region 3 Risk Based Concentration (RBC) Table, April 1999. Naphthalene is detected in both the volatile and semi-volatile analysis. Standard convention is to use the semi-volatile results. The chemical properties of naphthalene indicate that the semi-volatile method should yield the best results. Naphthalene was the only detected PAH analyte.

3.6.2.1 Soil

No soil concentrations exceeded RBC values. The highest soil detection was for naphthalene at a concentration of 4,200 μg/kg (ppb) compared to the RBC of 1,600 mg/kg (ppm).

3.6.2.2 Groundwater

No PAH water analyses produced analyte detections. Therefore, no water concentrations exceeded RBC values.

3.6.3 Risk Screen Conclusions

Benzene and 1,2,4-trimethylbenzene concentrations in two groundwater samples exceeded the RBC limits. The benzene concentrations also exceeded the maximum contaminant level of 5 ppb. No RBC limits were exceeded in soil samples.

The analytical results for the groundwater samples from the Base Operations Building 375 Site indicate that the groundwater has been impacted to create an unacceptable risk to human health and the environment.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The results of an EM-61 geophysical survey shows 20 unidentified anomalies remaining that cannot be accounted for by visual observations of surface features. Of these 20 anomalies, 7 are recommended for field investigation should any construction or excavation activities take place at or near these anomalies. Unidentified anomalies recommended for investigation include 1, 4, 7, 10 and 11 at the LO/CRF Site, and at the Utilities Upgrade Area, unidentified anomalies 1 and 2.

The results of the passive soil gas survey indicate that well defined soil gas plumes exist in the Utilities Upgrade Area and Base Operations Building 375 Site, and these two sites have been significantly impacted by petroleum hydrocarbon contamination. The soil gas plume in the Utilities Upgrade Area extends from Danforth Avenue to the southeast underneath the parking lot. This soil gas plume is restricted to the northeastern half of Utilities Upgrade Area. The source of this soil gas plume may be the abandoned JP-4 fuel pipeline running beneath Danforth Avenue. The soil gas plume in the Base Operations Building 375 Site has been mapped in the eastern half of this investigation area underneath the old foundation to Building 375. The source of this plume are several fuel-saturated sources to the north and east associated with IRP Site ST-26.

The soil and groundwater analytical data confirms the passive soil gas results and shows that there is localized petroleum hydrocarbon contamination at four of the sites investigated (LO/CRF Site, Utilities Upgrade Area, Base Operations Building 351 Site, Base Operations Building 375 Site); however, only the Utilities Upgrade Area and Base Operations Building 375 Site exhibit soil and groundwater contamination at levels that may impact construction activities.

A risk screen was performed using the soil and groundwater analytical data collected in this field effort, and comparing them to US EPA Region 3 risk based concentrations (April 1999). The risk screen indicates that groundwater beneath the Base Operations Building 375 Site has been impacted to create an unacceptable risk to human health and the environment. The soil and groundwater analytical data from the Utilities Upgrade Area does not fail the risk screen; however, the data supports an area of contamination as defined by the soil gas plume. This area extends approximately 330 feet to the southwest from the northeast side of the Utilities Upgrade investigation area and includes a majority of the parking lot between Danforth Avenue and Building 777.

In summary, the LO/CRF and Base Operations Building 351 Sites have not been adversely impacted by petroleum hydrocarbon contamination and construction activities may take place unimpeded or without any restrictions. Any construction or intrusive activities at the Utilities Upgrade Area and Base Operations Building 375 Site may

require engineering controls to mitigate the potential for migration of hydrocarbon fumes into the buildings, and/or protection of site construction workers.

Site Investigation Report
Fitness Center, Flight Simulator, and Clear Rinse Facility
Langley Air Force Base
Hampton Virginia

Prepared For:

Air Combat Command Military Construction
Langley Air Force Base

Prepared By:

Base Civil Engineering
Langley Air Force Base

11 April 2001

1.0 INTRODUCTION

Geophysical Investigations and Soil Gas Surveys were performed by the U.S. Army Corps of Engineers, Omaha District, at several sites which have been included in the F-22 Beddown Area Development Plan for Langley Air Force Base. Field activities were conducted between November 2000 and February 2001. The findings of this work was published in a Technical Memorandum to Air Combat Command Military Construction, dated February 2001. In the Memorandum, unidentified anomalies were noted at several of the sites investigated. The memorandum further recommended that some of the anomalies noted should be investigated prior to construction in the affected area. This report contains the results of the anomaly investigations performed on 10 and 11 April 2001.

2.0 ANOMALY INVESTIGATION

Findings are organized by site and anomaly number as identified in the U.S. Army Corps of Engineers Memorandum.

2.1 Fitness Center Site

A memorandum from the U.S. Army Corps of Engineers is forthcoming to address the anomaly at this site.

Flight Simulator Site

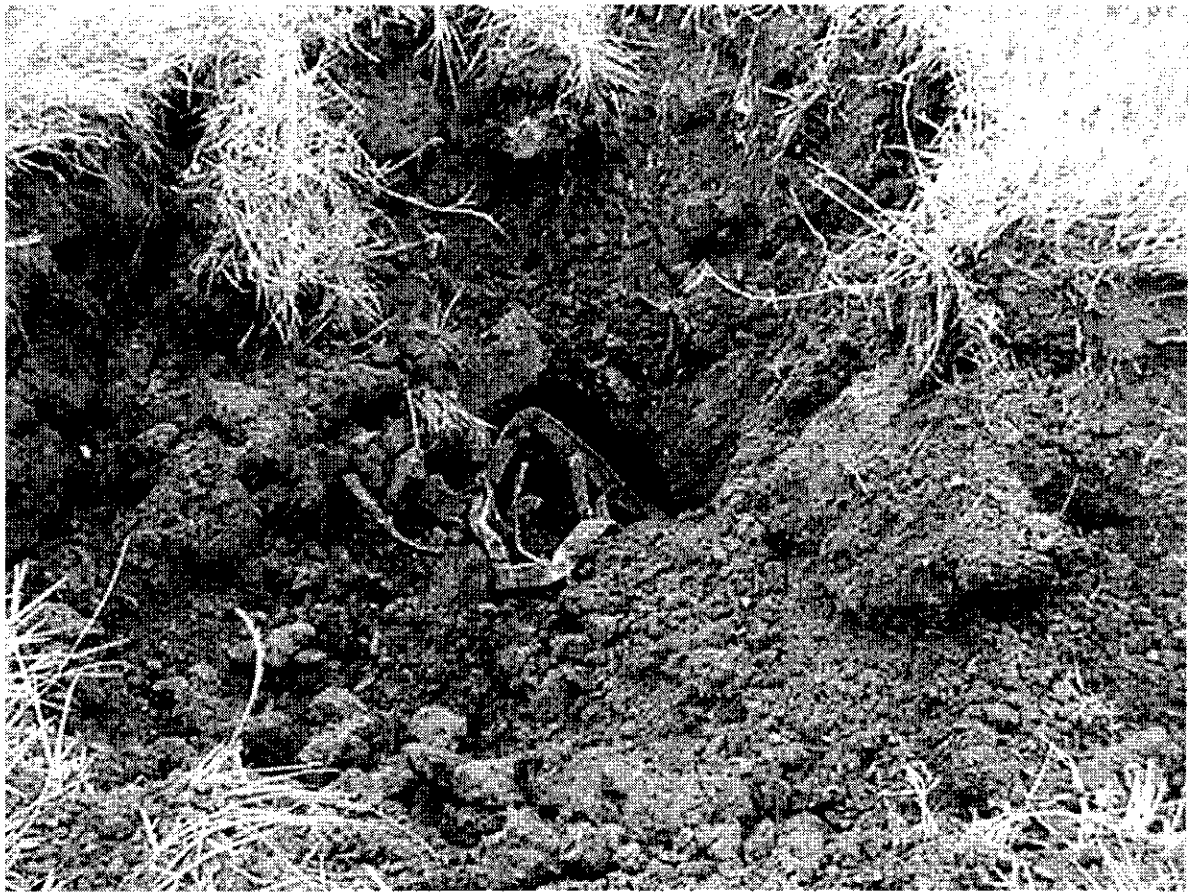
Anomaly No. 1 – A cast iron pipe approximately eight inches in diameter was found approximately eighteen inches below the ground. The pipe is cradled in a semicircular piece of metal sheeting. There are no records indicating that any utilities ever existed in this location. According to Civil Engineering Operations personnel, it is not currently in use. There were buildings in this area in the past and it is likely that this pipe was abandoned in place underneath one of those buildings.

Anomaly No. 2 – Wire, railroad ties, cable, and twisted sheet metal were found at this site. The site was excavated approximately two feet deep and the debris was continuing.

Clear Rinse Site

Anomaly No. 1 – A steel reinforced concrete box was found at a depth of approximately one foot. The walls of the box were approximately eight inches thick. The box was approximately thirteen and one half feet square. It is likely to have been a catch basin or possibly a foundation for something fairly small.

Anomaly No. 5 – Steel grate strips and asphalt were found at this site. The asphalt started approximately four inches deep and was approximately fourteen inches thick. A piece of the steel gating was removed during excavation but other pieces still exist at the site and there is still asphalt in place.



Anomaly No. 6 – Steel grate strips were found at this site. A piece of the steel gating was removed during excavation but other pieces still exist at the site.

Anomaly No. 7 – Steel grate strips were found at this site. A piece of the steel gating was removed during excavation but other pieces still exist at the site.

Anomaly No. 8 – Steel grate strips were found at this site. A piece of the steel gating was removed during excavation but other pieces still exist at the site.

Anomaly No. 9 – Steel sheet strips were found at this site. Two pieces of the steel sheeting were removed during excavation. Exploratory excavation produced no further sheeting.

Anomaly No. 12 – Steel grate strips were found at this site. A piece of the steel gating was removed during excavation. Exploratory excavation produced no further grating

CONCLUSIONS AND RECOMMENDATIONS

Material was found and identified at each one on the sites identified in the U.S. Army Corps of Engineers memorandum. The materials found during the excavating can be removed completely during the construction activities on that site. No further action will be taken by Base Civil Engineering.

Tables

Table 1
Soil Headspace Screening Results
LO/CRF, Utilities Upgrade Area, Base Operations Building, and
Buildings 754 - 756 Demolition Area Site Investigations
Langley Air Force Base
Hampton, Virginia

LO/CRF Site

Depth (ft bgs)	Hole Number							
	SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08
0-2	0	7	0.4	0.8	0.1	O	0.4	0.4
2-4	0.2	9	0.5	0.6	0.2	0.1	0.4	0.2
4-6	0.2	10	2	0.4	NR	NA	NR	NA
6-8	NA	NA	NA	NA	NR	NA	NR	NA
8-10	NA	NA	NA	NA	NR	NA	NR	NA

Utilities Upgrade Area

Depth (ft bgs)	Hole Number						
	SB01	SB02	SB03	SB04	SB05	SB06	SB07
0-2	9	30	100	10	8	5	4
2-4	2	50	150	40	7	3	5
4-6	NR	NR	NA	NA	NA	NA	NA
6-8	NR	NR	NA	NA	NA	NA	NA
8-10	NR	NR	NA	NA	NA	NA	NA
10-12	NR	NR	NA	NA	NA	NA	NA

Table 1
Soil Headspace Screening Results
LO/CRF, Utilities Upgrade Area, Base Operations Building, and
Buildings 754 - 756 Demolition Area Site Investigations
Langley Air Force Base
Hampton, Virginia

Base Operations Building Sites

Depth (ft bgs)	Hole Number						
	SB01	SB02	SB03	SB04	SB05	SB06	SB07
0-2	0	0.2	0.1	0	20	100	2
2-4	0	0.4	NRC	0	100	230	34
4-6	0	0.4	0.1	0	220	310	200
6-8	NA	0.4	70	NA	NA	NA	NR
8-10	NA	NA	NA	NA	NA	NA	NR
10-12	NA	NA	NA	NA	NA	NA	NR

ft bgs = Feet below ground surface.
NA = Not applicable - boring was not completed to this depth.
NR = Not read - sample water saturated.
NRC = No Recovery.
All headspace readings measured in parts per million (ppm) in air with an Hnu Model PI 101.
Only the last four digits of each soil boring number are shown.

Table 2
Soil and Groundwater Sample Analytical Results Summary
LO/CRF Site
Langley Air Force Base
Hampton, Virginia

Sample Number	Analytical Parameter	
	VOCs (EPA 8260B)	PAHs (EPA 8270C)
LAFB-LOCR-SB01-06	Acetone (65 µg/kg)	ND
	Toluene (5.9 µg/kg)	
LAFB-LOCR-SB02-06	ND	ND
LAFB-LOCR-SB03-06	Acetone (85 µg/kg)	ND
LAFB-LOCR-SB04-04	Acetone (42 µg/kg)	ND
LAFB-LOCR-SB05-04	Acetone (48 µg/kg)	ND
LAFB-LOCR-SB06-04	Acetone (310E µg/kg)	ND
	4-Methyl-2-pentanone (40 µg/kg)	
	Toluene (10 µg/kg)	
	1,2,4-Trimethylbenzene (8.1 µg/kg)	
	m,p-Xylene (10 µg/kg)	
LAFB-LOCR-SB07-04	ND	ND
LAFB-LOCR-SB08-04	Acetone (71 µg/kg)	ND
LAFB-LOCR-MW05	ND	ND
LAFB-LOCR-MW07	ND	ND

µg/kg = Micrograms per kilogram or parts per billion (ppb).
ND = Not Detected.
D = Analytical result derived from a sample dilution analysis.
E = Concentration exceeded calibration range.
Je = This concentration is below reporting limit, but above the method detection limit.

Table 3
Soil and Groundwater Sample Analytical Results Summary
Utilities Upgrade Area
Langley Air Force Base
Hampton, Virginia

Sample Number	Analytical Parameter	
	VOCs (EPA 8260B)	PAHs (EPA 8270C)
LAFB-UTIL-SB01-04	Acetone (55 µg/kg)	ND
LAFB-UTIL-SB02-04	Acetone (65 µg/kg)	Naphthalene (1700 µg/kg)
	n-Butylbenzene (560 D µg/kg)	
	sec-Butylbenzene (380 D µg/kg)	
	tert-Butylbenzene (31 µg/kg)	
	Carbon disulfide (7.3 µg/kg)	
	Ethylbenzene (1400 E µg/kg)	
	Isopropylbenzene (590 E µg/kg)	
	p-Isopropyltoluene (18 µg/kg)	
	Naphthalene (2300 D µg/kg)	
	n-Propylbenzene (1100 E µg/kg)	
	1,2,4-Trimethylbenzene (400 µg/kg)	
	1,3,5-Trimethylbenzene (40 µg/kg)	
LAFB-UTIL-SB03-04	Acetone (130 µg/kg)	ND
	2-Butanone (64 µg/kg)	
	n-Butylbenzene (190 µg/kg)	
	sec-Butylbenzene (1500 Di µg/kg)	
	tert-Butylbenzene (52 µg/kg)	
	Ethylbenzene (42 µg/kg)	
	Isopropylbenzene (680 Di µg/kg)	
	p-Isopropyltoluene (16 µg/kg)	
	Naphthalene (210 µg/kg)	
	n-Propylbenzene (1800 Di µg/kg)	
	Toluene (35 µg/kg)	
	1,2,4-Trimethylbenzene (32 µg/kg)	
	1,3,5-Trimethylbenzene (11 µg/kg)	
	o-Xylene (15 µg/kg)	
	m,p-Xylene (27 µg/kg)	
LAFB-UTIL-SB04-04	Acetone (42 µg/kg)	ND
	n-Butylbenzene (75 µg/kg)	
	sec-Butylbenzene (100 µg/kg)	
	tert-Butylbenzene (10 µg/kg)	
	Isopropylbenzene (74 µg/kg)	
	p-Isopropyltoluene (15 µg/kg)	
	Naphthalene (510 Di µg/kg)	
	n-Propylbenzene (180 µg/kg)	
	1,2,4-Trimethylbenzene (6.5 µg/kg)	
LAFB-UTIL-SB05-04	Acetone (66 µg/kg)	ND
LAFB-UTIL-SB06-04	Carbon Disulfide (17 µg/kg)	ND
LAFB-UTIL-SB07-04	Acetone (75 µg/kg)	ND
	Carbon disulfide (20 µg/kg)	

Table 3
Soil and Groundwater Sample Analytical Results Summary
Utilities Upgrade Area
Langley Air Force Base
Hampton, Virginia

Sample Number	Analytical Parameter	
	VOCs (EPA 8260B)	PAHs (EPA 8270C)
LAFB-UTIL-SB08-04 (Duplicate to LAFB-UTIL-SB02-04)	Acetone (77 µg/kg)	Naphthalene (2000 µg/kg)
	Benzene (58 µg/kg)	
	sec-Butylbenzene (25 µg/kg)	
	Carbon disulfide (6.3 µg/kg)	
	Ethylbenzene (190 µg/kg)	
	Isopropylbenzene (52 µg/kg)	
	p-Isopropyltoluene (9.5 µg/kg)	
	Naphthalene (120 µg/kg)	
	n-Propylbenzene (88 µg/kg)	
	1,2,4-Trimethylbenzene (71 µg/kg)	
	1,3,5-Trimethylbenzene (20 µg/kg)	
	o-Xylene (7.0 µg/kg)	
	m,p-Xylene (31 µg/kg)	
LAFB-UTIL-MW01	ND	ND
LAFB-UTIL-MW02	ND	ND
LAFB-UTIL-MW08 (Duplicate to LAFB-UTIL-MW01)	ND	ND

µg/kg = Micrograms per kilogram or parts per billion (ppb).
ND = Not Detected.
D = Analytical result derived from a sample dilution analysis.
Di = Results reported from analysis at a higher dilution.
E = Concentration exceeded calibration range.

Table 4
Soil and Groundwater Sample Analytical Results Summary
Base Operations Building Sites
Langley Air Force Base
Hampton, Virginia

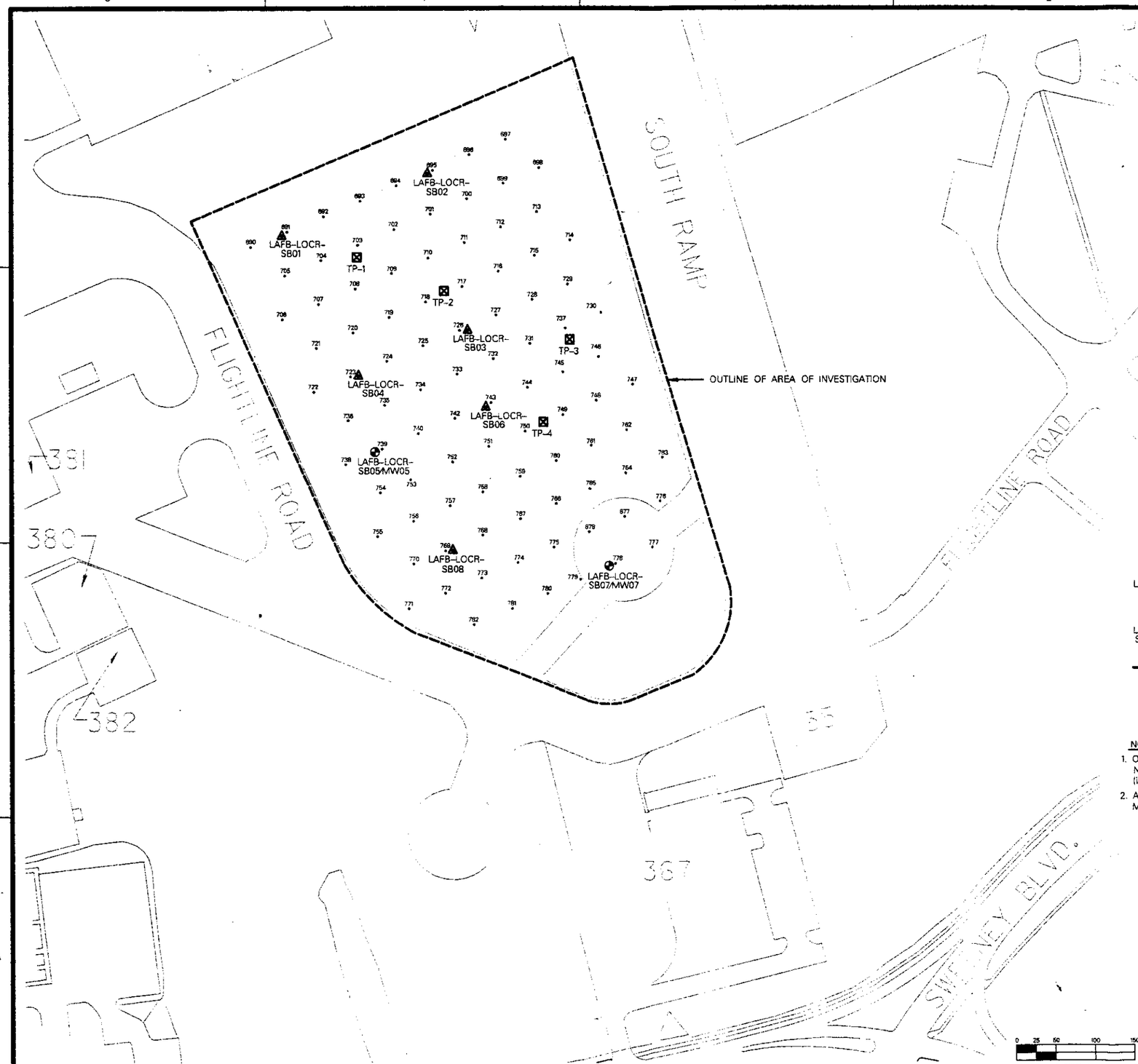
Sample Number	Analytical Parameter	
	VOCs (EPA 8260B)	PAHs (EPA 8270C)
LAFB-BOPS-SB01-04	Acetone (340 µg/kg)	ND
	2-Butanone (45 µg/kg)	
LAFB-BOPS-SB02-06	Ethylbenzene (15 µg/kg)	ND
	Toluene (7.4 µg/kg)	
LAFB-BOPS-SB03-08	Acetone (140 µg/kg)	ND
	Carbon disulfide (11 µg/kg)	
	Ethylbenzene (13 µg/kg)	
	Toluene (7.9 µg/kg)	
LAFB-BOPS-SB04-04	Acetone (48 µg/kg)	ND
LAFB-BOPS-SB05-04	Acetone (100 µg/kg)	ND
LAFB-BOPS-SB06-06	Acetone (45 µg/kg)	Naphthalene (4200 µg/kg)
	n-Butylbenzene (4600 D µg/kg)	
	sec-Butylbenzene (3700 D µg/kg)	
	tert-Butylbenzene (540 D µg/kg)	
	Isopropylbenzene (3400 D µg/kg)	
	p-Isopropyltoluene (1500 D µg/kg)	
	Naphthalene (2400 D µg/kg)	
	n-Propylbenzene (7200 E µg/kg)	
	1,2,4-Trimethylbenzene (18000 DE µg/kg)	
LAFB-BOPS-SB07-06	Benzene (390 D µg/kg)	ND
	n-Butylbenzene (9400 DE µg/kg)	
	sec-Butylbenzene (5600 D µg/kg)	
	tert-Butylbenzene (820 D µg/kg)	
	Carbon disulfide (7.9 µg/kg)	
	Ethylbenzene (6000 D µg/kg)	
	Isopropylbenzene (4800 D µg/kg)	
	p-Isopropyltoluene (3000 D µg/kg)	
	Naphthalene (670 D µg/kg)	
	n-Propylbenzene (11000 DE µg/kg)	
	1,2,4-Trimethylbenzene (31000 DE µg/kg)	
LAFB-BOPS-SB08-06 (Duplicate to LAFB-BOPS-SB07-06)	Benzene (490 D µg/kg)	ND
	n-Butylbenzene (9400 DE µg/kg)	
	sec-Butylbenzene (5400 D µg/kg)	
	tert-Butylbenzene (780 D µg/kg)	
	Carbon disulfide (6.9 µg/kg)	
	Ethylbenzene (5400 D µg/kg)	
	Isopropylbenzene (4600 D µg/kg)	
	p-Isopropyltoluene (2800 D µg/kg)	
	MTBE (140 µg/kg)	
	Naphthalene (1300 D µg/kg)	
	n-Propylbenzene (10000 DE µg/kg)	
	1,2,4-Trimethylbenzene (29000 DE µg/kg)	

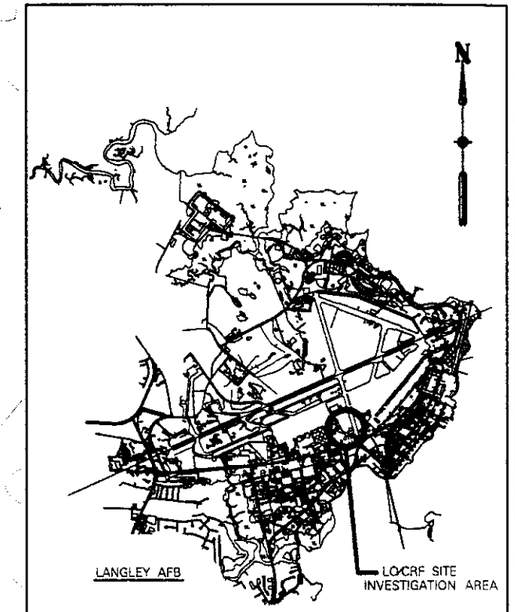
Table 4
Soil and Groundwater Sample Analytical Results Summary
Base Operations Building Sites
Langley Air Force Base
Hampton, Virginia

Sample Number	Analytical Parameter	
	VOCs (EPA 8260B)	PAHs (EPA 8270C)
LAFB-BOPS-MW07	Benzene (82 µg/L)	ND
	sec-Butylbenzene (11 µg/L)	
	Ethylbenzene (50 µg/L)	
	Isopropylbenzene (19 µg/L)	
	p-Isopropyltoluene (8.3 µg/L)	
	Naphthalene (73 µg/L)	
	n-Propylbenzene (33 µg/L)	
	1,2,4-Trimethylbenzene (180 µg/L)	
LAFB-BOPS-MW08 (Duplicate to LAFB-BOPS-MW07)	Benzene (71 µg/L)	ND
	sec-Butylbenzene (7.2 µg/L)	
	Ethylbenzene (37 µg/L)	
	Isopropylbenzene (14 µg/L)	
	p-Isopropyltoluene (5.5 µg/L)	
	Naphthalene (22 µg/L)	
	n-Propylbenzene (23 µg/L)	
	1,2,4-Trimethylbenzene (120 µg/L)	

µg/kg = Micrograms per kilogram or parts per billion (PPB).
µg/L = Micrograms per liter or parts per billion (PPB).
ND = Not Detected
D = Analytical result derived from a sample dilution analysis.
E = Concentration exceeded calibration range.

Figures





SITE LOCATION MAP

NO SCALE

LEGEND

690	PASSIVE SOIL GAS SAMPLING LOCATION
LAFB-LOCR-SB01	SOIL BORING LOCATION
LAFB-LOCR-SB05/MW05	SOIL BORING/TEMPORARY MONITORING WELL LOCATION
———	OUTLINE OF AREA OF INVESTIGATION
TP-1	TEST PIT LOCATION

NOTES:

1. ONLY THE LAST THREE DIGITS OF EACH PASSIVE SOIL GAS SAMPLE NUMBER ARE SHOWN ON THIS MAP. EACH NUMBER BEGINS WITH 325 (i.e. THE COMPLETE NUMBER IS 325690).
2. ALL SAMPLING LOCATIONS SHOWN ARE APPROXIMATE AND BASED ON MEASUREMENTS USING A TAPE AND COMPASS.

$$ – THINK VALUE ENGINEERING – $$

Revisions

Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
OMAHA, NEBRASKA

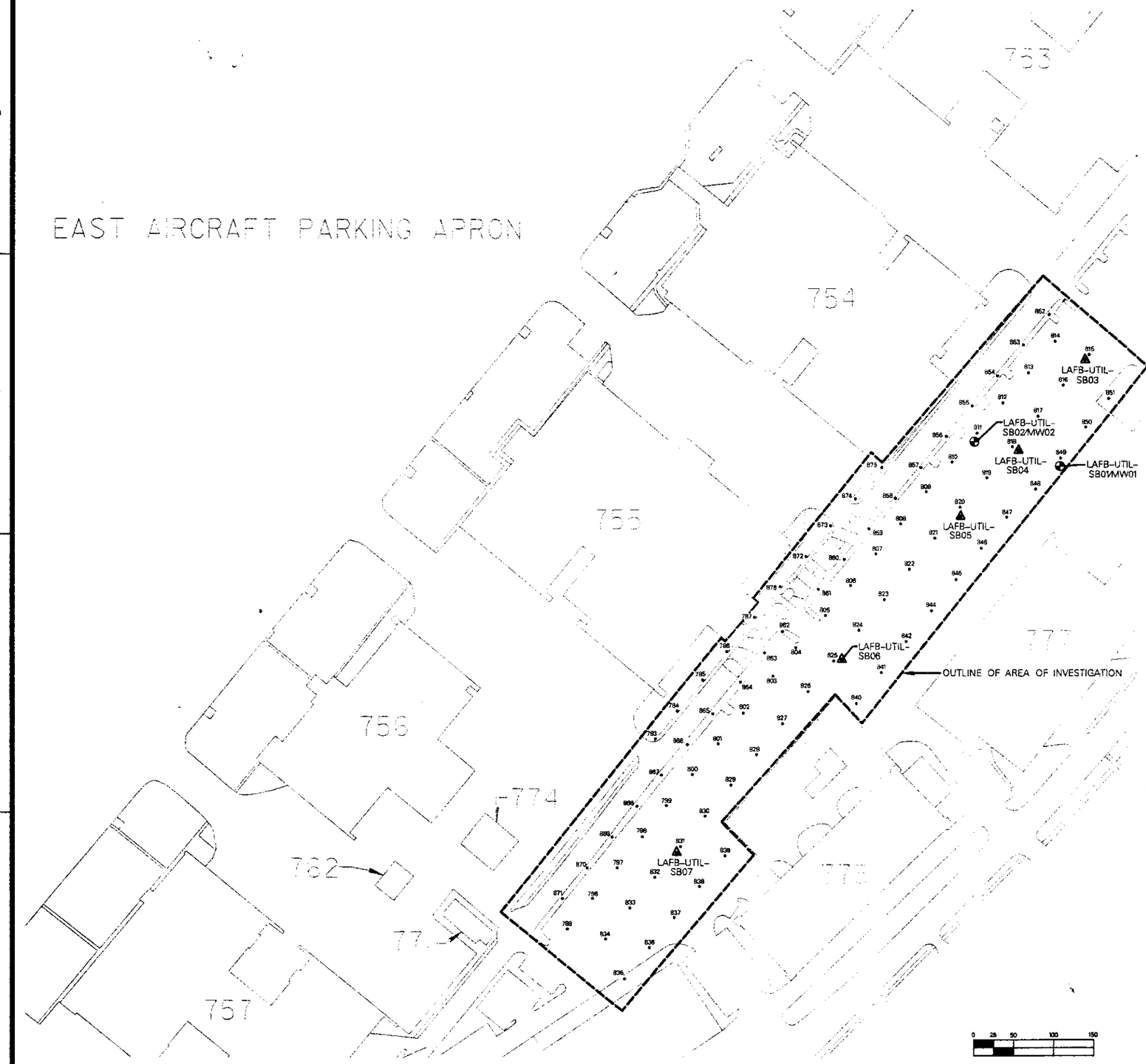
LANGLEY AIR FORCE BASE
HAMPTON, VIRGINIA

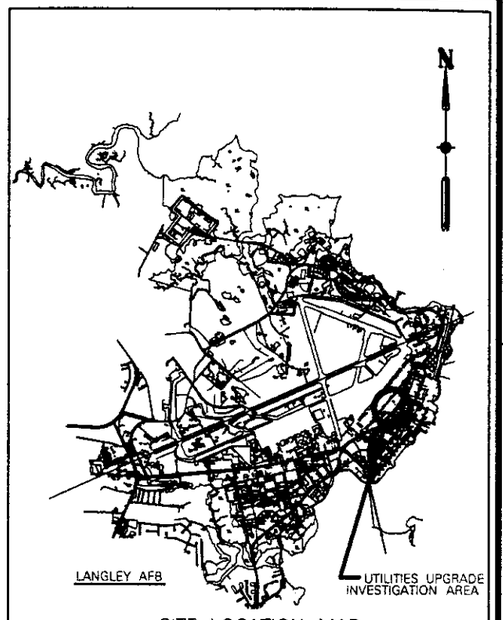
LO/CRF SITE INVESTIGATION SITE LOCATION AND LAYOUT MAP

FIGURE 1

Designed by: R.J.G.	
Drawn by: J.A.H.	
Checked by: R.J.G.	
Reviewed by:	Plot Scale Ratio: 1:50
	Design File: sto13langleysite1a.dgn
Submitted by:	Spec. No.: DACW 45
Chief, GEOLOGY & Section	Contract No.: DACW 45
Date: JUNE 2000	Drawing Code: X
Sheet reference number: X	

COMPUTER AIDED DESIGN & DRAFTING





SITE LOCATION MAP
NO SCALE

LEGEND

783	PASSIVE SOIL GAS SAMPLING LOCATION
LAFB-UTIL-SB06	SOIL BORING LOCATION
LAFB-UTIL-SB02/MW02	SOIL BORING/TEMPORARY MONITORING WELL LOCATION
	OUTLINE OF AREA OF INVESTIGATION

NOTES:

1. ONLY THE LAST THREE DIGITS OF EACH PASSIVE SOIL GAS SAMPLE NUMBER ARE SHOWN ON THIS MAP. EACH NUMBER BEGINS WITH 325 (i.e. THE COMPLETE NUMBER IS 325783).
2. ALL SAMPLING LOCATIONS SHOWN ARE APPROXIMATE AND BASED ON MEASUREMENTS USING A TAPE AND COMPASS.

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Revisions

Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
OMAHA, NEBRASKA

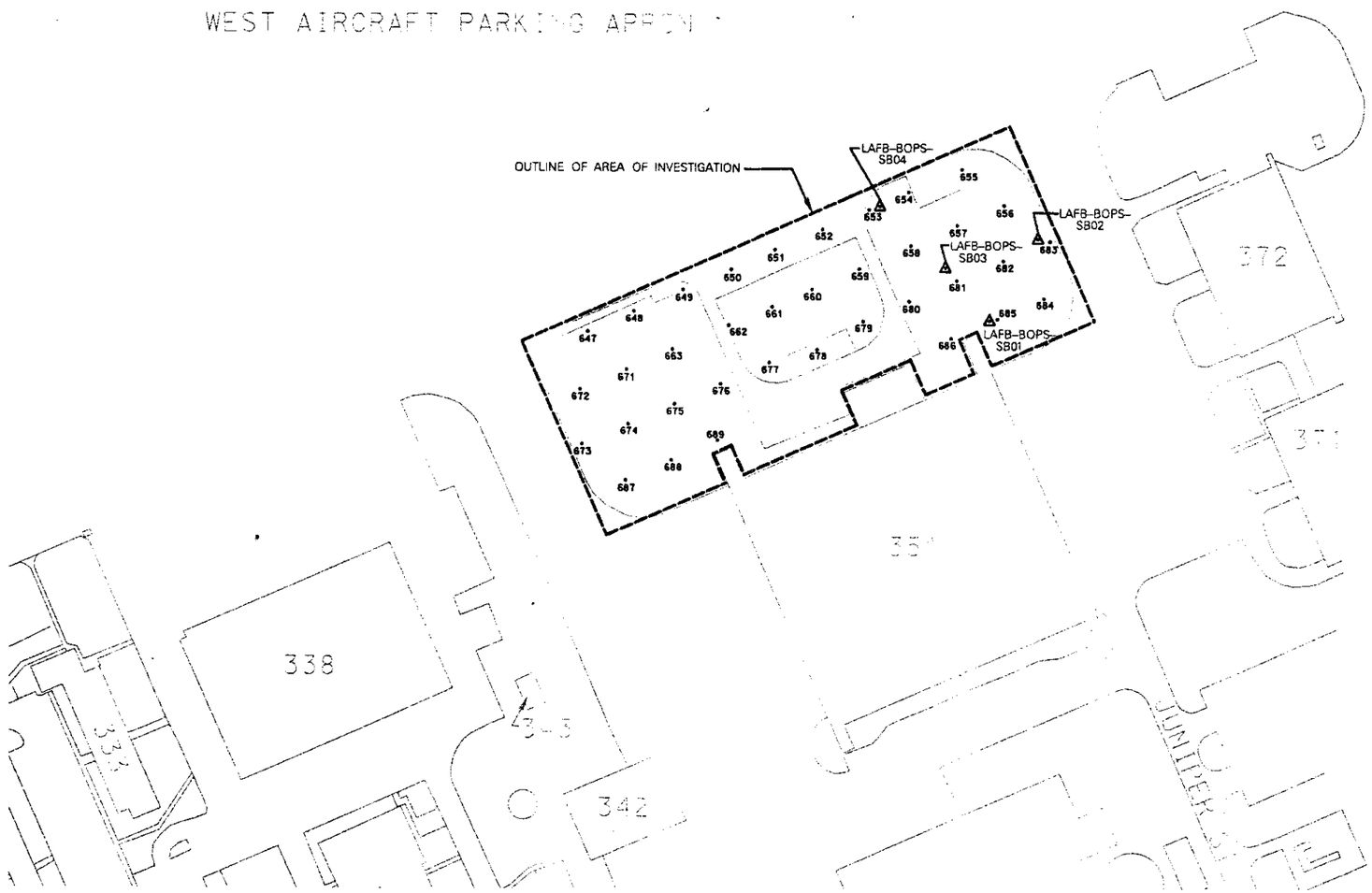
LANGLEY AIR FORCE BASE
HAMPTON, VIRGINIA

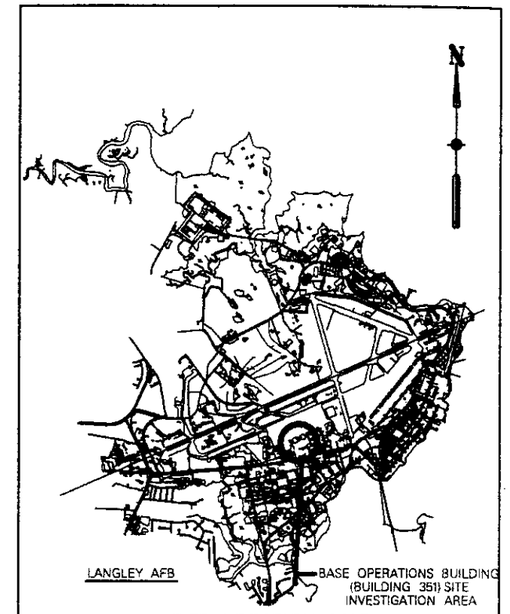
UTILITIES UPGRADE AREA INVESTIGATION SITE LOCATION AND LAYOUT MAP

FIGURE 2

Designed by: R.J.G.	Plot Scale Ratio: 1:50	Date: JUNE 2000	Sheet reference number:
Drawn by: J.A.H.	Design File: std13langleysite3.dgn		
Checked by: R.J.G.	Spec. No.: DACW 45	Drawing Code: X	X
Reviewed by:	Contract No.: DACW 45		
Submitted by:			
Chief: GEOLOGY & Section			

COMPUTER AIDED DESIGN & DRAFTING





SITE LOCATION MAP

NO SCALE

LEGEND

680 •	PASSIVE SOIL GAS SAMPLING LOCATION
△ LAFB-BOPS-SB02	SOIL BORING LOCATION
———	OUTLINE OF AREA OF INVESTIGATION

NOTES:

1. ONLY THE LAST THREE DIGITS OF EACH PASSIVE SOIL GAS SAMPLE NUMBER ARE SHOWN ON THIS MAP. EACH NUMBER BEGINS WITH 325 (i.e. THE COMPLETE NUMBER IS 325680).
2. ALL SAMPLING LOCATIONS SHOWN ARE APPROXIMATE AND BASED ON MEASUREMENTS USING A TAPE AND COMPASS.

$$ – THINK VALUE ENGINEERING – $$

Revisions

Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
OMAHA, NEBRASKA

Designed by: R.J.G.
Drawn by: J.A.H.
Checked by: R.J.G.
Reviewed by:
Submitted by:
Chief: DEBLOGY & Section

LANGLEY AIR FORCE BASE
HAMPTON, VIRGINIA
BASE OPERATIONS BUILDING
SITE INVESTIGATION
(BUILDING 351 SITE)
SITE LOCATION AND LAYOUT MAP
FIGURE 3

Plot Scale Ratio: 1:50
Design File: std13langleysite6.dgn
Date: JUNE 2000
Spec. No.: DACW 45
Contract No.: DACW 45
Drawing Code: X
Sheet reference number: X

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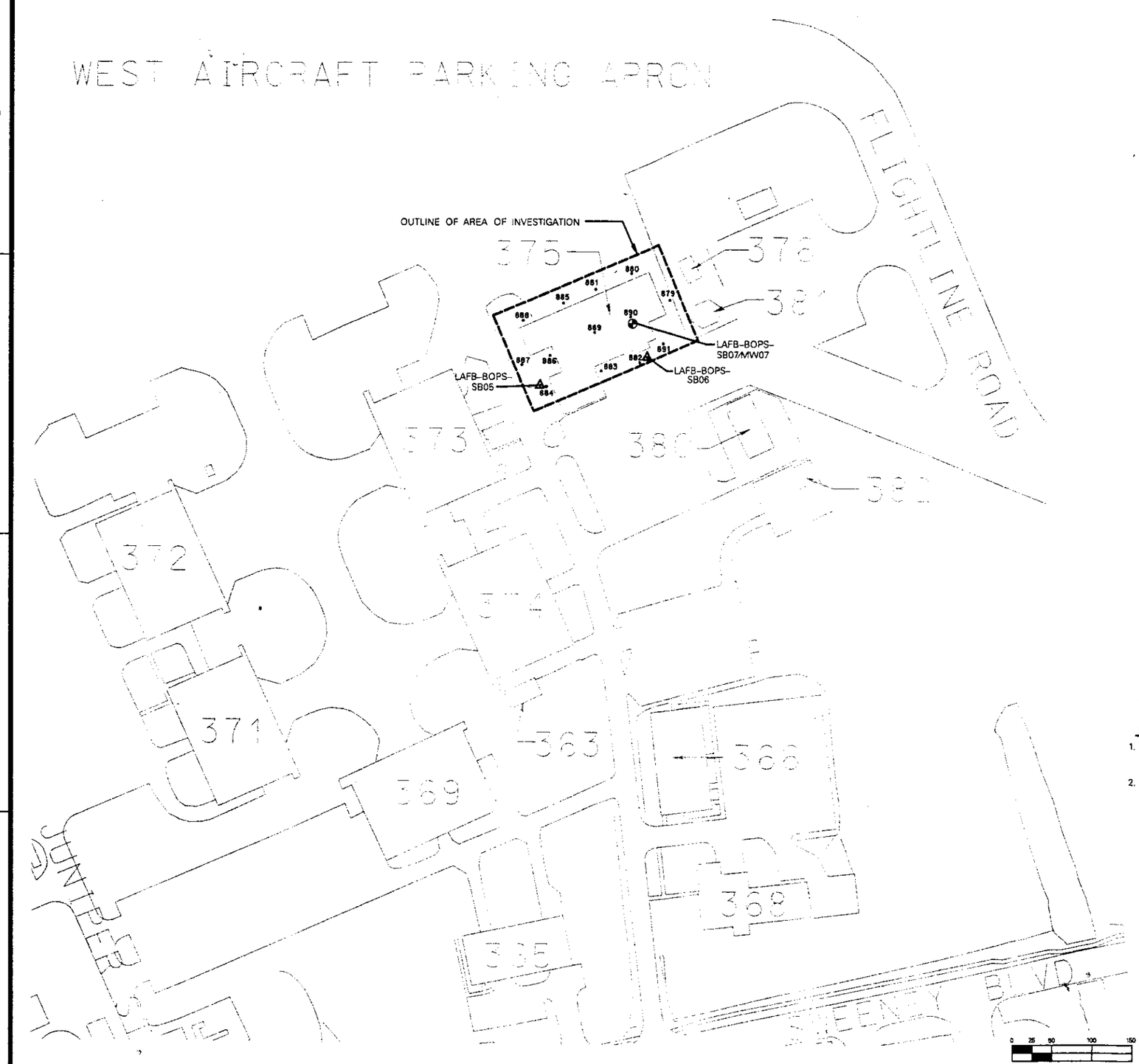
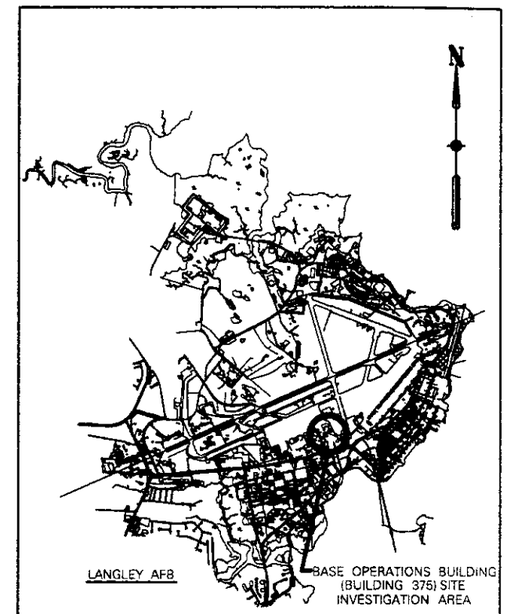




SITE LOCATION MAP
NO SCALE

LEGEND

880	PASSIVE SOIL GAS SAMPLING LOCATION
LAFB-BOPS-SB05	SOIL BORING LOCATION
LAFB-BOPS-SB07/MW07	SOIL BORING/TEMPORARY MONITORING WELL LOCATION
———	OUTLINE OF AREA OF INVESTIGATION

NOTES:

1. ONLY THE LAST THREE DIGITS OF EACH PASSIVE SOIL GAS SAMPLE NUMBER ARE SHOWN ON THIS MAP. EACH NUMBER BEGINS WITH 325 (i.e. THE COMPLETE NUMBER IS 325880).
2. ALL SAMPLING LOCATIONS SHOWN ARE APPROXIMATE AND BASED ON MEASUREMENTS USING A TAPE AND COMPASS.

$$ - THINK VALUE ENGINEERING - $$

Revisions

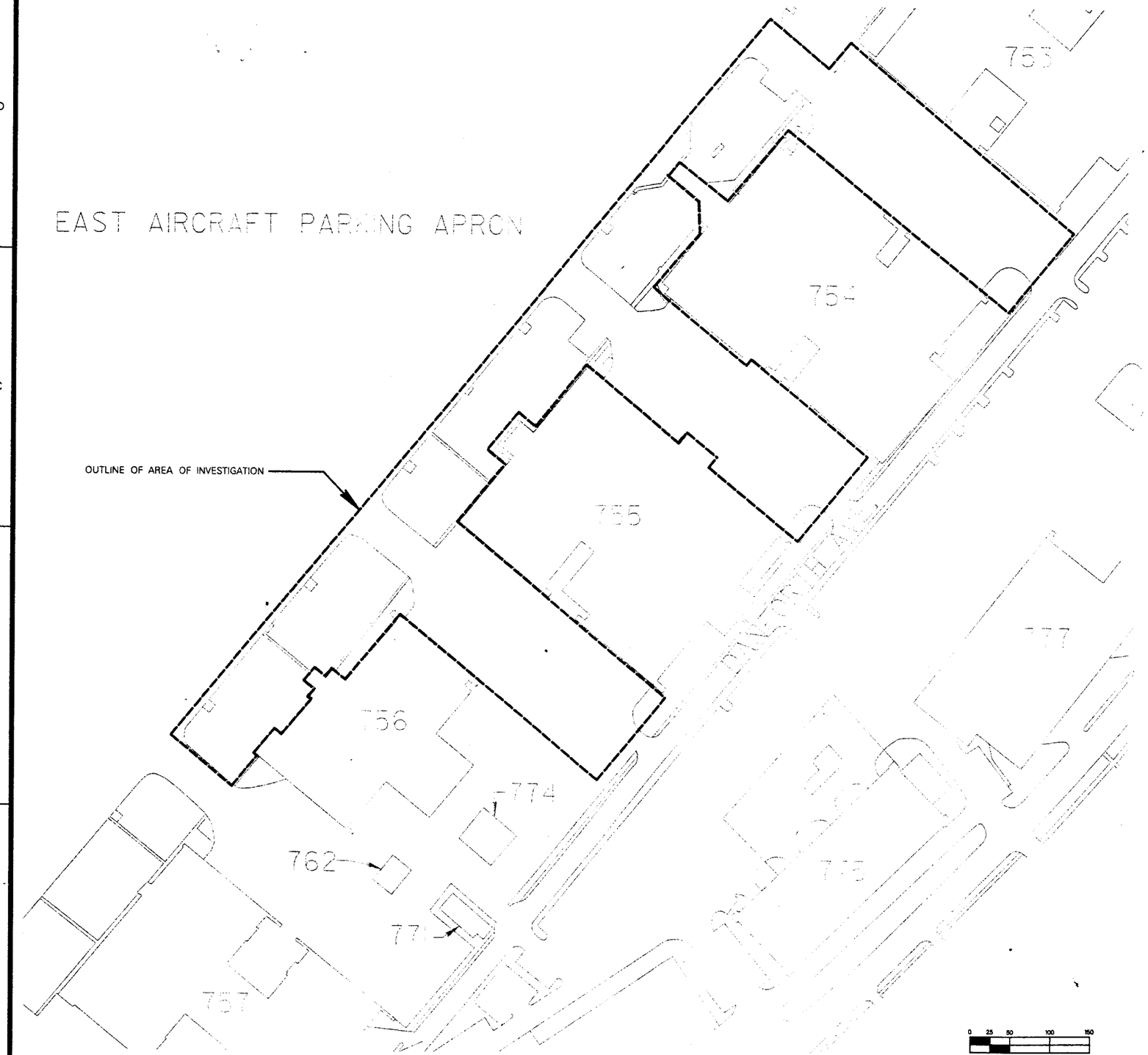
Symbol	Descriptions	Date	Approved

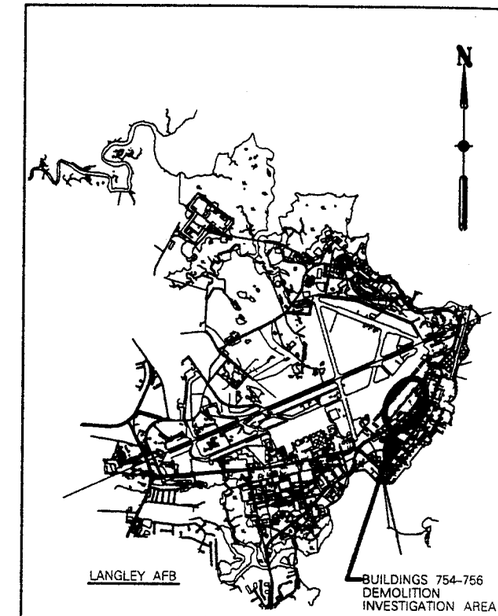
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
OMAHA, NEBRASKA

LANGLEY AIR FORCE BASE
HAMPTON, VIRGINIA
BASE OPERATIONS BUILDING
SITE INVESTIGATION
(BUILDING 375 SITE)
SITE LOCATION AND LAYOUT MAP
FIGURE 4

Designed by: R.J.G.	
Drawn by: J.A.H.	
Checked by: R.J.G.	
Reviewed by:	Plot Scale Ratio: X; Design File: std13langlevelted.dgn; Date: JUNE 2000; Sheet reference number: X
Submitted by:	Spec. No.: DACA 45; Contract No.: DACA 45; Drawing Code: X
Chief: geology & Section	

COMPUTER AIDED DESIGN & DRAFTING





SITE LOCATION MAP
NO SCALE

$$ – THINK VALUE ENGINEERING – $$

Revisions

Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
OMAHA, NEBRASKA

LANGLEY AIR FORCE BASE
HAMPTON, VIRGINIA

BUILDINGS 754–756
DEMOLITION AREA INVESTIGATION
SITE LOCATION AND
LAYOUT MAP
FIGURE 5

Designed by: R.J.G.	
Drawn by: J.A.H.	
Checked by: R.J.G.	
Reviewed by:	Plot Scale Ratio: 1:50
	Design File: std13langleysite6.dgn
Submitted by:	Spec. No.: DACW 45
Chief: GEOLOGY & Section	Contract No.: DACW 45
Date: JUNE 2000	Drawing Code: X
Sheet reference number:	X

COMPUTER AIDED DESIGN & DRAFTED

Appendix A
Drilling Log Forms

HTRW DRILLING LOG

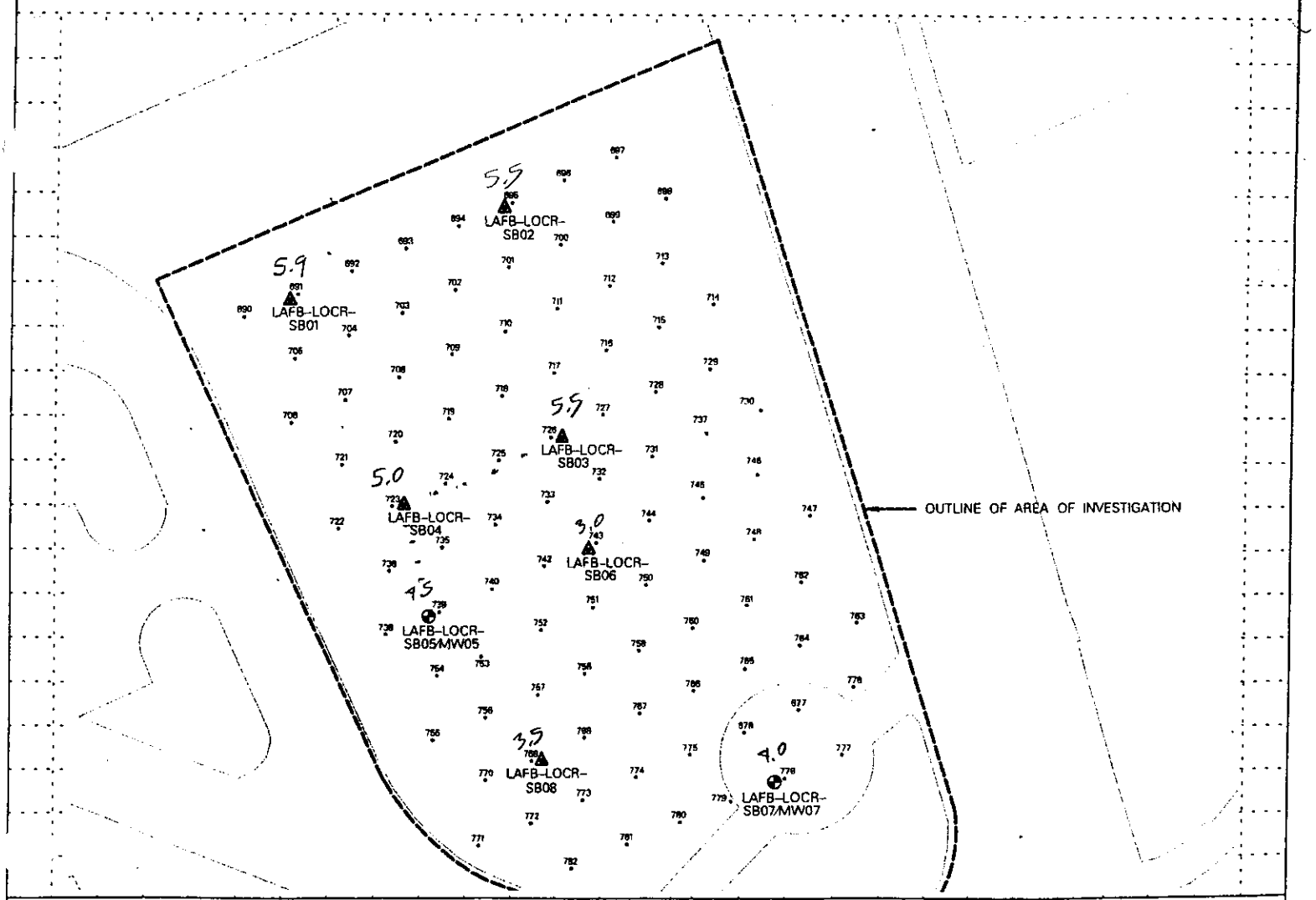
DISTRICT: Omaha		HOLE NUMBER: LAFB-LOCR-SB01
1. COMPANY NAME: USACE	2. DRILL SUBCONTRACTOR: N/A	SHEET 1 OF SHEETS 2
3. PROJECT: LO&CRF Site	4. LOCATION: Langley AFB, VA	
5. NAME OF DRILLER: Mike Morrissey	6. MANUFACTURER'S DESIGNATION OF DRILL: Simco Earthprobe 200	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Direct Push Rig With 2" OD. Stainless Steel Split Spoons	8. HOLE LOCATION: See Sketch Below	
	9. SURFACE ELEVATION: Not Surveyed	
	10. DATE STARTED: 5/23/00	11. DATE COMPLETED: 5/23/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 5.9 ft	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: Not Measured	
14. TOTAL DEPTH OF HOLE: 6.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOLAL CORE RECOVERY %
	8260B		PAHs-8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X			[signature]

LOCATION SKETCH/COMMENTS | SCALE



PROJECT LO&CRF Site | HOLE NO. LAFB-LOCR-SB01

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: LAFB-LOCR-SB01

PROJECT: LO & CRF Site

INSPECTOR: Richard Grabowski

SHEET 2 OF 2 SHEETS

EV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Topsoil: Dark brown, grass, roots, moist.					Run #1: 1507
	1	Clayey Sand (SC): Brown, moist, medium plasticity fines, fine sand	0 ppm				
	2						Run #2: 1512
		Same as above.					
	3		0.2 ppm				
	4						
		Same as above except wet. Saturated at 5.9 ft. Contact with clayey sand containing shell fragments at 5.9'			LAFB-LOCR-SB01-06		Run #3: 1520
	5		0.2 ppm				
	6	Bottom of Hole = 6.0 ft.					
	7						
	8						
	9						

PROJECT: LO & CRF Site

HOLE NO.: LAFB-LOCR-SB01

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT: Omaha		HOLE NUMBER: LAFB-LOCR-SB02
1. COMPANY NAME: USACE	2. DRILL SUBCONTRACTOR: N/A	SHEET 1 OF 2 SHEETS
3. PROJECT: LO&CRF Site	4. LOCATION: Langley AFB, VA	
5. NAME OF DRILLER: Mike Morrissey	6. MANUFACTURER'S DESIGNATION OF DRILL: Simco Earthprobe 200	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Direct Push Rig With 2" OD, Stainless Steel Split Spoons	8. HOLE LOCATION: See Sketch Below	
	9. SURFACE ELEVATION: Not Surveyed	
	10. DATE STARTED: 5/23/00	11. DATE COMPLETED: 5/23/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 5.5 ft.	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: Not Measured	
14. TOTAL DEPTH OF HOLE: 6.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

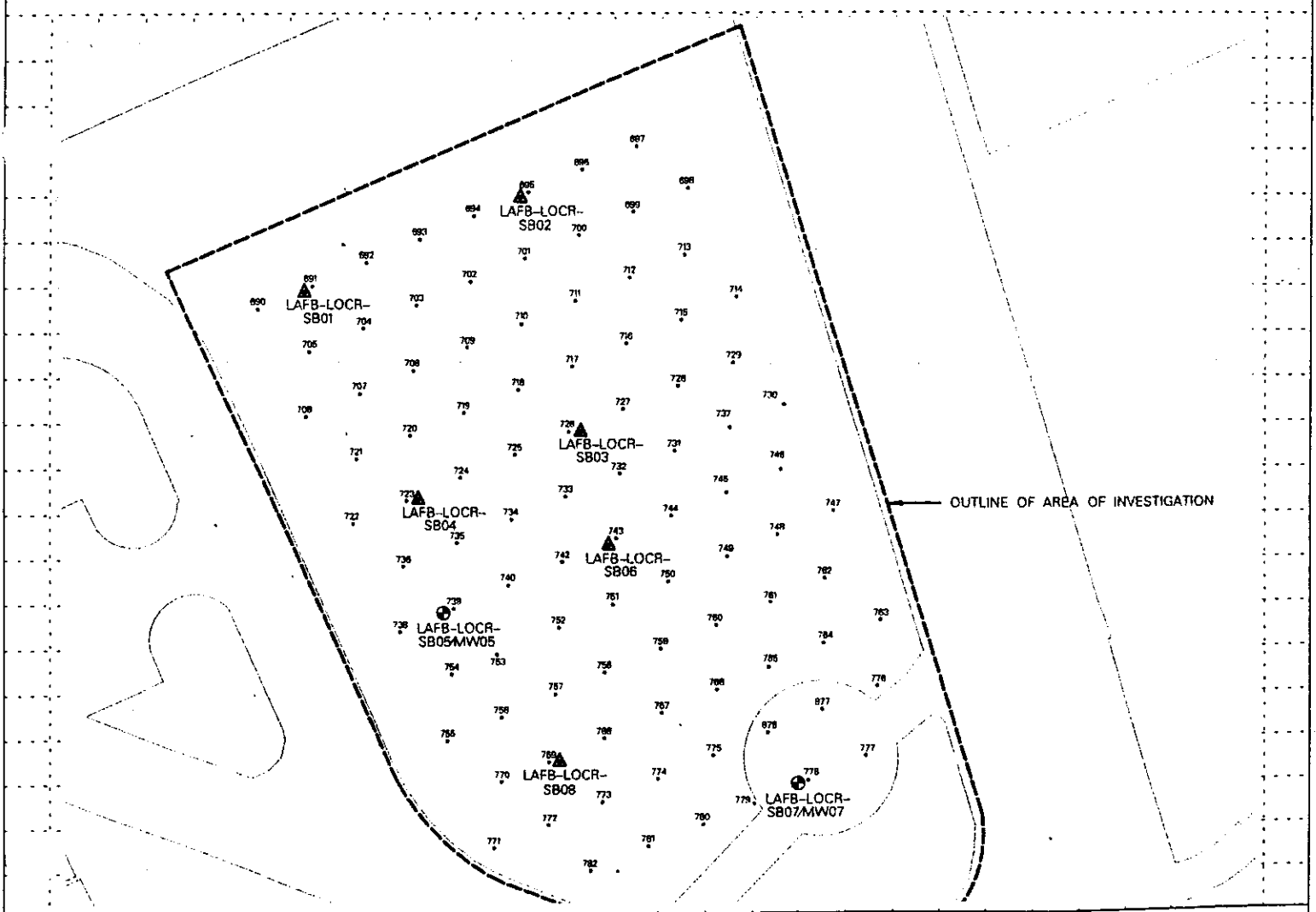
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	8260B		PAHs-8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X			[signature]

LOCATION SKETCH/COMMENTS

SCALE



PROJECT LO&CRF Site

HOLE NO. LAFB-LOCR-SB02

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: LAFB-LOCR-SB02

PROJECT: LO & CRF Site

INSPECTOR: Richard Grabowski

SHEET 2 OF 2 SHEETS

EV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Topsoil: Dark brown, grass, roots, moist.					Run #1: 1545
	1	Clayey Sand (SC): Brown, moist, medium plasticity fines, fine sand	7 ppm				
	2						Run #2: 1548
	3	Same as above except gray colored, wet	9 ppm				
	4				LAFB-LOCR-SB02-06		Run #3: 1555
	5	Same as above. Saturated at approx. 5.5 ft bgs.	10 ppm				
	6	Bottom of Hole = 6.0 ft.					
	7						
	8						

PROJECT: LO & CRF Site

HOLE NO. LAFB-LOCR-SB02

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT: Omaha		HOLE NUMBER: LAFB-LOCR-SB03
1. COMPANY NAME: USACE	2. DRILL SUBCONTRACTOR: N/A	SHEET 1 OF 2 SHEETS
PROJECT: LO&CRF Site	4. LOCATION: Langley AFB, VA	
5. NAME OF DRILLER: Mike Morrissey	6. MANUFACTURER'S DESIGNATION OF DRILL: Simco Earthprobe 200	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Direct Push Rig with 2" OD. Stainless Steel Split Spoons.	8. HOLE LOCATION: See Sketch Below	
	9. SURFACE ELEVATION: Not Surveyed	
	10. DATE STARTED: 5/23/00	11. DATE COMPLETED: 5/23/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 5.5 ft.	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: Not Measured	
14. TOTAL DEPTH OF HOLE: 60 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

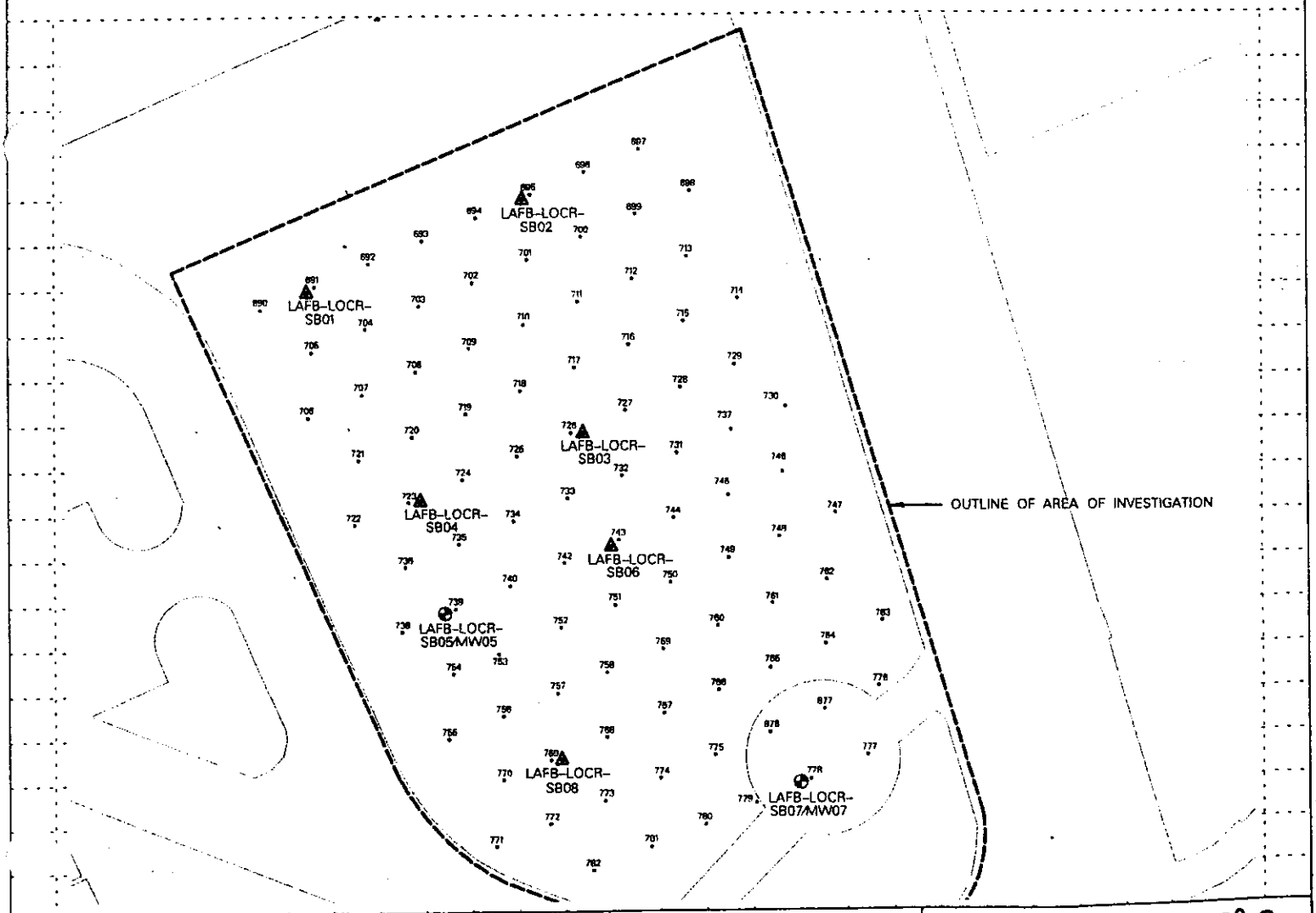
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	8260B		PAHs-8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X			

LOCATION SKETCH/COMMENTS

SCALE



PROJECT: LO&CRF Site

HOLE NO. LAFB-LOCR-SB03

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: LAFB-LOCR-SB03

PROJECT: LO & CRF Site

INSPECTOR: Richard Grabowski

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Topsoil: Dark brown, moist, grass, roots					Run #1: 1621
	1	Clayey Sand (SC): Brown, moist, medium plasticity fines, fine sand	0.4 ppm				
	2						Run #2: 1624
	3	Same as above except gray mottling	0.5 ppm				
	4						
	5	Same as above except wet. Sat @ approx 5.5 ft.	2 ppm		LAFB-LOCR-SB03-06		Run #3: 1628
	6	Bottom of hole = 6.0 ft.					
	7						
	8						

PROJECT: LO & CRF Site

HOLE NO. LAFB-LOCR-SB03

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT: Omaha	HOLE NUMBER: LAFB-LOCR-SB04	
1. COMPANY NAME: USACE	2. DRILL SUBCONTRACTOR: N/A	SHEET 1 OF SHEETS 2
3. PROJECT: LO&CRF Site	4. LOCATION: Langley AFB, VA	
5. NAME OF DRILLER: Mike Morrissey	6. MANUFACTURER'S DESIGNATION OF DRILL: Simco Earthprobe 200	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Direct Push Rig With 2" OD. Stainless Steel Split Spoons	8. HOLE LOCATION: See Sketch Below	
	9. SURFACE ELEVATION: Not Surveyed	
	10. DATE STARTED: 5/24/00	11. DATE COMPLETED: 5/24/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 5.0 ft.	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: Not Measured	
14. TOTAL DEPTH OF HOLE: 6.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

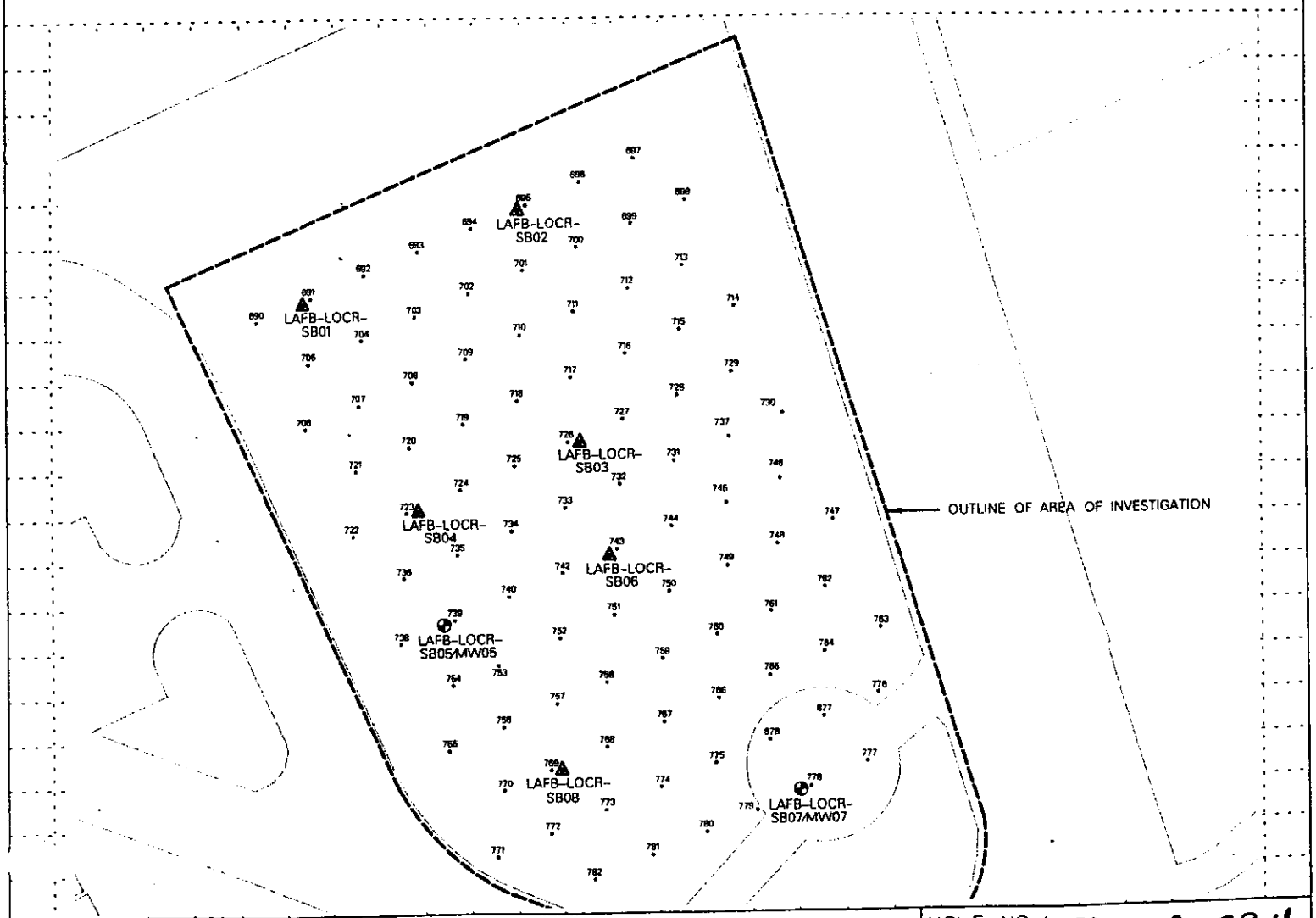
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	8260B		PAHs-8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X			[signature]

LOCATION SKETCH/COMMENTS

SCALE



PROJECT LO&CRF Site

HOLE NO. LAFB-LOCR-SB04

(Proponent: CECW-EG)

ENG FORM 5056-R, AUG 94

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: LAFB-LOCR-SB04

PROJECT: LO & CRF Site

INSPECTOR: Richard Grabowski

SHEET 2 OF 2 SHEETS

V. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Topsoil: Dark brown, moist, grass and roots					Run # 1: 0821
	1	Clayey Sand (SC): Light brown, moist, medium plasticity fines, fine sand.	0.8 ppm				
	2						
	3	Same as above except wet at approx 3.4'.	0.6 ppm		LAFB-LOCR-SB04-04		Run # 2: 0825
	4						
	5	Same as above except saturated at approx 5.0 ft.	0.4 ppm				Run # 3: 0840
	6	Bottom of Hole = 6.0 ft.					
	7						
	8						
	9						

PROJECT: LO & CRF Site

HOLE NO. LAFB-LOCR-SB04

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

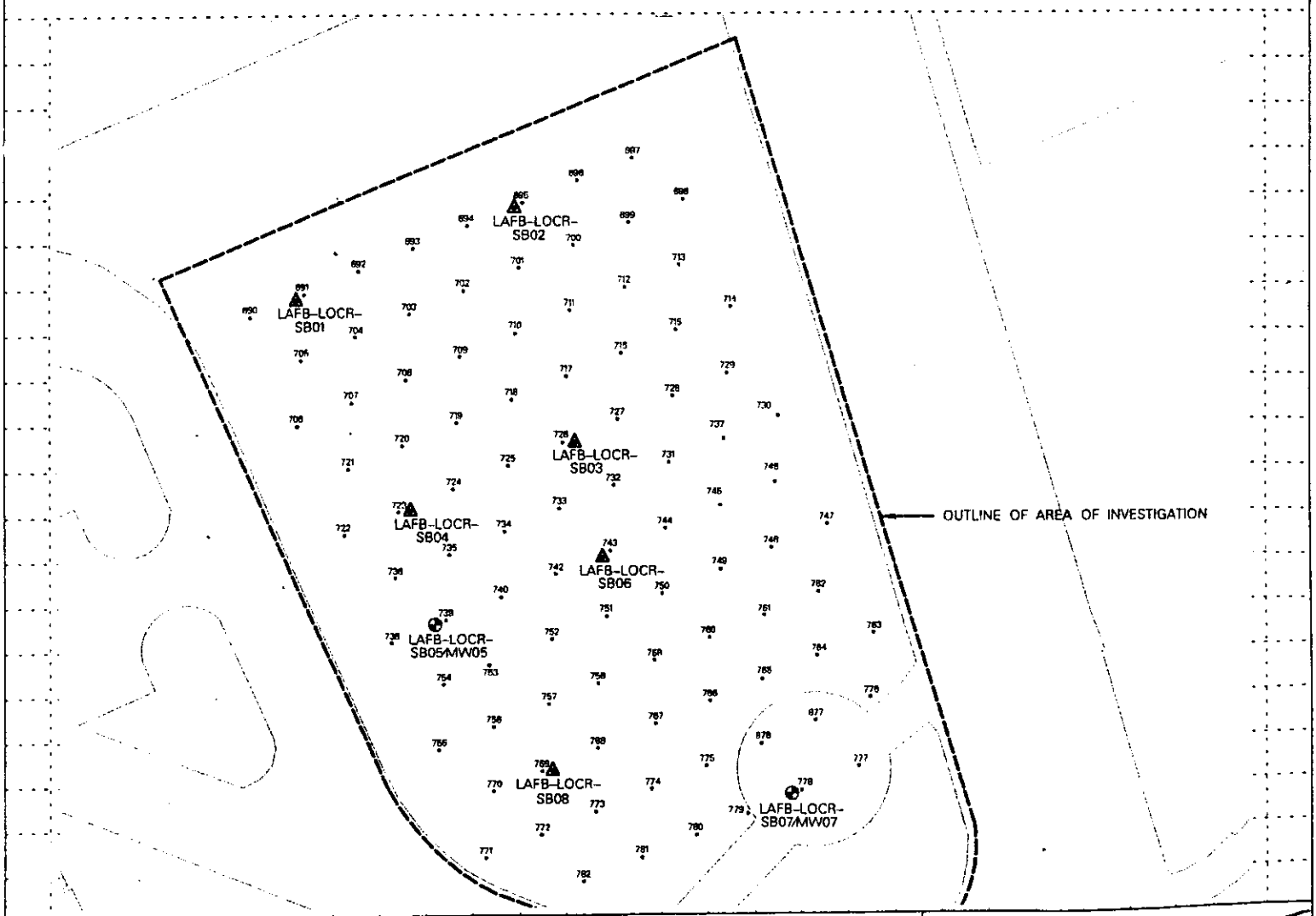
DISTRICT: Omaha		HOLE NUMBER: LAFB-LOCR-SB05
1. COMPANY NAME: USACE	2. DRILL SUBCONTRACTOR: N/A	SHEET 1 OF 2 SHEETS
PROJECT: LO&CRF Site	4. LOCATION: Langley AFB, VA	
5. NAME OF DRILLER: Mike Morrissey	6. MANUFACTURER'S DESIGNATION OF DRILL: Simco Earthprobe 200	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Direct Push Rig With 2" OD. Stainless Steel Split Spoons.	8. HOLE LOCATION: See Sketch Below	
	9. SURFACE ELEVATION: Not Surveyed	
	10. DATE STARTED: 5/24/00	11. DATE COMPLETED: 5/24/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 4.5 ft.	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 4.02 ft @ 0947 on 5/24/00	
14. TOTAL DEPTH OF HOLE: 10.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	8260B		PAHs-8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
		Temp		

LOCATION SKETCH/COMMENTS | SCALE



PROJECT: LO&CRF Site | HOLE NO. LAFB-LOCR-SB05

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EO)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: LAFB-LOCR-SB05

PROJECT: LO & CRF Site

INSPECTOR: Richard Grabowski

SHEET 2 OF 2 SHEETS

% (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Topsoil: Dark brown, moist, grass, roots,					Run #1: 0755
	1	Clayey Sand (SC): Dark to light brown, moist, medium plasticity fines, predom. fine sand,	0.1 ppm				
	2	Same as above except wet at approx. 3 ft.	0.2 ppm		LAFB-LOCR-SB05-04		Run #2: 0859
	3						
	4	Same as above except saturated at approx. 4.5 ft.	Not Analyzed				Run #3: 0911
	5						
	6	Same as above except gray at approx. 7.6 ft.	Not Analyzed				Run #4: 0921
	7						
	8	Same as above.	Not Analyzed				Run #5: 0925 Set temp. monitoring well. Bottom of well set at 10.0 ft bgs. Well consists of 1" nominal diameter PVC with 5 feet of slotted PVC. W.L. = 4.07 ft bgs. 0947
	9						
	10	Bottom of Hole = 10.0 ft.					

PROJECT: LO & CRF Site

HOLE NO.: LAFB-LOCR-SB05

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

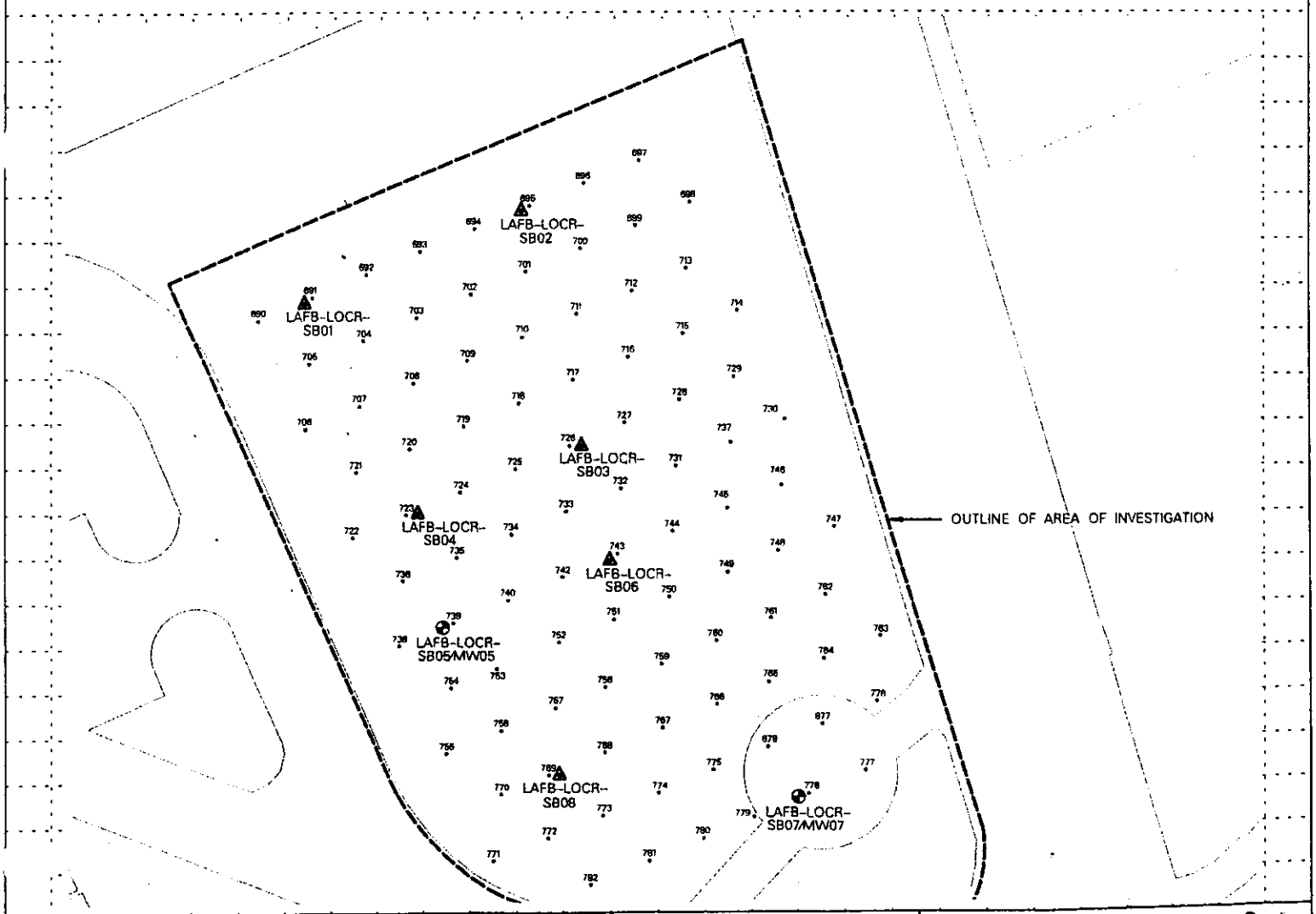
DISTRICT: Omaha		HOLE NUMBER: LAFB-LOCR-SB06
1. COMPANY NAME: USACE	2. DRILL SUBCONTRACTOR: N/A	SHEET 1 OF 2 SHEETS
3. PROJECT: LO&CRF Site	4. LOCATION: Langley AFB, VA	
5. NAME OF DRILLER: Mike Morrissey	6. MANUFACTURER'S DESIGNATION OF DRILL: Simco Earthprobe 200	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Direct Push Rig With 2" OD. Stainless Steel Split Spoons	8. HOLE LOCATION: See Sketch Below	
	9. SURFACE ELEVATION: Not Surveyed	
	10. DATE STARTED: 5/24/00	11. DATE COMPLETED: 5/24/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 3.0 ft.	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: Not Measured	
14. TOTAL DEPTH OF HOLE: 4.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	8260B		PAHs-8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X			

LOCATION SKETCH/COMMENTS | SCALE



PROJECT: LO&CRF Site | HOLE NO. LAFB-LOCR-SB06

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: LAFB-LOCR-SB06

PROJECT: LO & CRF Site

INSPECTOR: Richard Grabowski

SHEET 2 OF 2 SHEETS

EV. (j)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Topsoil: ~~Dark brown, moist,~~ grass, roots					Run # 1: 1020
	1	Clayey Sand (SC): Light brown, moist, medium plasticity fines, predom. fine sand.	0 ppm				
	2				LAFB-LOCR-SB06-04		Run # 2: 1025
	3	Same as above except wet to saturated at approx. 3 feet.	0.1 ppm		LAFB-LOCR-SB06-04/MS		
	4	Bottom of Hole = 4.0 ft.					

PROJECT: LO & CRF Site

HOLE NO. LAFB-LOCR-SB06

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT: Omaha		HOLE NUMBER: LAFB-LOCR-SB07
1. COMPANY NAME: USACE	2. DRILL SUBCONTRACTOR: N/A	SHEET 1 OF 2 SHEETS
3. PROJECT: LO&CRF Site	4. LOCATION: Langley AFB, VA	
5. NAME OF DRILLER: Mike Morrissey	6. MANUFACTURER'S DESIGNATION OF DRILL: Simco Earthprobe 200	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Direct Push Rig with 2" OD. Stainless Steel Split Spoons	8. HOLE LOCATION: See Sketch Below	
	9. SURFACE ELEVATION: Not Surveyed	
	10. DATE STARTED: 5/24/00	11. DATE COMPLETED: 5/24/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 4.0 ft	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 5.60 ft @ 1135 on 5/24/00	
14. TOTAL DEPTH OF HOLE: 10.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

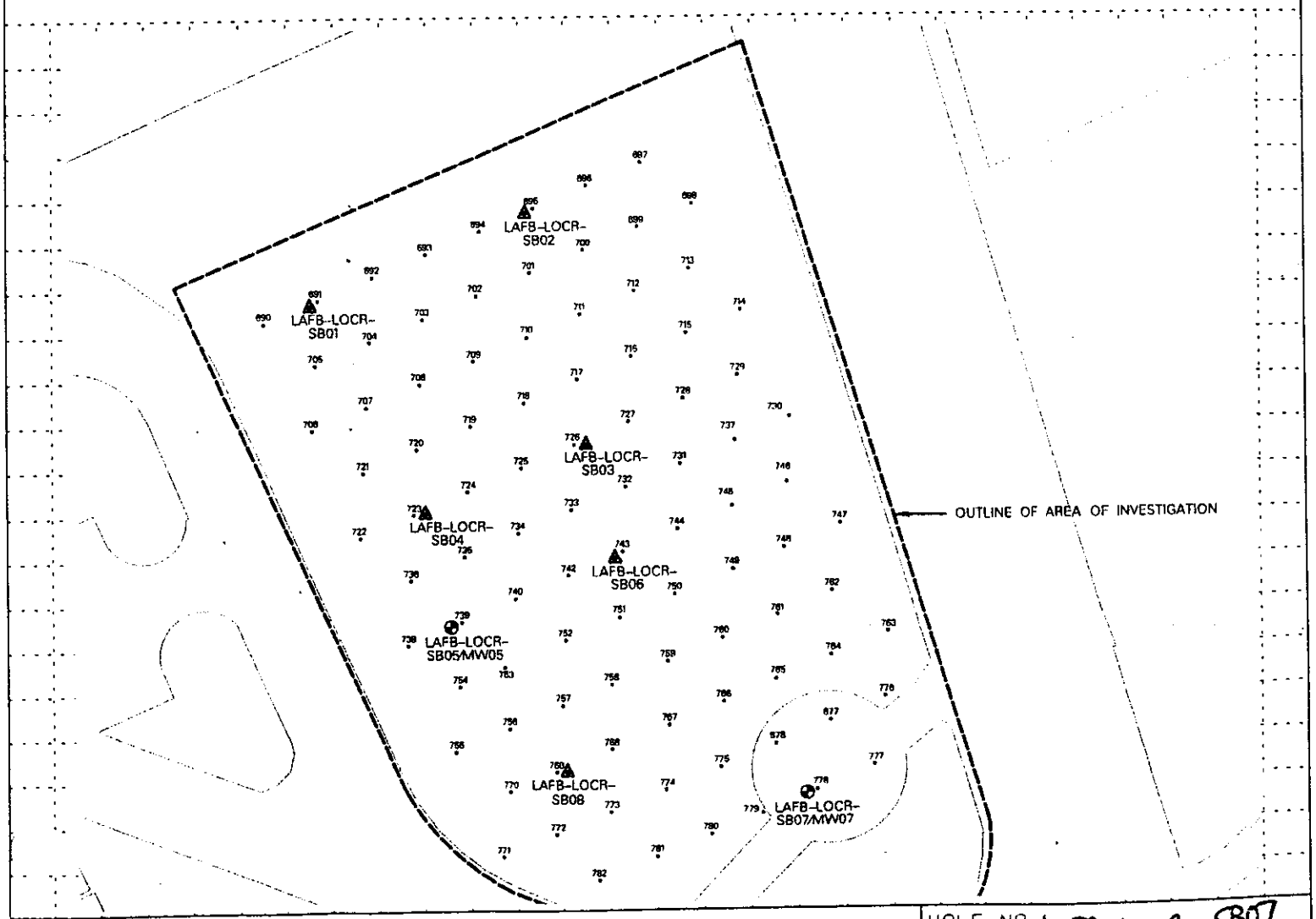
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	8260B		PAHs-8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
		Temp		

LOCATION SKETCH/COMMENTS

SCALE



PROJECT LO&CRF Site

HOLE NO. LAFB-LOCR-SB07

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: LAFB-LOCR-SB07

PROJECT: Lo & CRF Site

INSPECTOR: Richard Grabowski

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Concrete					Run #1: 1050
	1	~~Poorly Graded Sand (SP): Gray to black, wet, fine to med. Sand~~ Clayey Sand (SC): Gray to 1.7 ft, then light brown, moist, medium plasticity fines, predom. fine Sand.	0.4 ppm				
	2						
	3	Same as above.	0.4 ppm		LAFB-LOCR-SB07-04		Run #2: 1055
	4						
	5	Same as above except saturated at approx. 4.0 ft.	Not Analyzed				Run #3: 1105
	6						
	7	Same as above.	Not Analyzed				Run #4: 1106
	8						
	9	Same as above.	Not Analyzed				Run #5: 1112 Set temp. monitoring well to 10.0 ft. W.L. = 5.60 ft @ 1135.
	10	Bottom of Hole = 10.0 ft.					

PROJECT: Lo & CRF Site

HOLE NO. LAFB-LOCR-SB07

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT: Omaha	HOLE NUMBER: LAFB-LOCR-SB08	
1. COMPANY NAME: USACE	2. DRILL SUBCONTRACTOR: N/A	SHEET 1 OF 2 SHEETS
3. PROJECT: LO & CRF Site	4. LOCATION: Langley AFB, VA	
5. NAME OF DRILLER: Mike Morrissey	6. MANUFACTURER'S DESIGNATION OF DRILL: Simco Earthprobe 200	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Direct Push Rig With 2" OD. Stainless Steel Split Spoons	8. HOLE LOCATION: See Sketch Below	
	9. SURFACE ELEVATION: Not Surveyed	
	10. DATE STARTED: 5/24/00	11. DATE COMPLETED: 5/24/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 3.5 ft	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: Not Measured	
14. TOTAL DEPTH OF HOLE: 4.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

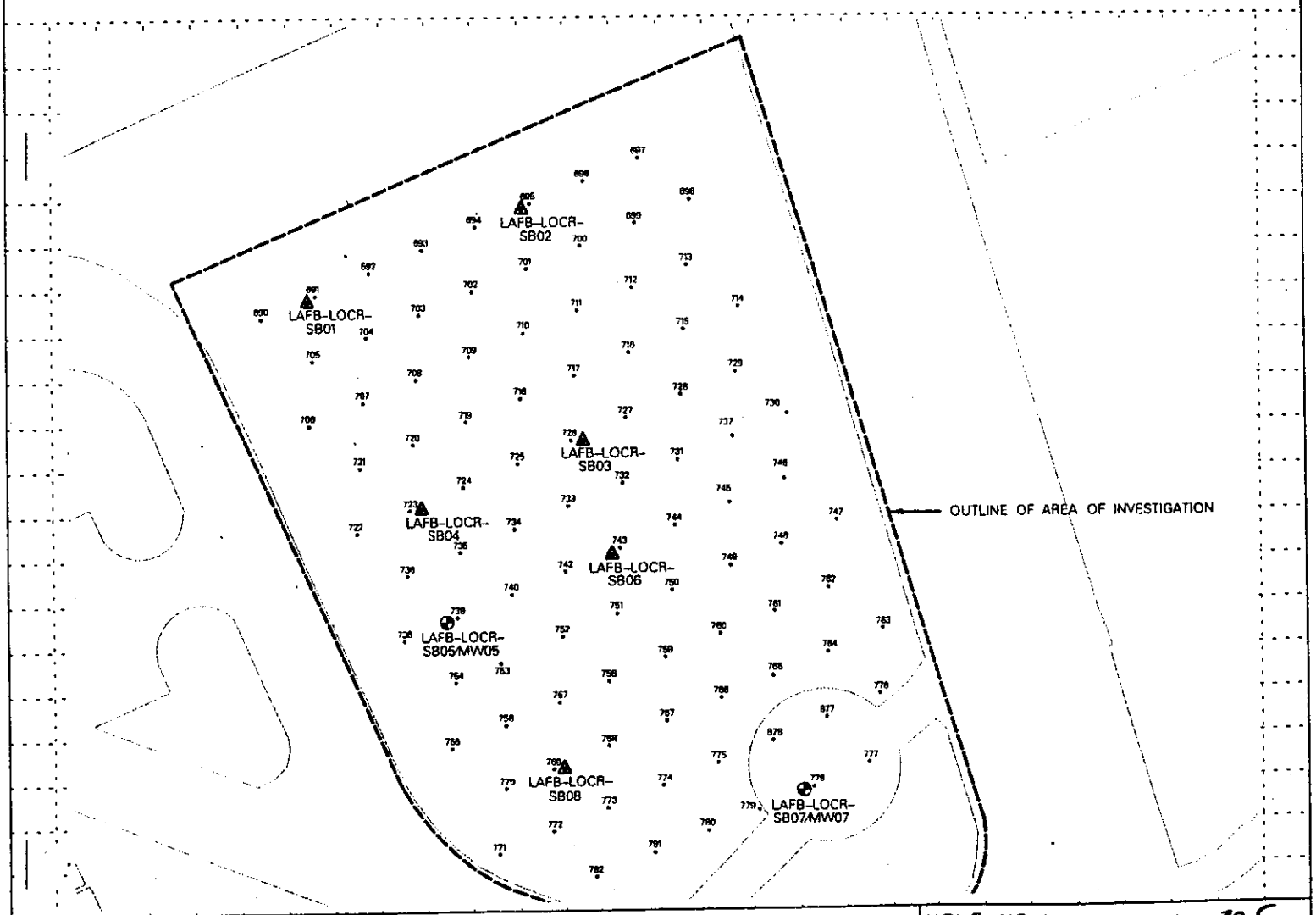
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	8260B		PAHs-8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X			

LOCATION SKETCH/COMMENTS

SCALE



PROJECT LO & CRF Site

HOLE NO. LAFB-LOCR-SB08

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

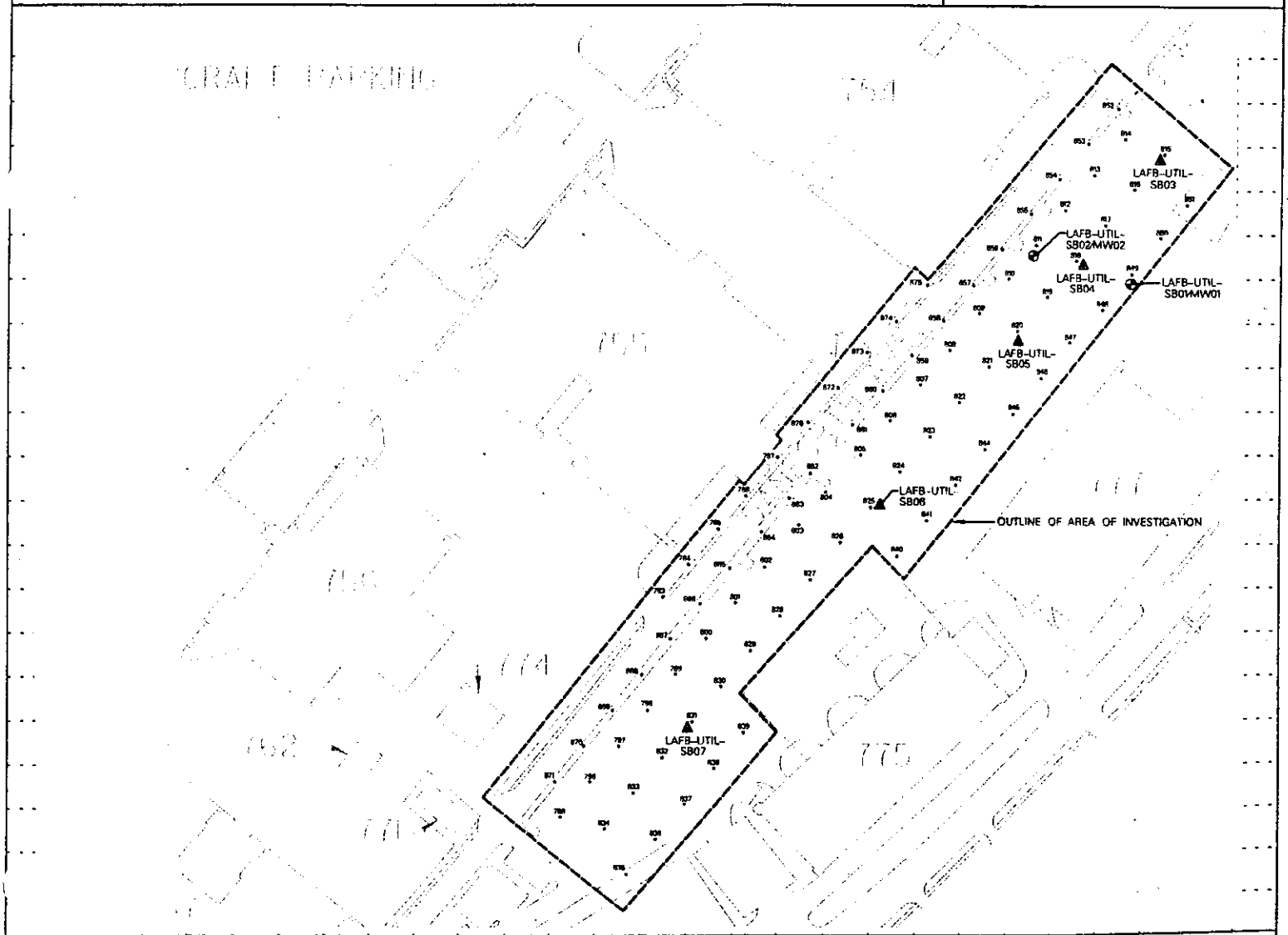
DISTRICT: Omaha		HOLE NUMBER: LAFB_UTIL-SB01
1. COMPANY NAME: USACE	2. DRILL SUBCONTRACTOR: N/A	SHEET 1 OF 3 SHEETS
3. PROJECT: Utilities Upgrade Site	4. LOCATION: Langley AFB, VA	
5. NAME OF DRILLER: Mike Morrissey	6. MANUFACTURER'S DESIGNATION OF DRILL: Simco Earthprobe 200	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Direct Push Rig with 2" O.D. Stainless Steel Split Spoons	8. HOLE LOCATION: See Sketch Below	
	9. SURFACE ELEVATION: Not Surveyed	
	10. DATE STARTED: 5/24/00	11. DATE COMPLETED: 5/24/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 4.0 ft.	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 4.56' @ 1453 on 5/24/00	
14. TOTAL DEPTH OF HOLE: 12.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOLAL CORE RECOVERY %
	8260B		PAHs-8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
		Kmp		[signature]

LOCATION SKETCH/COMMENTS | SCALE



PROJECT: Utilities Upgrade Site | HOLE NO. LAFB-UTIL-SB01

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: LAFB-UTIL-SB01

PROJECT: Utilities Upgrade Site

INSPECTOR: Richard Grabowski

SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Asphalt					Run #1: 1350
	1	Silty Sand (SM): Dark grey, moist, fine to coarse sand, some fine gravel. Clayey Sand (SC): Mottled brown & grey, moist, medium plasticity fines, predom. fine sand.	9 ppm				
	2						
	3	Same as above except wet.	2 ppm		LAFB-UTIL-SB01-D4		Run #2: 1357
	4	Becomes sat. @ approx. 4 feet.					
	5	Same as above.	Not Analyzed				Run #3: 1405
	6						
	7	Same as above.	Not Analyzed				Run #4: 1407
	8						
	9	Same as above.	Not Analyzed				Run #5: 1420
	10						

PROJECT: Utilities Upgrade Site

HOLE NO. LAFB-UTIL-SB01

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: LAFB-UTIL-SB9

PROJECT: Utilities Upgrade Site

INSPECTOR: Richard Grabowski

SHEET 3 OF 3 SHEETS

EV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	11	Same as above except grey colored	Not Analyzed				Run # 6: 1427 Set temporary monitoring well to 12.15 feet bgs. W.L. = 4.56' @ 1453
	12	Bottom of hole = 12.0 ft					

PROJECT: Utilities Upgrade Site

HOLE NO. LAFB-UTIL-SB9

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

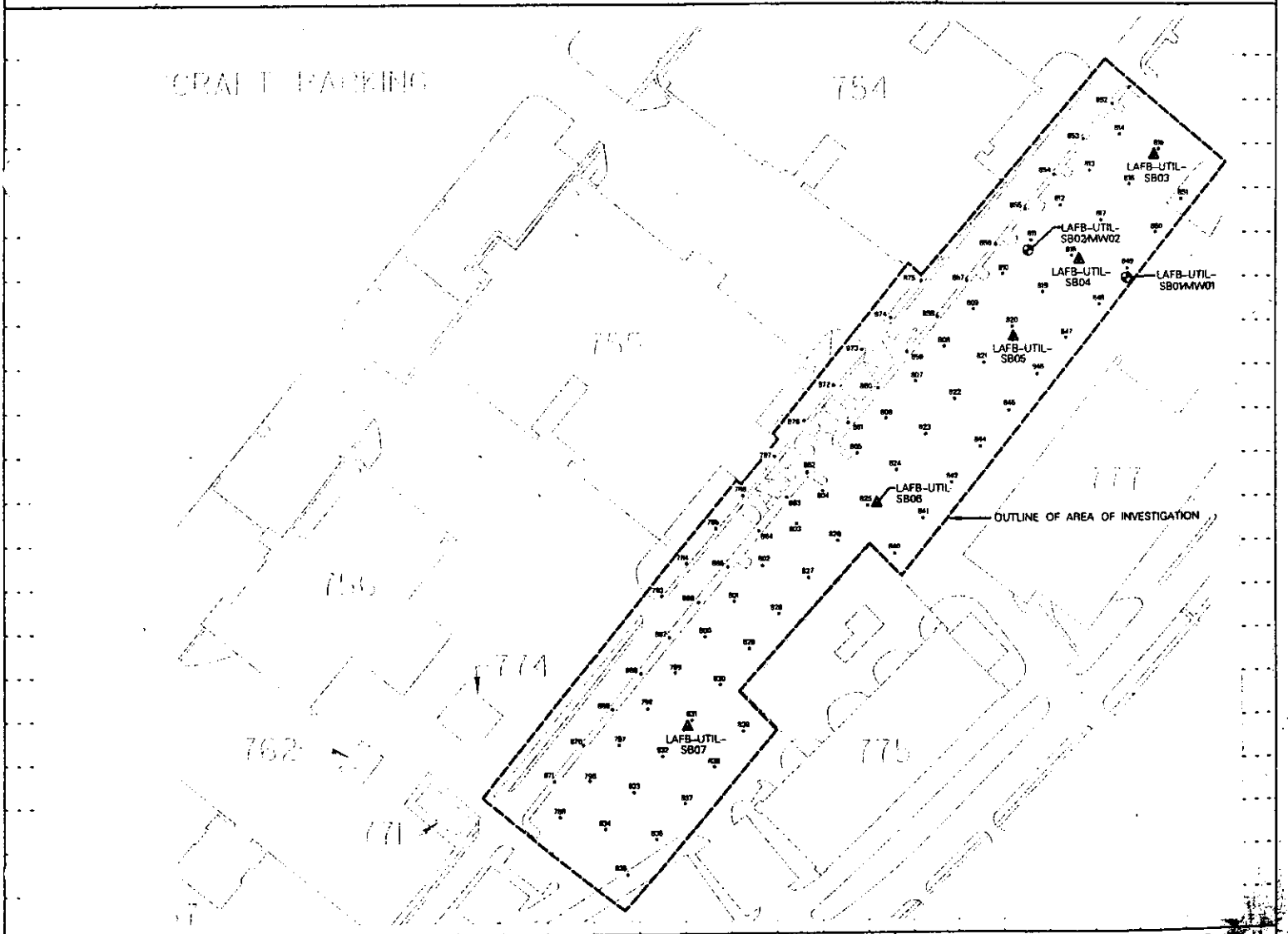
DISTRICT: Omaha		HOLE NUMBER: LAFB_UTIL-SB02
1. COMPANY NAME: USACE	2. DRILL SUBCONTRACTOR: N/A	SHEET 1 OF 3 SHEETS
3. PROJECT: Utilities Upgrade Site	4. LOCATION: Langley AFB, VA	
5. NAME OF DRILLER: Mike Morrissey	6. MANUFACTURER'S DESIGNATION OF DRILL: Simco Earthprobe 200	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Direct Push Rig with 2" O.D. Stainless Steel Split Spoons	8. HOLE LOCATION: See Sketch Below	
	9. SURFACE ELEVATION: Not Surveyed	
	10. DATE STARTED: 5/24/00	11. DATE COMPLETED: 5/24/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 3.0 ft.	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 5.4' @ 1610 on 5/24/00	
14. TOTAL DEPTH OF HOLE: 12.0 ft.	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	8260B		PAHs - 8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
		Temp		[signature]

LOCATION SKETCH/COMMENTS — SCALE



PROJECT: Utilities Upgrade Site — HOLE NO. LAFB-UTIL-SB02

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

PROJECT: Utilities Upgrade Site | INSPECTOR: Richard Grabowski | HOLE NUMBER: LAFB-UTIL-SB02 | SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Asphalt					Run #1: 1525
		Silty Sand (SM): Dark grey, wet, predom. fine hined sand					
	1	Clayey Sand (SC): Dark grey, moist, medium plasticity fines, predom. fine sand.	30 ppm				
	2						
		Same as above except wet @ approx. 3.0'			LAFB-UTIL-SB02-04		Run #2: 1530
	3	Petroleum odor.	50 ppm		LAFB-UTIL-SB08-04 (Duplicate)		
	4						
		Same as above, Petroleum odor. Light gray colored.	Not Analyzed				Run #3: 1550
	5						
	6						
		Same as above. Change color to grayish-green and brown at approx. 7.5 ft. No petroleum odor noted.	Not Analyzed				Run #4: 1551
	7						
	8						
							Run #5: 1552
	9	Same as above.	Not Analyzed				
	10						

PROJECT: Utilities Upgrade Site | HOLE NO. LAFB-UTIL-SB02

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: LAFB-UTIL-SB02

PROJECT: Utilities Upgrade Site

INSPECTOR: Richard Grabowski

SHEET 3 OF 3 SHEETS

EV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	11	Same as above except grayish-green colored	Not Analyzed				Run # 6; 1555 Set temp. monitoring well to 12.0 ft bgs. W.L. = 5.4' bgs @ 1610
	12	Bottom of Hole = 12.0 ft.					

PROJECT: Utilities Upgrade Site

HOLE NO. LAFB-UTIL-SB02

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

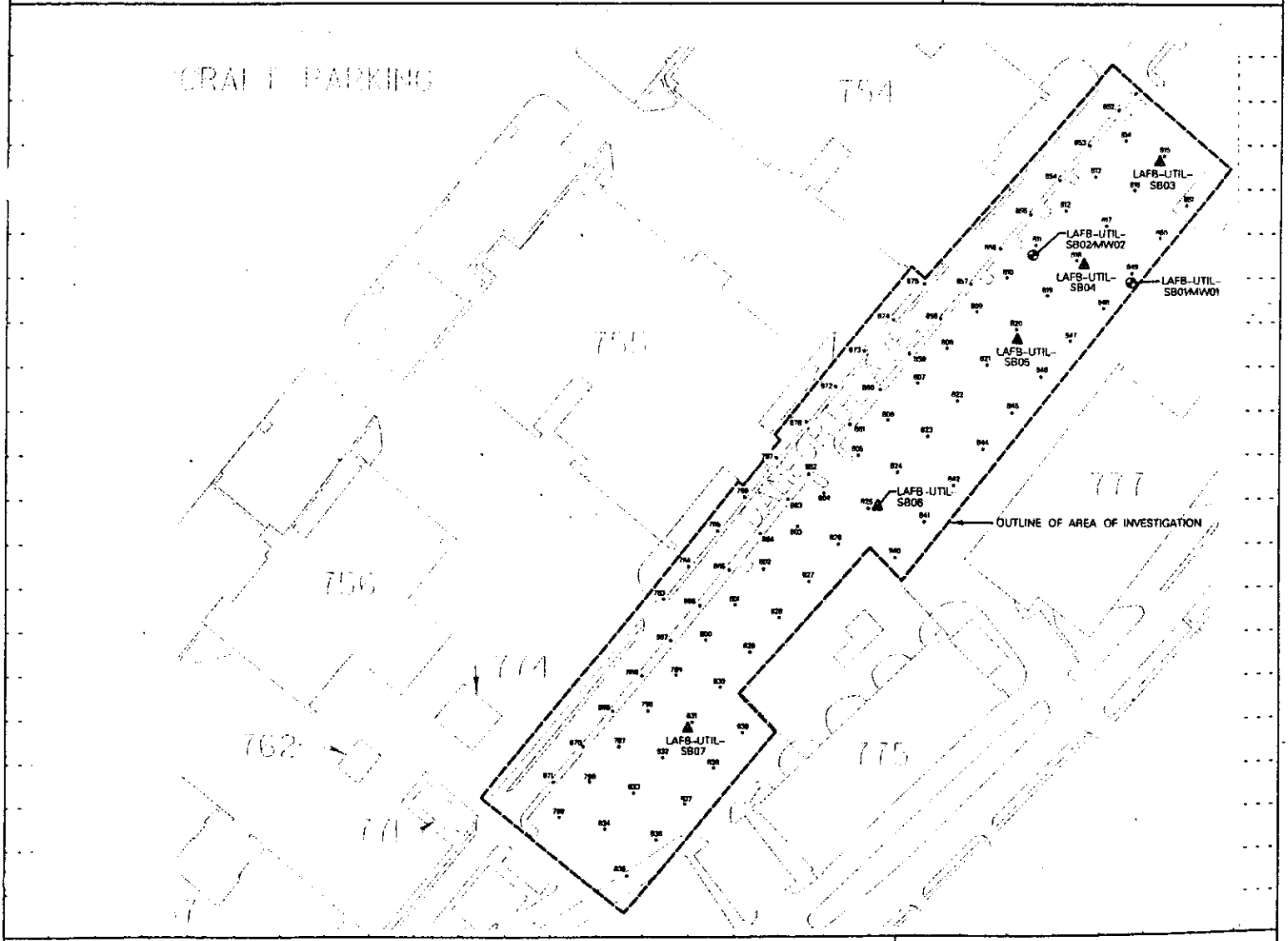
DISTRICT: Omaha		HOLE NUMBER: LAFB_UTIL-SB03
1. COMPANY NAME: USACE	2. DRILL SUBCONTRACTOR: N/A	SHEET 1 OF 2 SHEETS
3. PROJECT: Utilities Upgrade Site	4. LOCATION: Langley AFB, VA	
5. NAME OF DRILLER: Mike Morrissey	6. MANUFACTURER'S DESIGNATION OF DRILL: Simco Earthprobe 200	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Direct Push Rig with 2" O.D. Stainless Steel Split Spoons	8. HOLE LOCATION: See Sketch Below	
	9. SURFACE ELEVATION: Not Surveyed	
	10. DATE STARTED: 5/25/00	11. DATE COMPLETED: 5/25/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 3.3 ft	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: Not Measured	
14. TOTAL DEPTH OF HOLE: 4.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	8260B		PAHs-8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X			[signature]

LOCATION SKETCH/COMMENTS | SCALE



PROJECT: Utilities Upgrade Site | HOLE NO. LAFB-UTIL-SB03

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: LAFB-UTL-SB03

PROJECT: Utilities Upgrade Site

INSPECTOR: Richard Grabowski

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Asphalt.					Run #1: 0742
		~~Silty Sand (SM): Dark gray, wet predom fine to med Sand~~					
	1	Clayey Sand (SC): Grey, moist, medium plasticity fines, predom fine sand.	100 ppm				
	2						
		Same as above except wet at approx 3.3 ft bgs. Petroleum odor at 3.3 ft. also Saturated at approx. 4.0 ft			LAFB-UTL SB03-04		Run# 2: 0747
	3		150 ppm				
	4	Bottom of Hole = 4.0 ft.					

PROJECT: Utilities Upgrade Site

HOLE NO. LAFB-UTL-SB03

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	Omaha
HOLE NUMBER	LAFB_UTIL-SB04
1. COMPANY NAME	USACE
2. DRILL SUBCONTRACTOR	N/A
SHEET	1 OF 2 SHEETS
3. PROJECT	Utilities Upgrade Site
4. LOCATION	Langley AFB, VA
5. NAME OF DRILLER	Mike Morrissey
6. MANUFACTURER'S DESIGNATION OF DRILL	Simco Earthprobe 200
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	Direct Push Rig With 2" O.D. Stainless Steel Split Spoons
8. HOLE LOCATION	See Sketch Below
9. SURFACE ELEVATION	Not Surveyed
10. DATE STARTED	5/25/00
11. DATE COMPLETED	5/25/00
12. OVERBURDEN THICKNESS	N/A
13. DEPTH DRILLED INTO ROCK	N/A
14. TOTAL DEPTH OF HOLE	4.0 ft.
15. DEPTH GROUNDWATER ENCOUNTERED	4.0 ft.
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	Not Measured
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	N/A

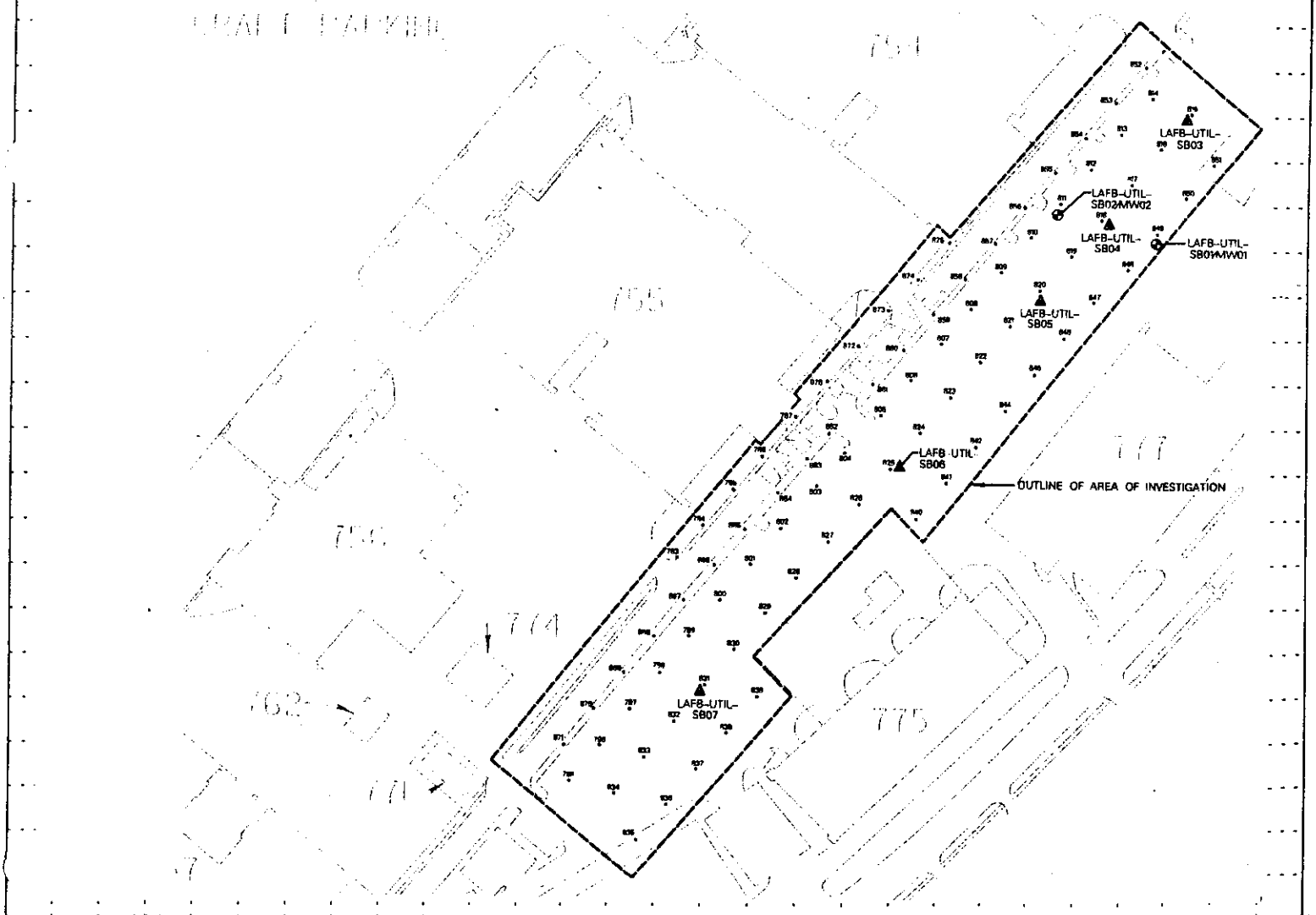
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	8260B		PAHs-8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X			[illegible]

LOCATION SKETCH/COMMENTS

SCALE



PROJECT Utilities Upgrade Site

HOLE NO. LAFB-UTIL-SB04

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

PROJECT: Utilities Upgrade Site | INSPECTOR: Richard Grabowski | HOLE NUMBER: LAFB-UTIL-SB04 | SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Asphalt.					Run #1: 0810
		~~Silty Sand (SM): Dark gray, wet, fine to coarse sand, fine gravel~~					
	1	Clayey Sand (SC): Gray moist, medium plasticity fines, predom. fine sand, occasional fine gravel.	10 ppm				
	2						
		Same as above except wet at 3.0 ft, slight petroleum odor. Saturated at 4.0 ft.			LAFB-UTIL-SB04-04		Run #2: 0815
	3		40 ppm				
	4	Bottom of Hole = 4.0 ft.					

PROJECT: Utilities Upgrade Site | HOLE NO. LAFB-UTIL-SB04

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

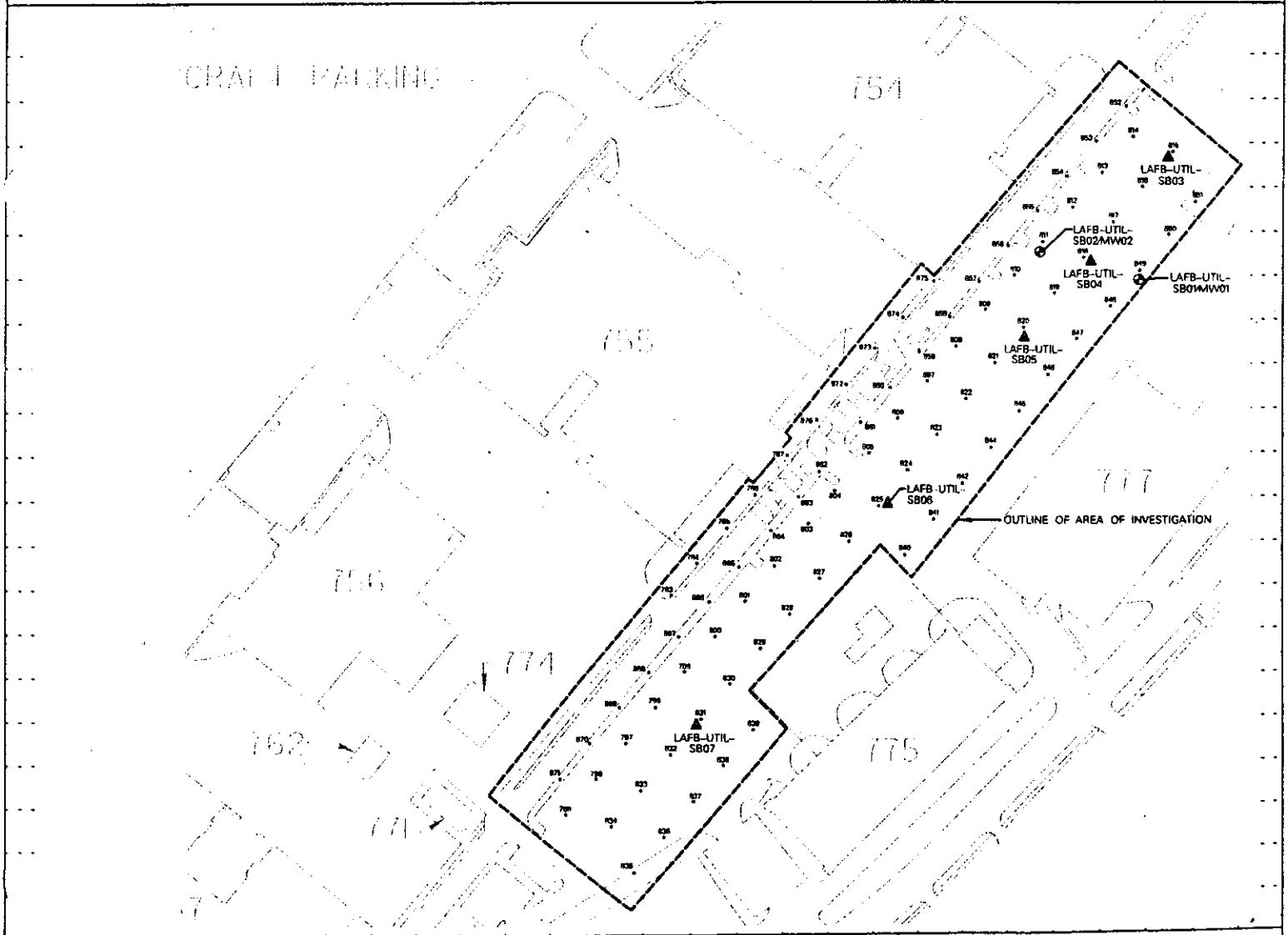
DISTRICT: Omaha	HOLE NUMBER: LAFB_UTIL-SB05	
1. COMPANY NAME: USACE	2. DRILL SUBCONTRACTOR: N/A	SHEET 1 OF 2 SHEETS
3. PROJECT: Utilities Upgrade Site	4. LOCATION: Langley AFB, VA	
5. NAME OF DRILLER: Mike Morrissey	6. MANUFACTURER'S DESIGNATION OF DRILL: Simco Earthprobe 200	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Direct Push Rig With 2" O.D. Stainless Steel Split Spoons	8. HOLE LOCATION: See Sketch Below	
	9. SURFACE ELEVATION: Not Surveyed	
	10. DATE STARTED: 5/25/00	11. DATE COMPLETED: 5/25/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 4.0 ft.	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: Not Measured	
14. TOTAL DEPTH OF HOLE: 4.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	8260B		PAHs-8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X			[illegible]

LOCATION SKETCH/COMMENTS — SCALE



PROJECT: Utilities Upgrade Site — HOLE NO. LAFB-UTIL-SB05

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

PROJECT: Utilities Upgrade Site | INSPECTOR: Richard Grabowski | HOLE NUMBER: LAFB-UTL-SB05 | SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Asphalt.					Run # 1: 0836
	1	Clayey Sand (SC): Dark gray to 0.5 ft., then gradually turning to greenish gray, moist, medium plasticity fines, fine sand with occas. fine gravel.	8 ppm				
	2				LAFB-UTL-SB05-04		Run #2: 0845
	3	Same as above Becoming Saturated at approx. 4.0 ft.	7 ppm				
	4	Bottom of Hole = 4.0 ft.					

PROJECT: Utilities Upgrade Site | HOLE NO. LAFB-UTL-SB05

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

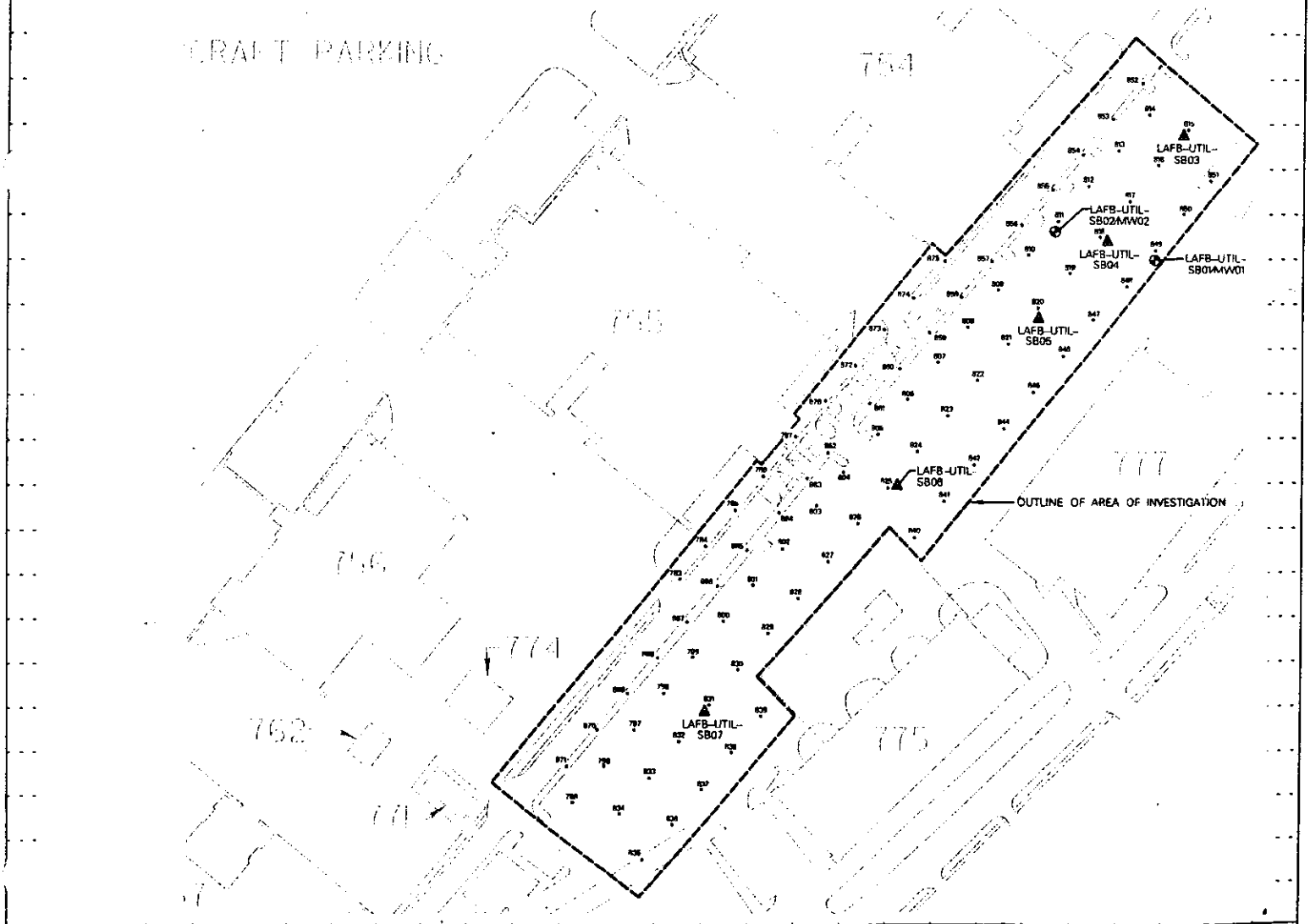
DISTRICT: Omaha		HOLE NUMBER: LAFB_UTIL-SB06
1. COMPANY NAME: USACE	2. DRILL SUBCONTRACTOR: N/A	SHEET 1 OF 2 SHEETS
3. PROJECT: Utilities Upgrade Site	4. LOCATION: Langley AFB, VA	
5. NAME OF DRILLER: Mike Morrissey	6. MANUFACTURER'S DESIGNATION OF DRILL: Simco Earthprobe 200	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Direct Push Rig With 2" O.D. Stainless Steel Split Spoons	8. HOLE LOCATION: See Sketch Below	
	9. SURFACE ELEVATION: Not Surveyed	
	10. DATE STARTED: 5/25/00	11. DATE COMPLETED: 5/25/00
12. OVERBUROEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 4.0 ft.	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: Not Measured	
14. TOTAL DEPTH OF HOLE: 4.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	8260B		PAHs - 8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X			

LOCATION SKETCH/COMMENTS — SCALE



PROJECT: Utilities Upgrade Site — HOLE NO. LAFB-UTIL-SB06

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

PROJECT: Utilities Upgrade Site | INSPECTOR: Richard Grabowski | HOLE NUMBER: LAFB-UTIL-SB06 | SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Asphalt					Run #1: 0905
	1	Clayey Sand (SC): Dark Gray to grayish-green, moist, medium plasticity fines, fine sand.	5 ppm				
	2				LAFB-UTIL-SB06-04		Run #2: 0910
	3	Same as above, Becomes saturated @ approx. 4.0 ft.	3 ppm				
	4	Bottom of Hole = 4.0 ft.					

PROJECT: Utilities Upgrade Site | HOLE NO. LAFB-UTIL-SB06

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT: Omaha	HOLE NUMBER: LAFB_UTIL-SB07	
1. COMPANY NAME: USACE	2. DRILL SUBCONTRACTOR: N/A	SHEET 1 OF SHEETS 2
3. PROJECT: Utilities Upgrade Site	4. LOCATION: Langley AFB, VA	
5. NAME OF DRILLER: Mike Morrissey	6. MANUFACTURER'S DESIGNATION OF DRILL: Simco Earthprobe 200	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Direct Push Rig With 2" O.D. Stainless Steel Split Spoons	8. HOLE LOCATION: See Sketch Below	
	9. SURFACE ELEVATION: Not Surveyed	
	10. DATE STARTED: 5/25/00	11. DATE COMPLETED: 5/25/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 4.0 ft	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: Not Measured	
14. TOTAL DEPTH OF HOLE: 4.0 ft.	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

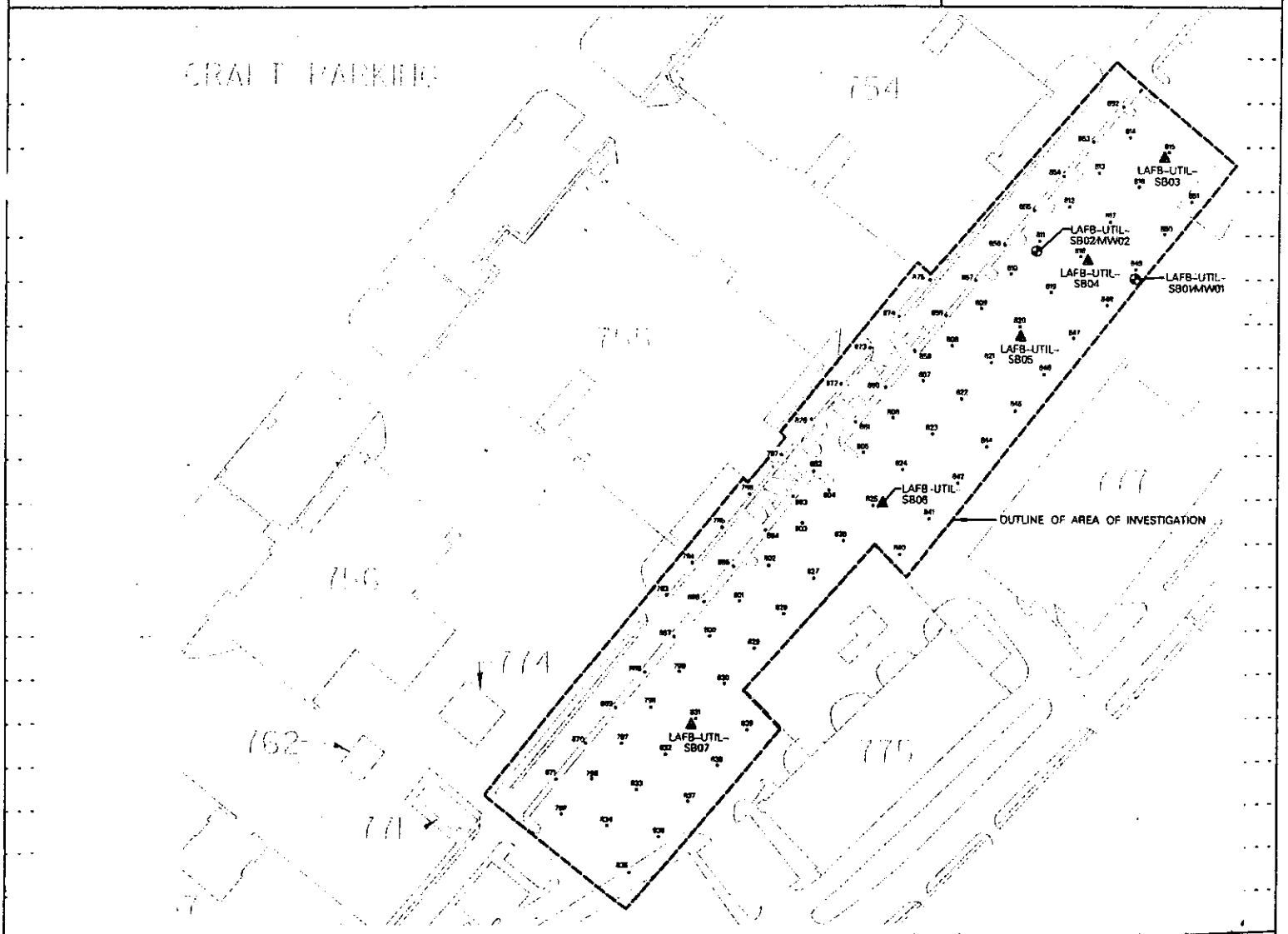
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	8260B		PAHs-8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X			Richard Grabowski

LOCATION SKETCH/COMMENTS

SCALE



PROJECT: Utilities Upgrade Site

HOLE NO. LAFB-UTIL-SB07

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

PROJECT: Utilities Upgrade Site

INSPECTOR: Richard Grabowski

HOLE NUMBER: LAFB-UTIL-SB07

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Asphalt					Run #1: 0932
	1	~~Poorly Graded Sand (SP): Gray, moist, fine to coarse~~ Sand, occasional fine gravel	4 ppm				
	2	Clayey Sand (SC): Gray to brown, moist, medium plasticity fines.					
					LAFB-UTIL-SB07-04		Run #2: 0935
	3	Same as above. Saturated at approx. 4.0 ft	5 ppm				
	4						
		Bottom of Hole =	4.0 ft.				

PROJECT: Utilities Upgrade Site

HOLE NO. LAFB-UTIL-SB07

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

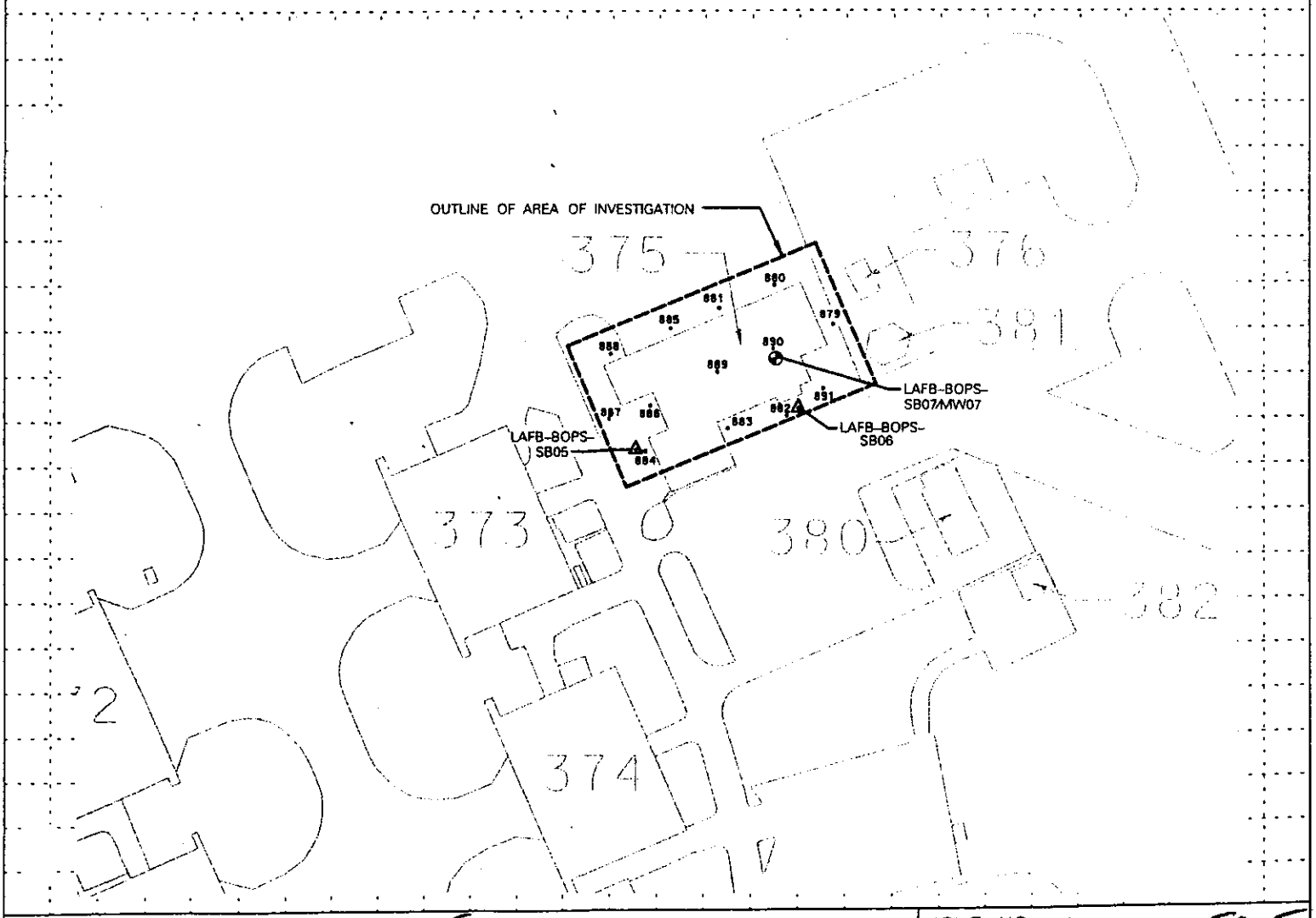
DISTRICT: Omaha		HOLE NUMBER: LAFB-BOPS-SB05
1. COMPANY NAME: USACE	2. DRILL SUBCONTRACTOR: N/A	SHEET 1 OF SHEETS 2
PROJECT: Base Operations Sites	4. LOCATION: Langley AFB, VA	
5. NAME OF DRILLER: Mike Morrissey	6. MANUFACTURER'S DESIGNATION OF DRILL: Simco Earthprobe 200	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Direct Push Rig With 2" O.D. Stainless Steel Split Spoons.	8. HOLE LOCATION: See Sketch Below	
	9. SURFACE ELEVATION: Not Surveyed	
	10. DATE STARTED: 5/23/00	11. DATE COMPLETED: 5/23/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 5.7 ft.	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: Not Measured	
14. TOTAL DEPTH OF HOLE: 6.0 ft.	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	8260B		PAHs-8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X			

LOCATION SKETCH/COMMENTS — SCALE



PROJECT: Base Operations Sites — HOLE NO. LAFB-BOPS-SB05

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: LAFB-BOPS-SB05

PROJECT: Base Operations Sites

INSPECTOR: Richard Grabowski

SHEET 2 OF 2 SHEETS

%	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Topsoil: Dark Brown, grass, moist					Run # 1: 1016
	1	Clayey Sand (SC): Dark to light brown, moist, medium plasticity fines, fine sand	20 ppm				
	2				LAFB-BOPS-SB05-04		Run #2: 1028
	3	Same as above except some coarse sand to fine gravel.	100 ppm				
	4						Run #3: 1035
	5	Same as above except grey colored and petroleum odor starting at approx. 5.0 ft. bgs.	220 ppm				
	6	Clayey Sand (SC): grey, wet, fine sand and fiss. lush, petroleum odor.					
		Bottom of Hole = 6.0 ft.					
	7						
	8						
	9						

PROJECT: Base Operations Sites

HOLE NO. LAFB-BOPS-SB05

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

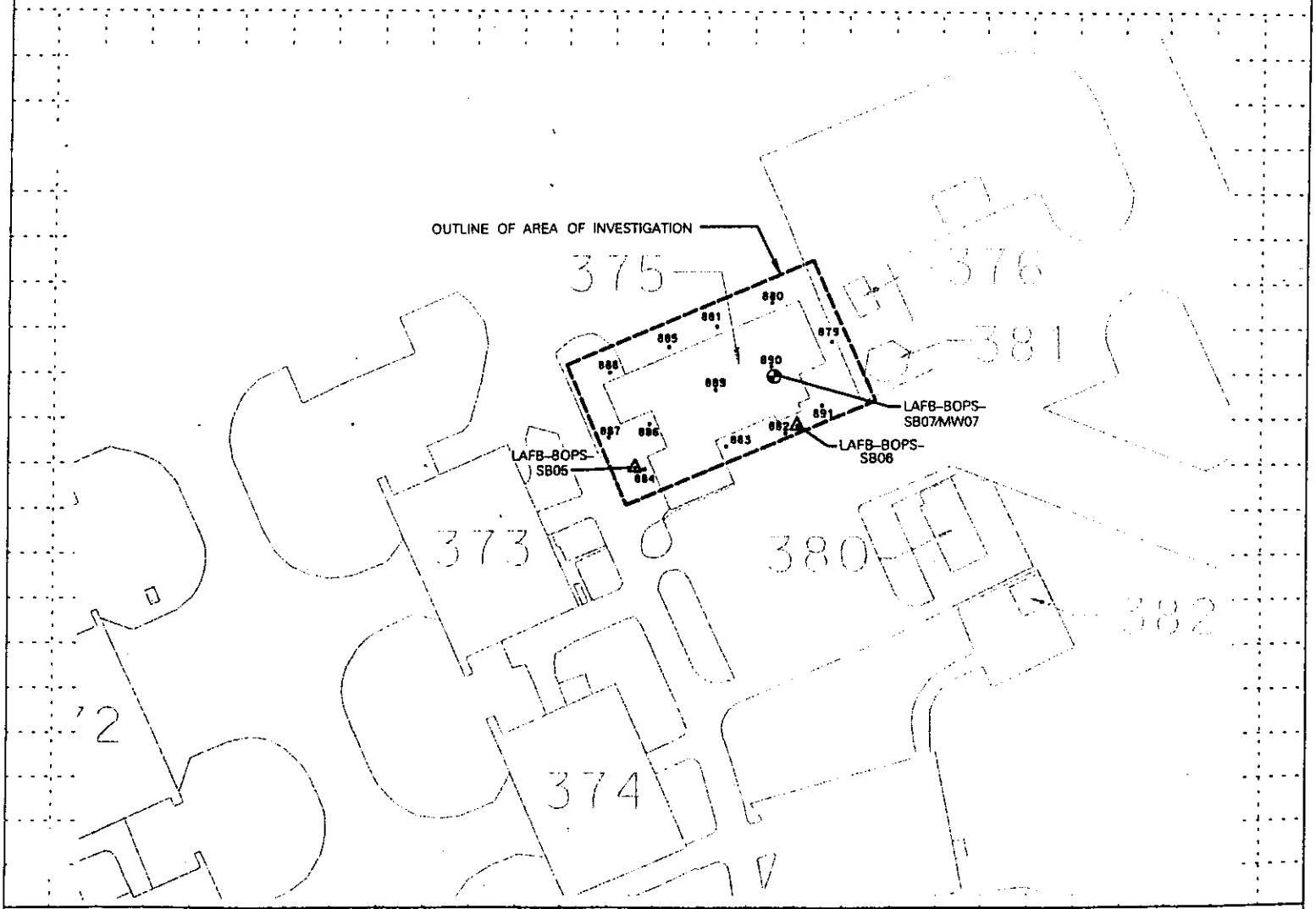
DISTRICT: Omaha		HOLE NUMBER: LAFB-BOPS-SB06
1. COMPANY NAME: USACE	2. DRILL SUBCONTRACTOR: N/A	SHEET 1 OF 2 SHEETS
3. PROJECT: Base Operations Sites	4. LOCATION: Langley AFB, VA	
5. NAME OF DRILLER: Mike Morrissey	6. MANUFACTURER'S DESIGNATION OF DRILL: Simco Earthprobe 200	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Direct Push Rig With 2" O.D. Stainless Steel Split Spoons.	8. HOLE LOCATION: See Sketch Below	
	9. SURFACE ELEVATION: Not Surveyed	
	10. DATE STARTED: 5/23/00	11. DATE COMPLETED: 5/23/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 5.5 ft.	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: Not Measured	
14. TOTAL DEPTH OF HOLE: 6.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	8260B		PAHs-8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X			[signature]

LOCATION SKETCH/COMMENTS | SCALE



PROJECT Base Operations Sites | HOLE NO. LAFB-BOPS-SB06

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: LAFB-BOPS-SB06

PROJECT: Base Operations Sites

INSPECTOR: Richard Grabowski

SHEET 2 OF 2 SHEETS

EV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Poorly Graded Sand with Gravel (SP): Dark gray, moist, fine to coarse sand and fine gravel					Run #1: 1107
	1	Clayey Sand (SC): Gray, moist fine sand, some petroleum odor.	170 ppm				
	2						
		Same as above except mottled gray and brown. Petroleum odor.	230 ppm				Run #2: 1112
	3						
	4						
		Same as above except wet at approx. 5.5 feet.	310 ppm		LAFB-BOPS-SB06-06		Run #3: 1125
	5						
	6						
		Bottom of Hole = 6.0 ft.					
	7						
	8						
	9						

PROJECT: Base Operations Sites

HOLE NO. LAFB-BOPS-SB06

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

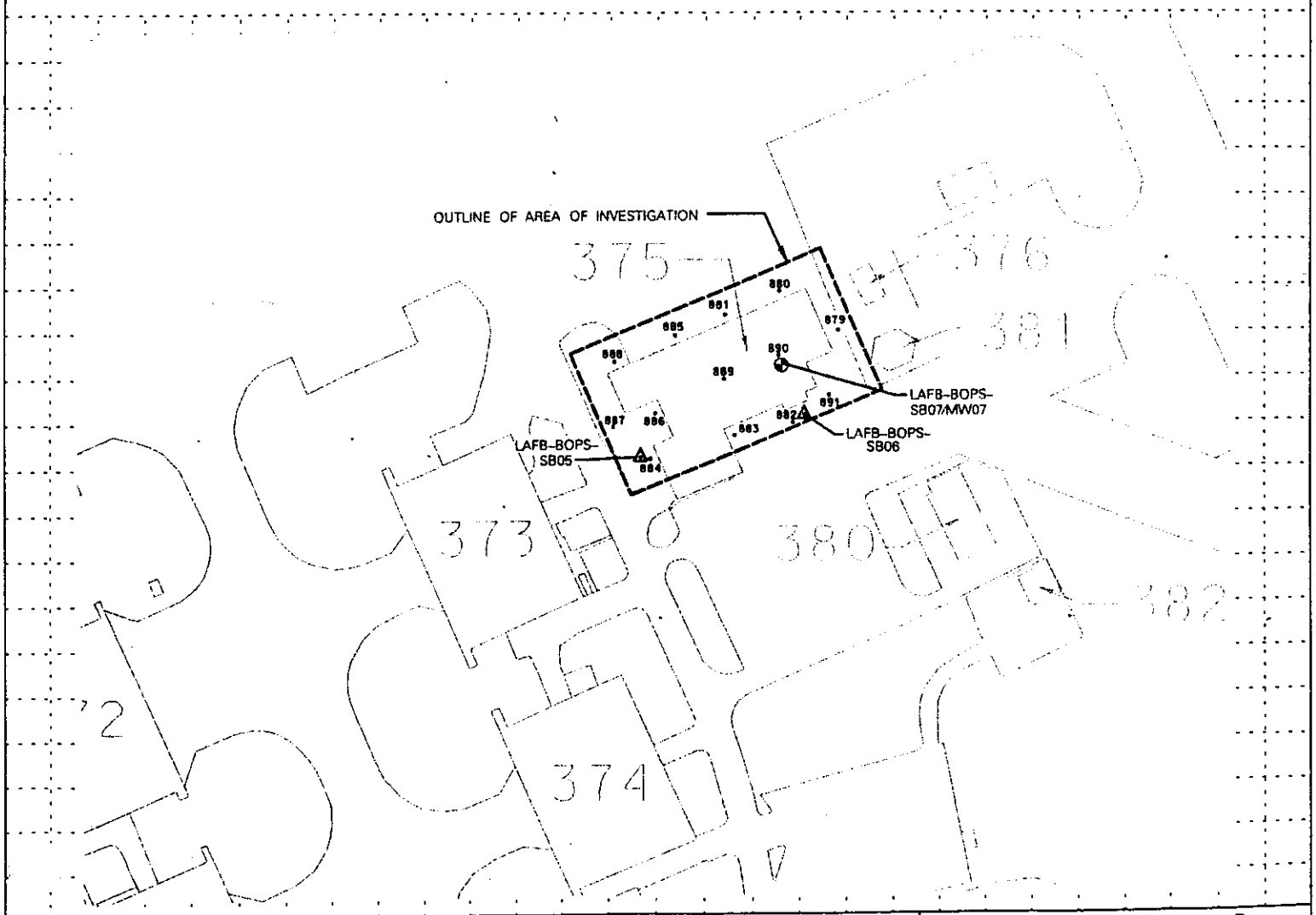
DISTRICT: Omaha	HOLE NUMBER: LAFB-BOPS-SB07	
1. COMPANY NAME: USACE	2. DRILL SUBCONTRACTOR: N/A	SHEET 1 OF 3 SHEETS
3. PROJECT: Base Operations Sites	4. LOCATION: Langley AFB, VA	
5. NAME OF DRILLER: Mike Morrissey	6. MANUFACTURER'S DESIGNATION OF DRILL: Simco Earthprobe 200	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Direct Push Rig With 2" O.D. Stainless Steel Split Spoons.	8. HOLE LOCATION: See Sketch Below	
	9. SURFACE ELEVATION: Not Surveyed	
	10. DATE STARTED: 5/23/00	11. DATE COMPLETED: 5/23/00
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 8.0 ft.	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 7.15 @ 1410 on 5/23/00	
14. TOTAL DEPTH OF HOLE: 12.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	8260B		PAHs-8270C			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
		Temp.		

LOCATION SKETCH/COMMENTS — SCALE



PROJECT Base Operations Sites — HOLE NO. LAFB-BOPS-SB07

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

PROJECT: Base Operations Sites | INSPECTOR: Richard Grabowski | HOLE NUMBER: LAFB-BOPS-SB07 | SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Concrete					Run # 1: 1224
	1	Poorly Graded Sand (sp): Brown, moist, pred fine sand, some coarse sand & gravel to 0.75'	2 ppm				
	2	Clayey Sand (sc): Dark brown, moist, predominantly fine sand, occasional coarse sand, med. plast. fines.					Run # 2: 1232
	3	Same as above except grey colored, pet. odor.	34 ppm				
	4						
	5	Same as above, petroleum odor.	200 ppm		LAFB-BOPS-SB07-06 LAFB-BOPS-SB08-06 (duplicate)		Run # 3: 1245
	6						
	7	No recovery.	Not Analyzed				Run # 4: 1310 No Recovery
	8						
	9	Clayey Sand (sc): Grey, wet to saturated, fine sand and fossil hash.	Not Analyzed				Run # 5: 1320
	10						

PROJECT: Base Operations Sites | HOLE NO. LAFB-BOPS-SB07

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: LAFB-BOPS-SB07

PROJECT: Base Operations Sites

INSPECTOR: Richard Grabowski

SHEET 3 OF 3

EV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		Same as above	Not Analyzed.				Run #6: 1331
	11						
	12	Bottom of Hole = 12.0 ft.					Set temporary well to approx 12.0 ft bgs. Well consists of 1" nominal diameter PVC, 5 ft. of slotted screen. W.L. = 8.15' bgs. @ 1410.

PROJECT: Base Operations Sites

HOLE NO. LAFB-BOPS-SB07

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Appendix B
Laboratory Analytical Reports

NEL LABORATORIES
Reno • Las Vegas
Phoenix • So. California

Las Vegas Division
4208 Arcata Way, Suite A • Las Vegas, NV 89030
(702) 657-1010 • Fax: (702) 657-1577
1-888-368-3282

CLIENT: US Army Corps Of Engineers
215 N. 17th Street
Omaha, NE 68102
ATTN: Rick Grabowski

PROJECT NAME: Laugley AFB, VA
PROJECT NUMBER: NA

NEL ORDER ID: L0005195

Attached are the analytical results for samples in support of the above referenced project.

Samples submitted for this project were not sampled by NEL Laboratories. Samples were received by NEL in good condition, under chain of custody on 5/22/00.

Should you have any questions or comments, please feel free to contact our Client Services department at (702) 657-1010.

Some results have been flagged as follows:

Jl - The batch MS and/or MSD were outside acceptance limits. The batch LCS was acceptable.

Some QA results have been flagged as follows:

Jl - The batch MS and/or MSD were outside acceptance limits. The batch LCS was acceptable.

Some surrogate results have been flagged as follows:

Sf - This surrogate was outside acceptance limits.

Stan Van Wagenen
Laboratory Manager

6/09/00
Date

CERTIFICATIONS:

	Reno	Las Vegas	S. California
Arizona	AZ0520	AZ0518	AZ0605
California	1707	2002	2264
US Army Corps of Engineers	Certified	Certified	

	Reno	Las Vegas	S. California
Idaho	Certified	Certified	
Montana	Certified	Certified	
Nevada	NV033	NV052	CA084
L.A.C.S.D.			10228

NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-BOPS-SB01-04
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/19/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005195-01
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/1/00
MATRIX:	Solid	ANALYZED:	6/1/00
DILUTION:	1.5	ANALYST:	CHG - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	340	37.5 µg/kg	1,1-Dichloropropene	ND	7.5 µg/kg
Benzene	ND	7.5 µg/kg	cis-1,3-Dichloropropene	ND	7.5 µg/kg
Bromobenzene	ND	7.5 µg/kg	trans-1,3-Dichloropropene	ND	7.5 µg/kg
Bromochloromethane	ND	7.5 µg/kg	Ethylbenzene	ND	7.5 µg/kg
Bromodichloromethane	ND	7.5 µg/kg	Hexachlorobutadiene	ND	7.5 µg/kg
Bromoform	ND	7.5 µg/kg	2-Hexanone	ND	37.5 µg/kg
Bromomethane	ND	7.5 µg/kg	Iodomethane	ND	7.5 µg/kg
2-Butanone	45	37.5 µg/kg	Isopropylbenzene	ND	7.5 µg/kg
n-Butylbenzene	ND	7.5 µg/kg	p-Isopropyltoluene	ND	7.5 µg/kg
sec-Butylbenzene	ND	7.5 µg/kg	Methylene chloride (Dichloromethane)	ND	7.5 µg/kg
tert-Butylbenzene	ND	7.5 µg/kg	4-Methyl-2-pentanone	ND	37.5 µg/kg
Carbon disulfide	ND	7.5 µg/kg	MTBE	ND	7.5 µg/kg
Carbon tetrachloride	ND	7.5 µg/kg	Naphthalene	ND	15. µg/kg
Chlorobenzene	ND	7.5 µg/kg	n-Propylbenzene	ND	7.5 µg/kg
Chloroethane	ND	7.5 µg/kg	Styrene	ND	7.5 µg/kg
Chloroform	ND	7.5 µg/kg	1,1,1,2-Tetrachloroethane	ND	7.5 µg/kg
C[illegible]omethane	ND	7.5 µg/kg	1,1,2,2-Tetrachloroethane	ND	7.5 µg/kg
[illegible]rotoluene	ND	7.5 µg/kg	Tetrachloroethene (PCE)	ND	7.5 µg/kg
4-Chlorotoluene	ND	7.5 µg/kg	Toluene	ND	7.5 µg/kg
Dibromochloromethane	ND	7.5 µg/kg	1,2,3-Trichlorobenzene	ND	7.5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	7.5 µg/kg	1,2,4-Trichlorobenzene	ND	7.5 µg/kg
1,2-Dibromoethane (EDB)	ND	7.5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	7.5 µg/kg
Dibromomethane	ND	7.5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	7.5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	7.5 µg/kg	Trichloroethene (TCE)	ND	7.5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	7.5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	15. µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	7.5 µg/kg	1,2,3-Trichloropropane	ND	7.5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	7.5 µg/kg	1,2,4-Trimethylbenzene	ND	7.5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	7.5 µg/kg	1,3,5-Trimethylbenzene	ND	7.5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	7.5 µg/kg	Vinyl chloride	ND	7.5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	7.5 µg/kg	o-Xylene	ND	7.5 µg/kg
cis-1,2-Dichloroethene	ND	7.5 µg/kg	m,p-Xylene	ND	15. µg/kg
trans-1,2-Dichloroethene	ND	7.5 µg/kg			
1,2-Dichloropropane	ND	7.5 µg/kg			
1,3-Dichloropropane	ND	7.5 µg/kg			
2,2-Dichloropropane	ND	15. µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	99	70 - 130
Dibromofluoromethane	108	70 - 130
Toluene-d8	99	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-BOPS-SB02-06
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/19/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005195-02
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/1/00
MATRIX:	Solid	ANALYZED:	6/1/00
DILUTION:	1.45	ANALYST:	CHG - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	ND	36.25 µg/kg	1,1-Dichloropropene	ND	7.25 µg/kg
Benzene	ND	7.25 µg/kg	cis-1,3-Dichloropropene	ND	7.25 µg/kg
Bromobenzene	ND	7.25 µg/kg	trans-1,3-Dichloropropene	ND	7.25 µg/kg
Bromochloromethane	ND	7.25 µg/kg	Ethylbenzene	15	7.25 µg/kg
Bromodichloromethane	ND	7.25 µg/kg	Hexachlorobutadiene	ND	7.25 µg/kg
Bromoform	ND	7.25 µg/kg	2-Hexanone	ND	36.25 µg/kg
Bromomethane	ND	7.25 µg/kg	Iodomethane	ND	7.25 µg/kg
2-Butanone	ND	36.25 µg/kg	Isopropylbenzene	ND	7.25 µg/kg
n-Butylbenzene	ND	7.25 µg/kg	p-Isopropyltoluene	ND	7.25 µg/kg
sec-Butylbenzene	ND	7.25 µg/kg	Methylene chloride (Dichloromethane)	ND	7.25 µg/kg
tert-Butylbenzene	ND	7.25 µg/kg	4-Methyl-2-pentanone	ND	36.25 µg/kg
Carbon disulfide	ND	7.25 µg/kg	MTBE	ND	7.25 µg/kg
Carbon tetrachloride	ND	7.25 µg/kg	Naphthalene	ND	14.5 µg/kg
Chlorobenzene	ND	7.25 µg/kg	n-Propylbenzene	ND	7.25 µg/kg
Chloroethane	ND	7.25 µg/kg	Styrene	ND	7.25 µg/kg
Chloroform	ND	7.25 µg/kg	1,1,1,2-Tetrachloroethane	ND	7.25 µg/kg
Chloromethane	ND	7.25 µg/kg	1,1,2,2-Tetrachloroethane	ND	7.25 µg/kg
2-Chlorotoluene	ND	7.25 µg/kg	Tetrachloroethene (PCE)	ND	7.25 µg/kg
4-Chlorotoluene	ND	7.25 µg/kg	Toluene	7.4	7.25 µg/kg
Dibromochloromethane	ND	7.25 µg/kg	1,2,3-Trichlorobenzene	ND	7.25 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	7.25 µg/kg	1,2,4-Trichlorobenzene	ND	7.25 µg/kg
1,2-Dibromoethane (EDB)	ND	7.25 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	7.25 µg/kg
Dibromomethane	ND	7.25 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	7.25 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	7.25 µg/kg	Trichloroethene (TCE)	ND	7.25 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	7.25 µg/kg	Trichlorofluoromethane (Freon 11)	ND	14.5 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	7.25 µg/kg	1,2,3-Trichloropropane	ND	7.25 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	7.25 µg/kg	1,2,4-Trimethylbenzene	ND	7.25 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	7.25 µg/kg	1,3,5-Trimethylbenzene	ND	7.25 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	7.25 µg/kg	Vinyl chloride	ND	7.25 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	7.25 µg/kg	o-Xylene	ND	7.25 µg/kg
cis-1,2-Dichloroethene	ND	7.25 µg/kg	m,p-Xylene	ND	14.5 µg/kg
trans-1,2-Dichloroethene	ND	7.25 µg/kg			
1,2-Dichloropropane	ND	7.25 µg/kg			
1,3-Dichloropropane	ND	7.25 µg/kg			
2,2-Dichloropropane	ND	14.5 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	108	70 - 130
Dibromofluoromethane	98	70 - 130
Toluene-d8	102	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	NA
PROJECT #:	NA	NEL SAMPLE ID:	000601SD60LLS-BLK
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	ANALYST:	CHG - Las Vegas Division
MATRIX:	Solid	EXTRACTED:	6/1/00
		ANALYZED:	6/1/00

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	ND	25 µg/kg	1,1-Dichloropropene	ND	5 µg/kg
Benzene	ND	5 µg/kg	cis-1,3-Dichloropropene	ND	5 µg/kg
Bromobenzene	ND	5 µg/kg	trans-1,3-Dichloropropene	ND	5 µg/kg
Bromochloromethane	ND	5 µg/kg	Ethylbenzene	ND	5 µg/kg
Bromodichloromethane	ND	5 µg/kg	Hexachlorobutadiene	ND	5 µg/kg
Bromoform	ND	5 µg/kg	2-Hexanone	ND	25 µg/kg
Bromomethane	ND	5 µg/kg	Iodomethane	ND	5 µg/kg
2-Butanone	ND	25 µg/kg	Isopropylbenzene	ND	5 µg/kg
n-Butylbenzene	ND	5 µg/kg	p-Isopropyltoluene	ND	5 µg/kg
sec-Butylbenzene	ND	5 µg/kg	Methylene chloride (Dichloromethane)	ND	5 µg/kg
tert-Butylbenzene	ND	5 µg/kg	4-Methyl-2-pentanone	ND	25 µg/kg
Carbon disulfide	ND	5 µg/kg	MTBE	ND	5 µg/kg
Carbon tetrachloride	ND	5 µg/kg	Naphthalene	ND	10 µg/kg
Chlorobenzene	ND	5 µg/kg	n-Propylbenzene	ND	5 µg/kg
Chloroethane	ND	5 µg/kg	Styrene	ND	5 µg/kg
Chloroform	ND	5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5 µg/kg
[illegible]omethane	ND	5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5 µg/kg
2-[illegible]lorotoluene	ND	5 µg/kg	Tetrachloroethene (PCE)	ND	5 µg/kg
4-Chlorotoluene	ND	5 µg/kg	Toluene	ND	5 µg/kg
Dibromochloromethane	ND	5 µg/kg	1,2,3-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 µg/kg	1,2,4-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromoethane (EDB)	ND	5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/kg
Dibromomethane	ND	5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/kg	Trichloroethene (TCE)	ND	5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	10 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/kg	1,2,3-Trichloropropane	ND	5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5 µg/kg	1,2,4-Trimethylbenzene	ND	5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/kg	1,3,5-Trimethylbenzene	ND	5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/kg	Vinyl chloride	ND	5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/kg	o-Xylene	ND	5 µg/kg
cis-1,2-Dichloroethene	ND	5 µg/kg	m,p-Xylene	ND	10 µg/kg
trans-1,2-Dichloroethene	ND	5 µg/kg			
1,2-Dichloropropane	ND	5 µg/kg			
1,3-Dichloropropane	ND	5 µg/kg			
2,2-Dichloropropane	ND	10 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	98	70 - 130
Dibromofluoromethane	92	70 - 130
Toluene-d8	99	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-SB01-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/19/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005195-01

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	28.7	0.	1	EPA 3550	%	5/24/00
Percent Solid	71.3	0.	1	EPA 3550	%	5/24/00

D. F. - Dilution Factor
ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-SB02-06**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/19/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005195-02

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	28	0.	1	EPA 3550	%	5/24/00
Percent Solid	72	0.	1	EPA 3550	%	5/24/00

D. F. - Dilution Factor
ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-SB01-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/19/00
ECT #:	NA	NEL SAMPLE ID:	L0005195-01

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	VMM - Reno Division
MATRIX:	Solid	EXTRACTED:	5/24/00
DILUTION:	1	ANALYZED:	5/30/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND Jl	500. µg/Kg
Acenaphthylene	ND Jl	500. µg/Kg
Anthracene	ND Jl	500. µg/Kg
Benzo (a) anthracene	ND Jl	500. µg/Kg
Benzo (b&k) fluoranthene	ND Jl	500. µg/Kg
Benzo (g,h,i) perylene	ND	500. µg/Kg
Benzo (a) pyrene	ND	500. µg/Kg
Chrysene	ND	500. µg/Kg
Dibenzo (a,h) anthracene	ND	500. µg/Kg
Fluoranthene	ND Jl	500. µg/Kg
Fluorene	ND Jl	500. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	500. µg/Kg
Naphthalene	ND Jl	500. µg/Kg
Phenanthrene	ND Jl	500. µg/Kg
Pyrene	ND Jl	500. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery		Acceptable Range
orobiphenyl	16	Sf	30 - 115
Nitrobenzene-d5	19	Sf	23 - 120
p-Terphenyl-d14	22		18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-SB02-06**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/19/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005195-02

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	VMM - Reno Division
MATRIX:	Solid	EXTRACTED:	5/24/00
DILUTION:	1	ANALYZED:	5/30/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND Jl	500. µg/Kg
Acenaphthylene	ND Jl	500. µg/Kg
Anthracene	ND Jl	500. µg/Kg
Benzo (a) anthracene	ND Jl	500. µg/Kg
Benzo (b&k) fluoranthene	ND Jl	500. µg/Kg
Benzo (g,h,i) perylene	ND	500. µg/Kg
Benzo (a) pyrene	ND	500. µg/Kg
Chrysene	ND	500. µg/Kg
Dibenzo (a,h) anthracene	ND	500. µg/Kg
Fluoranthene	ND Jl	500. µg/Kg
Fluorene	ND Jl	500. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	500. µg/Kg
Naphthalene	ND Jl	500. µg/Kg
Phenanthrene	ND Jl	500. µg/Kg
Pyrene	ND Jl	500. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery		Acceptable Range
2-Fluorobiphenyl	17	Sf	30 - 115
Nitrobenzene-d5	20	Sf	23 - 120
p-Terphenyl-d14	22		18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	NA
PROJECT #:	NA	NEL SAMPLE ID:	0524E1-BLK

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	VMM - Reno Division
MATRIX:	Solid	EXTRACTED:	5/24/00
		ANALYZED:	5/30/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	500. µg/Kg
Acenaphthylene	ND	500. µg/Kg
Anthracene	ND	500. µg/Kg
Benzo (a) anthracene	ND	500. µg/Kg
Benzo (b&k) fluoranthene	ND	500. µg/Kg
Benzo (g,h,i) perylene	ND	500. µg/Kg
Benzo (a) pyrene	ND	500. µg/Kg
Chrysene	ND	500. µg/Kg
Dibenzo (a,h) anthracene	ND	500. µg/Kg
Fluoranthene	ND	500. µg/Kg
Fluorene	ND	500. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	500. µg/Kg
Naphthalene	ND	500. µg/Kg
Phenanthrene	ND	500. µg/Kg
Pyrene	ND	500. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	66	30 - 115
Nitrobenzene-d5	69	23 - 120
p-Terphenyl-d14	68	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT: US Army Corps Of Engineers
PROJECT ID: Laugley AFB, VA
PROJECT #: NA
TEST: **Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**
MATRIX: Solid

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery		Acceptable Range	RPD
Naphthalene	0524E1-LCS	80	49.6	62		50 - 120	
Naphthalene	0524E1-LCSD	80	47.2	59		50 - 120	5.
Naphthalene	L0005195-01-MS	80	14.8	19	Jl	50 - 120	
Acenaphthene	0524E1-LCS	80	49.5	62		31 - 137	
Acenaphthene	0524E1-LCSD	80	47.8	60		31 - 137	3.5
Acenaphthene	L0005195-01-MS	80	15.8	20	Jl	31 - 137	
Acenaphthylene	0524E1-LCS	80	49.6	62		50 - 120	
Acenaphthylene	0524E1-LCSD	80	47.9	60		50 - 120	3.5
Acenaphthylene	L0005195-01-MS	80	16.1	20	Jl	50 - 120	
Phenanthrene	0524E1-LCS	80	51	64		50 - 120	
Phenanthrene	0524E1-LCSD	80	51.3	64		50 - 120	0.6
Phenanthrene	L0005195-01-MS	80	17.7	22	Jl	50 - 120	
Anthracene	0524E1-LCS	80	51	64		50 - 120	
Anthracene	0524E1-LCSD	80	50.9	64		50 - 120	0.2
Anthracene	L0005195-01-MS	80	18	23	Jl	50 - 120	
Pyrene	0524E1-LCS	80	49.3	62		35 - 142	
Pyrene	0524E1-LCSD	80	49.5	62		35 - 142	0.4
Pyrene	L0005195-01-MS	80	17.8	22	Jl	35 - 142	
Benzo (a) anthracene	0524E1-LCS	80	50.2	63		50 - 120	
Benzo (a) anthracene	0524E1-LCSD	80	49.3	62		50 - 120	1.8
Benzo (a) anthracene	L0005195-01-MS	80	17.3	22	Jl	50 - 120	
Chrysene	0524E1-LCS	80	51.9	65		50 - 120	
Chrysene	0524E1-LCSD	80	49.9	62		50 - 120	3.9
Chrysene	L0005195-01-MS	80	16.7	21		50 - 120	
Benzo (b&k) fluoranthene	0524E1-LCS	160	102	64		50 - 120	
Benzo (b&k) fluoranthene	0524E1-LCSD	160	101	63		50 - 120	1.
Benzo (b&k) fluoranthene	L0005195-01-MS	160	36.9	23	Jl	50 - 120	
Benzo (a) pyrene	0524E1-LCS	80	52.1	65		50 - 120	
Benzo (a) pyrene	0524E1-LCSD	80	51.5	64		50 - 120	1.2
Benzo (a) pyrene	L0005195-01-MS	80	19.1	24		50 - 120	
Indeno (1,2,3-c,d) pyrene	0524E1-LCS	80	61.5	77		50 - 120	
Indeno (1,2,3-c,d) pyrene	0524E1-LCSD	80	54.8	69		50 - 120	11.5
Indeno (1,2,3-c,d) pyrene	L0005195-01-MS	80	20.6	26		50 - 120	
Benzo (g,h,i) perylene	0524E1-LCS	80	55.7	70		50 - 120	
Benzo (g,h,i) perylene	0524E1-LCSD	80	47.1	59		50 - 120	16.7
Benzo (g,h,i) perylene	L0005195-01-MS	80	19.9	25		50 - 120	

ND - Not Detected

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702-657-1010 • Fax: 702-657-1577 • 888-368-3282

CHAIN OF CUSTODY

NEL Work Order: L0005195

Project Name: Langley AFB, VA
Project Number:
Purchase Order Number:
Sampled By: R. Grabowski

Company: U.S. Army Corps of Engineers
Attention: Rick Grabowski
Address: 215 N. 17th St. Omaha NE 68102
Phone Number: (402) 221-7784
Fax Number: (402) 221-7769
Billing Address: Same as above
Expected Due Date: 5/30

Requested Turnaround: X 5-day ____ 2-day ____ 1-day ____ Other

Time/Date Sampled	Customer Sample Identification	N.E.L. Identification	# of Containers	Matrix (Box #1)	Preservative (Box #2)	VOCs (8260B)	PAH's (8270C)	Remarks
0915 5/19/00	LAFB-BOPS-SB01-04	>01	2	SD	E	X		
0915 5/19/00	LAFB-BOPS-SB01-04		1	SD	E		X	
1128 5/19/00	LAFB-BOPS-SB02-06	>02	2	SD	E	X		
1128 5/19/00	LAFB-BOPS-SB02-06		1	SD	E		X	

Report as dry weight

Level IV

Custody Seal intact? (Y) N None Temp. 10°C
Condition when received (good) UF

Box #1: DW - Drinking Water; WW - Waste Water; OL - Oil/Organic Liquid; SD - Solid; AQ - Aqueous; A - Air

Box #2: A. HCl; B. HNO_3; C. H_2SO_4; D. NaOH; E. Ice Only; F. Other____; G. Not Preserved

Relinquished by (Print)	(Signature)	Date/Time	Received by (Print)	(Signature)	Date/Time
1 Richard Grabowski	[signature]	5/19/00 1730	Via FedEx		
2 Via FedEx			Vanessa Flood	Vanessa Flood	5/20/00 9:30am
3 Vanessa Flood	Vanessa Flood	5/22/00 0830	B Christensen	[signature]	5/22/00 0830

The liability of NEL Laboratories Inc. is limited strictly to the price of sample analysis for those samples received in good condition by NEL. NEL is not responsible for loss, damage, resampling costs and/or qualified data related to samples not received in good condition, including adequate sample volume and number of containers. Customer signature of this CoC constitutes a purchase order for NEL to perform work and constitutes acceptance of all NEL Standard Terms and Conditions. Signature also constitutes acceptance of NEL Standard List Prices for all services ordered here on, except those specified otherwise via an NEL Quotation for Testing Services in effect at the time of sample receipt. NEL turnaround times are measured in regular working days. Samples received at the laboratory after 16:30 will be considered received on the next working day. Commitment of laboratory to the requested turnaround time will be confirmed via Sample Confirmation transmitted to the fax number provided above.

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Las Vegas Division
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(702) 657-1010 • Fax: (702) 657-1577
1-888-368-3282

CLIENT: US Army Corps Of Engineers
215 N. 17th Street
Omaha, NE 68102
ATTN: Rick Grabowski

PROJECT NAME: Langley AFB, VA
PROJECT NUMBER: NA

NEL ORDER ID: L0005241

Attached are the analytical results for samples in support of the above referenced project.

Samples submitted for this project were not sampled by NEL Laboratories. Samples were received by NEL in good condition, under chain of custody on 5/24/00.

Should you have any questions or comments, please feel free to contact our Client Services department at (702) 657-1010.

Some results have been flagged as follows:

E - Concentration exceeded calibration range.

Some QA results have been flagged as follows:

C - Sample concentration is a least 5 times greater than spike contribution. Spike recovery criteria do not apply.

Jl - The batch MS and/or MSD were outside acceptance limits. The batch LCS was acceptable.

Some surrogate results have been flagged as follows:

Sf - This surrogate was outside acceptance limits.

Stan Van Wagenen
Laboratory Manager

6/15/00
Date

CERTIFICATIONS:

	Reno	Las Vegas	S. California
Arizona	AZ0520	AZ0518	AZ0605
California	1707	2002	2264
US Army Corps of Engineers	Certified	Certified	

	Reno	Las Vegas	S. California
Idaho	Certified	Certified	
Montana	Certified	Certified	
Nevada	NV033	NV052	CA084
L.A.C.S.D.			10228

NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-BOPS-SB03-08
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-01
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/1/00
MATRIX:	Solid	ANALYZED:	6/1/00
DILUTION:	1.2	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	140	30. µg/kg	1,1-Dichloropropene	ND	6. µg/kg
Benzene	ND	6. µg/kg	cis-1,3-Dichloropropene	ND	6. µg/kg
Bromobenzene	ND	6. µg/kg	trans-1,3-Dichloropropene	ND	6. µg/kg
Bromochloromethane	ND	6. µg/kg	Ethylbenzene	13	6. µg/kg
Bromodichloromethane	ND	6. µg/kg	Hexachlorobutadiene	ND	6. µg/kg
Bromoform	ND	6. µg/kg	2-Hexanone	ND	30. µg/kg
Bromomethane	ND	6. µg/kg	Iodomethane	ND	6. µg/kg
2-Butanone	ND	30. µg/kg	Isopropylbenzene	ND	6. µg/kg
n-Butylbenzene	ND	6. µg/kg	p-Isopropyltoluene	ND	6. µg/kg
sec-Butylbenzene	ND	6. µg/kg	Methylene chloride (Dichloromethane)	ND	6. µg/kg
tert-Butylbenzene	ND	6. µg/kg	4-Methyl-2-pentanone	ND	30. µg/kg
Carbon disulfide	11	6. µg/kg	MTBE	ND	6. µg/kg
Carbon tetrachloride	ND	6. µg/kg	Naphthalene	ND	12. µg/kg
Chlorobenzene	ND	6. µg/kg	n-Propylbenzene	ND	6. µg/kg
Chloroethane	ND	6. µg/kg	Styrene	ND	6. µg/kg
Chloroform	ND	6. µg/kg	1,1,1,2-Tetrachloroethane	ND	6. µg/kg
C[illegible]methane	ND	6. µg/kg	1,1,2,2-Tetrachloroethane	ND	6. µg/kg
2[illegible]rotoluene	ND	6. µg/kg	Tetrachloroethene (PCE)	ND	6. µg/kg
4-Chlorotoluene	ND	6. µg/kg	Toluene	7.9	6. µg/kg
Dibromochloromethane	ND	6. µg/kg	1,2,3-Trichlorobenzene	ND	6. µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	6. µg/kg	1,2,4-Trichlorobenzene	ND	6. µg/kg
1,2-Dibromoethane (EDB)	ND	6. µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	6. µg/kg
Dibromomethane	ND	6. µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	6. µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	6. µg/kg	Trichloroethene (TCE)	ND	6. µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	6. µg/kg	Trichlorofluoromethane (Freon 11)	ND	12. µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	6. µg/kg	1,2,3-Trichloropropane	ND	6. µg/kg
Dichlorodifluoromethane (Freon 12)	ND	6. µg/kg	1,2,4-Trimethylbenzene	ND	6. µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	6. µg/kg	1,3,5-Trimethylbenzene	ND	6. µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	6. µg/kg	Vinyl chloride	ND	6. µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	6. µg/kg	o-Xylene	ND	6. µg/kg
cis-1,2-Dichloroethene	ND	6. µg/kg	m,p-Xylene	ND	12. µg/kg
trans-1,2-Dichloroethene	ND	6. µg/kg			
1,2-Dichloropropane	ND	6. µg/kg			
1,3-Dichloropropane	ND	6. µg/kg			
2,2-Dichloropropane	ND	12. µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	120	70 - 130
Dibromofluoromethane	106	70 - 130
Toluene-d8	112	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-BOPS-SB04-04
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-02
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/1/00
MATRIX:	Solid	ANALYZED:	6/1/00
DILUTION:	0.9	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	48	22.5 µg/kg	1,1-Dichloropropene	ND	4.5 µg/kg
Benzene	ND	4.5 µg/kg	cis-1,3-Dichloropropene	ND	4.5 µg/kg
Bromobenzene	ND	4.5 µg/kg	trans-1,3-Dichloropropene	ND	4.5 µg/kg
Bromochloromethane	ND	4.5 µg/kg	Ethylbenzene	ND	4.5 µg/kg
Bromodichloromethane	ND	4.5 µg/kg	Hexachlorobutadiene	ND	4.5 µg/kg
Bromoform	ND	4.5 µg/kg	2-Hexanone	ND	22.5 µg/kg
Bromomethane	ND	4.5 µg/kg	Iodomethane	ND	4.5 µg/kg
2-Butanone	ND	22.5 µg/kg	Isopropylbenzene	ND	4.5 µg/kg
n-Butylbenzene	ND	4.5 µg/kg	p-Isopropyltoluene	ND	4.5 µg/kg
sec-Butylbenzene	ND	4.5 µg/kg	Methylene chloride (Dichloromethane)	ND	4.5 µg/kg
tert-Butylbenzene	ND	4.5 µg/kg	4-Methyl-2-pentanone	ND	22.5 µg/kg
Carbon disulfide	ND	4.5 µg/kg	MTBE	ND	4.5 µg/kg
Carbon tetrachloride	ND	4.5 µg/kg	Naphthalene	ND	9. µg/kg
Chlorobenzene	ND	4.5 µg/kg	n-Propylbenzene	ND	4.5 µg/kg
Chloroethane	ND	4.5 µg/kg	Styrene	ND	4.5 µg/kg
Chloroform	ND	4.5 µg/kg	1,1,1,2-Tetrachloroethane	ND	4.5 µg/kg
C[illegible]methane	ND	4.5 µg/kg	1,1,2,2-Tetrachloroethane	ND	4.5 µg/kg
2[illegible]rotoluene	ND	4.5 µg/kg	Tetrachloroethene (PCE)	ND	4.5 µg/kg
4-Chlorotoluene	ND	4.5 µg/kg	Toluene	ND	4.5 µg/kg
Dibromochloromethane	ND	4.5 µg/kg	1,2,3-Trichlorobenzene	ND	4.5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	4.5 µg/kg	1,2,4-Trichlorobenzene	ND	4.5 µg/kg
1,2-Dibromoethane (EDB)	ND	4.5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	4.5 µg/kg
Dibromomethane	ND	4.5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	4.5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	4.5 µg/kg	Trichloroethene (TCE)	ND	4.5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	4.5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	9. µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	4.5 µg/kg	1,2,3-Trichloropropane	ND	4.5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	4.5 µg/kg	1,2,4-Trimethylbenzene	ND	4.5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	4.5 µg/kg	1,3,5-Trimethylbenzene	ND	4.5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	4.5 µg/kg	Vinyl chloride	ND	4.5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	4.5 µg/kg	o-Xylene	ND	4.5 µg/kg
cis-1,2-Dichloroethene	ND	4.5 µg/kg	m,p-Xylene	ND	9. µg/kg
trans-1,2-Dichloroethene	ND	4.5 µg/kg			
1,2-Dichloropropane	ND	4.5 µg/kg			
1,3-Dichloropropane	ND	4.5 µg/kg			
2,2-Dichloropropane	ND	9. µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	103	70 - 130
Dibromofluoromethane	81	70 - 130
Toluene-d8	100	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-BOPS-SB05-04
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-03
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/1/00
MATRIX:	Solid	ANALYZED:	6/1/00
DILUTION:	1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	100	25. µg/kg	1,1-Dichloropropene	ND	5. µg/kg
Benzene	ND	5. µg/kg	cis-1,3-Dichloropropene	ND	5. µg/kg
Bromobenzene	ND	5. µg/kg	trans-1,3-Dichloropropene	ND	5. µg/kg
Bromochloromethane	ND	5. µg/kg	Ethylbenzene	ND	5. µg/kg
Bromodichloromethane	ND	5. µg/kg	Hexachlorobutadiene	ND	5. µg/kg
Bromoform	ND	5. µg/kg	2-Hexanone	ND	25. µg/kg
Bromomethane	ND	5. µg/kg	Iodomethane	ND	5. µg/kg
2-Butanone	ND	25. µg/kg	Isopropylbenzene	ND	5. µg/kg
n-Butylbenzene	ND	5. µg/kg	p-Isopropyltoluene	ND	5. µg/kg
sec-Butylbenzene	ND	5. µg/kg	Methylene chloride (Dichloromethane)	ND	5. µg/kg
tert-Butylbenzene	ND	5. µg/kg	4-Methyl-2-pentanone	ND	25. µg/kg
Carbon disulfide	ND	5. µg/kg	MTBE	ND	5. µg/kg
Carbon tetrachloride	ND	5. µg/kg	Naphthalene	ND	10. µg/kg
Chlorobenzene	ND	5. µg/kg	n-Propylbenzene	ND	5. µg/kg
Chloroethane	ND	5. µg/kg	Styrene	ND	5. µg/kg
Chloroform	ND	5. µg/kg	1,1,1,2-Tetrachloroethane	ND	5. µg/kg
[illegible]omethane	ND	5. µg/kg	1,1,2,2-Tetrachloroethane	ND	5. µg/kg
[illegible]orotoluene	ND	5. µg/kg	Tetrachloroethene (PCE)	ND	5. µg/kg
4-Chlorotoluene	ND	5. µg/kg	Toluene	ND	5. µg/kg
Dibromochloromethane	ND	5. µg/kg	1,2,3-Trichlorobenzene	ND	5. µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5. µg/kg	1,2,4-Trichlorobenzene	ND	5. µg/kg
1,2-Dibromoethane (EDB)	ND	5. µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5. µg/kg
Dibromomethane	ND	5. µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5. µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5. µg/kg	Trichloroethene (TCE)	ND	5. µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5. µg/kg	Trichlorofluoromethane (Freon 11)	ND	10. µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5. µg/kg	1,2,3-Trichloropropane	ND	5. µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5. µg/kg	1,2,4-Trimethylbenzene	ND	5. µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5. µg/kg	1,3,5-Trimethylbenzene	ND	5. µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5. µg/kg	Vinyl chloride	ND	5. µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5. µg/kg	o-Xylene	ND	5. µg/kg
cis-1,2-Dichloroethene	ND	5. µg/kg	m,p-Xylene	ND	10. µg/kg
trans-1,2-Dichloroethene	ND	5. µg/kg			
1,2-Dichloropropane	ND	5. µg/kg			
1,3-Dichloropropane	ND	5. µg/kg			
2,2-Dichloropropane	ND	10. µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	103	70 - 130
Dibromofluoromethane	106	70 - 130
Toluene-d8	101	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-BOPS-SB06-06
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-04
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/1/00
MATRIX:	Solid	ANALYZED:	6/1/00
DILUTION:	1.1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg		Reporting Limit	PARAMETER	Result µg/kg		Reporting Limit
Acetone	45		27.5 µg/kg	1,1-Dichloropropene	ND		5.5 µg/kg
Benzene	ND		5.5 µg/kg	cis-1,3-Dichloropropene	ND		5.5 µg/kg
Bromobenzene	ND		5.5 µg/kg	trans-1,3-Dichloropropene	ND		5.5 µg/kg
Bromochloromethane	ND		5.5 µg/kg	Ethylbenzene	ND		5.5 µg/kg
Bromodichloromethane	ND		5.5 µg/kg	Hexachlorobutadiene	ND		5.5 µg/kg
Bromoform	ND		5.5 µg/kg	2-Hexanone	ND		27.5 µg/kg
Bromomethane	ND		5.5 µg/kg	Iodomethane	ND		5.5 µg/kg
2-Butanone	ND		27.5 µg/kg	Isopropylbenzene	3100	E	5.5 µg/kg
n-Butylbenzene	ND		5.5 µg/kg	p-Isopropyltoluene	340		5.5 µg/kg
sec-Butylbenzene	3700	E	5.5 µg/kg	Methylene chloride (Dichloromethane)	ND		5.5 µg/kg
tert-Butylbenzene	ND		5.5 µg/kg	4-Methyl-2-pentanone	ND		27.5 µg/kg
Carbon disulfide	ND		5.5 µg/kg	MTBE	ND		5.5 µg/kg
Carbon tetrachloride	ND		5.5 µg/kg	Naphthalene	90		11. µg/kg
Chlorobenzene	ND		5.5 µg/kg	n-Propylbenzene	4200	E	5.5 µg/kg
Chloroethane	ND		5.5 µg/kg	Styrene	ND		5.5 µg/kg
Chloroform	ND		5.5 µg/kg	1,1,1,2-Tetrachloroethane	ND		5.5 µg/kg
Chloromethane	ND		5.5 µg/kg	1,1,2,2-Tetrachloroethane	ND		5.5 µg/kg
2-Chlorotoluene	ND		5.5 µg/kg	Tetrachloroethene (PCE)	ND		5.5 µg/kg
4-Chlorotoluene	ND		5.5 µg/kg	Toluene	ND		5.5 µg/kg
Dibromochloromethane	ND		5.5 µg/kg	1,2,3-Trichlorobenzene	ND		5.5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND		5.5 µg/kg	1,2,4-Trichlorobenzene	ND		5.5 µg/kg
1,2-Dibromoethane (EDB)	ND		5.5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND		5.5 µg/kg
Dibromomethane	ND		5.5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND		5.5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND		5.5 µg/kg	Trichloroethene (TCE)	ND		5.5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND		5.5 µg/kg	Trichlorofluoromethane (Freon 11)	ND		11. µg/kg
1,4-Dichlorobenzene (p-DCB)	ND		5.5 µg/kg	1,2,3-Trichloropropane	ND		5.5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND		5.5 µg/kg	1,2,4-Trimethylbenzene	6500	E	5.5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND		5.5 µg/kg	1,3,5-Trimethylbenzene	ND		5.5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND		5.5 µg/kg	Vinyl chloride	ND		5.5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND		5.5 µg/kg	o-Xylene	ND		5.5 µg/kg
cis-1,2-Dichloroethene	ND		5.5 µg/kg	m,p-Xylene	ND		11. µg/kg
trans-1,2-Dichloroethene	ND		5.5 µg/kg				
1,2-Dichloropropane	ND		5.5 µg/kg				
1,3-Dichloropropane	ND		5.5 µg/kg				
2,2-Dichloropropane	ND		11. µg/kg				

QUALITY CONTROL DATA:

Surrogate	% Recovery		Acceptable Range
4-Bromofluorobenzene	39	Sf	70 - 130
Dibromofluoromethane	120		70 - 130
Toluene-d8	64	Sf	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-BOPS-SB07-06
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-05
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/4/00
MATRIX:	Solid	ANALYZED:	6/4/00
DILUTION:	1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg		Reporting Limit	PARAMETER	Result µg/kg		Reporting Limit
Acetone	ND		25. µg/kg	1,1-Dichloropropene	ND		5. µg/kg
Benzene	820	E	5. µg/kg	cis-1,3-Dichloropropene	ND		5. µg/kg
Bromobenzene	ND		5. µg/kg	trans-1,3-Dichloropropene	ND		5. µg/kg
Bromochloromethane	ND		5. µg/kg	Ethylbenzene	140		5. µg/kg
Bromodichloromethane	ND		5. µg/kg	Hexachlorobutadiene	ND		5. µg/kg
Bromoform	ND		5. µg/kg	2-Hexanone	ND		25. µg/kg
Bromomethane	ND		5. µg/kg	Iodomethane	ND		5. µg/kg
2-Butanone	ND		25. µg/kg	Isopropylbenzene	410	E	5. µg/kg
n-Butylbenzene	260		5. µg/kg	p-Isopropyltoluene	58		5. µg/kg
sec-Butylbenzene	250		5. µg/kg	Methylene chloride (Dichloromethane)	ND		5. µg/kg
tert-Butylbenzene	47		5. µg/kg	4-Methyl-2-pentanone	ND		25. µg/kg
Carbon disulfide	7.9		5. µg/kg	MTBE	ND		5. µg/kg
Carbon tetrachloride	ND		5. µg/kg	Naphthalene	320	E	10. µg/kg
Chlorobenzene	ND		5. µg/kg	n-Propylbenzene	650	E	5. µg/kg
Chloroethane	ND		5. µg/kg	Styrene	ND		5. µg/kg
Chloroform	ND		5. µg/kg	1,1,1,2-Tetrachloroethane	ND		5. µg/kg
C[illegible]omethane	ND		5. µg/kg	1,1,2,2-Tetrachloroethane	ND		5. µg/kg
[illegible]brotoluene	ND		5. µg/kg	Tetrachloroethene (PCE)	ND		5. µg/kg
4-Chlorotoluene	ND		5. µg/kg	Toluene	ND		5. µg/kg
Dibromochloromethane	ND		5. µg/kg	1,2,3-Trichlorobenzene	ND		5. µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND		5. µg/kg	1,2,4-Trichlorobenzene	ND		5. µg/kg
1,2-Dibromoethane (EDB)	ND		5. µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND		5. µg/kg
Dibromomethane	ND		5. µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND		5. µg/kg
1,2-Dichlorobenzene (o-DCB)	ND		5. µg/kg	Trichloroethene (TCE)	ND		5. µg/kg
1,3-Dichlorobenzene (m-DCB)	ND		5. µg/kg	Trichlorofluoromethane (Freon 11)	ND		10. µg/kg
1,4-Dichlorobenzene (p-DCB)	ND		5. µg/kg	1,2,3-Trichloropropane	ND		5. µg/kg
Dichlorodifluoromethane (Freon 12)	ND		5. µg/kg	1,2,4-Trimethylbenzene	ND		5. µg/kg
1,1-Dichloroethane (1,1-DCA)	ND		5. µg/kg	1,3,5-Trimethylbenzene	ND		5. µg/kg
1,2-Dichloroethane (1,2-DCA)	ND		5. µg/kg	Vinyl chloride	ND		5. µg/kg
1,1-Dichloroethene (1,1-DCE)	ND		5. µg/kg	o-Xylene	ND		5. µg/kg
cis-1,2-Dichloroethene	ND		5. µg/kg	m,p-Xylene	ND		10. µg/kg
trans-1,2-Dichloroethene	ND		5. µg/kg				
1,2-Dichloropropane	ND		5. µg/kg				
1,3-Dichloropropane	ND		5. µg/kg				
2,2-Dichloropropane	ND		10. µg/kg				

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	96	70 - 130
Dibromofluoromethane	115	70 - 130
Toluene-d8	98	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-BOPS-SB08-06
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-06
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/4/00
MATRIX:	Solid	ANALYZED:	6/4/00
DILUTION:	1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	ND	25. µg/kg	1,1-Dichloropropene	ND	5. µg/kg
Benzene	750 E	5. µg/kg	cis-1,3-Dichloropropene	ND	5. µg/kg
Bromobenzene	ND	5. µg/kg	trans-1,3-Dichloropropene	ND	5. µg/kg
Bromochloromethane	ND	5. µg/kg	Ethylbenzene	22	5. µg/kg
Bromodichloromethane	ND	5. µg/kg	Hexachlorobutadiene	ND	5. µg/kg
Bromoform	ND	5. µg/kg	2-Hexanone	ND	25. µg/kg
Bromomethane	ND	5. µg/kg	Iodomethane	ND	5. µg/kg
2-Butanone	ND	25. µg/kg	Isopropylbenzene	63	5. µg/kg
n-Butylbenzene	50	5. µg/kg	p-Isopropyltoluene	9.9	5. µg/kg
sec-Butylbenzene	44	5. µg/kg	Methylene chloride (Dichloromethane)	ND	5. µg/kg
tert-Butylbenzene	7.3	5. µg/kg	4-Methyl-2-pentanone	ND	25. µg/kg
Carbon disulfide	6.9	5. µg/kg	MTBE	140	5. µg/kg
Carbon tetrachloride	ND	5. µg/kg	Naphthalene	180	10. µg/kg
Chlorobenzene	ND	5. µg/kg	n-Propylbenzene	110	5. µg/kg
Chloroethane	ND	5. µg/kg	Styrene	ND	5. µg/kg
Chloroform	ND	5. µg/kg	1,1,1,2-Tetrachloroethane	ND	5. µg/kg
Chloromethane	ND	5. µg/kg	1,1,2,2-Tetrachloroethane	ND	5. µg/kg
2-Chlorotoluene	ND	5. µg/kg	Tetrachloroethene (PCE)	ND	5. µg/kg
4-Chlorotoluene	ND	5. µg/kg	Toluene	ND	5. µg/kg
Dibromochloromethane	ND	5. µg/kg	1,2,3-Trichlorobenzene	ND	5. µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5. µg/kg	1,2,4-Trichlorobenzene	ND	5. µg/kg
1,2-Dibromoethane (EDB)	ND	5. µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5. µg/kg
Dibromomethane	ND	5. µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5. µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5. µg/kg	Trichloroethene (TCE)	ND	5. µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5. µg/kg	Trichlorofluoromethane (Freon 11)	ND	10. µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5. µg/kg	1,2,3-Trichloropropane	ND	5. µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5. µg/kg	1,2,4-Trimethylbenzene	ND	5. µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5. µg/kg	1,3,5-Trimethylbenzene	ND	5. µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5. µg/kg	Vinyl chloride	ND	5. µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5. µg/kg	o-Xylene	ND	5. µg/kg
cis-1,2-Dichloroethene	ND	5. µg/kg	m,p-Xylene	ND	10. µg/kg
trans-1,2-Dichloroethene	ND	5. µg/kg			
1,2-Dichloropropane	ND	5. µg/kg			
1,3-Dichloropropane	ND	5. µg/kg			
2,2-Dichloropropane	ND	10. µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	106	70 - 130
Dibromofluoromethane	107	70 - 130
Toluene-d8	101	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-LOCR-SB01-06
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-07
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/1/00
MATRIX:	Solid	ANALYZED:	6/1/00
DILUTION:	1.1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	65	27.5 µg/kg	1,1-Dichloropropene	ND	5.5 µg/kg
Benzene	ND	5.5 µg/kg	cis-1,3-Dichloropropene	ND	5.5 µg/kg
Bromobenzene	ND	5.5 µg/kg	trans-1,3-Dichloropropene	ND	5.5 µg/kg
Bromochloromethane	ND	5.5 µg/kg	Ethylbenzene	ND	5.5 µg/kg
Bromodichloromethane	ND	5.5 µg/kg	Hexachlorobutadiene	ND	5.5 µg/kg
Bromoform	ND	5.5 µg/kg	2-Hexanone	ND	27.5 µg/kg
Bromomethane	ND	5.5 µg/kg	Iodomethane	ND	5.5 µg/kg
2-Butanone	ND	27.5 µg/kg	Isopropylbenzene	ND	5.5 µg/kg
n-Butylbenzene	ND	5.5 µg/kg	p-Isopropyltoluene	ND	5.5 µg/kg
sec-Butylbenzene	ND	5.5 µg/kg	Methylene chloride (Dichloromethane)	ND	5.5 µg/kg
tert-Butylbenzene	ND	5.5 µg/kg	4-Methyl-2-pentanone	ND	27.5 µg/kg
Carbon disulfide	ND	5.5 µg/kg	MTBE	ND	5.5 µg/kg
Carbon tetrachloride	ND	5.5 µg/kg	Naphthalene	ND	11. µg/kg
Chlorobenzene	ND	5.5 µg/kg	n-Propylbenzene	ND	5.5 µg/kg
Chloroethane	ND	5.5 µg/kg	Styrene	ND	5.5 µg/kg
Chloroform	ND	5.5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5.5 µg/kg
C[illegible]methane	ND	5.5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5.5 µg/kg
2[illegible]orotoluene	ND	5.5 µg/kg	Tetrachloroethene (PCE)	ND	5.5 µg/kg
4-Chlorotoluene	ND	5.5 µg/kg	Toluene	5.9	5.5 µg/kg
Dibromochloromethane	ND	5.5 µg/kg	1,2,3-Trichlorobenzene	ND	5.5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.5 µg/kg	1,2,4-Trichlorobenzene	ND	5.5 µg/kg
1,2-Dibromoethane (EDB)	ND	5.5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5.5 µg/kg
Dibromomethane	ND	5.5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5.5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5.5 µg/kg	Trichloroethene (TCE)	ND	5.5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5.5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	11. µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5.5 µg/kg	1,2,3-Trichloropropane	ND	5.5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5.5 µg/kg	1,2,4-Trimethylbenzene	ND	5.5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5.5 µg/kg	1,3,5-Trimethylbenzene	ND	5.5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5.5 µg/kg	Vinyl chloride	ND	5.5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5.5 µg/kg	o-Xylene	ND	5.5 µg/kg
cis-1,2-Dichloroethene	ND	5.5 µg/kg	m,p-Xylene	ND	11. µg/kg
trans-1,2-Dichloroethene	ND	5.5 µg/kg			
1,2-Dichloropropane	ND	5.5 µg/kg			
1,3-Dichloropropane	ND	5.5 µg/kg			
2,2-Dichloropropane	ND	11. µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	102	70 - 130
Dibromofluoromethane	106	70 - 130
Toluene-d8	100	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-LOCR-SB02-06
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-08
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/1/00
MATRIX:	Solid	ANALYZED:	6/1/00
DILUTION:	1.1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	ND	27.5 µg/kg	1,1-Dichloropropene	ND	5.5 µg/kg
Benzene	ND	5.5 µg/kg	cis-1,3-Dichloropropene	ND	5.5 µg/kg
Bromobenzene	ND	5.5 µg/kg	trans-1,3-Dichloropropene	ND	5.5 µg/kg
Bromochloromethane	ND	5.5 µg/kg	Ethylbenzene	ND	5.5 µg/kg
Bromodichloromethane	ND	5.5 µg/kg	Hexachlorobutadiene	ND	5.5 µg/kg
Bromoform	ND	5.5 µg/kg	2-Hexanone	ND	27.5 µg/kg
Bromomethane	ND	5.5 µg/kg	Iodomethane	ND	5.5 µg/kg
2-Butanone	ND	27.5 µg/kg	Isopropylbenzene	ND	5.5 µg/kg
n-Butylbenzene	ND	5.5 µg/kg	p-Isopropyltoluene	ND	5.5 µg/kg
sec-Butylbenzene	ND	5.5 µg/kg	Methylene chloride (Dichloromethane)	ND	5.5 µg/kg
tert-Butylbenzene	ND	5.5 µg/kg	4-Methyl-2-pentanone	ND	27.5 µg/kg
Carbon disulfide	ND	5.5 µg/kg	MTBE	ND	5.5 µg/kg
Carbon tetrachloride	ND	5.5 µg/kg	Naphthalene	ND	11. µg/kg
Chlorobenzene	ND	5.5 µg/kg	n-Propylbenzene	ND	5.5 µg/kg
Chloroethane	ND	5.5 µg/kg	Styrene	ND	5.5 µg/kg
Chloroform	ND	5.5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5.5 µg/kg
C[illegible]omethane	ND	5.5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5.5 µg/kg
[illegible]rotoluene	ND	5.5 µg/kg	Tetrachloroethene (PCE)	ND	5.5 µg/kg
4-Chlorotoluene	ND	5.5 µg/kg	Toluene	ND	5.5 µg/kg
Dibromochloromethane	ND	5.5 µg/kg	1,2,3-Trichlorobenzene	ND	5.5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.5 µg/kg	1,2,4-Trichlorobenzene	ND	5.5 µg/kg
1,2-Dibromoethane (EDB)	ND	5.5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5.5 µg/kg
Dibromomethane	ND	5.5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5.5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5.5 µg/kg	Trichloroethene (TCE)	ND	5.5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5.5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	11. µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5.5 µg/kg	1,2,3-Trichloropropane	ND	5.5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5.5 µg/kg	1,2,4-Trimethylbenzene	ND	5.5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5.5 µg/kg	1,3,5-Trimethylbenzene	ND	5.5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5.5 µg/kg	Vinyl chloride	ND	5.5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5.5 µg/kg	o-Xylene	ND	5.5 µg/kg
cis-1,2-Dichloroethene	ND	5.5 µg/kg	m,p-Xylene	ND	11. µg/kg
trans-1,2-Dichloroethene	ND	5.5 µg/kg			
1,2-Dichloropropane	ND	5.5 µg/kg			
1,3-Dichloropropane	ND	5.5 µg/kg			
2,2-Dichloropropane	ND	11. µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	104	70 - 130
Dibromofluoromethane	106	70 - 130
Toluene-d8	101	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-LOCR-SB03-06
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-09
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/1/00
MATRIX:	Solid	ANALYZED:	6/1/00
DILUTION:	1.1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	85	27.5 µg/kg	1,1-Dichloropropene	ND	5.5 µg/kg
Benzene	ND	5.5 µg/kg	cis-1,3-Dichloropropene	ND	5.5 µg/kg
Bromobenzene	ND	5.5 µg/kg	trans-1,3-Dichloropropene	ND	5.5 µg/kg
Bromochloromethane	ND	5.5 µg/kg	Ethylbenzene	ND	5.5 µg/kg
Bromodichloromethane	ND	5.5 µg/kg	Hexachlorobutadiene	ND	5.5 µg/kg
Bromoform	ND	5.5 µg/kg	2-Hexanone	ND	27.5 µg/kg
Bromomethane	ND	5.5 µg/kg	Iodomethane	ND	5.5 µg/kg
2-Butanone	ND	27.5 µg/kg	Isopropylbenzene	ND	5.5 µg/kg
n-Butylbenzene	ND	5.5 µg/kg	p-Isopropyltoluene	ND	5.5 µg/kg
sec-Butylbenzene	ND	5.5 µg/kg	Methylene chloride (Dichloromethane)	ND	5.5 µg/kg
tert-Butylbenzene	ND	5.5 µg/kg	4-Methyl-2-pentanone	ND	27.5 µg/kg
Carbon disulfide	ND	5.5 µg/kg	MTBE	ND	5.5 µg/kg
Carbon tetrachloride	ND	5.5 µg/kg	Naphthalene	ND	11. µg/kg
Chlorobenzene	ND	5.5 µg/kg	n-Propylbenzene	ND	5.5 µg/kg
Chloroethane	ND	5.5 µg/kg	Styrene	ND	5.5 µg/kg
Chloroform	ND	5.5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5.5 µg/kg
Chloromethane	ND	5.5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5.5 µg/kg
2-Chlorotoluene	ND	5.5 µg/kg	Tetrachloroethene (PCE)	ND	5.5 µg/kg
4-Chlorotoluene	ND	5.5 µg/kg	Toluene	ND	5.5 µg/kg
Dibromochloromethane	ND	5.5 µg/kg	1,2,3-Trichlorobenzene	ND	5.5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.5 µg/kg	1,2,4-Trichlorobenzene	ND	5.5 µg/kg
1,2-Dibromoethane (EDB)	ND	5.5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5.5 µg/kg
Dibromomethane	ND	5.5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5.5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5.5 µg/kg	Trichloroethene (TCE)	ND	5.5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5.5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	11. µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5.5 µg/kg	1,2,3-Trichloropropane	ND	5.5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5.5 µg/kg	1,2,4-Trimethylbenzene	ND	5.5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5.5 µg/kg	1,3,5-Trimethylbenzene	ND	5.5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5.5 µg/kg	Vinyl chloride	ND	5.5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5.5 µg/kg	o-Xylene	ND	5.5 µg/kg
cis-1,2-Dichloroethene	ND	5.5 µg/kg	m,p-Xylene	ND	11. µg/kg
trans-1,2-Dichloroethene	ND	5.5 µg/kg			
1,2-Dichloropropane	ND	5.5 µg/kg			
1,3-Dichloropropane	ND	5.5 µg/kg			
2,2-Dichloropropane	ND	11. µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	107	70 - 130
Dibromofluoromethane	108	70 - 130
Toluene-d8	101	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-BOPS-SB06-06DL
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-10
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/8/00
MATRIX:	Solid	ANALYZED:	6/8/00
DILUTION:	32	ANALYST:	SKV - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg		Reporting Limit
Acetone	ND	800. µg/kg	1,1-Dichloropropene	ND		160. µg/kg
Benzene	ND	160. µg/kg	cis-1,3-Dichloropropene	ND		160. µg/kg
Bromobenzene	ND	160. µg/kg	trans-1,3-Dichloropropene	ND		160. µg/kg
Bromochloromethane	ND	160. µg/kg	Ethylbenzene	ND		160. µg/kg
Bromodichloromethane	ND	160. µg/kg	Hexachlorobutadiene	ND		160. µg/kg
Bromoform	ND	160. µg/kg	2-Hexanone	ND		800. µg/kg
Bromomethane	ND	160. µg/kg	Iodomethane	ND		160. µg/kg
2-Butanone	ND	800. µg/kg	Isopropylbenzene	3400		160. µg/kg
n-Butylbenzene	4600	160. µg/kg	p-Isopropyltoluene	1500		160. µg/kg
sec-Butylbenzene	3700	160. µg/kg	Methylene chloride (Dichloromethane)	ND		160. µg/kg
tert-Butylbenzene	540	160. µg/kg	4-Methyl-2-pentanone	ND		800. µg/kg
Carbon disulfide	ND	160. µg/kg	MTBE	ND		160. µg/kg
Carbon tetrachloride	ND	160. µg/kg	Naphthalene	2400		320. µg/kg
Chlorobenzene	ND	160. µg/kg	n-Propylbenzene	7200	E	160. µg/kg
Chloroethane	ND	160. µg/kg	Styrene	ND		160. µg/kg
Chloroform	ND	160. µg/kg	1,1,1,2-Tetrachloroethane	ND		160. µg/kg
Chloromethane	ND	160. µg/kg	1,1,2,2-Tetrachloroethane	ND		160. µg/kg
2-Chlorotoluene	ND	160. µg/kg	Tetrachloroethene (PCE)	ND		160. µg/kg
4-Chlorotoluene	ND	160. µg/kg	Toluene	ND		160. µg/kg
Dibromochloromethane	ND	160. µg/kg	1,2,3-Trichlorobenzene	ND		160. µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	160. µg/kg	1,2,4-Trichlorobenzene	ND		160. µg/kg
1,2-Dibromoethane (EDB)	ND	160. µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND		160. µg/kg
Dibromomethane	ND	160. µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND		160. µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	160. µg/kg	Trichloroethene (TCE)	ND		160. µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	160. µg/kg	Trichlorofluoromethane (Freon 11)	ND		320. µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	160. µg/kg	1,2,3-Trichloropropane	ND		160. µg/kg
Dichlorodifluoromethane (Freon 12)	ND	160. µg/kg	1,2,4-Trimethylbenzene	18000	E	160. µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	160. µg/kg	1,3,5-Trimethylbenzene	ND		160. µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	160. µg/kg	Vinyl chloride	ND		160. µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	160. µg/kg	o-Xylene	ND		160. µg/kg
cis-1,2-Dichloroethene	ND	160. µg/kg	m,p-Xylene	ND		320. µg/kg
trans-1,2-Dichloroethene	ND	160. µg/kg				
1,2-Dichloropropane	ND	160. µg/kg				
1,3-Dichloropropane	ND	160. µg/kg				
2,2-Dichloropropane	ND	320. µg/kg				

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	91	70 - 130
Dibromofluoromethane	102	70 - 130
Toluene-d8	98	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-BOPS-SB07-06DL
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-11
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/8/00
MATRIX:	Solid	ANALYZED:	6/8/00
DILUTION:	31	ANALYST:	SKV - Las Vegas Division

PARAMETER	Result µg/kg		Reporting Limit	PARAMETER	Result µg/kg		Reporting Limit
Acetone	ND		775. µg/kg	1,1-Dichloropropene	ND		155. µg/kg
Benzene	390		155. µg/kg	cis-1,3-Dichloropropene	ND		155. µg/kg
Bromobenzene	ND		155. µg/kg	trans-1,3-Dichloropropene	ND		155. µg/kg
Bromochloromethane	ND		155. µg/kg	Ethylbenzene	6000		155. µg/kg
Bromodichloromethane	ND		155. µg/kg	Hexachlorobutadiene	ND		155. µg/kg
Bromoform	ND		155. µg/kg	2-Hexanone	ND		775. µg/kg
Bromomethane	ND		155. µg/kg	Iodomethane	ND		155. µg/kg
2-Butanone	ND		775. µg/kg	Isopropylbenzene	4800		155. µg/kg
n-Butylbenzene	9400	E	155. µg/kg	p-Isopropyltoluene	3000		155. µg/kg
sec-Butylbenzene	5600		155. µg/kg	Methylene chloride (Dichloromethane)	ND		155. µg/kg
tert-Butylbenzene	820		155. µg/kg	4-Methyl-2-pentanone	ND		775. µg/kg
Carbon disulfide	ND		155. µg/kg	MTBE	ND		155. µg/kg
Carbon tetrachloride	ND		155. µg/kg	Naphthalene	670		310. µg/kg
Chlorobenzene	ND		155. µg/kg	n-Propylbenzene	11000	E	155. µg/kg
Chloroethane	ND		155. µg/kg	Styrene	ND		155. µg/kg
Chloroform	ND		155. µg/kg	1,1,1,2-Tetrachloroethane	ND		155. µg/kg
Chloromethane	ND		155. µg/kg	1,1,2,2-Tetrachloroethane	ND		155. µg/kg
2-Chlorotoluene	ND		155. µg/kg	Tetrachloroethene (PCE)	ND		155. µg/kg
4-Chlorotoluene	ND		155. µg/kg	Toluene	ND		155. µg/kg
Dibromochloromethane	ND		155. µg/kg	1,2,3-Trichlorobenzene	ND		155. µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND		155. µg/kg	1,2,4-Trichlorobenzene	ND		155. µg/kg
1,2-Dibromoethane (EDB)	ND		155. µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND		155. µg/kg
Dibromomethane	ND		155. µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND		155. µg/kg
1,2-Dichlorobenzene (o-DCB)	ND		155. µg/kg	Trichloroethene (TCE)	ND		155. µg/kg
1,3-Dichlorobenzene (m-DCB)	ND		155. µg/kg	Trichlorofluoromethane (Freon 11)	ND		310. µg/kg
1,4-Dichlorobenzene (p-DCB)	ND		155. µg/kg	1,2,3-Trichloropropane	ND		155. µg/kg
Dichlorodifluoromethane (Freon 12)	ND		155. µg/kg	1,2,4-Trimethylbenzene	31000	E	155. µg/kg
1,1-Dichloroethane (1,1-DCA)	ND		155. µg/kg	1,3,5-Trimethylbenzene	ND		155. µg/kg
1,2-Dichloroethane (1,2-DCA)	ND		155. µg/kg	Vinyl chloride	ND		155. µg/kg
1,1-Dichloroethene (1,1-DCE)	ND		155. µg/kg	o-Xylene	ND		155. µg/kg
cis-1,2-Dichloroethene	ND		155. µg/kg	m,p-Xylene	ND		310. µg/kg
trans-1,2-Dichloroethene	ND		155. µg/kg				
1,2-Dichloropropane	ND		155. µg/kg				
1,3-Dichloropropane	ND		155. µg/kg				
2,2-Dichloropropane	ND		310. µg/kg				

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	90	70 - 130
Dibromofluoromethane	100	70 - 130
Toluene-d8	101	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-BOPS-SB08-06DL
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-12
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/8/00
MATRIX:	Solid	ANALYZED:	6/8/00
DILUTION:	31	ANALYST:	SKV - Las Vegas Division

PARAMETER	Result µg/kg		Reporting Limit	PARAMETER	Result µg/kg		Reporting Limit
Acetone	ND		775. µg/kg	1,1-Dichloropropene	ND		155. µg/kg
Benzene	490		155. µg/kg	cis-1,3-Dichloropropene	ND		155. µg/kg
Bromobenzene	ND		155. µg/kg	trans-1,3-Dichloropropene	ND		155. µg/kg
Bromochloromethane	ND		155. µg/kg	Ethylbenzene	5400		155. µg/kg
Bromodichloromethane	ND		155. µg/kg	Hexachlorobutadiene	ND		155. µg/kg
Bromoform	ND		155. µg/kg	2-Hexanone	ND		775. µg/kg
Bromomethane	ND		155. µg/kg	Iodomethane	ND		155. µg/kg
2-Butanone	ND		775. µg/kg	Isopropylbenzene	4600		155. µg/kg
n-Butylbenzene	9400	E	155. µg/kg	p-Isopropyltoluene	2800		155. µg/kg
sec-Butylbenzene	5400		155. µg/kg	Methylene chloride (Dichloromethane)	ND		155. µg/kg
tert-Butylbenzene	780		155. µg/kg	4-Methyl-2-pentanone	ND		775. µg/kg
Carbon disulfide	ND		155. µg/kg	MTBE	ND		155. µg/kg
Carbon tetrachloride	ND		155. µg/kg	Naphthalene	1300		310. µg/kg
Chlorobenzene	ND		155. µg/kg	n-Propylbenzene	10000	E	155. µg/kg
Chloroethane	ND		155. µg/kg	Styrene	ND		155. µg/kg
Chloroform	ND		155. µg/kg	1,1,1,2-Tetrachloroethane	ND		155. µg/kg
Chloromethane	ND		155. µg/kg	1,1,2,2-Tetrachloroethane	ND		155. µg/kg
2-Chlorotoluene	ND		155. µg/kg	Tetrachloroethene (PCE)	ND		155. µg/kg
4-Chlorotoluene	ND		155. µg/kg	Toluene	ND		155. µg/kg
Dibromochloromethane	ND		155. µg/kg	1,2,3-Trichlorobenzene	ND		155. µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND		155. µg/kg	1,2,4-Trichlorobenzene	ND		155. µg/kg
1,2-Dibromoethane (EDB)	ND		155. µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND		155. µg/kg
Dibromomethane	ND		155. µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND		155. µg/kg
1,2-Dichlorobenzene (o-DCB)	ND		155. µg/kg	Trichloroethene (TCE)	ND		155. µg/kg
1,3-Dichlorobenzene (m-DCB)	ND		155. µg/kg	Trichlorofluoromethane (Freon 11)	ND		310. µg/kg
1,4-Dichlorobenzene (p-DCB)	ND		155. µg/kg	1,2,3-Trichloropropane	ND		155. µg/kg
Dichlorodifluoromethane (Freon 12)	ND		155. µg/kg	1,2,4-Trimethylbenzene	29000	E	155. µg/kg
1,1-Dichloroethane (1,1-DCA)	ND		155. µg/kg	1,3,5-Trimethylbenzene	ND		155. µg/kg
1,2-Dichloroethane (1,2-DCA)	ND		155. µg/kg	Vinyl chloride	ND		155. µg/kg
1,1-Dichloroethene (1,1-DCE)	ND		155. µg/kg	o-Xylene	ND		155. µg/kg
cis-1,2-Dichloroethene	ND		155. µg/kg	m,p-Xylene	ND		310. µg/kg
trans-1,2-Dichloroethene	ND		155. µg/kg				
1,2-Dichloropropane	ND		155. µg/kg				
1,3-Dichloropropane	ND		155. µg/kg				
2,2-Dichloropropane	ND		310. µg/kg				

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	89	70 - 130
Dibromofluoromethane	100	70 - 130
Toluene-d8	102	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	NA
PROJECT #:	NA	NEL SAMPLE ID:	000601SD60_2A-BLK
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	ANALYST:	JJM - Las Vegas Division
MATRIX:	Solid	EXTRACTED:	6/1/00
		ANALYZED:	6/1/00

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	ND	25 µg/kg	1,1-Dichloropropene	ND	5 µg/kg
Benzene	ND	5 µg/kg	cis-1,3-Dichloropropene	ND	5 µg/kg
Bromobenzene	ND	5 µg/kg	trans-1,3-Dichloropropene	ND	5 µg/kg
Bromochloromethane	ND	5 µg/kg	Ethylbenzene	ND	5 µg/kg
Bromodichloromethane	ND	5 µg/kg	Hexachlorobutadiene	ND	5 µg/kg
Bromoform	ND	5 µg/kg	2-Hexanone	ND	25 µg/kg
Bromomethane	ND	5 µg/kg	Iodomethane	ND	5 µg/kg
2-Butanone	ND	25 µg/kg	Isopropylbenzene	ND	5 µg/kg
n-Butylbenzene	ND	5 µg/kg	p-Isopropyltoluene	ND	5 µg/kg
sec-Butylbenzene	ND	5 µg/kg	Methylene chloride (Dichloromethane)	ND	5 µg/kg
tert-Butylbenzene	ND	5 µg/kg	4-Methyl-2-pentanone	ND	25 µg/kg
Carbon disulfide	ND	5 µg/kg	MTBE	ND	5 µg/kg
Carbon tetrachloride	ND	5 µg/kg	Naphthalene	ND	10 µg/kg
Chlorobenzene	ND	5 µg/kg	n-Propylbenzene	ND	5 µg/kg
Chloroethane	ND	5 µg/kg	Styrene	ND	5 µg/kg
Chloroform	ND	5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5 µg/kg
[illegible]methane	ND	5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5 µg/kg
2-[illegible]orotoluene	ND	5 µg/kg	Tetrachloroethene (PCE)	ND	5 µg/kg
4-Chlorotoluene	ND	5 µg/kg	Toluene	ND	5 µg/kg
Dibromochloromethane	ND	5 µg/kg	1,2,3-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 µg/kg	1,2,4-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromoethane (EDB)	ND	5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/kg
Dibromomethane	ND	5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/kg	Trichloroethene (TCE)	ND	5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	10 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/kg	1,2,3-Trichloropropane	ND	5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5 µg/kg	1,2,4-Trimethylbenzene	ND	5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/kg	1,3,5-Trimethylbenzene	ND	5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/kg	Vinyl chloride	ND	5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/kg	o-Xylene	ND	5 µg/kg
cis-1,2-Dichloroethene	ND	5 µg/kg	m,p-Xylene	ND	10 µg/kg
trans-1,2-Dichloroethene	ND	5 µg/kg			
1,2-Dichloropropane	ND	5 µg/kg			
1,3-Dichloropropane	ND	5 µg/kg			
2,2-Dichloropropane	ND	10 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	98	70 - 130
Dibromofluoromethane	92	70 - 130
Toluene-d8	99	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	NA
PROJECT #:	NA	NEL SAMPLE ID:	000604SD60_2A-BLK
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	ANALYST:	JJM - Las Vegas Division
MATRIX:	Solid	EXTRACTED:	6/4/00
		ANALYZED:	6/4/00

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	ND	25 µg/kg	1,1-Dichloropropene	ND	5 µg/kg
Benzene	ND	5 µg/kg	cis-1,3-Dichloropropene	ND	5 µg/kg
Bromobenzene	ND	5 µg/kg	trans-1,3-Dichloropropene	ND	5 µg/kg
Bromochloromethane	ND	5 µg/kg	Ethylbenzene	ND	5 µg/kg
Bromodichloromethane	ND	5 µg/kg	Hexachlorobutadiene	ND	5 µg/kg
Bromoform	ND	5 µg/kg	2-Hexanone	ND	25 µg/kg
Bromomethane	ND	5 µg/kg	Iodomethane	ND	5 µg/kg
2-Butanone	ND	25 µg/kg	Isopropylbenzene	ND	5 µg/kg
n-Butylbenzene	ND	5 µg/kg	p-Isopropyltoluene	ND	5 µg/kg
sec-Butylbenzene	ND	5 µg/kg	Methylene chloride (Dichloromethane)	ND	5 µg/kg
tert-Butylbenzene	ND	5 µg/kg	4-Methyl-2-pentanone	ND	25 µg/kg
Carbon disulfide	ND	5 µg/kg	MTBE	ND	5 µg/kg
Carbon tetrachloride	ND	5 µg/kg	Naphthalene	ND	10 µg/kg
Chlorobenzene	ND	5 µg/kg	n-Propylbenzene	ND	5 µg/kg
Chloroethane	ND	5 µg/kg	Styrene	ND	5 µg/kg
Chloroform	ND	5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5 µg/kg
[illegible]omethane	ND	5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5 µg/kg
2-[illegible]orotoluene	ND	5 µg/kg	Tetrachloroethene (PCE)	ND	5 µg/kg
4-Chlorotoluene	ND	5 µg/kg	Toluene	ND	5 µg/kg
Dibromochloromethane	ND	5 µg/kg	1,2,3-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 µg/kg	1,2,4-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromoethane (EDB)	ND	5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/kg
Dibromomethane	ND	5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/kg	Trichloroethene (TCE)	ND	5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	10 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/kg	1,2,3-Trichloropropane	ND	5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5 µg/kg	1,2,4-Trimethylbenzene	ND	5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/kg	1,3,5-Trimethylbenzene	ND	5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/kg	Vinyl chloride	ND	5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/kg	o-Xylene	ND	5 µg/kg
cis-1,2-Dichloroethene	ND	5 µg/kg	m,p-Xylene	ND	10 µg/kg
trans-1,2-Dichloroethene	ND	5 µg/kg			
1,2-Dichloropropane	ND	5 µg/kg			
1,3-Dichloropropane	ND	5 µg/kg			
2,2-Dichloropropane	ND	10 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	100	70 - 130
Dibromofluoromethane	104	70 - 130
Toluene-d8	92	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	NA
PROJECT #:	NA	NEL SAMPLE ID:	000608SD60_2B-BLK
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	ANALYST:	SKV - Las Vegas Division
MATRIX:	Solid	EXTRACTED:	6/8/00
		ANALYZED:	6/8/00

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	ND	25 µg/kg	1,1-Dichloropropene	ND	5 µg/kg
Benzene	ND	5 µg/kg	cis-1,3-Dichloropropene	ND	5 µg/kg
Bromobenzene	ND	5 µg/kg	trans-1,3-Dichloropropene	ND	5 µg/kg
Bromochloromethane	ND	5 µg/kg	Ethylbenzene	ND	5 µg/kg
Bromodichloromethane	ND	5 µg/kg	Hexachlorobutadiene	ND	5 µg/kg
Bromoform	ND	5 µg/kg	2-Hexanone	ND	25 µg/kg
Bromomethane	ND	5 µg/kg	Iodomethane	ND	5 µg/kg
2-Butanone	ND	25 µg/kg	Isopropylbenzene	ND	5 µg/kg
n-Butylbenzene	ND	5 µg/kg	p-Isopropyltoluene	ND	5 µg/kg
sec-Butylbenzene	ND	5 µg/kg	Methylene chloride (Dichloromethane)	ND	5 µg/kg
tert-Butylbenzene	ND	5 µg/kg	4-Methyl-2-pentanone	ND	25 µg/kg
Carbon disulfide	ND	5 µg/kg	MTBE	ND	5 µg/kg
Carbon tetrachloride	ND	5 µg/kg	Naphthalene	ND	10 µg/kg
Chlorobenzene	ND	5 µg/kg	n-Propylbenzene	ND	5 µg/kg
Chloroethane	ND	5 µg/kg	Styrene	ND	5 µg/kg
Chloroform	ND	5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5 µg/kg
Chloromethane	ND	5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5 µg/kg
2-Chlorotoluene	ND	5 µg/kg	Tetrachloroethene (PCE)	ND	5 µg/kg
4-Chlorotoluene	ND	5 µg/kg	Toluene	ND	5 µg/kg
Dibromochloromethane	ND	5 µg/kg	1,2,3-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 µg/kg	1,2,4-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromoethane (EDB)	ND	5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/kg
Dibromomethane	ND	5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/kg	Trichloroethene (TCE)	ND	5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	10 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/kg	1,2,3-Trichloropropane	ND	5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5 µg/kg	1,2,4-Trimethylbenzene	ND	5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/kg	1,3,5-Trimethylbenzene	ND	5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/kg	Vinyl chloride	ND	5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/kg	o-Xylene	ND	5 µg/kg
cis-1,2-Dichloroethene	ND	5 µg/kg	m,p-Xylene	ND	10 µg/kg
trans-1,2-Dichloroethene	ND	5 µg/kg			
1,2-Dichloropropane	ND	5 µg/kg			
1,3-Dichloropropane	ND	5 µg/kg			
2,2-Dichloropropane	ND	10 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	98	70 - 130
Dibromofluoromethane	103	70 - 130
Toluene-d8	100	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-SB03-08**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-01

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	24.6	0.	1	EPA 3550	%	6/5/00
Percent Solid	75.4	0.	1	EPA 3550	%	6/5/00

D. F. - Dilution Factor
ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-SB04-04**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-02
TEST:	**Inorganic Non-Metals**		
MATRIX:	Solid		

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	16.1	0.	1	EPA 3550	%	6/5/00
Percent Solid	83.9	0.	1	EPA 3550	%	6/5/00

D. F. Dilution Factor

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-SB05-04**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-03

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	19.6	0.	1	EPA 3550	%	6/5/00
Percent Solid	80.4	0.	1	EPA 3550	%	6/5/00

D. F. - Dilution Factor
ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-SB06-06**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-04

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	22.7	0.	1	EPA 3550	%	6/5/00
Percent Solid	77.3	0.	1	EPA 3550	%	6/5/00

D - Dilution Factor

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-SB07-06**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-05

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	19.6	0.	1	EPA 3550	%	6/5/00
Percent Solid	80.4	0.	1	EPA 3550	%	6/5/00

D. F. Dilution Factor

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-SB08-06**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-06

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	20	0.	1	EPA 3550	%	6/7/00
Percent Solid	80	0.	1	EPA 3550	%	6/7/00

D. F. Dilution Factor

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB01-06**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-07

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	23.9	0.	1	EPA 3550	%	6/5/00
Percent Solid	76.1	0.	1	EPA 3550	%	6/5/00

D. F. - Dilution Factor

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB02-06**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-08

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	19.1	0.	1	EPA 3550	%	6/5/00
Percent Solid	80.9	0.	1	EPA 3550	%	6/5/00

D. F. - Dilution Factor
ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB03-06**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-09

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	21.2	0.	1	EPA 3550	%	6/5/00
Percent Solid	78.8	0.	1	EPA 3550	%	6/5/00

L Dilution Factor

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-SB03-08**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-01

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.6	ANALYZED:	6/9/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1300. µg/Kg
Acenaphthylene	ND	1300. µg/Kg
Anthracene	ND	1300. µg/Kg
Benzo (a) anthracene	ND	1300. µg/Kg
Benzo (b&k) fluoranthene	ND	1300. µg/Kg
Benzo (g,h,i) perylene	ND	1300. µg/Kg
Benzo (a) pyrene	ND	1300. µg/Kg
Chrysene	ND	1300. µg/Kg
Dibenzo (a,h) anthracene	ND	1300. µg/Kg
Fluoranthene	ND	1300. µg/Kg
Fluorene	ND	1300. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1300. µg/Kg
Naphthalene	ND	1300. µg/Kg
Phenanthrene	ND	1300. µg/Kg
Pyrene	ND	1300. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	53	30 - 115
Nitrobenzene-d5	48	23 - 120
p-Terphenyl-d14	67	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-SB04-04**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-02

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.4	ANALYZED:	6/9/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1200. µg/Kg
Acenaphthylene	ND	1200. µg/Kg
Anthracene	ND	1200. µg/Kg
Benzo (a) anthracene	ND	1200. µg/Kg
Benzo (b&k) fluoranthene	ND	1200. µg/Kg
Benzo (g,h,i) perylene	ND	1200. µg/Kg
Benzo (a) pyrene	ND	1200. µg/Kg
Chrysene	ND	1200. µg/Kg
Dibenzo (a,h) anthracene	ND	1200. µg/Kg
Fluoranthene	ND	1200. µg/Kg
Fluorene	ND	1200. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1200. µg/Kg
Naphthalene	ND	1200. µg/Kg
Phenanthrene	ND	1200. µg/Kg
Pyrene	ND	1200. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
orobiphenyl	48	30 - 115
Nitrobenzene-d5	44	23 - 120
p-Terphenyl-d14	62	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-SB05-04**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-03

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.5	ANALYZED:	6/9/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1250. µg/Kg
Acenaphthylene	ND	1250. µg/Kg
Anthracene	ND	1250. µg/Kg
Benzo (a) anthracene	ND	1250. µg/Kg
Benzo (b&k) fluoranthene	ND	1250. µg/Kg
Benzo (g,h,i) perylene	ND	1250. µg/Kg
Benzo (a) pyrene	ND	1250. µg/Kg
Chrysene	ND	1250. µg/Kg
Dibenzo (a,h) anthracene	ND	1250. µg/Kg
Fluoranthene	ND	1250. µg/Kg
Fluorene	ND	1250. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1250. µg/Kg
Naphthalene	ND	1250. µg/Kg
Phenanthrene	ND	1250. µg/Kg
Pyrene	ND	1250. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	49	30 - 115
Nitrobenzene-d5	45	23 - 120
p-Terphenyl-d14	59	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-SB06-06**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-04

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.6	ANALYZED:	6/9/00

PARAMETER	Result		Reporting Limit
Acenaphthene	ND		1300. µg/Kg
Acenaphthylene	ND		1300. µg/Kg
Anthracene	ND		1300. µg/Kg
Benzo (a) anthracene	ND		1300. µg/Kg
Benzo (b&k) fluoranthene	ND		1300. µg/Kg
Benzo (g,h,i) perylene	ND		1300. µg/Kg
Benzo (a) pyrene	ND		1300. µg/Kg
Chrysene	ND		1300. µg/Kg
Dibenzo (a,h) anthracene	ND		1300. µg/Kg
Fluoranthene	ND		1300. µg/Kg
Fluorene	ND		1300. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND		1300. µg/Kg
Naphthalene	4200	µg/Kg	1300. µg/Kg
Phenanthrene	ND		1300. µg/Kg
Pyrene	ND		1300. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	61	30 - 115
Nitrobenzene-d5	75	23 - 120
p-Terphenyl-d14	68	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-SB07-06**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-05

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2	ANALYZED:	6/9/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1000. µg/Kg
Acenaphthylene	ND	1000. µg/Kg
Anthracene	ND	1000. µg/Kg
Benzo (a) anthracene	ND	1000. µg/Kg
Benzo (b&k) fluoranthene	ND	1000. µg/Kg
Benzo (g,h,i) perylene	ND	1000. µg/Kg
Benzo (a) pyrene	ND	1000. µg/Kg
Chrysene	ND	1000. µg/Kg
Dibenzo (a,h) anthracene	ND	1000. µg/Kg
Fluoranthene	ND	1000. µg/Kg
Fluorene	ND	1000. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1000. µg/Kg
Naphthalene	ND	1000. µg/Kg
Phenanthrene	ND	1000. µg/Kg
Pyrene	ND	1000. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	43	30 - 115
Nitrobenzene-d5	59	23 - 120
p-Terphenyl-d14	49	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-SB08-06**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-06

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.5	ANALYZED:	6/9/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1250. µg/Kg
Acenaphthylene	ND	1250. µg/Kg
Anthracene	ND	1250. µg/Kg
Benzo (a) anthracene	ND	1250. µg/Kg
Benzo (b&k) fluoranthene	ND	1250. µg/Kg
Benzo (g,h,i) perylene	ND	1250. µg/Kg
Benzo (a) pyrene	ND	1250. µg/Kg
Chrysene	ND	1250. µg/Kg
Dibenzo (a,h) anthracene	ND	1250. µg/Kg
Fluoranthene	ND	1250. µg/Kg
Fluorene	ND	1250. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1250. µg/Kg
Naphthalene	ND	1250. µg/Kg
Phenanthrene	ND	1250. µg/Kg
Pyrene	ND	1250. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	48	30 - 115
Nitrobenzene-d5	70	23 - 120
p-Terphenyl-d14	60	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB01-06**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-07

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.6	ANALYZED:	6/12/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1300. µg/Kg
Acenaphthylene	ND	1300. µg/Kg
Anthracene	ND	1300. µg/Kg
Benzo (a) anthracene	ND	1300. µg/Kg
Benzo (b&k) fluoranthene	ND	1300. µg/Kg
Benzo (g,h,i) perylene	ND	1300. µg/Kg
Benzo (a) pyrene	ND	1300. µg/Kg
Chrysene	ND	1300. µg/Kg
Dibenzo (a,h) anthracene	ND	1300. µg/Kg
Fluoranthene	ND	1300. µg/Kg
Fluorene	ND	1300. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1300. µg/Kg
Naphthalene	ND	1300. µg/Kg
Phenanthrene	ND	1300. µg/Kg
Pyrene	ND	1300. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	45	30 - 115
Nitrobenzene-d5	44	23 - 120
p-Terphenyl-d14	55	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB02-06**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-08

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.5	ANALYZED:	6/12/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1250. µg/Kg
Acenaphthylene	ND	1250. µg/Kg
Anthracene	ND	1250. µg/Kg
Benzo (a) anthracene	ND	1250. µg/Kg
Benzo (b&k) fluoranthene	ND	1250. µg/Kg
Benzo (g,h,i) perylene	ND	1250. µg/Kg
Benzo (a) pyrene	ND	1250. µg/Kg
Chrysene	ND	1250. µg/Kg
Dibenzo (a,h) anthracene	ND	1250. µg/Kg
Fluoranthene	ND	1250. µg/Kg
Fluorene	ND	1250. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1250. µg/Kg
Naphthalene	ND	1250. µg/Kg
Phenanthrene	ND	1250. µg/Kg
Pyrene	ND	1250. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
orobiphenyl	49	30 - 115
Nitrobenzene-d5	45	23 - 120
p-Terphenyl-d14	60	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB03-06**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/23/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005241-09

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.5	ANALYZED:	6/12/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1250. µg/Kg
Acenaphthylene	ND	1250. µg/Kg
Anthracene	ND	1250. µg/Kg
Benzo (a) anthracene	ND	1250. µg/Kg
Benzo (b&k) fluoranthene	ND	1250. µg/Kg
Benzo (g,h,i) perylene	ND	1250. µg/Kg
Benzo (a) pyrene	ND	1250. µg/Kg
Chrysene	ND	1250. µg/Kg
Dibenzo (a,h) anthracene	ND	1250. µg/Kg
Fluoranthene	ND	1250. µg/Kg
Fluorene	ND	1250. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1250. µg/Kg
Naphthalene	ND	1250. µg/Kg
Phenanthrene	ND	1250. µg/Kg
Pyrene	ND	1250. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	47	30 - 115
Nitrobenzene-d5	45	23 - 120
p-Terphenyl-d14	56	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	NA
PROJECT #:	NA	NEL SAMPLE ID:	060200-E1-BLK

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
		ANALYZED:	6/9/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	500. µg/Kg
Acenaphthylene	ND	500. µg/Kg
Anthracene	ND	500. µg/Kg
Benzo (a) anthracene	ND	500. µg/Kg
Benzo (b&k) fluoranthene	ND	500. µg/Kg
Benzo (g,h,i) perylene	ND	500. µg/Kg
Benzo (a) pyrene	ND	500. µg/Kg
Chrysene	ND	500. µg/Kg
Dibenzo (a,h) anthracene	ND	500. µg/Kg
Fluoranthene	ND	500. µg/Kg
Fluorene	ND	500. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	500. µg/Kg
Naphthalene	ND	500. µg/Kg
Phenanthrene	ND	500. µg/Kg
Pyrene	ND	500. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	79	30 - 115
Nitrobenzene-d5	72	23 - 120
p-Terphenyl-d14	75	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT: US Army Corps Of Engineers
PROJECT ID: Langley AFB, VA
PROJECT #: NA
TEST: **Volatile Organic Compounds by EPA 8260B, December 1996**
MATRIX: Solid

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery	Acceptable Range	RPD
Benzene	000601SD60_2A-LCS	20	17.32	87	70 - 130	
Benzene	L0005241-08-MS	50	44.27	89	70 - 130	
Chlorobenzene	000601SD60_2A-LCS	20	20.48	102	70 - 130	
Chlorobenzene	L0005241-08-MS	50	44.59	89	70 - 130	
1,1-Dichloroethene (1,1-DCE)	000601SD60_2A-LCS	20	19.39	97	70 - 130	
1,1-Dichloroethene (1,1-DCE)	L0005241-08-MS	50	41.78	84	70 - 130	
Toluene	000601SD60_2A-LCS	20	22.92	115	70 - 130	
Toluene	L0005241-08-MS	50	44.82	90	70 - 130	
Trichloroethene (TCE)	000601SD60_2A-LCS	20	19.76	99	70 - 130	
Trichloroethene (TCE)	L0005241-08-MS	50	43.42	87	70 - 130	

ND - Not Detected

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NEL LABORATORIES

CLIENT: US Army Corps Of Engineers
PROJECT ID: Langley AFB, VA
PROJECT #: NA
TEST: **Volatile Organic Compounds by EPA 8260B, December 1996**
MATRIX: Solid

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery		Acceptable Range	RPD
Benzene	000604SD60_2A-LCS	20	20.42	102		70 - 130	
Benzene	L0005242-02-MS	20	169	845	C	70 - 130	
Chlorobenzene	000604SD60_2A-LCS	20	20.05	100		70 - 130	
Chlorobenzene	L0005242-02-MS	20	25	125	Jl	70 - 130	
1,1-Dichloroethene (1,1-DCE)	000604SD60_2A-LCS	20	20.04	100		70 - 130	
1,1-Dichloroethene (1,1-DCE)	L0005242-02-MS	20	24	120		70 - 130	
Toluene	000604SD60_2A-LCS	20	21.19	106		70 - 130	
Toluene	L0005242-02-MS	20	42	210	Jl	70 - 130	
Trichloroethene (TCE)	000604SD60_2A-LCS	20	19.62	98		70 - 130	
Trichloroethene (TCE)	L0005242-02-MS	20	25	125		70 - 130	

ND - Not Detected

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NEL LABORATORIES

CLIENT: US Army Corps Of Engineers
PROJECT ID: Langley AFB, VA
PROJECT #: NA
TEST: **Volatile Organic Compounds by EPA 8260B, December 1996**
MATRIX: Solid

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery	Acceptable Range	RPD
Benzene	000608SD60_2B-LCS	20	19.96	100	70 - 130	
Benzene	L0005241-10-MS	20	19.21	96	70 - 130	
Benzene	L0005241-10-MSD	20	19.12	96	70 - 130	0.
Chlorobenzene	000608SD60_2B-LCS	20	19.6	98	70 - 130	
Chlorobenzene	L0005241-10-MS	20	19.03	95	70 - 130	
Chlorobenzene	L0005241-10-MSD	20	18.97	95	70 - 130	0.
1,1-Dichloroethene (1,1-DCE)	000608SD60_2B-LCS	20	19.39	97	70 - 130	
1,1-Dichloroethene (1,1-DCE)	L0005241-10-MS	20	19.97	100	70 - 130	
1,1-Dichloroethene (1,1-DCE)	L0005241-10-MSD	20	19.62	98	70 - 130	0.
Toluene	000608SD60_2B-LCS	20	22.29	111	70 - 130	
Toluene	L0005241-10-MS	20	20.28	101	70 - 130	
Toluene	L0005241-10-MSD	20	20.34	102	70 - 130	0.
Trichloroethene (TCE)	000608SD60_2B-LCS	20	19.24	96	70 - 130	
Trichloroethene (TCE)	L0005241-10-MS	20	18.87	94	70 - 130	
Trichloroethene (TCE)	L0005241-10-MSD	20	18.97	95	70 - 130	0.

ND - Not Detected

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NEL LABORATORIES

CLIENT: US Army Corps Of Engineers
PROJECT ID: Langley AFB, VA
PROJECT #: NA
TEST: **Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**
MATRIX: Solid

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery		Acceptable Range	RPD
Naphthalene	060200-E1-LCS	80	55.2	69		21 - 133	
Naphthalene	060200-E1-LCSD	80	52.3	65		21 - 133	5.4
Naphthalene	L0005242-03-MS	80	42.2	53		21 - 133	
Acenaphthene	060200-E1-LCS	80	59.6	75		47 - 148	
Acenaphthene	060200-E1-LCSD	80	56.5	71		47 - 148	5.3
Acenaphthene	L0005242-03-MS	80	48.7	61		47 - 148	
Acenaphthylene	060200-E1-LCS	80	56.8	71		33 - 145	
Acenaphthylene	060200-E1-LCSD	80	54.2	68		33 - 145	4.7
Acenaphthylene	L0005242-03-MS	80	45.5	57		33 - 145	
Fluorene	060200-E1-LCS	80	58.3	73		59 - 121	
Fluorene	060200-E1-LCSD	80	55.6	70		59 - 121	4.7
Fluorene	L0005242-03-MS	80	46.3	58	J1	59 - 121	
Phenanthrene	060200-E1-LCS	80	62.2	78		54 - 120	
Phenanthrene	060200-E1-LCSD	80	58.4	73		54 - 120	6.3
Phenanthrene	L0005242-03-MS	80	51.6	65		54 - 120	
Anthracene	060200-E1-LCS	80	60.5	76		27 - 133	
Anthracene	060200-E1-LCSD	80	58.3	73		27 - 133	3.7
Anthracene	L0005242-03-MS	80	50.8	64		27 - 133	
Fluoranthene	060200-E1-LCS	80	63.3	79		26 - 137	
Fluoranthene	060200-E1-LCSD	80	60.4	76		26 - 137	4.7
Fluoranthene	L0005242-03-MS	80	50	63		26 - 137	
Pyrene	060200-E1-LCS	80	63.1	79		52 - 115	
Pyrene	060200-E1-LCSD	80	60.2	75		52 - 115	4.7
Pyrene	L0005242-03-MS	80	49.8	62		52 - 115	
Benzo (a) anthracene	060200-E1-LCS	80	61.4	77		33 - 143	
Benzo (a) anthracene	060200-E1-LCSD	80	57.6	72		33 - 143	6.4
Benzo (a) anthracene	L0005242-03-MS	80	50.4	63		33 - 143	
Chrysene	060200-E1-LCS	80	60.2	75		17 - 168	
Chrysene	060200-E1-LCSD	80	57.3	72		17 - 168	4.9
Chrysene	L0005242-03-MS	80	50.1	63		17 - 168	
Benzo (b&k) fluoranthene	060200-E1-LCS	160	128	80		24 - 159	
Benzo (b&k) fluoranthene	060200-E1-LCSD	160	117	73		24 - 159	9.
Benzo (b&k) fluoranthene	L0005242-03-MS	160	111	69		24 - 159	
Benzo (a) pyrene	060200-E1-LCS	80	64.1	80		17 - 163	
Benzo (a) pyrene	060200-E1-LCSD	80	60.5	76		17 - 163	5.8
Benzo (a) pyrene	L0005242-03-MS	80	54.6	68		17 - 163	
Indeno (1,2,3-c,d) pyrene	060200-E1-LCS	80	60.8	76		13 - 171	
Indeno (1,2,3-c,d) pyrene	060200-E1-LCSD	80	58.8	74		13 - 171	3.3

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NEL LABORATORIES

CLIENT: US Army Corps Of Engineers
PROJECT ID: Langley AFB, VA
PROJECT #: NA
TEST: **Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**
MATRIX: Solid

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery	Acceptable Range	RPD
Indeno (1,2,3-c,d) pyrene	L0005242-03-MS	80	48.1	60	13 - 171	
Dibenzo (a,h) anthracene	060200-E1-LCS	80	60.3	75	13 - 227	
Dibenzo (a,h) anthracene	060200-E1-LCSD	80	58	73	13 - 227	3.9
Dibenzo (a,h) anthracene	L0005242-03-MS	80	47.8	60	13 - 227	
Benzo (g,h,i) perylene	060200-E1-LCS	80	56.7	71	13 - 219	
Benzo (g,h,i) perylene	060200-E1-LCSD	80	55.4	69	13 - 219	2.3
Benzo (g,h,i) perylene	L0005242-03-MS	80	43.6	55	13 - 219	

ND - Not Detected

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CHAIN OF CUSTODY

NEL Work Order: L00052 1 of 3

Project Name: Langley AFB, VA
Project Number:
Purchase Order Number:
Sampled By: R. Grabowski

Company: U.S. Army Corps of Engineers
Attention: Rich Grabowski
Address: 215 N. 17th St. Omaha NE 68102
Phone Number: (402) 221-7784
Fax Number: (402) 221-7769
Billing Address: Same as above
Expected Due Date: 6/1

Requested Turnaround: X 5-day ___ 2-day ___ 1-day ___ Other

Analysis: VOCs (8260B), PAHs (8270C)

Time/Date Sampled	Customer Sample Identification	N.E.L. Identification	# of Containers	Matrix (Box #1)	Preservative (Box #2)	VOCs (8260B)	PAHs (8270C)	Remarks
0815 5/23/00	LAFB-BOPS-SB03-08	-01	2	SD	E	X		
0815 5/23/00	LAFB-BOPS-SB03-08	-01 ~~-02~~	1	SD	E		X	
0815 5/23/00	LAFB-BOPS-SB03-08	-01	1	SD	E	X		
0919 5/23/00	LAFB-BOPS-SB04-04	-02	2	SD	E	X		
0919 5/23/00	LAFB-BOPS-SB04-04	↓	1	SD	E		X	
0919 5/23/00	LAFB-BOPS-SB04-04	↓	1	SD	E	X		
1028 5/23/00	LAFB-BOPS-SB05-04	-03	2	SD	E	X		
1028 5/23/00	LAFB-BOPS-SB05-04	↓	1	SD	E		X	
1028 5/23/00	LAFB-BOPS-SB05-04	↓	1	SD	E	X		
1125 5/23/00	LAFB-BOPS-SB06-06	-04	2	SD	E	X		

Custody Seal intact? Y N None Temp. 8°C
Condition when received good

Box #1: DW - Drinking Water; WW - Waste Water; OL - Oil/Organic Liquid; SD - Solid; AQ - Aqueous; A - Air

Box #2: A. HCl; B. HNO_3; C. H_2SO_4; D. NaOH; E. Ice Only; F. Other_____; G. Not Preserved

Relinquished by (Print)	(Signature)	Date/Time	Received by (Print)	(Signature)	Date/Time
1 RICHARD GRABOWSKI	[signature]	5/23/00 1900	STAN VAN WAGENEN	[signature]	5/24/00 10:00
2					
3					

The liability of NEL Laboratories Inc. is limited strictly to the price of sample analysis for those samples received in good condition by NEL. NEL is not responsible for loss, damage, resampling costs and/or qualified data related to samples not received in good condition, including adequate sample volume and number of containers. Customer signature of this CoC constitutes a purchase order for NEL to perform work and constitutes acceptance of all NEL Standard Terms and Conditions. Signature also constitutes acceptance of NEL Standard List Prices for all services ordered here on, except those specified otherwise via an NEL Quotation for Testing Services in effect at the time of sample receipt. NEL turnaround times are measured in regular working days. Samples received at the laboratory after 16:30 will be considered received on the next working day. Commitment of laboratory to the requested turnaround time will be confirmed via Sample Confirmation transmitted to the fax number provided above.

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CHAIN OF CUSTODY

NEL Work Order: L00052'' 2 OF 3

Project Name: Langley AFB, VA
Project Number:
Purchase Order Number:
Sampled By: R. Grabowski

Company: U.S. Army Corps of Engineers
Attention: Rick Grabowski
Address: 215 N. 17th St. Omaha NE 68102
Phone Number: (402) 221-7774
Fax Number: (402) 221-7769
Billing Address: Same as above
Expected Due Date: 6/1

Requested Turnaround: X 5-day ____ 2-day ____ 1-day ____ Other

Time/Date Sampled	Customer Sample Identification	N.E.L. Identification	# of Containers	Matrix (Box #1)	Preservative (Box #2)	VOCs (8260B)	PAHs (8270C)	Remarks
1125 5/23/00	LAFB-BOB-SB06-06	-04	1	SD	E		X	
1125 5/23/00	LAFB-BOB-SB06-06	↓	1	SD	E	X		
1245 5/23/00	LAFB-BOPS-SB07-06	-05	2	SD	E	X		
1245 5/23/00	LAFB-BOPS-SB07-06	↓	1	SD	E		X	
1245 5/23/00	LAFB-BOPS-SB07-06	↓	1	SD	E	X		
1245 5/23/00	LAFB-BOPS-SB08-06	-06	2	SD	E	X		
1245 5/23/00	LAFB-BOPS-SB08-06	↓	1	SD	E		X	
1520 5/23/00	LAFB-LOCR-SB01-06	-07	2	SD	E	X		
1520 5/23/00	LAFB-LOCR-SB01-06	↓	1	SD	E		X	
1520 5/23/00	LAFB-LOCR-SB01-06	↓	1	SD	E	X		

Custody Seal intact? (Y) N None Temp. 6°C
Condition when received (good)

Box #1		
	DW - Drinking Water	SD - Solid
	WW - Waste Water	AQ - Aqueous
	OL - Oil/Organic Liquid	A - Air

Box #2		
	A. HCl	E. Ice Only
	B. HNO_3	F. Other_____
	C. H_2SO_4	G. Not Preserved
	D. NaOH	

Relinquished by (Print)	(Signature)	Date/Time	Received by (Print)	(Signature)	Date/Time
1 RICHARD GRABOWSKI	[signature]	5/23/00 1900	STAN VAN WAGENEN	[signature]	5/24/00 1000
2					
3					

The liability of NEL Laboratories Inc. is limited strictly to the price of sample analysis for those samples received in good condition by NEL. NEL is not responsible for loss, damage, resampling costs and/or qualified data related to samples not received in good condition, including adequate sample volume and number of containers. Customer signature of this CoC constitutes a purchase order for NEL to perform work and constitutes acceptance of all NEL Standard Terms and Conditions. Signature also constitutes acceptance of NEL Standard List Prices for all services ordered here on, except those specified otherwise via an NEL Quotation for Testing Services in effect at the time of sample receipt. NEL turnaround times are measured in regular working days. Samples received at the laboratory after 16:30 will be considered received on the next working day. Commitment of laboratory to the requested turnaround time will be confirmed via Sample Confirmation transmitted to the fax number provided above.

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CHAIN OF CUSTODY

NEL Work Order: L00052 -1
3 of 3

Project Name: Langley AFB, VA
Project Number:
Purchase Order Number:
Sampled By: R. Grabowski

Company: U.S. Army Corps of Engineers
Attention: Rick Grabowski
Address: 215 N. 17th St. Omaha NE 68102
Phone Number: (402) 221-7784
Fax Number: (402) 221-7769
Billing Address: Same as above
Expected Due Date: 6/1

Requested Turnaround: X 5-day ___ 2-day ___ 1-day ___ Other

Time/Date Sampled	Customer Sample Identification	N.E.L. Identification	# of Containers	Matrix (Box #1)	Preservative (Box #2)	VOCs (8260B)	PAHs (8270C)	Remarks
1555 5/23/00	LAFB-LOCR-SB02-06	-08	2	SD	E	X		
1555 5/23/00	LAFB-LOCR-SB02-06	↓	1	SD	E		X	
1555 5/23/00	LAFB-LOCR-SB02-06	↓	1	SD	E	X		
1628 5/23/00	LAFB-LOCR-SB03-06	-09	2	SD	E	X		
1628 5/23/00	LAFB-LOCR-SB03-06	↓	1	SD	E		X	
1628 5/23/00	LAFB-LOCR-SB03-06	↓	1	SD	E	X		

Custody Seal intact? (Y) N None Temp. 6°C
Condition when received (good)

Box #1: DW - Drinking Water; WW - Waste Water; OL - Oil/Organic Liquid; SD - Solid; AQ - Aqueous; A - Air

Box #2: A. HCl; B. HNO_3; C. H_2SO_4; D. NaOH; E. Ice Only; F. Other ___; G. Not Preserved

Relinquished by (Print)	(Signature)	Date/Time	Received by (Print)	(Signature)	Date/Time
RICHARD GRABOWSKI	[signature]	5/23/00 1900	STAN VAN WAGENEN	[signature]	5/24/00 1000
2					
3					

The liability of NEL Laboratories Inc. is limited strictly to the price of sample analysis for those samples received in good condition by NEL. NEL is not responsible for loss, damage, resampling costs and/or qualified data related to samples not received in good condition, including adequate sample volume and number of containers. Customer signature of this CoC constitutes a purchase order for NEL to perform work and constitutes acceptance of all NEL Standard Terms and Conditions. Signature also constitutes acceptance of NEL Standard List Prices for all services ordered here on, except those specified otherwise via an NEL Quotation for Testing Services in effect at the time of sample receipt. NEL turnaround times are measured in regular working days. Samples received at the laboratory after 16:30 will be considered received on the next working day. Commitment of laboratory to the requested turnaround time will be confirmed via Sample Confirmation transmitted to the fax number provided above.

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1-888-368-3282

CLIENT: US Army Corps Of Engineers
215 N. 17th Street
Omaha, NE 68102
ATTN: Rick Grabowski

PROJECT NAME: Laugley AFB, VA
PROJECT NUMBER: NA

NEL ORDER ID: L0005242

Attached are the analytical results for samples in support of the above referenced project.

Samples submitted for this project were not sampled by NEL Laboratories. Samples were received by NEL in good condition, under chain of custody on 5/25/00.

Should you have any questions or comments, please feel free to contact our Client Services department at (702) 657-1010.

EPA 8260: Dilution of -SB02-04 by high level soil extraction did not correlate with undiluted run (results are below RL). Ethylbenzene, isopropylbenzene, and n-propylbenzene are reported undiluted with an E flag.

Some results have been flagged as follows:

E - Concentration exceeded calibration range.

Je - This concentration is below reporting limit, but above method detection limit. It should be considered an approximate value.

Jl - The batch MS and/or MSD were outside acceptance limits. The batch LCS was acceptable.

Some QA results have been flagged as follows:

C - Sample concentration is a least 5 times greater than spike contribution. Spike recovery criteria do not apply.

Jl - The batch MS and/or MSD were outside acceptance limits. The batch LCS was acceptable.

Some surrogate results have been flagged as follows:

Sf - This surrogate was outside acceptance limits.

Stan Van Wagenen
Laboratory Manager

6/16/00
Date

CERTIFICATIONS:

	Reno	Las Vegas	S. California
Arizona	AZ0520	AZ0518	AZ0605
California	1707	2002	2264
US Army Corps of Engineers	Certified	Certified	

	Reno	Las Vegas	S. California
Idaho	Certified	Certified	
Montana	Certified	Certified	
Nevada	NV033	NV052	CA084
L.A.C.S.D.			10228

NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-LOCR-SB04-04
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-01
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/4/00
MATRIX:	Solid	ANALYZED:	6/4/00
DILUTION:	0.96	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	42	24. µg/kg	1,1-Dichloropropene	ND	4.8 µg/kg
Benzene	ND	4.8 µg/kg	cis-1,3-Dichloropropene	ND	4.8 µg/kg
Bromobenzene	ND	4.8 µg/kg	trans-1,3-Dichloropropene	ND	4.8 µg/kg
Bromochloromethane	ND	4.8 µg/kg	Ethylbenzene	ND	4.8 µg/kg
Bromodichloromethane	ND	4.8 µg/kg	Hexachlorobutadiene	ND	4.8 µg/kg
Bromoform	ND	4.8 µg/kg	2-Hexanone	ND	24. µg/kg
Bromomethane	ND	4.8 µg/kg	Iodomethane	ND	4.8 µg/kg
2-Butanone	ND	24. µg/kg	Isopropylbenzene	ND	4.8 µg/kg
n-Butylbenzene	ND	4.8 µg/kg	p-Isopropyltoluene	ND	4.8 µg/kg
sec-Butylbenzene	ND	4.8 µg/kg	Methylene chloride (Dichloromethane)	ND	4.8 µg/kg
tert-Butylbenzene	ND	4.8 µg/kg	4-Methyl-2-pentanone	ND	24. µg/kg
Carbon disulfide	ND	4.8 µg/kg	MTBE	ND	4.8 µg/kg
Carbon tetrachloride	ND	4.8 µg/kg	Naphthalene	ND	9.6 µg/kg
Chlorobenzene	ND	4.8 µg/kg	n-Propylbenzene	ND	4.8 µg/kg
Chloroethane	ND	4.8 µg/kg	Styrene	ND	4.8 µg/kg
Chloroform	ND	4.8 µg/kg	1,1,1,2-Tetrachloroethane	ND	4.8 µg/kg
Chloromethane	ND	4.8 µg/kg	1,1,2,2-Tetrachloroethane	ND	4.8 µg/kg
2-Chlorotoluene	ND	4.8 µg/kg	Tetrachloroethene (PCE)	ND	4.8 µg/kg
4-Chlorotoluene	ND	4.8 µg/kg	Toluene	ND	4.8 µg/kg
Dibromochloromethane	ND	4.8 µg/kg	1,2,3-Trichlorobenzene	ND	4.8 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	4.8 µg/kg	1,2,4-Trichlorobenzene	ND	4.8 µg/kg
1,2-Dibromoethane (EDB)	ND	4.8 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	4.8 µg/kg
Dibromomethane	ND	4.8 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	4.8 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	4.8 µg/kg	Trichloroethene (TCE)	ND	4.8 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	4.8 µg/kg	Trichlorofluoromethane (Freon 11)	ND	9.6 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	4.8 µg/kg	1,2,3-Trichloropropane	ND	4.8 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	4.8 µg/kg	1,2,4-Trimethylbenzene	ND	4.8 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	4.8 µg/kg	1,3,5-Trimethylbenzene	ND	4.8 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	4.8 µg/kg	Vinyl chloride	ND	4.8 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	4.8 µg/kg	o-Xylene	ND	4.8 µg/kg
cis-1,2-Dichloroethene	ND	4.8 µg/kg	m,p-Xylene	ND	9.6 µg/kg
trans-1,2-Dichloroethene	ND	4.8 µg/kg			
1,2-Dichloropropane	ND	4.8 µg/kg			
1,3-Dichloropropane	ND	4.8 µg/kg			
2,2-Dichloropropane	ND	9.6 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	104	70 - 130
Dibromofluoromethane	106	70 - 130
Toluene-d8	101	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-LOCR-SB05-04
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-02
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/4/00
MATRIX:	Solid	ANALYZED:	6/4/00
DILUTION:	1.04	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	48	26. µg/kg	1,1-Dichloropropene	ND	5.2 µg/kg
Benzene	ND	5.2 µg/kg	cis-1,3-Dichloropropene	ND	5.2 µg/kg
Bromobenzene	ND	5.2 µg/kg	trans-1,3-Dichloropropene	ND	5.2 µg/kg
Bromochloromethane	ND	5.2 µg/kg	Ethylbenzene	ND	5.2 µg/kg
Bromodichloromethane	ND	5.2 µg/kg	Hexachlorobutadiene	ND	5.2 µg/kg
Bromoform	ND	5.2 µg/kg	2-Hexanone	ND	26. µg/kg
Bromomethane	ND	5.2 µg/kg	Iodomethane	ND	5.2 µg/kg
2-Butanone	ND	26. µg/kg	Isopropylbenzene	ND	5.2 µg/kg
n-Butylbenzene	ND	5.2 µg/kg	p-Isopropyltoluene	ND	5.2 µg/kg
sec-Butylbenzene	ND	5.2 µg/kg	Methylene chloride (Dichloromethane)	ND	5.2 µg/kg
tert-Butylbenzene	ND	5.2 µg/kg	4-Methyl-2-pentanone	ND	26. µg/kg
Carbon disulfide	ND	5.2 µg/kg	MTBE	ND	5.2 µg/kg
Carbon tetrachloride	ND	5.2 µg/kg	Naphthalene	ND	10.4 µg/kg
Chlorobenzene	ND	5.2 µg/kg	n-Propylbenzene	ND	5.2 µg/kg
Chloroethane	ND	5.2 µg/kg	Styrene	ND	5.2 µg/kg
Chloroform	ND	5.2 µg/kg	1,1,1,2-Tetrachloroethane	ND	5.2 µg/kg
Chloromethane	ND	5.2 µg/kg	1,1,2,2-Tetrachloroethane	ND	5.2 µg/kg
2-Chlorotoluene	ND	5.2 µg/kg	Tetrachloroethene (PCE)	ND	5.2 µg/kg
4-Chlorotoluene	ND	5.2 µg/kg	Toluene	ND	5.2 µg/kg
Dibromochloromethane	ND	5.2 µg/kg	1,2,3-Trichlorobenzene	ND	5.2 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.2 µg/kg	1,2,4-Trichlorobenzene	ND	5.2 µg/kg
1,2-Dibromoethane (EDB)	ND	5.2 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5.2 µg/kg
Dibromomethane	ND	5.2 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5.2 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5.2 µg/kg	Trichloroethene (TCE)	ND	5.2 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5.2 µg/kg	Trichlorofluoromethane (Freon 11)	ND	10.4 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5.2 µg/kg	1,2,3-Trichloropropane	ND	5.2 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5.2 µg/kg	1,2,4-Trimethylbenzene	ND	5.2 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5.2 µg/kg	1,3,5-Trimethylbenzene	ND	5.2 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5.2 µg/kg	Vinyl chloride	ND	5.2 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5.2 µg/kg	o-Xylene	ND	5.2 µg/kg
cis-1,2-Dichloroethene	ND	5.2 µg/kg	m,p-Xylene	ND	10.4 µg/kg
trans-1,2-Dichloroethene	ND	5.2 µg/kg			
1,2-Dichloropropane	ND	5.2 µg/kg			
1,3-Dichloropropane	ND	5.2 µg/kg			
2,2-Dichloropropane	ND	10.4 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	96	70 - 130
Dibromofluoromethane	107	70 - 130
Toluene-d8	100	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-LOCR-SB06-04
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-03
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/4/00
MATRIX:	Solid	ANALYZED:	6/4/00
DILUTION:	0.94	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg		Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	310	E	23.5 µg/kg	1,1-Dichloropropene	ND	4.7 µg/kg
Benzene	ND		4.7 µg/kg	cis-1,3-Dichloropropene	ND	4.7 µg/kg
Bromobenzene	ND		4.7 µg/kg	trans-1,3-Dichloropropene	ND	4.7 µg/kg
Bromochloromethane	ND		4.7 µg/kg	Ethylbenzene	ND	4.7 µg/kg
Bromodichloromethane	ND		4.7 µg/kg	Hexachlorobutadiene	ND	4.7 µg/kg
Bromoform	ND		4.7 µg/kg	2-Hexanone	ND	23.5 µg/kg
Bromomethane	ND		4.7 µg/kg	Iodomethane	ND	4.7 µg/kg
2-Butanone	ND		23.5 µg/kg	Isopropylbenzene	ND	4.7 µg/kg
n-Butylbenzene	ND		4.7 µg/kg	p-Isopropyltoluene	ND	4.7 µg/kg
sec-Butylbenzene	ND		4.7 µg/kg	Methylene chloride (Dichloromethane)	ND	4.7 µg/kg
tert-Butylbenzene	ND		4.7 µg/kg	4-Methyl-2-pentanone	40	23.5 µg/kg
Carbon disulfide	ND		4.7 µg/kg	MTBE	ND	4.7 µg/kg
Carbon tetrachloride	ND		4.7 µg/kg	Naphthalene	ND	9.4 µg/kg
Chlorobenzene	ND		4.7 µg/kg	n-Propylbenzene	ND	4.7 µg/kg
Chloroethane	ND		4.7 µg/kg	Styrene	ND	4.7 µg/kg
Chloroform	ND		4.7 µg/kg	1,1,1,2-Tetrachloroethane	ND	4.7 µg/kg
Chloromethane	ND		4.7 µg/kg	1,1,2,2-Tetrachloroethane	ND	4.7 µg/kg
2-Chlorotoluene	ND		4.7 µg/kg	Tetrachloroethene (PCE)	ND	4.7 µg/kg
4-Chlorotoluene	ND		4.7 µg/kg	Toluene	10	4.7 µg/kg
Dibromochloromethane	ND		4.7 µg/kg	1,2,3-Trichlorobenzene	ND	4.7 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND		4.7 µg/kg	1,2,4-Trichlorobenzene	ND	4.7 µg/kg
1,2-Dibromoethane (EDB)	ND		4.7 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	4.7 µg/kg
Dibromomethane	ND		4.7 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	4.7 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND		4.7 µg/kg	Trichloroethene (TCE)	ND	4.7 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND		4.7 µg/kg	Trichlorofluoromethane (Freon 11)	ND	9.4 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND		4.7 µg/kg	1,2,3-Trichloropropane	ND	4.7 µg/kg
Dichlorodifluoromethane (Freon 12)	ND		4.7 µg/kg	1,2,4-Trimethylbenzene	8.1	4.7 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND		4.7 µg/kg	1,3,5-Trimethylbenzene	ND	4.7 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND		4.7 µg/kg	Vinyl chloride	ND	4.7 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND		4.7 µg/kg	o-Xylene	ND	4.7 µg/kg
cis-1,2-Dichloroethene	ND		4.7 µg/kg	m,p-Xylene	10	9.4 µg/kg
trans-1,2-Dichloroethene	ND		4.7 µg/kg			
1,2-Dichloropropane	ND		4.7 µg/kg			
1,3-Dichloropropane	ND		4.7 µg/kg			
2,2-Dichloropropane	ND		9.4 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	96	70 - 130
Dibromofluoromethane	100	70 - 130
Toluene-d8	99	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-LOCR-SB07-04
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-04
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/4/00
MATRIX:	Solid	ANALYZED:	6/4/00
DILUTION:	1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	ND	25. µg/kg	1,1-Dichloropropene	ND	5. µg/kg
Benzene	ND	5. µg/kg	cis-1,3-Dichloropropene	ND	5. µg/kg
Bromobenzene	ND	5. µg/kg	trans-1,3-Dichloropropene	ND	5. µg/kg
Bromochloromethane	ND	5. µg/kg	Ethylbenzene	ND	5. µg/kg
Bromodichloromethane	ND	5. µg/kg	Hexachlorobutadiene	ND	5. µg/kg
Bromoform	ND	5. µg/kg	2-Hexanone	ND	25. µg/kg
Bromomethane	ND	5. µg/kg	Iodomethane	ND	5. µg/kg
2-Butanone	ND	25. µg/kg	Isopropylbenzene	ND	5. µg/kg
n-Butylbenzene	ND	5. µg/kg	p-Isopropyltoluene	ND	5. µg/kg
sec-Butylbenzene	ND	5. µg/kg	Methylene chloride (Dichloromethane)	ND	5. µg/kg
tert-Butylbenzene	ND	5. µg/kg	4-Methyl-2-pentanone	ND	25. µg/kg
Carbon disulfide	ND	5. µg/kg	MTBE	ND	5. µg/kg
Carbon tetrachloride	ND	5. µg/kg	Naphthalene	ND	10. µg/kg
Chlorobenzene	ND	5. µg/kg	n-Propylbenzene	ND	5. µg/kg
Chloroethane	ND	5. µg/kg	Styrene	ND	5. µg/kg
Chloroform	ND	5. µg/kg	1,1,1,2-Tetrachloroethane	ND	5. µg/kg
Chloromethane	ND	5. µg/kg	1,1,2,2-Tetrachloroethane	ND	5. µg/kg
2-Chlorotoluene	ND	5. µg/kg	Tetrachloroethene (PCE)	ND	5. µg/kg
4-Chlorotoluene	ND	5. µg/kg	Toluene	ND	5. µg/kg
Dibromochloromethane	ND	5. µg/kg	1,2,3-Trichlorobenzene	ND	5. µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5. µg/kg	1,2,4-Trichlorobenzene	ND	5. µg/kg
1,2-Dibromoethane (EDB)	ND	5. µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5. µg/kg
Dibromomethane	ND	5. µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5. µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5. µg/kg	Trichloroethene (TCE)	ND	5. µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5. µg/kg	Trichlorofluoromethane (Freon 11)	ND	10. µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5. µg/kg	1,2,3-Trichloropropane	ND	5. µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5. µg/kg	1,2,4-Trimethylbenzene	ND	5. µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5. µg/kg	1,3,5-Trimethylbenzene	ND	5. µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5. µg/kg	Vinyl chloride	ND	5. µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5. µg/kg	o-Xylene	ND	5. µg/kg
cis-1,2-Dichloroethene	ND	5. µg/kg	m,p-Xylene	ND	10. µg/kg
trans-1,2-Dichloroethene	ND	5. µg/kg			
1,2-Dichloropropane	ND	5. µg/kg			
1,3-Dichloropropane	ND	5. µg/kg			
2,2-Dichloropropane	ND	10. µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	106	70 - 130
Dibromofluoromethane	108	70 - 130
Toluene-d8	102	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-LOCR-SB08-04
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-05
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/4/00
MATRIX:	Solid	ANALYZED:	6/4/00
DILUTION:	0.84	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	71	21. µg/kg	1,1-Dichloropropene	ND	4.2 µg/kg
Benzene	ND	4.2 µg/kg	cis-1,3-Dichloropropene	ND	4.2 µg/kg
Bromobenzene	ND	4.2 µg/kg	trans-1,3-Dichloropropene	ND	4.2 µg/kg
Bromochloromethane	ND	4.2 µg/kg	Ethylbenzene	ND	4.2 µg/kg
Bromodichloromethane	ND	4.2 µg/kg	Hexachlorobutadiene	ND	4.2 µg/kg
Bromoform	ND	4.2 µg/kg	2-Hexanone	ND	21. µg/kg
Bromomethane	ND	4.2 µg/kg	Iodomethane	ND	4.2 µg/kg
2-Butanone	ND	21. µg/kg	Isopropylbenzene	ND	4.2 µg/kg
n-Butylbenzene	ND	4.2 µg/kg	p-Isopropyltoluene	ND	4.2 µg/kg
sec-Butylbenzene	ND	4.2 µg/kg	Methylene chloride (Dichloromethane)	ND	4.2 µg/kg
tert-Butylbenzene	ND	4.2 µg/kg	4-Methyl-2-pentanone	ND	21. µg/kg
Carbon disulfide	ND	4.2 µg/kg	MTBE	ND	4.2 µg/kg
Carbon tetrachloride	ND	4.2 µg/kg	Naphthalene	ND	8.4 µg/kg
Chlorobenzene	ND	4.2 µg/kg	n-Propylbenzene	ND	4.2 µg/kg
Chloroethane	ND	4.2 µg/kg	Styrene	ND	4.2 µg/kg
Chloroform	ND	4.2 µg/kg	1,1,1,2-Tetrachloroethane	ND	4.2 µg/kg
Chloromethane	ND	4.2 µg/kg	1,1,2,2-Tetrachloroethane	ND	4.2 µg/kg
2-Chlorotoluene	ND	4.2 µg/kg	Tetrachloroethene (PCE)	ND	4.2 µg/kg
4-Chlorotoluene	ND	4.2 µg/kg	Toluene	ND	4.2 µg/kg
Dibromochloromethane	ND	4.2 µg/kg	1,2,3-Trichlorobenzene	ND	4.2 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	4.2 µg/kg	1,2,4-Trichlorobenzene	ND	4.2 µg/kg
1,2-Dibromoethane (EDB)	ND	4.2 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	4.2 µg/kg
Dibromomethane	ND	4.2 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	4.2 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	4.2 µg/kg	Trichloroethene (TCE)	ND	4.2 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	4.2 µg/kg	Trichlorofluoromethane (Freon 11)	ND	8.4 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	4.2 µg/kg	1,2,3-Trichloropropane	ND	4.2 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	4.2 µg/kg	1,2,4-Trimethylbenzene	ND	4.2 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	4.2 µg/kg	1,3,5-Trimethylbenzene	ND	4.2 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	4.2 µg/kg	Vinyl chloride	ND	4.2 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	4.2 µg/kg	o-Xylene	ND	4.2 µg/kg
cis-1,2-Dichloroethene	ND	4.2 µg/kg	m,p-Xylene	ND	8.4 µg/kg
trans-1,2-Dichloroethene	ND	4.2 µg/kg			
1,2-Dichloropropane	ND	4.2 µg/kg			
1,3-Dichloropropane	ND	4.2 µg/kg			
2,2-Dichloropropane	ND	8.4 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	102	70 - 130
Dibromofluoromethane	108	70 - 130
Toluene-d8	101	70 - 130

ND - Not Detected

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NEL LABORATORIES

RJG

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-LOCR-~~SB01~~ CTIL-04
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-06
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/6/00
MATRIX:	Solid	ANALYZED:	6/6/00
DILUTION:	0.86	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	55	21.5 µg/kg	1,1-Dichloropropene	ND	4.3 µg/kg
Benzene	ND	4.3 µg/kg	cis-1,3-Dichloropropene	ND	4.3 µg/kg
Bromobenzene	ND	4.3 µg/kg	trans-1,3-Dichloropropene	ND	4.3 µg/kg
Bromochloromethane	ND	4.3 µg/kg	Ethylbenzene	ND	4.3 µg/kg
Bromodichloromethane	ND	4.3 µg/kg	Hexachlorobutadiene	ND	4.3 µg/kg
Bromoform	ND	4.3 µg/kg	2-Hexanone	ND	21.5 µg/kg
Bromomethane	ND	4.3 µg/kg	Iodomethane	ND	4.3 µg/kg
2-Butanone	ND	21.5 µg/kg	Isopropylbenzene	ND	4.3 µg/kg
n-Butylbenzene	ND	4.3 µg/kg	p-Isopropyltoluene	ND	4.3 µg/kg
sec-Butylbenzene	ND	4.3 µg/kg	Methylene chloride (Dichloromethane)	ND	4.3 µg/kg
tert-Butylbenzene	ND	4.3 µg/kg	4-Methyl-2-pentanone	ND	21.5 µg/kg
Carbon disulfide	ND	4.3 µg/kg	MTBE	ND	4.3 µg/kg
Carbon tetrachloride	ND	4.3 µg/kg	Naphthalene	ND	8.6 µg/kg
Chlorobenzene	ND	4.3 µg/kg	n-Propylbenzene	4.4	4.3 µg/kg
Chloroethane	ND	4.3 µg/kg	Styrene	ND	4.3 µg/kg
Chloroform	ND	4.3 µg/kg	1,1,1,2-Tetrachloroethane	ND	4.3 µg/kg
Chloromethane	ND	4.3 µg/kg	1,1,2,2-Tetrachloroethane	ND	4.3 µg/kg
2-Chlorotoluene	ND	4.3 µg/kg	Tetrachloroethene (PCE)	ND	4.3 µg/kg
4-Chlorotoluene	ND	4.3 µg/kg	Toluene	ND	4.3 µg/kg
Dibromochloromethane	ND	4.3 µg/kg	1,2,3-Trichlorobenzene	ND	4.3 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	4.3 µg/kg	1,2,4-Trichlorobenzene	ND	4.3 µg/kg
1,2-Dibromoethane (EDB)	ND	4.3 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	4.3 µg/kg
Dibromomethane	ND	4.3 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	4.3 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	4.3 µg/kg	Trichloroethene (TCE)	ND	4.3 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	4.3 µg/kg	Trichlorofluoromethane (Freon 11)	ND	8.6 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	4.3 µg/kg	1,2,3-Trichloropropane	ND	4.3 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	4.3 µg/kg	1,2,4-Trimethylbenzene	ND	4.3 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	4.3 µg/kg	1,3,5-Trimethylbenzene	ND	4.3 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	4.3 µg/kg	Vinyl chloride	ND	4.3 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	4.3 µg/kg	o-Xylene	ND	4.3 µg/kg
cis-1,2-Dichloroethene	ND	4.3 µg/kg	m,p-Xylene	ND	8.6 µg/kg
trans-1,2-Dichloroethene	ND	4.3 µg/kg			
1,2-Dichloropropane	ND	4.3 µg/kg			
1,3-Dichloropropane	ND	4.3 µg/kg			
2,2-Dichloropropane	ND	8.6 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	99	70 - 130
Dibromofluoromethane	104	70 - 130
Toluene-d8	100	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-UTIL-SB02-04
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-07
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/6/00
MATRIX:	Solid	ANALYZED:	6/6/00
DILUTION:	0.92	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	65	23. µg/kg	1,1-Dichloropropene	ND	4.6 µg/kg
Benzene	ND	4.6 µg/kg	cis-1,3-Dichloropropene	ND	4.6 µg/kg
Bromobenzene	ND	4.6 µg/kg	trans-1,3-Dichloropropene	ND	4.6 µg/kg
Bromochloromethane	ND	4.6 µg/kg	Ethylbenzene	1400 E	4.6 µg/kg
Bromodichloromethane	ND	4.6 µg/kg	Hexachlorobutadiene	ND	4.6 µg/kg
Bromoform	ND	4.6 µg/kg	2-Hexanone	ND	23. µg/kg
Bromomethane	ND	4.6 µg/kg	Iodomethane	ND	4.6 µg/kg
2-Butanone	ND	23. µg/kg	Isopropylbenzene	590 E	4.6 µg/kg
n-Butylbenzene	58	4.6 µg/kg	p-Isopropyltoluene	18	4.6 µg/kg
sec-Butylbenzene	160	4.6 µg/kg	Methylene chloride (Dichloromethane)	ND	4.6 µg/kg
tert-Butylbenzene	31	4.6 µg/kg	4-Methyl-2-pentanone	ND	23. µg/kg
Carbon disulfide	7.3	4.6 µg/kg	MTBE	ND	4.6 µg/kg
Carbon tetrachloride	ND	4.6 µg/kg	Naphthalene	ND	9.2 µg/kg
Chlorobenzene	ND	4.6 µg/kg	n-Propylbenzene	1100 E	4.6 µg/kg
Chloroethane	ND	4.6 µg/kg	Styrene	ND	4.6 µg/kg
Chloroform	ND	4.6 µg/kg	1,1,1,2-Tetrachloroethane	ND	4.6 µg/kg
[illegible]omethane	ND	4.6 µg/kg	1,1,2,2-Tetrachloroethane	ND	4.6 µg/kg
[illegible]rotoluene	ND	4.6 µg/kg	Tetrachloroethene (PCE)	ND	4.6 µg/kg
4-Chlorotoluene	ND	4.6 µg/kg	Toluene	ND	4.6 µg/kg
Dibromochloromethane	ND	4.6 µg/kg	1,2,3-Trichlorobenzene	ND	4.6 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	4.6 µg/kg	1,2,4-Trichlorobenzene	ND	4.6 µg/kg
1,2-Dibromoethane (EDB)	ND	4.6 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	4.6 µg/kg
Dibromomethane	ND	4.6 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	4.6 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	4.6 µg/kg	Trichloroethene (TCE)	ND	4.6 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	4.6 µg/kg	Trichlorofluoromethane (Freon 11)	ND	9.2 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	4.6 µg/kg	1,2,3-Trichloropropane	ND	4.6 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	4.6 µg/kg	1,2,4-Trimethylbenzene	139	4.6 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	4.6 µg/kg	1,3,5-Trimethylbenzene	40	4.6 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	4.6 µg/kg	Vinyl chloride	ND	4.6 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	4.6 µg/kg	o-Xylene	ND	4.6 µg/kg
cis-1,2-Dichloroethene	ND	4.6 µg/kg	m,p-Xylene	ND	9.2 µg/kg
trans-1,2-Dichloroethene	ND	4.6 µg/kg			
1,2-Dichloropropane	ND	4.6 µg/kg			
1,3-Dichloropropane	ND	4.6 µg/kg			
2,2-Dichloropropane	ND	9.2 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery		Acceptable Range
4-Bromofluorobenzene	65	Sf	70 - 130
Dibromofluoromethane	105		70 - 130
Toluene-d8	63	Sf	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-UTIL-SB08-04
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-08
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/6/00
MATRIX:	Solid	ANALYZED:	6/6/00
DILUTION:	1.02	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	77	25.5 µg/kg	1,1-Dichloropropene	ND	5.1 µg/kg
Benzene	58	5.1 µg/kg	cis-1,3-Dichloropropene	ND	5.1 µg/kg
Bromobenzene	ND	5.1 µg/kg	trans-1,3-Dichloropropene	ND	5.1 µg/kg
Bromochloromethane	ND	5.1 µg/kg	Ethylbenzene	190	5.1 µg/kg
Bromodichloromethane	ND	5.1 µg/kg	Hexachlorobutadiene	ND	5.1 µg/kg
Bromoform	ND	5.1 µg/kg	2-Hexanone	ND	25.5 µg/kg
Bromomethane	ND	5.1 µg/kg	Iodomethane	ND	5.1 µg/kg
2-Butanone	ND	25.5 µg/kg	Isopropylbenzene	52	5.1 µg/kg
n-Butylbenzene	ND	5.1 µg/kg	p-Isopropyltoluene	9.5	5.1 µg/kg
sec-Butylbenzene	25	5.1 µg/kg	Methylene chloride (Dichloromethane)	ND	5.1 µg/kg
tert-Butylbenzene	ND	5.1 µg/kg	4-Methyl-2-pentanone	ND	25.5 µg/kg
Carbon disulfide	6.3	5.1 µg/kg	MTBE	ND	5.1 µg/kg
Carbon tetrachloride	ND	5.1 µg/kg	Naphthalene	120	10.2 µg/kg
Chlorobenzene	ND	5.1 µg/kg	n-Propylbenzene	88	5.1 µg/kg
Chloroethane	ND	5.1 µg/kg	Styrene	ND	5.1 µg/kg
Chloroform	ND	5.1 µg/kg	1,1,1,2-Tetrachloroethane	ND	5.1 µg/kg
Chloromethane	ND	5.1 µg/kg	1,1,2,2-Tetrachloroethane	ND	5.1 µg/kg
2-Chlorotoluene	ND	5.1 µg/kg	Tetrachloroethene (PCE)	ND	5.1 µg/kg
4-Chlorotoluene	ND	5.1 µg/kg	Toluene	ND	5.1 µg/kg
Dibromochloromethane	ND	5.1 µg/kg	1,2,3-Trichlorobenzene	ND	5.1 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.1 µg/kg	1,2,4-Trichlorobenzene	ND	5.1 µg/kg
1,2-Dibromoethane (EDB)	ND	5.1 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5.1 µg/kg
Dibromomethane	ND	5.1 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5.1 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5.1 µg/kg	Trichloroethene (TCE)	ND	5.1 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5.1 µg/kg	Trichlorofluoromethane (Freon 11)	ND	10.2 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5.1 µg/kg	1,2,3-Trichloropropane	ND	5.1 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5.1 µg/kg	1,2,4-Trimethylbenzene	71	5.1 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5.1 µg/kg	1,3,5-Trimethylbenzene	20	5.1 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5.1 µg/kg	Vinyl chloride	ND	5.1 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5.1 µg/kg	o-Xylene	7.0	5.1 µg/kg
cis-1,2-Dichloroethene	ND	5.1 µg/kg	m,p-Xylene	31	10.2 µg/kg
trans-1,2-Dichloroethene	ND	5.1 µg/kg			
1,2-Dichloropropane	ND	5.1 µg/kg			
1,3-Dichloropropane	ND	5.1 µg/kg			
2,2-Dichloropropane	ND	10.2 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	104	70 - 130
Dibromofluoromethane	104	70 - 130
Toluene-d8	100	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-UTIL-SB02-04DL
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-09
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/8/00
MATRIX:	Solid	ANALYZED:	6/8/00
DILUTION:	28	ANALYST:	SKV - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	ND	700. µg/kg	1,1-Dichloropropene	ND	140. µg/kg
Benzene	ND	140. µg/kg	cis-1,3-Dichloropropene	ND	140. µg/kg
Bromobenzene	ND	140. µg/kg	trans-1,3-Dichloropropene	ND	140. µg/kg
Bromochloromethane	ND	140. µg/kg	Ethylbenzene	ND	140. µg/kg
Bromodichloromethane	ND	140. µg/kg	Hexachlorobutadiene	ND	140. µg/kg
Bromoform	ND	140. µg/kg	2-Hexanone	ND	700. µg/kg
Bromomethane	ND	140. µg/kg	Iodomethane	ND	140. µg/kg
2-Butanone	ND	700. µg/kg	Isopropylbenzene	ND	140. µg/kg
n-Butylbenzene	560	140. µg/kg	p-Isopropyltoluene	ND	140. µg/kg
sec-Butylbenzene	380	140. µg/kg	Methylene chloride (Dichloromethane)	ND	140. µg/kg
tert-Butylbenzene	ND	140. µg/kg	4-Methyl-2-pentanone	ND	700. µg/kg
Carbon disulfide	ND	140. µg/kg	MTBE	ND	140. µg/kg
Carbon tetrachloride	ND	140. µg/kg	Naphthalene	2300	280. µg/kg
Chlorobenzene	ND	140. µg/kg	n-Propylbenzene	371	140. µg/kg
Chloroethane	ND	140. µg/kg	Styrene	ND	140. µg/kg
Chloroform	ND	140. µg/kg	1,1,1,2-Tetrachloroethane	ND	140. µg/kg
[illegible]omethane	ND	140. µg/kg	1,1,2,2-Tetrachloroethane	ND	140. µg/kg
[illegible]rotoluene	ND	140. µg/kg	Tetrachloroethene (PCE)	ND	140. µg/kg
4-Chlorotoluene	ND	140. µg/kg	Toluene	ND	140. µg/kg
Dibromochloromethane	ND	140. µg/kg	1,2,3-Trichlorobenzene	ND	140. µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	140. µg/kg	1,2,4-Trichlorobenzene	ND	140. µg/kg
1,2-Dibromoethane (EDB)	ND	140. µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	140. µg/kg
Dibromomethane	ND	140. µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	140. µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	140. µg/kg	Trichloroethene (TCE)	ND	140. µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	140. µg/kg	Trichlorofluoromethane (Freon 11)	ND	280. µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	140. µg/kg	1,2,3-Trichloropropane	ND	140. µg/kg
Dichlorodifluoromethane (Freon 12)	ND	140. µg/kg	1,2,4-Trimethylbenzene	400	140. µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	140. µg/kg	1,3,5-Trimethylbenzene	ND	140. µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	140. µg/kg	Vinyl chloride	ND	140. µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	140. µg/kg	o-Xylene	ND	140. µg/kg
cis-1,2-Dichloroethene	ND	140. µg/kg	m,p-Xylene	ND	280. µg/kg
trans-1,2-Dichloroethene	ND	140. µg/kg			
1,2-Dichloropropane	ND	140. µg/kg			
1,3-Dichloropropane	ND	140. µg/kg			
2,2-Dichloropropane	ND	280. µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	104	70 - 130
Dibromofluoromethane	100	70 - 130
Toluene-d8	103	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	NA
PROJECT #:	NA	NEL SAMPLE ID:	000604SD60_2A-BLK
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	ANALYST:	JJM - Las Vegas Division
MATRIX:	Solid	EXTRACTED:	6/4/00
		ANALYZED:	6/4/00

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	ND	25 µg/kg	1,1-Dichloropropene	ND	5 µg/kg
Benzene	ND	5 µg/kg	cis-1,3-Dichloropropene	ND	5 µg/kg
Bromobenzene	ND	5 µg/kg	trans-1,3-Dichloropropene	ND	5 µg/kg
Bromochloromethane	ND	5 µg/kg	Ethylbenzene	ND	5 µg/kg
Bromodichloromethane	ND	5 µg/kg	Hexachlorobutadiene	ND	5 µg/kg
Bromoform	ND	5 µg/kg	2-Hexanone	ND	25 µg/kg
Bromomethane	ND	5 µg/kg	Iodomethane	ND	5 µg/kg
2-Butanone	ND	25 µg/kg	Isopropylbenzene	ND	5 µg/kg
n-Butylbenzene	ND	5 µg/kg	p-Isopropyltoluene	ND	5 µg/kg
sec-Butylbenzene	ND	5 µg/kg	Methylene chloride (Dichloromethane)	ND	5 µg/kg
tert-Butylbenzene	ND	5 µg/kg	4-Methyl-2-pentanone	ND	25 µg/kg
Carbon disulfide	ND	5 µg/kg	MTBE	ND	5 µg/kg
Carbon tetrachloride	ND	5 µg/kg	Naphthalene	ND	10 µg/kg
Chlorobenzene	ND	5 µg/kg	n-Propylbenzene	ND	5 µg/kg
Chloroethane	ND	5 µg/kg	Styrene	ND	5 µg/kg
Chloroform	ND	5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5 µg/kg
[illegible]omethane	ND	5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5 µg/kg
2-Chlorotoluene	ND	5 µg/kg	Tetrachloroethene (PCE)	ND	5 µg/kg
4-Chlorotoluene	ND	5 µg/kg	Toluene	ND	5 µg/kg
Dibromochloromethane	ND	5 µg/kg	1,2,3-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 µg/kg	1,2,4-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromoethane (EDB)	ND	5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/kg
Dibromomethane	ND	5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/kg	Trichloroethene (TCE)	ND	5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	10 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/kg	1,2,3-Trichloropropane	ND	5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5 µg/kg	1,2,4-Trimethylbenzene	ND	5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/kg	1,3,5-Trimethylbenzene	ND	5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/kg	Vinyl chloride	ND	5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/kg	o-Xylene	ND	5 µg/kg
cis-1,2-Dichloroethene	ND	5 µg/kg	m,p-Xylene	ND	10 µg/kg
trans-1,2-Dichloroethene	ND	5 µg/kg			
1,2-Dichloropropane	ND	5 µg/kg			
1,3-Dichloropropane	ND	5 µg/kg			
2,2-Dichloropropane	ND	10 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	100	70 - 130
Dibromofluoromethane	104	70 - 130
Toluene-d8	92	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
JECT ID:	Laugley AFB, VA	DATE SAMPLED:	NA
ROJECT #:	NA	NEL SAMPLE ID:	000606SD60-2A-BLK
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	ANALYST:	JJM - Las Vegas Division
MATRIX:	Solid	EXTRACTED:	6/6/00
		ANALYZED:	6/6/00

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	ND	25 µg/kg	1,1-Dichloropropene	ND	5 µg/kg
Benzene	ND	5 µg/kg	cis-1,3-Dichloropropene	ND	5 µg/kg
Bromobenzene	ND	5 µg/kg	trans-1,3-Dichloropropene	ND	5 µg/kg
Bromochloromethane	ND	5 µg/kg	Ethylbenzene	ND	5 µg/kg
Bromodichloromethane	ND	5 µg/kg	Hexachlorobutadiene	ND	5 µg/kg
Bromoform	ND	5 µg/kg	2-Hexanone	ND	25 µg/kg
Bromomethane	ND	5 µg/kg	Iodomethane	ND	5 µg/kg
2-Butanone	ND	25 µg/kg	Isopropylbenzene	ND	5 µg/kg
n-Butylbenzene	ND	5 µg/kg	p-Isopropyltoluene	ND	5 µg/kg
sec-Butylbenzene	ND	5 µg/kg	Methylene chloride (Dichloromethane)	ND	5 µg/kg
tert-Butylbenzene	ND	5 µg/kg	4-Methyl-2-pentanone	ND	25 µg/kg
Carbon disulfide	ND	5 µg/kg	MTBE	ND	5 µg/kg
Carbon tetrachloride	ND	5 µg/kg	Naphthalene	ND	10 µg/kg
Chlorobenzene	ND	5 µg/kg	n-Propylbenzene	ND	5 µg/kg
Chloroethane	ND	5 µg/kg	Styrene	ND	5 µg/kg
Chloroform	ND	5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5 µg/kg
omethane	ND	5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5 µg/kg
2-Chlorotoluene	ND	5 µg/kg	Tetrachloroethene (PCE)	ND	5 µg/kg
4-Chlorotoluene	ND	5 µg/kg	Toluene	ND	5 µg/kg
Dibromochloromethane	ND	5 µg/kg	1,2,3-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 µg/kg	1,2,4-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromoethane (EDB)	ND	5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/kg
Dibromomethane	ND	5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/kg	Trichloroethene (TCE)	ND	5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	10 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/kg	1,2,3-Trichloropropane	ND	5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5 µg/kg	1,2,4-Trimethylbenzene	ND	5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/kg	1,3,5-Trimethylbenzene	ND	5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/kg	Vinyl chloride	ND	5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/kg	o-Xylene	ND	5 µg/kg
cis-1,2-Dichloroethene	ND	5 µg/kg	m,p-Xylene	ND	10 µg/kg
trans-1,2-Dichloroethene	ND	5 µg/kg			
1,2-Dichloropropane	ND	5 µg/kg			
1,3-Dichloropropane	ND	5 µg/kg			
2,2-Dichloropropane	ND	10 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	109	70 - 130
Dibromofluoromethane	103	70 - 130
Toluene-d8	100	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	NA
PROJECT #:	NA	NEL SAMPLE ID:	000608SD60_2B-BLK
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	ANALYST:	SKV - Las Vegas Division
MATRIX:	Solid	EXTRACTED:	6/8/00
		ANALYZED:	6/8/00

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	ND	25 µg/kg	1,1-Dichloropropene	ND	5 µg/kg
Benzene	ND	5 µg/kg	cis-1,3-Dichloropropene	ND	5 µg/kg
Bromobenzene	ND	5 µg/kg	trans-1,3-Dichloropropene	ND	5 µg/kg
Bromochloromethane	ND	5 µg/kg	Ethylbenzene	ND	5 µg/kg
Bromodichloromethane	ND	5 µg/kg	Hexachlorobutadiene	ND	5 µg/kg
Bromoform	ND	5 µg/kg	2-Hexanone	ND	25 µg/kg
Bromomethane	ND	5 µg/kg	Iodomethane	ND	5 µg/kg
2-Butanone	ND	25 µg/kg	Isopropylbenzene	ND	5 µg/kg
n-Butylbenzene	ND	5 µg/kg	p-Isopropyltoluene	ND	5 µg/kg
sec-Butylbenzene	ND	5 µg/kg	Methylene chloride (Dichloromethane)	ND	5 µg/kg
tert-Butylbenzene	ND	5 µg/kg	4-Methyl-2-pentanone	ND	25 µg/kg
Carbon disulfide	ND	5 µg/kg	MTBE	ND	5 µg/kg
Carbon tetrachloride	ND	5 µg/kg	Naphthalene	ND	10 µg/kg
Chlorobenzene	ND	5 µg/kg	n-Propylbenzene	ND	5 µg/kg
Chloroethane	ND	5 µg/kg	Styrene	ND	5 µg/kg
Chloroform	ND	5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5 µg/kg
Chloromethane	ND	5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5 µg/kg
2-Chlorotoluene	ND	5 µg/kg	Tetrachloroethene (PCE)	ND	5 µg/kg
4-Chlorotoluene	ND	5 µg/kg	Toluene	ND	5 µg/kg
Dibromochloromethane	ND	5 µg/kg	1,2,3-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 µg/kg	1,2,4-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromoethane (EDB)	ND	5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/kg
Dibromomethane	ND	5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/kg	Trichloroethene (TCE)	ND	5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	10 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/kg	1,2,3-Trichloropropane	ND	5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5 µg/kg	1,2,4-Trimethylbenzene	ND	5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/kg	1,3,5-Trimethylbenzene	ND	5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/kg	Vinyl chloride	ND	5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/kg	o-Xylene	ND	5 µg/kg
cis-1,2-Dichloroethene	ND	5 µg/kg	m,p-Xylene	ND	10 µg/kg
trans-1,2-Dichloroethene	ND	5 µg/kg			
1,2-Dichloropropane	ND	5 µg/kg			
1,3-Dichloropropane	ND	5 µg/kg			
2,2-Dichloropropane	ND	10 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	98	70 - 130
Dibromofluoromethane	103	70 - 130
Toluene-d8	100	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB04-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-01
TEST:	**Inorganic Non-Metals**		
MATRIX:	Solid		

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	16.6	0.	1	EPA 3550	%	6/5/00
Percent Solid	83.4	0.	1	EPA 3550	%	6/5/00

D. F. - Dilution Factor

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB05-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-02

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	18.7	0.	1	EPA 3550	%	6/5/00
Percent Solid	81.3	0.	1	EPA 3550	%	6/5/00

D. F. - Dilution Factor
ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB06-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-03

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	16	0.	1	EPA 3550	%	6/7/00
Percent Solid	84	0.	1	EPA 3550	%	6/7/00

D. F. - Dilution Factor
ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB07-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-04

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	15.3	0.	1	EPA 3550	%	6/5/00
Percent Solid	84.7	0.	1	EPA 3550	%	6/5/00

D. F. Dilution Factor

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB08-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-05

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	10	0.	1	EPA 3550	%	6/5/00
Percent Solid	90	0.	1	EPA 3550	%	6/5/00

D. F. Dilution Factor

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB01-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-06

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	10.5	0.	1	EPA 3550	%	6/5/00
Percent Solid	89.5	0.	1	EPA 3550	%	6/5/00

D. F. - Dilution Factor
ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-UTIL-SB02-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-07

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	12	0.	1	EPA 3550	%	6/5/00
Percent Solid	88	0.	1	EPA 3550	%	6/5/00

D. F. - Dilution Factor
ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-UTIL-SB08-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-08

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	19	0.	1	EPA 3550	%	6/7/00
Percent Solid	81	0.	1	EPA 3550	%	6/7/00

D. F. - Dilution Factor
ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB04-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-01

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.4	ANALYZED:	6/12/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1200. µg/Kg
Acenaphthylene	ND	1200. µg/Kg
Anthracene	ND	1200. µg/Kg
Benzo (a) anthracene	ND	1200. µg/Kg
Benzo (b&k) fluoranthene	ND	1200. µg/Kg
Benzo (g,h,i) perylene	ND	1200. µg/Kg
Benzo (a) pyrene	ND	1200. µg/Kg
Chrysene	ND	1200. µg/Kg
Dibenzo (a,h) anthracene	ND	1200. µg/Kg
Fluoranthene	ND	1200. µg/Kg
Fluorene	ND	1200. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1200. µg/Kg
Naphthalene	ND	1200. µg/Kg
Phenanthrene	ND	1200. µg/Kg
Pyrene	ND	1200. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
orobiphenyl	45	30 - 115
Nitrobenzene-d5	43	23 - 120
p-Terphenyl-d14	54	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB05-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-02

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.4	ANALYZED:	6/12/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1200. µg/Kg
Acenaphthylene	ND	1200. µg/Kg
Anthracene	ND	1200. µg/Kg
Benzo (a) anthracene	ND	1200. µg/Kg
Benzo (b&k) fluoranthene	ND	1200. µg/Kg
Benzo (g,h,i) perylene	ND	1200. µg/Kg
Benzo (a) pyrene	ND	1200. µg/Kg
Chrysene	ND	1200. µg/Kg
Dibenzo (a,h) anthracene	ND	1200. µg/Kg
Fluoranthene	ND	1200. µg/Kg
Fluorene	ND	1200. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1200. µg/Kg
Naphthalene	ND	1200. µg/Kg
Phenanthrene	ND	1200. µg/Kg
Pyrene	ND	1200. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	56	30 - 115
Nitrobenzene-d5	53	23 - 120
p-Terphenyl-d14	69	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB06-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-03

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.4	ANALYZED:	6/12/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1200. µg/Kg
Acenaphthylene	ND	1200. µg/Kg
Anthracene	ND	1200. µg/Kg
Benzo (a) anthracene	ND	1200. µg/Kg
Benzo (b&k) fluoranthene	ND	1200. µg/Kg
Benzo (g,h,i) perylene	ND	1200. µg/Kg
Benzo (a) pyrene	ND	1200. µg/Kg
Chrysene	ND	1200. µg/Kg
Dibenzo (a,h) anthracene	ND	1200. µg/Kg
Fluoranthene	ND	1200. µg/Kg
Fluorene	ND Л	1200. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1200. µg/Kg
Naphthalene	ND	1200. µg/Kg
Phenanthrene	ND	1200. µg/Kg
Pyrene	ND	1200. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	59	30 - 115
Nitrobenzene-d5	59	23 - 120
p-Terphenyl-d14	75	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB07-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-04

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.6	ANALYZED:	6/12/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1300. µg/Kg
Acenaphthylene	ND	1300. µg/Kg
Anthracene	ND	1300. µg/Kg
Benzo (a) anthracene	ND	1300. µg/Kg
Benzo (b&k) fluoranthene	ND	1300. µg/Kg
Benzo (g,h,i) perylene	ND	1300. µg/Kg
Benzo (a) pyrene	ND	1300. µg/Kg
Chrysene	ND	1300. µg/Kg
Dibenzo (a,h) anthracene	ND	1300. µg/Kg
Fluoranthene	ND	1300. µg/Kg
Fluorene	ND	1300. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1300. µg/Kg
Naphthalene	ND	1300. µg/Kg
Phenanthrene	ND	1300. µg/Kg
Pyrene	ND	1300. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
orobiphenyl	53	30 - 115
Nitrobenzene-d5	53	23 - 120
p-Terphenyl-d14	68	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB08-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
ECT #:	NA	NEL SAMPLE ID:	L0005242-05

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.2	ANALYZED:	6/12/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1100. µg/Kg
Acenaphthylene	ND	1100. µg/Kg
Anthracene	ND	1100. µg/Kg
Benzo (a) anthracene	ND	1100. µg/Kg
Benzo (b&k) fluoranthene	ND	1100. µg/Kg
Benzo (g,h,i) perylene	ND	1100. µg/Kg
Benzo (a) pyrene	ND	1100. µg/Kg
Chrysene	ND	1100. µg/Kg
Dibenzo (a,h) anthracene	ND	1100. µg/Kg
Fluoranthene	ND	1100. µg/Kg
Fluorene	ND	1100. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1100. µg/Kg
Naphthalene	ND	1100. µg/Kg
Phenanthrene	ND	1100. µg/Kg
Pyrene	ND	1100. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
orobiphenyl	64	30 - 115
Nitrobenzene-d5	60	23 - 120
p-Terphenyl-d14	74	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-SB01-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-06

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.2	ANALYZED:	6/12/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1100. µg/Kg
Acenaphthylene	ND	1100. µg/Kg
Anthracene	ND	1100. µg/Kg
Benzo (a) anthracene	ND	1100. µg/Kg
Benzo (b&k) fluoranthene	ND	1100. µg/Kg
Benzo (g,h,i) perylene	ND	1100. µg/Kg
Benzo (a) pyrene	ND	1100. µg/Kg
Chrysene	ND	1100. µg/Kg
Dibenzo (a,h) anthracene	ND	1100. µg/Kg
Fluoranthene	ND	1100. µg/Kg
Fluorene	ND	1100. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1100. µg/Kg
Naphthalene	ND	1100. µg/Kg
Phenanthrene	ND	1100. µg/Kg
Pyrene	ND	1100. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	67	30 - 115
Nitrobenzene-d5	62	23 - 120
p-Terphenyl-d14	73	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-UTIL-SB02-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-07

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.2	ANALYZED:	6/13/00

PARAMETER	Result		Reporting Limit
Acenaphthene	ND		1100. µg/Kg
Acenaphthylene	ND		1100. µg/Kg
Anthracene	ND		1100. µg/Kg
Benzo (a) anthracene	ND		1100. µg/Kg
Benzo (b&k) fluoranthene	ND		1100. µg/Kg
Benzo (g,h,i) perylene	ND		1100. µg/Kg
Benzo (a) pyrene	ND		1100. µg/Kg
Chrysene	ND		1100. µg/Kg
Dibenzo (a,h) anthracene	ND		1100. µg/Kg
Fluoranthene	ND		1100. µg/Kg
Fluorene	ND		1100. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND		1100. µg/Kg
Naphthalene	1700	µg/Kg	1100. µg/Kg
Phenanthrene	ND		1100. µg/Kg
Pyrene	ND		1100. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	55	30 - 115
Nitrobenzene-d5	56	23 - 120
p-Terphenyl-d14	65	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-UTIL-SB08-04**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	5/24/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005242-08

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.4	ANALYZED:	6/13/00

PARAMETER	Result		Reporting Limit	
Acenaphthene	ND		1200.	µg/Kg
Acenaphthylene	ND		1200.	µg/Kg
Anthracene	ND		1200.	µg/Kg
Benzo (a) anthracene	ND		1200.	µg/Kg
Benzo (b&k) fluoranthene	ND		1200.	µg/Kg
Benzo (g,h,i) perylene	ND		1200.	µg/Kg
Benzo (a) pyrene	ND		1200.	µg/Kg
Chrysene	ND		1200.	µg/Kg
Dibenzo (a,h) anthracene	ND		1200.	µg/Kg
Fluoranthene	ND		1200.	µg/Kg
Fluorene	ND		1200.	µg/Kg
Indeno (1,2,3-c,d) pyrene	ND		1200.	µg/Kg
Naphthalene	2000	µg/Kg	1200.	µg/Kg
Phenanthrene	ND		1200.	µg/Kg
Pyrene	ND		1200.	µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
orobiphenyl	61	30 - 115
Nitrobenzene-d5	61	23 - 120
p-Terphenyl-d14	66	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
PROJECT ID:	Laugley AFB, VA	DATE SAMPLED:	NA
PROJECT #:	NA	NEL SAMPLE ID:	060200-E1-BLK

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
		ANALYZED:	6/9/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	500. µg/Kg
Acenaphthylene	ND	500. µg/Kg
Anthracene	ND	500. µg/Kg
Benzo (a) anthracene	ND	500. µg/Kg
Benzo (b&k) fluoranthene	ND	500. µg/Kg
Benzo (g,h,i) perylene	ND	500. µg/Kg
Benzo (a) pyrene	ND	500. µg/Kg
Chrysene	ND	500. µg/Kg
Dibenzo (a,h) anthracene	ND	500. µg/Kg
Fluoranthene	ND	500. µg/Kg
Fluorene	ND	500. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	500. µg/Kg
Naphthalene	ND	500. µg/Kg
Phenanthrene	ND	500. µg/Kg
Pyrene	ND	500. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	79	30 - 115
Nitrobenzene-d5	72	23 - 120
p-Terphenyl-d14	75	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT: US Army Corps Of Engineers
PROJECT ID: Laugley AFB, VA
PROJECT #: NA
TEST: **Volatile Organic Compounds by EPA 8260B, December 1996**
MATRIX: Solid

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery		Acceptable Range	RPD
Benzene	000604SD60_2A-LCS	20	20.42	102		70 - 130	
Benzene	L0005242-02-MS	20	169	845	C	70 - 130	
Chlorobenzene	000604SD60_2A-LCS	20	20.05	100		70 - 130	
Chlorobenzene	L0005242-02-MS	20	25	125		70 - 130	
1,1-Dichloroethene (1,1-DCE)	000604SD60_2A-LCS	20	20.04	100		70 - 130	
1,1-Dichloroethene (1,1-DCE)	L0005242-02-MS	20	24	120		70 - 130	
Toluene	000604SD60_2A-LCS	20	21.19	106		70 - 130	
Toluene	L0005242-02-MS	20	42	210	J1	70 - 130	
Trichloroethene (TCE)	000604SD60_2A-LCS	20	19.62	98		70 - 130	
Trichloroethene (TCE)	L0005242-02-MS	20	25	125		70 - 130	

ND - Not Detected

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NEL LABORATORIES

CLIENT: US Army Corps Of Engineers
PROJECT ID: Laugley AFB, VA
PROJECT #: NA
TEST: **Volatile Organic Compounds by EPA 8260B, December 1996**
MATRIX: Solid

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery	Acceptable Range	RPD
Benzene	000606SD60-2A-LCS	20	18.16	91	70 - 130	
Benzene	L0005271-04-MS	20	16	80	70 - 130	
Chlorobenzene	000606SD60-2A-LCS	20	18.47	92	70 - 130	
Chlorobenzene	L0005271-04-MS	20	16	80	70 - 130	
1,1-Dichloroethene (1,1-DCE)	000606SD60-2A-LCS	20	18.38	92	70 - 130	
1,1-Dichloroethene (1,1-DCE)	L0005271-04-MS	20	17	85	70 - 130	
Toluene	000606SD60-2A-LCS	20	18.34	92	70 - 130	
Toluene	L0005271-04-MS	20	16	80	70 - 130	
Trichloroethene (TCE)	000606SD60-2A-LCS	20	17.7	89	70 - 130	
Trichloroethene (TCE)	L0005271-04-MS	20	15	75	70 - 130	

ND - Not Detected

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NEL LABORATORIES

CLIENT: US Army Corps Of Engineers
PROJECT ID: Laugley AFB, VA
PROJECT #: NA
TEST: **Volatile Organic Compounds by EPA 8260B, December 1996**
MATRIX: Solid

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery	Acceptable Range	RPD
Benzene	000608SD60_2B-LCS	20	19.96	100	70 - 130	
Benzene	L0005241-10-MS	20	19.21	96	70 - 130	
Benzene	L0005241-10-MSD	20	19.12	96	70 - 130	0.
Chlorobenzene	000608SD60_2B-LCS	20	19.6	98	70 - 130	
Chlorobenzene	L0005241-10-MS	20	19.03	95	70 - 130	
Chlorobenzene	L0005241-10-MSD	20	18.97	95	70 - 130	0.
1,1-Dichloroethene (1,1-DCE)	000608SD60_2B-LCS	20	19.39	97	70 - 130	
1,1-Dichloroethene (1,1-DCE)	L0005241-10-MS	20	19.97	100	70 - 130	
1,1-Dichloroethene (1,1-DCE)	L0005241-10-MSD	20	19.62	98	70 - 130	0.
Toluene	000608SD60_2B-LCS	20	22.29	111	70 - 130	
Toluene	L0005241-10-MS	20	20.28	101	70 - 130	
Toluene	L0005241-10-MSD	20	20.34	102	70 - 130	0.
Trichloroethene (TCE)	000608SD60_2B-LCS	20	19.24	96	70 - 130	
Trichloroethene (TCE)	L0005241-10-MS	20	18.87	94	70 - 130	
Trichloroethene (TCE)	L0005241-10-MSD	20	18.97	95	70 - 130	0.

ND - Not Detected

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NEL LABORATORIES

CLIENT: US Army Corps Of Engineers
PROJECT ID: Laugley AFB, VA
PROJECT #: NA
TEST: **Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**
MATRIX: Solid

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery		Acceptable Range	RPD
Naphthalene	060200-E1-LCS	80	55.2	69		21 - 133	
Naphthalene	060200-E1-LCSD	80	52.3	65		21 - 133	5.4
Naphthalene	L0005242-03-MS	80	42.2	53		21 - 133	
Acenaphthene	060200-E1-LCS	80	59.6	75		47 - 148	
Acenaphthene	060200-E1-LCSD	80	56.5	71		47 - 148	5.3
Acenaphthene	L0005242-03-MS	80	48.7	61		47 - 148	
Acenaphthylene	060200-E1-LCS	80	56.8	71		33 - 145	
Acenaphthylene	060200-E1-LCSD	80	54.2	68		33 - 145	4.7
Acenaphthylene	L0005242-03-MS	80	45.5	57		33 - 145	
Fluorene	060200-E1-LCS	80	58.3	73		59 - 121	
Fluorene	060200-E1-LCSD	80	55.6	70		59 - 121	4.7
Fluorene	L0005242-03-MS	80	46.3	58	Jl	59 - 121	
Phenanthrene	060200-E1-LCS	80	62.2	78		54 - 120	
Phenanthrene	060200-E1-LCSD	80	58.4	73		54 - 120	6.3
Phenanthrene	L0005242-03-MS	80	51.6	65		54 - 120	
Anthracene	060200-E1-LCS	80	60.5	76		27 - 133	
Anthracene	060200-E1-LCSD	80	58.3	73		27 - 133	3.7
Anthracene	L0005242-03-MS	80	50.8	64		27 - 133	
Fluoranthene	060200-E1-LCS	80	63.3	79		26 - 137	
Fluoranthene	060200-E1-LCSD	80	60.4	76		26 - 137	4.7
Fluoranthene	L0005242-03-MS	80	50	63		26 - 137	
Pyrene	060200-E1-LCS	80	63.1	79		52 - 115	
Pyrene	060200-E1-LCSD	80	60.2	75		52 - 115	4.7
Pyrene	L0005242-03-MS	80	49.8	62		52 - 115	
Benzo (a) anthracene	060200-E1-LCS	80	61.4	77		33 - 143	
Benzo (a) anthracene	060200-E1-LCSD	80	57.6	72		33 - 143	6.4
Benzo (a) anthracene	L0005242-03-MS	80	50.4	63		33 - 143	
Chrysene	060200-E1-LCS	80	60.2	75		17 - 168	
Chrysene	060200-E1-LCSD	80	57.3	72		17 - 168	4.9
Chrysene	L0005242-03-MS	80	50.1	63		17 - 168	
Benzo (b&k) fluoranthene	060200-E1-LCS	160	128	80		24 - 159	
Benzo (b&k) fluoranthene	060200-E1-LCSD	160	117	73		24 - 159	9.
Benzo (b&k) fluoranthene	L0005242-03-MS	160	111	69		24 - 159	
Benzo (a) pyrene	060200-E1-LCS	80	64.1	80		17 - 163	
Benzo (a) pyrene	060200-E1-LCSD	80	60.5	76		17 - 163	5.8
Benzo (a) pyrene	L0005242-03-MS	80	54.6	68		17 - 163	
Indeno (1,2,3-c,d) pyrene	060200-E1-LCS	80	60.8	76		13 - 171	
Indeno (1,2,3-c,d) pyrene	060200-E1-LCSD	80	58.8	74		13 - 171	3.3

ND - Not Detected

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NEL LABORATORIES

CLIENT: US Army Corps Of Engineers
PROJECT ID: Laugley AFB, VA
PROJECT #: NA
TEST: **Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**
MATRIX: Solid

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery	Acceptable Range	RPD
Indeno (1,2,3-c,d) pyrene	L0005242-03-MS	80	48.1	60	13 - 171	
Dibenzo (a,h) anthracene	060200-E1-LCS	80	60.3	75	13 - 227	
Dibenzo (a,h) anthracene	060200-E1-LCSD	80	58	73	13 - 227	3.9
Dibenzo (a,h) anthracene	L0005242-03-MS	80	47.8	60	13 - 227	
Benzo (g,h,i) perylene	060200-E1-LCS	80	56.7	71	13 - 219	
Benzo (g,h,i) perylene	060200-E1-LCSD	80	55.4	69	13 - 219	2.3
Benzo (g,h,i) perylene	L0005242-03-MS	80	43.6	55	13 - 219	

ND - Not Detected

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CHAIN OF CUSTODY

NEL Work Order: L0005-42

Project Name: Langley AFB, VA
Project Number:
Purchase Order Number:
Sampled By: R. Grabowski

1 OF 3

Company: US Army Corps of Engineers
Attention: Rick Grabowski
Address: 215 N. 17th St. Omaha NE 68102
Phone Number: (402) 221-7784
Fax Number: (402) 221-7769
Billing Address: Same as above
Expected Due Date: 6/2

Requested Turnaround: X 5-day ___ 2-day ___ 1-day ___ Other

Time/Date Sampled	Customer Sample Identification	N.E.L. Identification	# of Containers	Matrix (Box #1)	Preservative (Box #2)	VOCs (8260B)	PAHs (8270C)	Remarks
0825 5/24/00	LAFB-LOCR-SB04-04	01	2	SD	E	X		
0825 5/24/00	LAFB-LOCR-SB04-04	~~02~~ 01	1	SD	E		X	
0825 5/24/00	LAFB-LOCR-SB04-04	~~02~~ 01	1	SD	E	X		
0859 5/24/00	LAFB-LOCR-SB05-04	02	2	SD	E	X		
0859 5/24/00	LAFB-LOCR-SB05-04	02	1	SD	E		X	
0859 5/24/00	LAFB-LOCR-SB05-04	02	1	SD	E	X		
1025 5/24/00	LAFB-LOCR-SB06-04	03	2	SD	E	X		
1025 5/24/00	LAFB-LOCR-SB06-04	03	1	SD	E		X	
1025 5/24/00	LAFB-LOCR-SB06-04/MS	03	2	SD	E	X		Matrix Spike
1025 5/24/00	LAFB-LOCR-SB06-04/MS	03	1	SD	E		X	Matrix Spike

Custody Seal intact? Y N None Temp. 10°C
Condition when received good

Box #1		
	DW - Drinking Water	SD - Solid
	WW - Waste Water	AQ - Aqueous
	OL - Oil/Organic Liquid	A - Air

Box #2		
	A. HCl	E. Ice Only
	B. HNO_3	F. Other_____
	C. H_2SO_4	G. Not Preserved
	D. NaOH	

Relinquished by (Print)	(Signature)	Date/Time	Received by (Print)	(Signature)	Date/Time
1 RICHARD GRABOWSKI	[signature]	5/24/00 1900	VIA FED-X		
2 VIA FED-X			T. SANDIGO	[signature]	5-25-00/1030
3					

The liability of NEL Laboratories Inc. is limited strictly to the price of sample analysis for those samples received in good condition by NEL. NEL is not responsible for loss, damage, resampling costs and/or qualified data related to samples not received in good condition, including adequate sample volume and number of containers. Customer signature of this CoC constitutes a purchase order for NEL to perform work and constitutes acceptance of all NEL Standard Terms and Conditions. Signature also constitutes acceptance of NEL Standard List Prices for all services ordered here on, except those specified otherwise via an NEL Quotation for Testing Services in effect at the time of sample receipt. NEL turnaround times are measured in regular working days. Samples received at the laboratory after 16:30 will be considered received on the next working day. Commitment of laboratory to the requested turnaround time will be confirmed via Sample Confirmation transmitted to the fax number provided above.

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CHAIN OF CUSTODY

NEL Work Order: L0005742

Project Name: Langley AFB, VA
Project Number:
Purchase Order Number:
Sampled By: R. Grabowski

2 OF 2

Company: US Army Corps of Engineers
Attention: Rick Grabowski
Address: 215 N. 17th St. Omaha NE 68102
Phone Number: (402) 221-7704
Fax Number: (402) 221-7769
Billing Address: Same as above
Expected Due Date: 6/2

Requested Turnaround: X 5-day ___ 2-day ___ 1-day ___ Other

Time/Date Sampled	Customer Sample Identification	N.E.L. Identification	# of Containers	Matrix (Box #1)	Preservative (Box #2)	VOCs (8260B)	PAHs (8270C)	Remarks
1055 5/24/00	LAFB-LOCK-SB07-04	04	2	SD	E	X		
1055 5/24/00	LAFB-LOCK-SB07-04	04	1	SD	E		X	
1055 5/24/00	LAFB-LOCK-SB07-04	04	1	SD	E	X		
1205 5/24/00	LAFB-LOCK-SB08-04	05	2	SD	E	X		
1205 5/24/00	LAFB-LOCK-SB08-04	05	1	SD	E		X	
1205 5/24/00	LAFB-LOCK-SB08-04	05	1	SD	E	X		
1357 5/24/00	LAFB-UTIL-SB01-04	06	2	SD	E	X		
1357 5/24/00	LAFB-UTIL-SB01-04	06	1	SD	E		X	
1357 5/24/00	LAFB-UTIL-SB01-04	06	1	SD	E	X		
1530 5/24/00	LAFB-UTIL-SB02-04	07	2	SD	E	X		Petroleum odor

Custody Seal intact? (Y) N None Temp. 10°C
Condition when received (good)

Box #1: DW - Drinking Water; WW - Waste Water; OL - Oil/Organic Liquid; SD - Solid; AQ - Aqueous; A - Air

Box #2: A. HCl; B. HNO_3; C. H_2SO_4; D. NaOH; E. Ice Only; F. Other ___; G. Not Preserved

Relinquished by (Print)	(Signature)	Date/Time	Received by (Print)	(Signature)	Date/Time
1 RICHARD GRABOWSKI	Richard Grabowski	5/24/00 1900	VIA FED-X		
2	VIA FED-X		T. SANDIGO		5-25-00/1070
3					

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CHAIN OF CUSTODY

NEL Work Order: C0005742

Project Name: Langley AFB, VA
Project Number:
Purchase Order Number:
Sampled By: R. Grabowski

3 of 3

Company: US Army Corps of Engineers
Attention: Rick Grabowski
Address: 215 N. 17th St. Omaha NE 68102
Phone Number: (402) 221-7784
Fax Number: (402) 221-7769
Billing Address: Same as above
Expected Due Date:

Requested Turnaround: X 5-day ___ 2-day ___ 1-day ___ Other

Analysis

Time/Date Sampled	Customer Sample Identification	N.E.L. Identification	# of Containers	Matrix (Box #1)	Preservative (Box #2)	VOCs (8260B)	PAHs (8270C)	Remarks
1530 5/24/00	LAFB-UTIL-SB02-04	07	1	SD	E		X	Petroleum odor.
1530 5/24/00	LAFB-UTIL-SB02-04	07	1	SD	E	X		Petroleum odor.
1530 5/24/00	LAFB-UTIL-SB08-04	08	2	SD	E	X		Petroleum odor.
1530 5/24/00	LAFB-UTIL-SB08-04	08	1	SD	E		X	Petroleum odor.

Custody Seal intact? Y N None Temp. 10°C
Condition when received good

Box #1: DW - Drinking Water; WW - Waste Water; OL - Oil/Organic Liquid; SD - Solid; AQ - Aqueous; A - Air

Box #2: A. HCl; B. HNO_3; C. H_2SO_4; D. NaOH; E. Ice Only; F. Other_____; G. Not Preserved

Relinquished by (Print)	(Signature)	Date/Time	Received by (Print)	(Signature)	Date/Time
1 Richard Grabowski	Richard Grabowski	5/24/00 1900	Via FED-X		
2	Via FED-X		T. Sandigo	[signature]	5-25-00/1030
3					

The liability of NEL Laboratories Inc. is limited strictly to the price of sample analysis for those samples received in good condition by NEL. NEL is not responsible for loss, damage, resampling costs and/or qualified data related to samples not received in good condition, including adequate sample volume and number of containers. Customer signature of this CoC constitutes a purchase order for NEL to perform work and constitutes acceptance of all NEL Standard Terms and Conditions. Signature also constitutes acceptance of NEL Standard List Prices for all services ordered here on, except those specified otherwise via an NEL Quotation for Testing Services in effect at the time of sample receipt. NEL turnaround times are measured in regular working days. Samples received at the laboratory after 16:30 will be considered received on the next working day. Commitment of laboratory to the requested turnaround time will be confirmed via Sample Confirmation transmitted to the fax number provided above.

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1-888-368-3282

CLIENT: US Army Corps Of Engineers
215 N. 17th Street
Omaha, NE 68102
ATTN: Rick Grabowski

PROJECT NAME: Langley AFB, VA
PROJECT NUMBER: NA

NEL ORDER ID: L0005271

Attached are the analytical results for samples in support of the above referenced project.

Samples submitted for this project were not sampled by NEL Laboratories. Samples were received by NEL in good condition, under chain of custody on 5/26/00.

Should you have any questions or comments, please feel free to contact our Client Services department at (702) 657-1010.

Some results have been flagged as follows:

Di - Results reported from analysis at a higher dilution.

Some QA results have been flagged as follows:

Jm - This concentration should be considered an estimate due to probable matrix effects. The surrogate associated with this analyte was outside acceptance limits in the original analysis and upon reanalysis.

Stan Van Wagenen
Laboratory Manager

6/21/00
Date

CERTIFICATIONS:

	Reno	Las Vegas	S. California
Arizona	AZ0520	AZ0518	AZ0605
California	1707	2002	2264
US Army Corps of Engineers	Certified	Certified	

	Reno	Las Vegas	S. California
Idaho	Certified	Certified	
Montana	Certified	Certified	
Nevada	NV033	NV052	CA084
L.A.C.S.D.			10228

NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-UTIL-SB03-04
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/25/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005271-01
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/6/00
MATRIX:	Solid	ANALYZED:	6/6/00
DILUTION:	1.04	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg		Reporting Limit	PARAMETER	Result µg/kg		Reporting Limit
Acetone	130		26. µg/kg	1,1-Dichloropropene	ND		5.2 µg/kg
Benzene	ND		5.2 µg/kg	cis-1,3-Dichloropropene	ND		5.2 µg/kg
Bromobenzene	ND		5.2 µg/kg	trans-1,3-Dichloropropene	ND		5.2 µg/kg
Bromochloromethane	ND		5.2 µg/kg	Ethylbenzene	42		5.2 µg/kg
Bromodichloromethane	ND		5.2 µg/kg	Hexachlorobutadiene	ND		5.2 µg/kg
Bromoform	ND		5.2 µg/kg	2-Hexanone	ND		26. µg/kg
Bromomethane	ND		5.2 µg/kg	Iodomethane	ND		5.2 µg/kg
2-Butanone	64		26. µg/kg	Isopropylbenzene	680	Di	150. µg/kg
n-Butylbenzene	190		5.2 µg/kg	p-Isopropyltoluene	16		5.2 µg/kg
sec-Butylbenzene	1500	Di	150. µg/kg	Methylene chloride (Dichloromethane)	ND		5.2 µg/kg
tert-Butylbenzene	52		5.2 µg/kg	4-Methyl-2-pentanone	ND		26. µg/kg
Carbon disulfide	ND		5.2 µg/kg	MTBE	ND		5.2 µg/kg
Carbon tetrachloride	ND		5.2 µg/kg	Naphthalene	210		10.4 µg/kg
Chlorobenzene	ND		5.2 µg/kg	n-Propylbenzene	1800	Di	150. µg/kg
Chloroethane	ND		5.2 µg/kg	Styrene	ND		5.2 µg/kg
Chloroform	ND		5.2 µg/kg	1,1,1,2-Tetrachloroethane	ND		5.2 µg/kg
[illegible]romethane	ND		5.2 µg/kg	1,1,2,2-Tetrachloroethane	ND		5.2 µg/kg
[illegible]orotoluene	ND		5.2 µg/kg	Tetrachloroethene (PCE)	ND		5.2 µg/kg
4-Chlorotoluene	ND		5.2 µg/kg	Toluene	35		5.2 µg/kg
Dibromochloromethane	ND		5.2 µg/kg	1,2,3-Trichlorobenzene	ND		5.2 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND		5.2 µg/kg	1,2,4-Trichlorobenzene	ND		5.2 µg/kg
1,2-Dibromoethane (EDB)	ND		5.2 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND		5.2 µg/kg
Dibromomethane	ND		5.2 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND		5.2 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND		5.2 µg/kg	Trichloroethene (TCE)	ND		5.2 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND		5.2 µg/kg	Trichlorofluoromethane (Freon 11)	ND		10.4 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND		5.2 µg/kg	1,2,3-Trichloropropane	ND		5.2 µg/kg
Dichlorodifluoromethane (Freon 12)	ND		5.2 µg/kg	1,2,4-Trimethylbenzene	32		5.2 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND		5.2 µg/kg	1,3,5-Trimethylbenzene	11		5.2 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND		5.2 µg/kg	Vinyl chloride	ND		5.2 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND		5.2 µg/kg	o-Xylene	15		5.2 µg/kg
cis-1,2-Dichloroethene	ND		5.2 µg/kg	m,p-Xylene	27		10.4 µg/kg
trans-1,2-Dichloroethene	ND		5.2 µg/kg				
1,2-Dichloropropane	ND		5.2 µg/kg				
1,3-Dichloropropane	ND		5.2 µg/kg				
2,2-Dichloropropane	ND		10.4 µg/kg				

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	109	70 - 130
Dibromofluoromethane	105	70 - 130
Toluene-d8	100	70 - 130

ND - Not Detected

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CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-UTIL-SB04-04
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/25/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005271-02
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/6/00
MATRIX:	Solid	ANALYZED:	6/6/00
DILUTION:	0.96	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg		Reporting Limit
Acetone	42	24. µg/kg	1,1-Dichloropropene	ND		4.8 µg/kg
Benzene	ND	4.8 µg/kg	cis-1,3-Dichloropropene	ND		4.8 µg/kg
Bromobenzene	ND	4.8 µg/kg	trans-1,3-Dichloropropene	ND		4.8 µg/kg
Bromochloromethane	ND	4.8 µg/kg	Ethylbenzene	ND		4.8 µg/kg
Bromodichloromethane	ND	4.8 µg/kg	Hexachlorobutadiene	ND		4.8 µg/kg
Bromoform	ND	4.8 µg/kg	2-Hexanone	ND		24. µg/kg
Bromomethane	ND	4.8 µg/kg	Iodomethane	ND		4.8 µg/kg
2-Butanone	ND	24. µg/kg	Isopropylbenzene	74		4.8 µg/kg
n-Butylbenzene	75	4.8 µg/kg	p-Isopropyltoluene	15		4.8 µg/kg
sec-Butylbenzene	100	4.8 µg/kg	Methylene chloride (Dichloromethane)	ND		4.8 µg/kg
tert-Butylbenzene	10	4.8 µg/kg	4-Methyl-2-pentanone	ND		24. µg/kg
Carbon disulfide	ND	4.8 µg/kg	MTBE	ND		4.8 µg/kg
Carbon tetrachloride	ND	4.8 µg/kg	Naphthalene	510	Di	290. µg/kg
Chlorobenzene	ND	4.8 µg/kg	n-Propylbenzene	180		4.8 µg/kg
Chloroethane	ND	4.8 µg/kg	Styrene	ND		4.8 µg/kg
Chloroform	ND	4.8 µg/kg	1,1,1,2-Tetrachloroethane	ND		4.8 µg/kg
[illegible]romethane	ND	4.8 µg/kg	1,1,2,2-Tetrachloroethane	ND		4.8 µg/kg
[illegible]orotoluene	ND	4.8 µg/kg	Tetrachloroethene (PCE)	ND		4.8 µg/kg
4-Chlorotoluene	ND	4.8 µg/kg	Toluene	ND		4.8 µg/kg
Dibromochloromethane	ND	4.8 µg/kg	1,2,3-Trichlorobenzene	ND		4.8 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	4.8 µg/kg	1,2,4-Trichlorobenzene	ND		4.8 µg/kg
1,2-Dibromoethane (EDB)	ND	4.8 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND		4.8 µg/kg
Dibromomethane	ND	4.8 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND		4.8 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	4.8 µg/kg	Trichloroethene (TCE)	ND		4.8 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	4.8 µg/kg	Trichlorofluoromethane (Freon 11)	ND		9.6 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	4.8 µg/kg	1,2,3-Trichloropropane	ND		4.8 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	4.8 µg/kg	1,2,4-Trimethylbenzene	6.5		4.8 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	4.8 µg/kg	1,3,5-Trimethylbenzene	ND		4.8 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	4.8 µg/kg	Vinyl chloride	ND		4.8 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	4.8 µg/kg	o-Xylene	ND		4.8 µg/kg
cis-1,2-Dichloroethene	ND	4.8 µg/kg	m,p-Xylene	ND		9.6 µg/kg
trans-1,2-Dichloroethene	ND	4.8 µg/kg				
1,2-Dichloropropane	ND	4.8 µg/kg				
1,3-Dichloropropane	ND	4.8 µg/kg				
2,2-Dichloropropane	ND	9.6 µg/kg				

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	97	70 - 130
Dibromofluoromethane	103	70 - 130
Toluene-d8	99	70 - 130

ND - Not Detected

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CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-UTIL-SB05-04
JECT ID:	Langley AFB, VA	DATE SAMPLED:	5/25/00
JECT #:	NA	NEL SAMPLE ID:	L0005271-03
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/5/00
MATRIX:	Solid	ANALYZED:	6/5/00
DILUTION:	1.04	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	66	26. µg/kg	1,1-Dichloropropene	ND	5.2 µg/kg
Benzene	ND	5.2 µg/kg	cis-1,3-Dichloropropene	ND	5.2 µg/kg
Bromobenzene	ND	5.2 µg/kg	trans-1,3-Dichloropropene	ND	5.2 µg/kg
Bromochloromethane	ND	5.2 µg/kg	Ethylbenzene	ND	5.2 µg/kg
Bromodichloromethane	ND	5.2 µg/kg	Hexachlorobutadiene	ND	5.2 µg/kg
Bromoform	ND	5.2 µg/kg	2-Hexanone	ND	26. µg/kg
Bromomethane	ND	5.2 µg/kg	Iodomethane	ND	5.2 µg/kg
2-Butanone	ND	26. µg/kg	Isopropylbenzene	ND	5.2 µg/kg
n-Butylbenzene	ND	5.2 µg/kg	p-Isopropyltoluene	ND	5.2 µg/kg
sec-Butylbenzene	ND	5.2 µg/kg	Methylene chloride (Dichloromethane)	ND	5.2 µg/kg
tert-Butylbenzene	ND	5.2 µg/kg	4-Methyl-2-pentanone	ND	26. µg/kg
Carbon disulfide	ND	5.2 µg/kg	MTBE	ND	5.2 µg/kg
Carbon tetrachloride	ND	5.2 µg/kg	Naphthalene	ND	10.4 µg/kg
Chlorobenzene	ND	5.2 µg/kg	n-Propylbenzene	ND	5.2 µg/kg
Chloroethane	ND	5.2 µg/kg	Styrene	ND	5.2 µg/kg
Chloroform	ND	5.2 µg/kg	1,1,1,2-Tetrachloroethane	ND	5.2 µg/kg
romethane	ND	5.2 µg/kg	1,1,2,2-Tetrachloroethane	ND	5.2 µg/kg
lorotoluene	ND	5.2 µg/kg	Tetrachloroethene (PCE)	ND	5.2 µg/kg
4-Chlorotoluene	ND	5.2 µg/kg	Toluene	ND	5.2 µg/kg
Dibromochloromethane	ND	5.2 µg/kg	1,2,3-Trichlorobenzene	ND	5.2 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.2 µg/kg	1,2,4-Trichlorobenzene	ND	5.2 µg/kg
1,2-Dibromoethane (EDB)	ND	5.2 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5.2 µg/kg
Dibromomethane	ND	5.2 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5.2 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5.2 µg/kg	Trichloroethene (TCE)	ND	5.2 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5.2 µg/kg	Trichlorofluoromethane (Freon 11)	ND	10.4 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5.2 µg/kg	1,2,3-Trichloropropane	ND	5.2 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5.2 µg/kg	1,2,4-Trimethylbenzene	ND	5.2 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5.2 µg/kg	1,3,5-Trimethylbenzene	ND	5.2 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5.2 µg/kg	Vinyl chloride	ND	5.2 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5.2 µg/kg	o-Xylene	ND	5.2 µg/kg
cis-1,2-Dichloroethene	ND	5.2 µg/kg	m,p-Xylene	ND	10.4 µg/kg
trans-1,2-Dichloroethene	ND	5.2 µg/kg			
1,2-Dichloropropane	ND	5.2 µg/kg			
1,3-Dichloropropane	ND	5.2 µg/kg			
2,2-Dichloropropane	ND	10.4 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	105	70 - 130
Dibromofluoromethane	106	70 - 130
Toluene-d8	100	70 - 130

ND - Not Detected

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CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-UTIL-SB06-04
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/25/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005271-04
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/5/00
MATRIX:	Solid	ANALYZED:	6/5/00
DILUTION:	0.96	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	ND	24. µg/kg	1,1-Dichloropropene	ND	4.8 µg/kg
Benzene	ND	4.8 µg/kg	cis-1,3-Dichloropropene	ND	4.8 µg/kg
Bromobenzene	ND	4.8 µg/kg	trans-1,3-Dichloropropene	ND	4.8 µg/kg
Bromochloromethane	ND	4.8 µg/kg	Ethylbenzene	ND	4.8 µg/kg
Bromodichloromethane	ND	4.8 µg/kg	Hexachlorobutadiene	ND	4.8 µg/kg
Bromoform	ND	4.8 µg/kg	2-Hexanone	ND	24. µg/kg
Bromomethane	ND	4.8 µg/kg	Iodomethane	ND	4.8 µg/kg
2-Butanone	ND	24. µg/kg	Isopropylbenzene	ND	4.8 µg/kg
n-Butylbenzene	ND	4.8 µg/kg	p-Isopropyltoluene	ND	4.8 µg/kg
sec-Butylbenzene	ND	4.8 µg/kg	Methylene chloride (Dichloromethane)	ND	4.8 µg/kg
tert-Butylbenzene	ND	4.8 µg/kg	4-Methyl-2-pentanone	ND	24. µg/kg
Carbon disulfide	17	4.8 µg/kg	MTBE	ND	4.8 µg/kg
Carbon tetrachloride	ND	4.8 µg/kg	Naphthalene	ND	9.6 µg/kg
Chlorobenzene	ND	4.8 µg/kg	n-Propylbenzene	ND	4.8 µg/kg
Chloroethane	ND	4.8 µg/kg	Styrene	ND	4.8 µg/kg
Chloroform	ND	4.8 µg/kg	1,1,1,2-Tetrachloroethane	ND	4.8 µg/kg
Chloromethane	ND	4.8 µg/kg	1,1,2,2-Tetrachloroethane	ND	4.8 µg/kg
2-Chlorotoluene	ND	4.8 µg/kg	Tetrachloroethene (PCE)	ND	4.8 µg/kg
4-Chlorotoluene	ND	4.8 µg/kg	Toluene	ND	4.8 µg/kg
Dibromochloromethane	ND	4.8 µg/kg	1,2,3-Trichlorobenzene	ND	4.8 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	4.8 µg/kg	1,2,4-Trichlorobenzene	ND	4.8 µg/kg
1,2-Dibromoethane (EDB)	ND	4.8 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	4.8 µg/kg
Dibromomethane	ND	4.8 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	4.8 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	4.8 µg/kg	Trichloroethene (TCE)	ND	4.8 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	4.8 µg/kg	Trichlorofluoromethane (Freon 11)	ND	9.6 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	4.8 µg/kg	1,2,3-Trichloropropane	ND	4.8 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	4.8 µg/kg	1,2,4-Trimethylbenzene	ND	4.8 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	4.8 µg/kg	1,3,5-Trimethylbenzene	ND	4.8 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	4.8 µg/kg	Vinyl chloride	ND	4.8 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	4.8 µg/kg	o-Xylene	ND	4.8 µg/kg
cis-1,2-Dichloroethene	ND	4.8 µg/kg	m,p-Xylene	ND	9.6 µg/kg
trans-1,2-Dichloroethene	ND	4.8 µg/kg			
1,2-Dichloropropane	ND	4.8 µg/kg			
1,3-Dichloropropane	ND	4.8 µg/kg			
2,2-Dichloropropane	ND	9.6 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	106	70 - 130
Dibromofluoromethane	106	70 - 130
Toluene-d8	100	70 - 130

ND - Not Detected

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CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-UTIL-SB07-04
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/25/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005271-05
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	EXTRACTED:	6/5/00
MATRIX:	Solid	ANALYZED:	6/5/00
DILUTION:	1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	75	25. µg/kg	1,1-Dichloropropene	ND	5. µg/kg
Benzene	ND	5. µg/kg	cis-1,3-Dichloropropene	ND	5. µg/kg
Bromobenzene	ND	5. µg/kg	trans-1,3-Dichloropropene	ND	5. µg/kg
Bromochloromethane	ND	5. µg/kg	Ethylbenzene	ND	5. µg/kg
Bromodichloromethane	ND	5. µg/kg	Hexachlorobutadiene	ND	5. µg/kg
Bromoform	ND	5. µg/kg	2-Hexanone	ND	25. µg/kg
Bromomethane	ND	5. µg/kg	Iodomethane	ND	5. µg/kg
2-Butanone	ND	25. µg/kg	Isopropylbenzene	ND	5. µg/kg
n-Butylbenzene	ND	5. µg/kg	p-Isopropyltoluene	ND	5. µg/kg
sec-Butylbenzene	ND	5. µg/kg	Methylene chloride (Dichloromethane)	ND	5. µg/kg
tert-Butylbenzene	ND	5. µg/kg	4-Methyl-2-pentanone	ND	25. µg/kg
Carbon disulfide	20	5. µg/kg	MTBE	ND	5. µg/kg
Carbon tetrachloride	ND	5. µg/kg	Naphthalene	ND	10. µg/kg
Chlorobenzene	ND	5. µg/kg	n-Propylbenzene	ND	5. µg/kg
Chloroethane	ND	5. µg/kg	Styrene	ND	5. µg/kg
Chloroform	ND	5. µg/kg	1,1,1,2-Tetrachloroethane	ND	5. µg/kg
Chloromethane	ND	5. µg/kg	1,1,2,2-Tetrachloroethane	ND	5. µg/kg
2-Chlorotoluene	ND	5. µg/kg	Tetrachloroethene (PCE)	ND	5. µg/kg
4-Chlorotoluene	ND	5. µg/kg	Toluene	ND	5. µg/kg
Dibromochloromethane	ND	5. µg/kg	1,2,3-Trichlorobenzene	ND	5. µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5. µg/kg	1,2,4-Trichlorobenzene	ND	5. µg/kg
1,2-Dibromoethane (EDB)	ND	5. µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5. µg/kg
Dibromomethane	ND	5. µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5. µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5. µg/kg	Trichloroethene (TCE)	ND	5. µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5. µg/kg	Trichlorofluoromethane (Freon 11)	ND	10. µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5. µg/kg	1,2,3-Trichloropropane	ND	5. µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5. µg/kg	1,2,4-Trimethylbenzene	ND	5. µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5. µg/kg	1,3,5-Trimethylbenzene	ND	5. µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5. µg/kg	Vinyl chloride	ND	5. µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5. µg/kg	o-Xylene	ND	5. µg/kg
cis-1,2-Dichloroethene	ND	5. µg/kg	m,p-Xylene	ND	10. µg/kg
trans-1,2-Dichloroethene	ND	5. µg/kg			
1,2-Dichloropropane	ND	5. µg/kg			
1,3-Dichloropropane	ND	5. µg/kg			
2,2-Dichloropropane	ND	10. µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	105	70 - 130
Dibromofluoromethane	106	70 - 130
Toluene-d8	101	70 - 130

ND - Not Detected

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CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	NA
PROJECT #:	NA	NEL SAMPLE ID:	000605SD60_2A-BLK
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	ANALYST:	CHG - Las Vegas Division
MATRIX:	Solid	EXTRACTED:	6/5/00
		ANALYZED:	6/5/00

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	ND	25 µg/kg	1,1-Dichloropropene	ND	5 µg/kg
Benzene	ND	5 µg/kg	cis-1,3-Dichloropropene	ND	5 µg/kg
Bromobenzene	ND	5 µg/kg	trans-1,3-Dichloropropene	ND	5 µg/kg
Bromochloromethane	ND	5 µg/kg	Ethylbenzene	ND	5 µg/kg
Bromodichloromethane	ND	5 µg/kg	Hexachlorobutadiene	ND	5 µg/kg
Bromoform	ND	5 µg/kg	2-Hexanone	ND	25 µg/kg
Bromomethane	ND	5 µg/kg	Iodomethane	ND	5 µg/kg
2-Butanone	ND	25 µg/kg	Isopropylbenzene	ND	5 µg/kg
n-Butylbenzene	ND	5 µg/kg	p-Isopropyltoluene	ND	5 µg/kg
sec-Butylbenzene	ND	5 µg/kg	Methylene chloride (Dichloromethane)	ND	5 µg/kg
tert-Butylbenzene	ND	5 µg/kg	4-Methyl-2-pentanone	ND	25 µg/kg
Carbon disulfide	ND	5 µg/kg	MTBE	ND	5 µg/kg
Carbon tetrachloride	ND	5 µg/kg	Naphthalene	ND	10 µg/kg
Chlorobenzene	ND	5 µg/kg	n-Propylbenzene	ND	5 µg/kg
Chloroethane	ND	5 µg/kg	Styrene	ND	5 µg/kg
Chloroform	ND	5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5 µg/kg
omethane	ND	5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5 µg/kg
2-Chlorotoluene	ND	5 µg/kg	Tetrachloroethene (PCE)	ND	5 µg/kg
4-Chlorotoluene	ND	5 µg/kg	Toluene	ND	5 µg/kg
Dibromochloromethane	ND	5 µg/kg	1,2,3-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 µg/kg	1,2,4-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromoethane (EDB)	ND	5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/kg
Dibromomethane	ND	5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/kg	Trichloroethene (TCE)	ND	5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	10 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/kg	1,2,3-Trichloropropane	ND	5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5 µg/kg	1,2,4-Trimethylbenzene	ND	5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/kg	1,3,5-Trimethylbenzene	ND	5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/kg	Vinyl chloride	ND	5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/kg	o-Xylene	ND	5 µg/kg
cis-1,2-Dichloroethene	ND	5 µg/kg	m,p-Xylene	ND	10 µg/kg
trans-1,2-Dichloroethene	ND	5 µg/kg			
1,2-Dichloropropane	ND	5 µg/kg			
1,3-Dichloropropane	ND	5 µg/kg			
2,2-Dichloropropane	ND	10 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	109	70 - 130
Dibromofluoromethane	103	70 - 130
Toluene-d8	100	70 - 130

ND - Not Detected

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CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	NA
PROJECT #:	NA	NEL SAMPLE ID:	000606SD60_2A-BLK
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	ANALYST:	JJM - Las Vegas Division
MATRIX:	Solid	EXTRACTED:	6/6/00
		ANALYZED:	6/6/00

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	ND	25 µg/kg	1,1-Dichloropropene	ND	5 µg/kg
Benzene	ND	5 µg/kg	cis-1,3-Dichloropropene	ND	5 µg/kg
Bromobenzene	ND	5 µg/kg	trans-1,3-Dichloropropene	ND	5 µg/kg
Bromochloromethane	ND	5 µg/kg	Ethylbenzene	ND	5 µg/kg
Bromodichloromethane	ND	5 µg/kg	Hexachlorobutadiene	ND	5 µg/kg
Bromoform	ND	5 µg/kg	2-Hexanone	ND	25 µg/kg
Bromomethane	ND	5 µg/kg	Iodomethane	ND	5 µg/kg
2-Butanone	ND	25 µg/kg	Isopropylbenzene	ND	5 µg/kg
n-Butylbenzene	ND	5 µg/kg	p-Isopropyltoluene	ND	5 µg/kg
sec-Butylbenzene	ND	5 µg/kg	Methylene chloride (Dichloromethane)	ND	5 µg/kg
tert-Butylbenzene	ND	5 µg/kg	4-Methyl-2-pentanone	ND	25 µg/kg
Carbon disulfide	ND	5 µg/kg	MTBE	ND	5 µg/kg
Carbon tetrachloride	ND	5 µg/kg	Naphthalene	ND	10 µg/kg
Chlorobenzene	ND	5 µg/kg	n-Propylbenzene	ND	5 µg/kg
Chloroethane	ND	5 µg/kg	Styrene	ND	5 µg/kg
Chloroform	ND	5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5 µg/kg
Chloromethane	ND	5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5 µg/kg
2-Chlorotoluene	ND	5 µg/kg	Tetrachloroethene (PCE)	ND	5 µg/kg
4-Chlorotoluene	ND	5 µg/kg	Toluene	ND	5 µg/kg
Dibromochloromethane	ND	5 µg/kg	1,2,3-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 µg/kg	1,2,4-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromoethane (EDB)	ND	5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/kg
Dibromomethane	ND	5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/kg	Trichloroethene (TCE)	ND	5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	10 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/kg	1,2,3-Trichloropropane	ND	5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5 µg/kg	1,2,4-Trimethylbenzene	ND	5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/kg	1,3,5-Trimethylbenzene	ND	5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/kg	Vinyl chloride	ND	5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/kg	o-Xylene	ND	5 µg/kg
cis-1,2-Dichloroethene	ND	5 µg/kg	m,p-Xylene	ND	10 µg/kg
trans-1,2-Dichloroethene	ND	5 µg/kg			
1,2-Dichloropropane	ND	5 µg/kg			
1,3-Dichloropropane	ND	5 µg/kg			
2,2-Dichloropropane	ND	10 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	100	70 - 130
Dibromofluoromethane	103	70 - 130
Toluene-d8	100	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	NA
PROJECT #:	NA	NEL SAMPLE ID:	000606SD60_2B-BLK
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260B	ANALYST:	JJM - Las Vegas Division
MATRIX:	Solid	EXTRACTED:	6/6/00
		ANALYZED:	6/6/00

PARAMETER	Result µg/kg	Reporting Limit	PARAMETER	Result µg/kg	Reporting Limit
Acetone	ND	25 µg/kg	1,1-Dichloropropene	ND	5 µg/kg
Benzene	ND	5 µg/kg	cis-1,3-Dichloropropene	ND	5 µg/kg
Bromobenzene	ND	5 µg/kg	trans-1,3-Dichloropropene	ND	5 µg/kg
Bromochloromethane	ND	5 µg/kg	Ethylbenzene	ND	5 µg/kg
Bromodichloromethane	ND	5 µg/kg	Hexachlorobutadiene	ND	5 µg/kg
Bromoform	ND	5 µg/kg	2-Hexanone	ND	25 µg/kg
Bromomethane	ND	5 µg/kg	Iodomethane	ND	5 µg/kg
2-Butanone	ND	25 µg/kg	Isopropylbenzene	ND	5 µg/kg
n-Butylbenzene	ND	5 µg/kg	p-Isopropyltoluene	ND	5 µg/kg
sec-Butylbenzene	ND	5 µg/kg	Methylene chloride (Dichloromethane)	ND	5 µg/kg
tert-Butylbenzene	ND	5 µg/kg	4-Methyl-2-pentanone	ND	25 µg/kg
Carbon disulfide	ND	5 µg/kg	MTBE	ND	5 µg/kg
Carbon tetrachloride	ND	5 µg/kg	Naphthalene	ND	10 µg/kg
Chlorobenzene	ND	5 µg/kg	n-Propylbenzene	ND	5 µg/kg
Chloroethane	ND	5 µg/kg	Styrene	ND	5 µg/kg
Chloroform	ND	5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5 µg/kg
omethane	ND	5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5 µg/kg
2-Chlorotoluene	ND	5 µg/kg	Tetrachloroethene (PCE)	ND	5 µg/kg
4-Chlorotoluene	ND	5 µg/kg	Toluene	ND	5 µg/kg
Dibromochloromethane	ND	5 µg/kg	1,2,3-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 µg/kg	1,2,4-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromoethane (EDB)	ND	5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/kg
Dibromomethane	ND	5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/kg	Trichloroethene (TCE)	ND	5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	10 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/kg	1,2,3-Trichloropropane	ND	5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5 µg/kg	1,2,4-Trimethylbenzene	ND	5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/kg	1,3,5-Trimethylbenzene	ND	5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/kg	Vinyl chloride	ND	5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/kg	o-Xylene	ND	5 µg/kg
cis-1,2-Dichloroethene	ND	5 µg/kg	m,p-Xylene	ND	10 µg/kg
trans-1,2-Dichloroethene	ND	5 µg/kg			
1,2-Dichloropropane	ND	5 µg/kg			
1,3-Dichloropropane	ND	5 µg/kg			
2,2-Dichloropropane	ND	10 µg/kg			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	109	70 - 130
Dibromofluoromethane	105	70 - 130
Toluene-d8	100	70 - 130

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-UTIL-SB03-04**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/25/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005271-01

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	16.7	0.	1	EPA 3550	%	6/5/00
Percent Solid	83.3	0.	1	EPA 3550	%	6/5/00

D.F. - Dilution Factor

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-UTIL-SB04-04**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/25/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005271-02

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	14.1	0.	1	EPA 3550	%	6/5/00
Percent Solid	85.9	0.	1	EPA 3550	%	6/5/00

D. F. - Dilution Factor

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-UTIL-SB05-04**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/25/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005271-03

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	8.0	0.	1	EPA 3550	%	6/5/00
Percent Solid	92	0.	1	EPA 3550	%	6/5/00

D.F. - Dilution Factor

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-UTIL-SB06-04**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/25/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005271-04

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	16.3	0.	1	EPA 3550	%	6/5/00
Percent Solid	83.7	0.	1	EPA 3550	%	6/5/00

D. F. - Dilution Factor

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-UTIL-SB07-04**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/25/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005271-05

TEST: **Inorganic Non-Metals**
MATRIX: Solid

PARAMETER	RESULT	REPORTING LIMIT	D. F.	METHOD	UNITS	ANALYZED
Percent Moisture	13.4	0.	1	EPA 3550	%	6/5/00
Percent Solid	86.6	0.	1	EPA 3550	%	6/5/00

D.F. - Dilution Factor

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-UTIL-SB03-04**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/25/00
ECT #:	NA	NEL SAMPLE ID:	L0005271-01

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.4	ANALYZED:	6/6/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1200. µg/Kg
Acenaphthylene	ND	1200. µg/Kg
Anthracene	ND	1200. µg/Kg
Benzo (a) anthracene	ND	1200. µg/Kg
Benzo (b&k) fluoranthene	ND	1200. µg/Kg
Benzo (g,h,i) perylene	ND	1200. µg/Kg
Benzo (a) pyrene	ND	1200. µg/Kg
Chrysene	ND	1200. µg/Kg
Dibenzo (a,h) anthracene	ND	1200. µg/Kg
Fluoranthene	ND	1200. µg/Kg
Fluorene	ND	1200. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1200. µg/Kg
Naphthalene	ND	1200. µg/Kg
Phenanthrene	ND	1200. µg/Kg
Pyrene	ND	1200. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
orobiphenyl	71	30 - 115
Nitrobenzene-d5	44	23 - 120
p-Terphenyl-d14	69	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-UTIL-SB04-04**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/25/00
ECT #:	NA	NEL SAMPLE ID:	L0005271-02

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.4	ANALYZED:	6/6/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1200. µg/Kg
Acenaphthylene	ND	1200. µg/Kg
Anthracene	ND	1200. µg/Kg
Benzo (a) anthracene	ND	1200. µg/Kg
Benzo (b&k) fluoranthene	ND	1200. µg/Kg
Benzo (g,h,i) perylene	ND	1200. µg/Kg
Benzo (a) pyrene	ND	1200. µg/Kg
Chrysene	ND	1200. µg/Kg
Dibenzo (a,h) anthracene	ND	1200. µg/Kg
Fluoranthene	ND	1200. µg/Kg
Fluorene	ND	1200. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1200. µg/Kg
Naphthalene	ND	1200. µg/Kg
Phenanthrene	ND	1200. µg/Kg
Pyrene	ND	1200. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
orobiphenyl	78	30 - 115
Nitrobenzene-d5	41	23 - 120
p-Terphenyl-d14	66	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-UTIL-SB05-04**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/25/00
JECT #:	NA	NEL SAMPLE ID:	L0005271-03

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.2	ANALYZED:	6/6/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1100. µg/Kg
Acenaphthylene	ND	1100. µg/Kg
Anthracene	ND	1100. µg/Kg
Benzo (a) anthracene	ND	1100. µg/Kg
Benzo (b&k) fluoranthene	ND	1100. µg/Kg
Benzo (g,h,i) perylene	ND	1100. µg/Kg
Benzo (a) pyrene	ND	1100. µg/Kg
Chrysene	ND	1100. µg/Kg
Dibenzo (a,h) anthracene	ND	1100. µg/Kg
Fluoranthene	ND	1100. µg/Kg
Fluorene	ND	1100. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1100. µg/Kg
Naphthalene	ND	1100. µg/Kg
Phenanthrene	ND	1100. µg/Kg
Pyrene	ND	1100. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
ıorobiphenyl	80	30 - 115
Nitrobenzene-d5	41	23 - 120
p-Terphenyl-d14	68	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-UTIL-SB06-04**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/25/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005271-04

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.4	ANALYZED:	6/6/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1200. µg/Kg
Acenaphthylene	ND	1200. µg/Kg
Anthracene	ND	1200. µg/Kg
Benzo (a) anthracene	ND	1200. µg/Kg
Benzo (b&k) fluoranthene	ND	1200. µg/Kg
Benzo (g,h,i) perylene	ND	1200. µg/Kg
Benzo (a) pyrene	ND	1200. µg/Kg
Chrysene	ND	1200. µg/Kg
Dibenzo (a,h) anthracene	ND	1200. µg/Kg
Fluoranthene	ND	1200. µg/Kg
Fluorene	ND	1200. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1200. µg/Kg
Naphthalene	ND	1200. µg/Kg
Phenanthrene	ND	1200. µg/Kg
Pyrene	ND	1200. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
[illegible]orobiphenyl	72	30 - 115
Nitrobenzene-d5	37	23 - 120
p-Terphenyl-d14	51	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-UTIL-SB07-04**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/25/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005271-05

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
DILUTION:	2.4	ANALYZED:	6/6/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	1200. µg/Kg
Acenaphthylene	ND	1200. µg/Kg
Anthracene	ND	1200. µg/Kg
Benzo (a) anthracene	ND	1200. µg/Kg
Benzo (b&k) fluoranthene	ND	1200. µg/Kg
Benzo (g,h,i) perylene	ND	1200. µg/Kg
Benzo (a) pyrene	ND	1200. µg/Kg
Chrysene	ND	1200. µg/Kg
Dibenzo (a,h) anthracene	ND	1200. µg/Kg
Fluoranthene	ND	1200. µg/Kg
Fluorene	ND	1200. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	1200. µg/Kg
Naphthalene	ND	1200. µg/Kg
Phenanthrene	ND	1200. µg/Kg
Pyrene	ND	1200. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	79	30 - 115
Nitrobenzene-d5	48	23 - 120
p-Terphenyl-d14	70	18 - 137

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	NA
PROJECT #:	NA	NEL SAMPLE ID:	060200-E4-BLK

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Solid	EXTRACTED:	6/2/00
		ANALYZED:	6/6/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	500. µg/Kg
Acenaphthylene	ND	500. µg/Kg
Anthracene	ND	500. µg/Kg
Benzo (a) anthracene	ND	500. µg/Kg
Benzo (b&k) fluoranthene	ND	500. µg/Kg
Benzo (g,h,i) perylene	ND	500. µg/Kg
Benzo (a) pyrene	ND	500. µg/Kg
Chrysene	ND	500. µg/Kg
Dibenzo (a,h) anthracene	ND	500. µg/Kg
Fluoranthene	ND	500. µg/Kg
Fluorene	ND	500. µg/Kg
Indeno (1,2,3-c,d) pyrene	ND	500. µg/Kg
Naphthalene	ND	500. µg/Kg
Phenanthrene	ND	500. µg/Kg
Pyrene	ND	500. µg/Kg

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	84	30 - 115
Nitrobenzene-d5	50	23 - 120
p-Terphenyl-d14	76	18 - 137

ND - Not Detected

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CLIENT: US Army Corps Of Engineers
PROJECT ID: Langley AFB, VA
ECT #: NA
TEST: **Volatile Organic Compounds by EPA 8260B, December 1996**
MATRIX: Solid

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery	Acceptable Range	RPD
Benzene	000605SD60_2A-LCS	20	18.16	91	70 - 130	
Chlorobenzene	000605SD60_2A-LCS	20	18.47	92	70 - 130	
1,1-Dichloroethene (1,1-DCE)	000605SD60_2A-LCS	20	18.38	92	70 - 130	
Toluene	000605SD60_2A-LCS	20	18.34	92	70 - 130	
Trichloroethene (TCE)	000605SD60_2A-LCS	20	17.7	89	70 - 130	

ND - Not Detected

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NEL LABORATORIES

CLIENT: US Army Corps Of Engineers
PROJECT ID: Langley AFB, VA
PROJECT #: NA
TEST: **Volatile Organic Compounds by EPA 8260B, December 1996**
MATRIX: Solid

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery	Acceptable Range	RPD
Benzene	000606SD60_2A-LCS	20	19.56	98	70 - 130	
Benzene	L0005271-04-MS	20	16	80	70 - 130	
Chlorobenzene	000606SD60_2A-LCS	20	19.41	97	70 - 130	
Chlorobenzene	L0005271-04-MS	20	16	80	70 - 130	
1,1-Dichloroethene (1,1-DCE)	000606SD60_2A-LCS	20	20.52	103	70 - 130	
1,1-Dichloroethene (1,1-DCE)	L0005271-04-MS	20	17	85	70 - 130	
Toluene	000606SD60_2A-LCS	20	19.49	97	70 - 130	
Toluene	L0005271-04-MS	20	14.5	73	70 - 130	
Trichloroethene (TCE)	000606SD60_2A-LCS	20	19.66	98	70 - 130	
Trichloroethene (TCE)	L0005271-04-MS	20	15	75	70 - 130	

ND - Not Detected

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CLIENT: US Army Corps Of Engineers
PROJECT ID: Langley AFB, VA
PROJECT #: NA
TEST: **Volatile Organic Compounds by EPA 8260B, December 1996**
MATRIX: Solid

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery		Acceptable Range	RPD
Benzene	000606SD60_2B-LCS	20	19.56	98		70 - 130	
Benzene	L0005271-04-MS	20	16	80		70 - 130	
Chlorobenzene	000606SD60_2B-LCS	20	19.41	97		70 - 130	
Chlorobenzene	L0005271-04-MS	20	16	80		70 - 130	
1,1-Dichloroethene (1,1-DCE)	000606SD60_2B-LCS	20	20.52	103		70 - 130	
1,1-Dichloroethene (1,1-DCE)	L0005271-04-MS	20	17	85		70 - 130	
Toluene	000606SD60_2B-LCS	20	19.49	97		70 - 130	
Toluene	L0005271-04-MS	20	14.5	73	Jm	70 - 130	
Trichloroethene (TCE)	000606SD60_2B-LCS	20	19.66	98		70 - 130	
Trichloroethene (TCE)	L0005271-04-MS	20	15	75		70 - 130	

ND - Not Detected

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CLIENT: US Army Corps Of Engineers
PROJECT ID: Langley AFB, VA
PROJECT #: NA

TEST: **Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**
MATRIX: Solid

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery	Acceptable Range	RPD
Naphthalene	060200-E4-LCS	80	64.8	81	21 - 133	
Naphthalene	060200-E4-LCSD	80	63.7	80	21 - 133	1.7
Naphthalene	L0005271-02-MS	80	54.3	68	21 - 133	
Naphthalene	L0005271-02-MSD	80	48.5	61	21 - 133	11.3
Acenaphthene	060200-E4-LCS	80	60.6	76	47 - 148	
Acenaphthene	060200-E4-LCSD	80	60.8	76	47 - 148	0.3
Acenaphthene	L0005271-02-MS	80	54.6	68	47 - 148	
Acenaphthene	L0005271-02-MSD	80	50.4	63	47 - 148	8.
Acenaphthylene	060200-E4-LCS	80	69.6	87	33 - 145	
Acenaphthylene	060200-E4-LCSD	80	71.6	89	33 - 145	2.8
Acenaphthylene	L0005271-02-MS	80	46.4	58	33 - 145	
Acenaphthylene	L0005271-02-MSD	80	37.1	46	33 - 145	22.3
Fluorene	060200-E4-LCS	80	64.1	80	59 - 121	
Fluorene	060200-E4-LCSD	80	64.8	81	59 - 121	1.1
Fluorene	L0005271-02-MS	80	54.7	68	59 - 121	
[illegible]rene	L0005271-02-MSD	80	50	63	59 - 121	9.
[illegible]nanthrene	060200-E4-LCS	80	68	85	54 - 120	
Phenanthrene	060200-E4-LCSD	80	70.1	88	54 - 120	3.
Phenanthrene	L0005271-02-MS	80	52.6	66	54 - 120	
Phenanthrene	L0005271-02-MSD	80	45.7	57	54 - 120	14.
Anthracene	060200-E4-LCS	80	68	85	27 - 133	
Anthracene	060200-E4-LCSD	80	70.5	88	27 - 133	3.6
Anthracene	L0005271-02-MS	80	54	68	27 - 133	
Anthracene	L0005271-02-MSD	80	47.5	59	27 - 133	12.8
Fluoranthene	060200-E4-LCS	80	70.6	88	26 - 137	
Fluoranthene	060200-E4-LCSD	80	72.5	91	26 - 137	2.7
Fluoranthene	L0005271-02-MS	80	57.6	72	26 - 137	
Fluoranthene	L0005271-02-MSD	80	53.1	66	26 - 137	8.1
Pyrene	060200-E4-LCS	80	70.5	88	52 - 115	
Pyrene	060200-E4-LCSD	80	72.4	91	52 - 115	2.7
Pyrene	L0005271-02-MS	80	57.6	72	52 - 115	
Pyrene	L0005271-02-MSD	80	52.6	66	52 - 115	9.1
Benzo (a) anthracene	060200-E4-LCS	80	61.9	77	33 - 143	
Benzo (a) anthracene	060200-E4-LCSD	80	63.9	80	33 - 143	3.2
Benzo (a) anthracene	L0005271-02-MS	80	57.5	72	33 - 143	
Benzo (a) anthracene	L0005271-02-MSD	80	57.7	72	33 - 143	0.3
Chrysene	060200-E4-LCS	80	68.3	85	17 - 168	
[illegible]sene	060200-E4-LCSD	80	70.6	88	17 - 168	3.3

ND - Not Detected

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CLIENT: US Army Corps Of Engineers
PROJECT ID: Langley AFB, VA
PROJECT #: NA
TEST: **Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**
MATRIX: Solid

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery	Acceptable Range	RPD
Chrysene	L0005271-02-MS	80	57.4	72	17 - 168	
Chrysene	L0005271-02-MSD	80	54.4	68	17 - 168	5.4
Benzo (b&k) fluoranthene	060200-E4-LCS	160	127	79	24 - 159	
Benzo (b&k) fluoranthene	060200-E4-LCSD	160	129	81	24 - 159	1.6
Benzo (b&k) fluoranthene	L0005271-02-MS	160	114	71	24 - 159	
Benzo (b&k) fluoranthene	L0005271-02-MSD	160	111	69	24 - 159	2.7
Benzo (a) pyrene	060200-E4-LCS	80	65.4	82	17 - 163	
Benzo (a) pyrene	060200-E4-LCSD	80	66.3	83	17 - 163	1.4
Benzo (a) pyrene	L0005271-02-MS	80	61.8	77	17 - 163	
Benzo (a) pyrene	L0005271-02-MSD	80	59.9	75	17 - 163	3.1
Indeno (1,2,3-c,d) pyrene	060200-E4-LCS	80	68.9	86	13 - 171	
Indeno (1,2,3-c,d) pyrene	060200-E4-LCSD	80	70.4	88	13 - 171	2.2
Indeno (1,2,3-c,d) pyrene	L0005271-02-MS	80	60.7	76	13 - 171	
Indeno (1,2,3-c,d) pyrene	L0005271-02-MSD	80	60.1	75	13 - 171	1.
Dibenzo (a,h) anthracene	060200-E4-LCS	80	70.7	88	13 - 227	
Dibenzo (a,h) anthracene	060200-E4-LCSD	80	71.8	90	13 - 227	1.5
Dibenzo (a,h) anthracene	L0005271-02-MS	80	63.1	79	13 - 227	
Dibenzo (a,h) anthracene	L0005271-02-MSD	80	62.2	78	13 - 227	1.4
Benzo (g,h,i) perylene	060200-E4-LCS	80	70	88	13 - 219	
Benzo (g,h,i) perylene	060200-E4-LCSD	80	71.7	90	13 - 219	2.4
Benzo (g,h,i) perylene	L0005271-02-MS	80	60.2	75	13 - 219	
Benzo (g,h,i) perylene	L0005271-02-MSD	80	58.7	73	13 - 219	2.5

ND - Not Detected

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CHAIN OF CUSTODY

NEL Work Order: C0005-74
1 of 2

Project Name: Langley AFB, VA
Project Number:
Purchase Order Number:
Sampled By: R. Grabowski

Company: US Army Corps of Engineers
Attention: Rick Grabowski
Address: 215 N. 17th St. Omaha NE 68102
Phone Number: (402) 221-7784
Fax Number: (402) 221-7769
Billing Address: Same as above.
Expected Due Date: 6/5

Requested Turnaround: X 5-day ___ 2-day ___ 1-day ___ Other

Analysis

Time/Date Sampled	Customer Sample Identification	N.E.L. Identification	# of Containers	Matrix (Box #1)	Preservative (Box #2)	VOCs (8260B)	PAHs (8270C)													Remarks
0747 5/25/00	LAFB-UTIL-SB03-04	01	2	SD	E	X														
0747 5/25/00	LAFB-UTIL-SB03-04	01	1	SD	E		X													
0747 5/25/00	LAFB-UTIL-SB03-04	01	1	SD	E	X														
0815 5/25/00	LAFB-UTIL-SB04-04	02	2	SD	E	X														
0815 5/25/00	LAFB-UTIL-SB04-04	02	1	SD	E		X													
0815 5/25/00	LAFB-UTIL-SB04-04	02	1	SD	E	X														
0845 5/25/00	LAFB-UTIL-SB05-04	03	2	SD	E	X														
0845 5/25/00	LAFB-UTIL-SB05-04	03	1	SD	E		X													
0845 5/25/00	LAFB-UTIL-SB05-04	03	1	SD	E	X														
0910 5/25/00	LAFB-UTIL-SB06-04	04	2	SD	E	X														

Custody Seal intact? Y N None Temp. 4°C
Condition when received good

Box #1: DW - Drinking Water, WW - Waste Water, OL - Oil/Organic Liquid, SD - Solid, AQ - Aqueous, A - Air

Box #2: A. HCl, B. HNO_3, C. H_2SO_4, D. NaOH, E. Ice Only, F. Other_____, G. Not Preserved

Relinquished by (Print)	(Signature)	Date/Time	Received by (Print)	(Signature)	Date/Time
1 Richard Grabowski	[signature]	5/25/00 1900	Via Fed-X		
2	Via Fed-X		T. Sharpe	[signature]	5-26-00/10:00
3					

The liability of NEL Laboratories Inc. is limited strictly to the price of sample analysis for those samples received in good condition by NEL. NEL is not responsible for loss, damage, resampling costs and/or qualified data related to samples not received in good condition, including adequate sample volume and number of containers. Customer signature of this CoC constitutes a purchase order for NEL to perform work and constitutes acceptance of all NEL Standard Terms and Conditions. Signature also constitutes acceptance of NEL Standard List Prices for all services ordered here on, except those specified otherwise via an NEL Quotation for Testing Services in effect at the time of sample receipt. NEL turnaround times are measured in regular working days. Samples received at the laboratory after 16:30 will be considered received on the next working day. Commitment of laboratory to the requested turnaround time will be confirmed via Sample Confirmation transmitted to the fax number provided above.

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CHAIN OF CUSTODY

NEL Work Order: L0005 2 of 2 7/.

Project Name: Langley AFB, VA
Project Number:
Purchase Order Number:
Sampled By: R. Grabowski

Company: US Army Corps of Engineers
Attention: Rick Grabowski
Address: 215 N. 17th St. Omaha NE 68102
Phone Number: (402) 221-7784
Fax Number: (402) 221-7769
Billing Address: Same as above
Expected Due Date: 6/5

Requested Turnaround: X 5-day ___ 2-day ___ 1-day ___ Other

Analysis

Time/Date Sampled	Customer Sample Identification	N.E.L. Identification	# of Containers	Matrix (Box #1)	Preservative (Box #2)	VOCs (8260B)	PAHs (8270C)												Remarks
0910 5/25/00	LAFB-UTIL-SB06-04	04	1	SD	E		X												
0910 5/25/00	LAFB-UTIL-SB06-04	04	1	SD	E	X													
0935 5/25/00	LAFB-UTIL-SB07-04	05	2	SD	E	X													
0935 5/25/00	LAFB-UTIL-SB07-04	05	1	SD	E		X												
0935 5/25/00	LAFB-UTIL-SB07-04	05	1	SD	E	X													

Custody Seal intact? Y N None Temp. 4°C
Condition when received good

Box #1: DW - Drinking Water; WW - Waste Water; OL - Oil/Organic Liquid; SD - Solid; AQ - Aqueous; A - Air

Box #2: A. HCl; B. HNO_3; C. H_2SO_4; D. NaOH; E. Ice Only; F. Other_____; G. Not Preserved

Relinquished by (Print)	(Signature)	Date/Time	Received by (Print)	(Signature)	Date/Time
1 Richard Grabowski	Richard Grabowski	5/25/00 1900	T. Via	FED-X	
2	Via FED-X		T. Sandoval	[signature]	5-26-00/10:00
3					

The liability of NEL Laboratories Inc. is limited strictly to the price of sample analysis for those samples received in good condition by NEL. NEL is not responsible for loss, damage, resampling costs and/or qualified data related to samples not received in good condition, including adequate sample volume and number of containers. Customer signature of this CoC constitutes a purchase order for NEL to perform work and constitutes acceptance of all NEL Standard Terms and Conditions. Signature also constitutes acceptance of NEL Standard List Prices for all services ordered here on, except those specified otherwise via an NEL Quotation for Testing Services in effect at the time of sample receipt. NEL turnaround times are measured in regular working days. Samples received at the laboratory after 16:30 will be considered received on the next working day. Commitment of laboratory to the requested turnaround time will be confirmed via Sample Confirmation transmitted to the fax number provided above.

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1-888-368-3282

CLIENT: US Army Corps Of Engineers
215 N. 17th Street
Omaha, NE 68102
ATTN: Rick Grabowski

PROJECT NAME: Langley AFB, VA
PROJECT NUMBER: NA

NEL ORDER ID: L0005295

Attached are the analytical results for samples in support of the above referenced project.

Samples submitted for this project were not sampled by NEL Laboratories. Samples were received by NEL in good condition, under chain of custody on 5/31/00.

Should you have any questions or comments, please feel free to contact our Client Services department at (702) 657-1010.

Some results have been flagged as follows:

Jf - The surrogate associated with this result has failed acceptance criteria. This concentration may be biased due to a probable matrix phenomena. All other associated QC indicates the method is in control.

Some surrogate results have been flagged as follows:

Sf - This surrogate was outside acceptance limits.

Stan Van Wagenen
Laboratory Manager

6/20/00
Date

CERTIFICATIONS:

	Reno	Las Vegas	S. California
Arizona	AZ0520	AZ0518	AZ0605
California	1707	2002	2264
US Army Corps of Engineers	Certified	Certified	

	Reno	Las Vegas	S. California
Idaho	Certified	Certified	
Montana	Certified	Certified	
Nevada	NV033	NV052	CA084
L.A.C.S.D.			10228

NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-BOPS-MW07
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/30/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005295-04
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260	EXTRACTED:	6/9/00
MATRIX:	Aqueous	ANALYZED:	6/9/00
DILUTION:	1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/L	Reporting Limit	PARAMETER	Result µg/L	Reporting Limit
Acetone	ND	25. µg/L	1,1-Dichloropropene	ND	5. µg/L
Benzene	82	5. µg/L	cis-1,3-Dichloropropene	ND	5. µg/L
Bromobenzene	ND	5. µg/L	trans-1,3-Dichloropropene	ND	5. µg/L
Bromochloromethane	ND	5. µg/L	Ethylbenzene	50	5. µg/L
Bromodichloromethane	ND	5. µg/L	Hexachlorobutadiene	ND	5. µg/L
Bromoform	ND	5. µg/L	2-Hexanone	ND	25. µg/L
Bromomethane	ND	5. µg/L	Iodomethane	ND	5. µg/L
2-Butanone	ND	25. µg/L	Isopropylbenzene	19	5. µg/L
n-Butylbenzene	ND	5. µg/L	p-Isopropyltoluene	8.3	5. µg/L
sec-Butylbenzene	11	5. µg/L	Methylene chloride (Dichloromethane)	ND	5. µg/L
tert-Butylbenzene	ND	5. µg/L	4-Methyl-2-pentanone	ND	25. µg/L
Carbon disulfide	ND	5. µg/L	MTBE	ND	5. µg/L
Carbon tetrachloride	ND	5. µg/L	Naphthalene	73	10. µg/L
Chlorobenzene	ND	5. µg/L	n-Propylbenzene	33	5. µg/L
Chloroethane	ND	5. µg/L	Styrene	ND	5. µg/L
Chloroform	ND	5. µg/L	1,1,1,2-Tetrachloroethane	ND	5. µg/L
[illegible]romethane	ND	5. µg/L	1,1,2,2-Tetrachloroethane	ND	5. µg/L
[illegible]lorotoluene	ND	5. µg/L	Tetrachloroethene (PCE)	ND	5. µg/L
4-Chlorotoluene	ND	5. µg/L	Toluene	ND	5. µg/L
Dibromochloromethane	ND	5. µg/L	1,2,3-Trichlorobenzene	ND	5. µg/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	10. µg/L	1,2,4-Trichlorobenzene	ND	5. µg/L
1,2-Dibromoethane (EDB)	ND	5. µg/L	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5. µg/L
Dibromomethane	ND	5. µg/L	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5. µg/L
1,2-Dichlorobenzene (o-DCB)	ND	5. µg/L	Trichloroethene (TCE)	ND	5. µg/L
1,3-Dichlorobenzene (m-DCB)	ND	5. µg/L	Trichlorofluoromethane (Freon 11)	ND	10. µg/L
1,4-Dichlorobenzene (p-DCB)	ND	5. µg/L	1,2,3-Trichloropropane	ND	5. µg/L
Dichlorodifluoromethane (Freon 12)	ND	5. µg/L	1,2,4-Trimethylbenzene	180	5. µg/L
1,1-Dichloroethane (1,1-DCA)	ND	5. µg/L	1,3,5-Trimethylbenzene	ND	5. µg/L
1,2-Dichloroethane (1,2-DCA)	ND	5. µg/L	Vinyl chloride	ND	5. µg/L
1,1-Dichloroethene (1,1-DCE)	ND	5. µg/L	o-Xylene	ND	5. µg/L
cis-1,2-Dichloroethene	ND	5. µg/L	m,p-Xylene	ND	10. µg/L
trans-1,2-Dichloroethene	ND	5. µg/L			
1,2-Dichloropropane	ND	5. µg/L			
1,3-Dichloropropane	ND	5. µg/L			
2,2-Dichloropropane	ND	10. µg/L			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	104	83 - 112
Dibromofluoromethane	99	84 - 109
Toluene-d8	106	88 - 113

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-BOPS-MW08
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/30/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005295-05
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260	EXTRACTED:	6/9/00
MATRIX:	Aqueous	ANALYZED:	6/9/00
DILUTION:	1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/L	Reporting Limit	PARAMETER	Result µg/L	Reporting Limit
Acetone	ND	25. µg/L	1,1-Dichloropropene	ND	5. µg/L
Benzene	71	5. µg/L	cis-1,3-Dichloropropene	ND	5. µg/L
Bromobenzene	ND	5. µg/L	trans-1,3-Dichloropropene	ND	5. µg/L
Bromochloromethane	ND	5. µg/L	Ethylbenzene	37	5. µg/L
Bromodichloromethane	ND	5. µg/L	Hexachlorobutadiene	ND	5. µg/L
Bromoform	ND	5. µg/L	2-Hexanone	ND	25. µg/L
Bromomethane	ND	5. µg/L	Iodomethane	ND	5. µg/L
2-Butanone	ND	25. µg/L	Isopropylbenzene	14	5. µg/L
n-Butylbenzene	ND	5. µg/L	p-Isopropyltoluene	5.5	5. µg/L
sec-Butylbenzene	7.2	5. µg/L	Methylene chloride (Dichloromethane)	ND	5. µg/L
tert-Butylbenzene	ND	5. µg/L	4-Methyl-2-pentanone	ND	25. µg/L
Carbon disulfide	ND	5. µg/L	MTBE	ND	5. µg/L
Carbon tetrachloride	ND	5. µg/L	Naphthalene	22	10. µg/L
Chlorobenzene	ND	5. µg/L	n-Propylbenzene	23	5. µg/L
Chloroethane	ND	5. µg/L	Styrene	ND	5. µg/L
Chloroform	ND	5. µg/L	1,1,1,2-Tetrachloroethane	ND	5. µg/L
Chloromethane	ND	5. µg/L	1,1,2,2-Tetrachloroethane	ND	5. µg/L
2-Chlorotoluene	ND	5. µg/L	Tetrachloroethene (PCE)	ND	5. µg/L
4-Chlorotoluene	ND	5. µg/L	Toluene	ND	5. µg/L
Dibromochloromethane	ND	5. µg/L	1,2,3-Trichlorobenzene	ND	5. µg/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	10. µg/L	1,2,4-Trichlorobenzene	ND	5. µg/L
1,2-Dibromoethane (EDB)	ND	5. µg/L	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5. µg/L
Dibromomethane	ND	5. µg/L	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5. µg/L
1,2-Dichlorobenzene (o-DCB)	ND	5. µg/L	Trichloroethene (TCE)	ND	5. µg/L
1,3-Dichlorobenzene (m-DCB)	ND	5. µg/L	Trichlorofluoromethane (Freon 11)	ND	10. µg/L
1,4-Dichlorobenzene (p-DCB)	ND	5. µg/L	1,2,3-Trichloropropane	ND	5. µg/L
Dichlorodifluoromethane (Freon 12)	ND	5. µg/L	1,2,4-Trimethylbenzene	120	5. µg/L
1,1-Dichloroethane (1,1-DCA)	ND	5. µg/L	1,3,5-Trimethylbenzene	ND	5. µg/L
1,2-Dichloroethane (1,2-DCA)	ND	5. µg/L	Vinyl chloride	ND	5. µg/L
1,1-Dichloroethene (1,1-DCE)	ND	5. µg/L	o-Xylene	ND	5. µg/L
cis-1,2-Dichloroethene	ND	5. µg/L	m,p-Xylene	ND	10. µg/L
trans-1,2-Dichloroethene	ND	5. µg/L			
1,2-Dichloropropane	ND	5. µg/L			
1,3-Dichloropropane	ND	5. µg/L			
2,2-Dichloropropane	ND	10. µg/L			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	99	83 - 112
Dibromofluoromethane	100	84 - 109
Toluene-d8	106	88 - 113

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-LOCR-MW07
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/30/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005295-06
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260	EXTRACTED:	6/9/00
MATRIX:	Aqueous	ANALYZED:	6/9/00
DILUTION:	1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/L	Reporting Limit	PARAMETER	Result µg/L	Reporting Limit
Acetone	ND	25. µg/L	1,1-Dichloropropene	ND	5. µg/L
Benzene	ND	5. µg/L	cis-1,3-Dichloropropene	ND	5. µg/L
Bromobenzene	ND	5. µg/L	trans-1,3-Dichloropropene	ND	5. µg/L
Bromochloromethane	ND	5. µg/L	Ethylbenzene	ND	5. µg/L
Bromodichloromethane	ND	5. µg/L	Hexachlorobutadiene	ND	5. µg/L
Bromoform	ND	5. µg/L	2-Hexanone	ND	25. µg/L
Bromomethane	ND	5. µg/L	Iodomethane	ND	5. µg/L
2-Butanone	ND	25. µg/L	Isopropylbenzene	ND	5. µg/L
n-Butylbenzene	ND	5. µg/L	p-Isopropyltoluene	ND	5. µg/L
sec-Butylbenzene	ND	5. µg/L	Methylene chloride (Dichloromethane)	ND	5. µg/L
tert-Butylbenzene	ND	5. µg/L	4-Methyl-2-pentanone	ND	25. µg/L
Carbon disulfide	ND	5. µg/L	MTBE	ND	5. µg/L
Carbon tetrachloride	ND	5. µg/L	Naphthalene	ND	10. µg/L
Chlorobenzene	ND	5. µg/L	n-Propylbenzene	ND	5. µg/L
Chloroethane	ND	5. µg/L	Styrene	ND	5. µg/L
Chloroform	ND	5. µg/L	1,1,1,2-Tetrachloroethane	ND	5. µg/L
[illegible]omethane	ND	5. µg/L	1,1,2,2-Tetrachloroethane	ND	5. µg/L
[illegible]orotoluene	ND	5. µg/L	Tetrachloroethene (PCE)	ND	5. µg/L
4-Chlorotoluene	ND	5. µg/L	Toluene	ND	5. µg/L
Dibromochloromethane	ND	5. µg/L	1,2,3-Trichlorobenzene	ND	5. µg/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	10. µg/L	1,2,4-Trichlorobenzene	ND	5. µg/L
1,2-Dibromoethane (EDB)	ND	5. µg/L	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5. µg/L
Dibromomethane	ND	5. µg/L	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5. µg/L
1,2-Dichlorobenzene (o-DCB)	ND	5. µg/L	Trichloroethene (TCE)	ND	5. µg/L
1,3-Dichlorobenzene (m-DCB)	ND	5. µg/L	Trichlorofluoromethane (Freon 11)	ND	10. µg/L
1,4-Dichlorobenzene (p-DCB)	ND	5. µg/L	1,2,3-Trichloropropane	ND	5. µg/L
Dichlorodifluoromethane (Freon 12)	ND	5. µg/L	1,2,4-Trimethylbenzene	ND	5. µg/L
1,1-Dichloroethane (1,1-DCA)	ND	5. µg/L	1,3,5-Trimethylbenzene	ND	5. µg/L
1,2-Dichloroethane (1,2-DCA)	ND	5. µg/L	Vinyl chloride	ND	5. µg/L
1,1-Dichloroethene (1,1-DCE)	ND	5. µg/L	o-Xylene	ND	5. µg/L
cis-1,2-Dichloroethene	ND	5. µg/L	m,p-Xylene	ND	10. µg/L
trans-1,2-Dichloroethene	ND	5. µg/L			
1,2-Dichloropropane	ND	5. µg/L			
1,3-Dichloropropane	ND	5. µg/L			
2,2-Dichloropropane	ND	10. µg/L			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	102	83 - 112
Dibromofluoromethane	98	84 - 109
Toluene-d8	106	88 - 113

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-LOCR-MW05
PROJECT:	Langley AFB, VA	DATE SAMPLED:	5/30/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005295-08
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260	EXTRACTED:	6/9/00
MATRIX:	Aqueous	ANALYZED:	6/9/00
DILUTION:	1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/L	Reporting Limit	PARAMETER	Result µg/L	Reporting Limit
Acetone	ND	25. µg/L	1,1-Dichloropropene	ND	5. µg/L
Benzene	ND	5. µg/L	cis-1,3-Dichloropropene	ND	5. µg/L
Bromobenzene	ND	5. µg/L	trans-1,3-Dichloropropene	ND	5. µg/L
Bromochloromethane	ND	5. µg/L	Ethylbenzene	ND	5. µg/L
Bromodichloromethane	ND	5. µg/L	Hexachlorobutadiene	ND	5. µg/L
Bromoform	ND	5. µg/L	2-Hexanone	ND	25. µg/L
Bromomethane	ND	5. µg/L	Iodomethane	ND	5. µg/L
2-Butanone	ND	25. µg/L	Isopropylbenzene	ND	5. µg/L
n-Butylbenzene	ND	5. µg/L	p-Isopropyltoluene	ND	5. µg/L
sec-Butylbenzene	ND	5. µg/L	Methylene chloride (Dichloromethane)	ND	5. µg/L
tert-Butylbenzene	ND	5. µg/L	4-Methyl-2-pentanone	ND	25. µg/L
Carbon disulfide	ND	5. µg/L	MTBE	ND	5. µg/L
Carbon tetrachloride	ND	5. µg/L	Naphthalene	ND	10. µg/L
Chlorobenzene	ND	5. µg/L	n-Propylbenzene	ND	5. µg/L
Chloroethane	ND	5. µg/L	Styrene	ND	5. µg/L
Chloroform	ND	5. µg/L	1,1,1,2-Tetrachloroethane	ND	5. µg/L
[illegible]omethane	ND	5. µg/L	1,1,2,2-Tetrachloroethane	ND	5. µg/L
2-[illegible]orotoluene	ND	5. µg/L	Tetrachloroethene (PCE)	ND	5. µg/L
4-Chlorotoluene	ND	5. µg/L	Toluene	ND	5. µg/L
Dibromochloromethane	ND	5. µg/L	1,2,3-Trichlorobenzene	ND	5. µg/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	10. µg/L	1,2,4-Trichlorobenzene	ND	5. µg/L
1,2-Dibromoethane (EDB)	ND	5. µg/L	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5. µg/L
Dibromomethane	ND	5. µg/L	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5. µg/L
1,2-Dichlorobenzene (o-DCB)	ND	5. µg/L	Trichloroethene (TCE)	ND	5. µg/L
1,3-Dichlorobenzene (m-DCB)	ND	5. µg/L	Trichlorofluoromethane (Freon 11)	ND	10. µg/L
1,4-Dichlorobenzene (p-DCB)	ND	5. µg/L	1,2,3-Trichloropropane	ND	5. µg/L
Dichlorodifluoromethane (Freon 12)	ND	5. µg/L	1,2,4-Trimethylbenzene	ND	5. µg/L
1,1-Dichloroethane (1,1-DCA)	ND	5. µg/L	1,3,5-Trimethylbenzene	ND	5. µg/L
1,2-Dichloroethane (1,2-DCA)	ND	5. µg/L	Vinyl chloride	ND	5. µg/L
1,1-Dichloroethene (1,1-DCE)	ND	5. µg/L	o-Xylene	ND	5. µg/L
cis-1,2-Dichloroethene	ND	5. µg/L	m,p-Xylene	ND	10. µg/L
trans-1,2-Dichloroethene	ND	5. µg/L			
1,2-Dichloropropane	ND	5. µg/L			
1,3-Dichloropropane	ND	5. µg/L			
2,2-Dichloropropane	ND	10. µg/L			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	102	83 - 112
Dibromofluoromethane	98	84 - 109
Toluene-d8	105	88 - 113

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	Trip Blank
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/16/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005295-09
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260	EXTRACTED:	6/9/00
MATRIX:	Aqueous	ANALYZED:	6/9/00
DILUTION:	1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/L	Reporting Limit	PARAMETER	Result µg/L	Reporting Limit
Acetone	ND	25. µg/L	1,1-Dichloropropene	ND	5. µg/L
Benzene	ND	5. µg/L	cis-1,3-Dichloropropene	ND	5. µg/L
Bromobenzene	ND	5. µg/L	trans-1,3-Dichloropropene	ND	5. µg/L
Bromochloromethane	ND	5. µg/L	Ethylbenzene	ND	5. µg/L
Bromodichloromethane	ND	5. µg/L	Hexachlorobutadiene	ND	5. µg/L
Bromoform	ND	5. µg/L	2-Hexanone	ND	25. µg/L
Bromomethane	ND	5. µg/L	Iodomethane	ND	5. µg/L
2-Butanone	ND	25. µg/L	Isopropylbenzene	ND	5. µg/L
n-Butylbenzene	ND	5. µg/L	p-Isopropyltoluene	ND	5. µg/L
sec-Butylbenzene	ND	5. µg/L	Methylene chloride (Dichloromethane)	ND	5. µg/L
tert-Butylbenzene	ND	5. µg/L	4-Methyl-2-pentanone	ND	25. µg/L
Carbon disulfide	ND	5. µg/L	MTBE	ND	5. µg/L
Carbon tetrachloride	ND	5. µg/L	Naphthalene	ND	10. µg/L
Chlorobenzene	ND	5. µg/L	n-Propylbenzene	ND	5. µg/L
Chloroethane	ND	5. µg/L	Styrene	ND	5. µg/L
Chloroform	ND	5. µg/L	1,1,1,2-Tetrachloroethane	ND	5. µg/L
[illegible]omethane	ND	5. µg/L	1,1,2,2-Tetrachloroethane	ND	5. µg/L
2-[illegible]orotoluene	ND	5. µg/L	Tetrachloroethene (PCE)	ND	5. µg/L
4-Chlorotoluene	ND	5. µg/L	Toluene	ND	5. µg/L
Dibromochloromethane	ND	5. µg/L	1,2,3-Trichlorobenzene	ND	5. µg/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	10. µg/L	1,2,4-Trichlorobenzene	ND	5. µg/L
1,2-Dibromoethane (EDB)	ND	5. µg/L	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5. µg/L
Dibromomethane	ND	5. µg/L	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5. µg/L
1,2-Dichlorobenzene (o-DCB)	ND	5. µg/L	Trichloroethene (TCE)	ND	5. µg/L
1,3-Dichlorobenzene (m-DCB)	ND	5. µg/L	Trichlorofluoromethane (Freon 11)	ND	10. µg/L
1,4-Dichlorobenzene (p-DCB)	ND	5. µg/L	1,2,3-Trichloropropane	ND	5. µg/L
Dichlorodifluoromethane (Freon 12)	ND	5. µg/L	1,2,4-Trimethylbenzene	ND	5. µg/L
1,1-Dichloroethane (1,1-DCA)	ND	5. µg/L	1,3,5-Trimethylbenzene	ND	5. µg/L
1,2-Dichloroethane (1,2-DCA)	ND	5. µg/L	Vinyl chloride	ND	5. µg/L
1,1-Dichloroethene (1,1-DCE)	ND	5. µg/L	o-Xylene	ND	5. µg/L
cis-1,2-Dichloroethene	ND	5. µg/L	m,p-Xylene	ND	10. µg/L
trans-1,2-Dichloroethene	ND	5. µg/L			
1,2-Dichloropropane	ND	5. µg/L			
1,3-Dichloropropane	ND	5. µg/L			
2,2-Dichloropropane	ND	10. µg/L			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	103	83 - 112
Dibromofluoromethane	98	84 - 109
Toluene-d8	104	88 - 113

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	NA
PROJECT #:	NA	NEL SAMPLE ID:	000609AQ60_1A-BLK
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260	ANALYST:	JJM - Las Vegas Division
MATRIX:	Aqueous	EXTRACTED:	6/9/00
		ANALYZED:	6/9/00

PARAMETER	Result µg/L	Reporting Limit	PARAMETER	Result µg/L	Reporting Limit
Acetone	ND	25 µg/L	1,1-Dichloropropene	ND	5 µg/L
Benzene	ND	5 µg/L	cis-1,3-Dichloropropene	ND	5 µg/L
Bromobenzene	ND	5 µg/L	trans-1,3-Dichloropropene	ND	5 µg/L
Bromochloromethane	ND	5 µg/L	Ethylbenzene	ND	5 µg/L
Bromodichloromethane	ND	5 µg/L	Hexachlorobutadiene	ND	5 µg/L
Bromoform	ND	5 µg/L	2-Hexanone	ND	25 µg/L
Bromomethane	ND	5 µg/L	Iodomethane	ND	5 µg/L
2-Butanone	ND	25 µg/L	Isopropylbenzene	ND	5 µg/L
n-Butylbenzene	ND	5 µg/L	p-Isopropyltoluene	ND	5 µg/L
sec-Butylbenzene	ND	5 µg/L	Methylene chloride (Dichloromethane)	ND	5 µg/L
tert-Butylbenzene	ND	5 µg/L	4-Methyl-2-pentanone	ND	25 µg/L
Carbon disulfide	ND	5 µg/L	MTBE	ND	5 µg/L
Carbon tetrachloride	ND	5 µg/L	Naphthalene	ND	10 µg/L
Chlorobenzene	ND	5 µg/L	n-Propylbenzene	ND	5 µg/L
Chloroethane	ND	5 µg/L	Styrene	ND	5 µg/L
Chloroform	ND	5 µg/L	1,1,1,2-Tetrachloroethane	ND	5 µg/L
omethane	ND	5 µg/L	1,1,2,2-Tetrachloroethane	ND	5 µg/L
2-Chlorotoluene	ND	5 µg/L	Tetrachloroethene (PCE)	ND	5 µg/L
4-Chlorotoluene	ND	5 µg/L	Toluene	ND	5 µg/L
Dibromochloromethane	ND	5 µg/L	1,2,3-Trichlorobenzene	ND	5 µg/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	10 µg/L	1,2,4-Trichlorobenzene	ND	5 µg/L
1,2-Dibromoethane (EDB)	ND	5 µg/L	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/L
Dibromomethane	ND	5 µg/L	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/L
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/L	Trichloroethene (TCE)	ND	5 µg/L
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/L	Trichlorofluoromethane (Freon 11)	ND	10 µg/L
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/L	1,2,3-Trichloropropane	ND	5 µg/L
Dichlorodifluoromethane (Freon 12)	ND	5 µg/L	1,2,4-Trimethylbenzene	ND	5 µg/L
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/L	1,3,5-Trimethylbenzene	ND	5 µg/L
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/L	Vinyl chloride	ND	5 µg/L
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/L	o-Xylene	ND	5 µg/L
cis-1,2-Dichloroethene	ND	5 µg/L	m,p-Xylene	ND	10 µg/L
trans-1,2-Dichloroethene	ND	5 µg/L			
1,2-Dichloropropane	ND	5 µg/L			
1,3-Dichloropropane	ND	5 µg/L			
2,2-Dichloropropane	ND	10 µg/L			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	101	83 - 112
Dibromofluoromethane	97	84 - 109
Toluene-d8	106	88 - 113

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-MW07**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/30/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005295-01

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	VMM - Reno Division
MATRIX:	Aqueous	EXTRACTED:	6/6/00
DILUTION:	1	ANALYZED:	6/9/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	10. µg/L
Acenaphthylene	ND	10. µg/L
Anthracene	ND	10. µg/L
Benzo (a) anthracene	ND	10. µg/L
Benzo (b&k) fluoranthene	ND	10. µg/L
Benzo (g,h,i) perylene	ND	10. µg/L
Benzo (a) pyrene	ND	10. µg/L
Chrysene	ND	10. µg/L
Dibenzo (a,h) anthracene	ND	10. µg/L
Fluoranthene	ND	10. µg/L
Fluorene	ND	10. µg/L
Indeno (1,2,3-c,d) pyrene	ND	10. µg/L
Naphthalene	ND	10. µg/L
Phenanthrene	ND	10. µg/L
Pyrene	ND	10. µg/L

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	63	43 - 116
Nitrobenzene-d5	86	35 - 114
p-Terphenyl-d14	82	33 - 141

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-BOPS-MW08**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/30/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005295-02

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	VMM - Reno Division
MATRIX:	Aqueous	EXTRACTED:	6/6/00
DILUTION:	1	ANALYZED:	6/10/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND Jf	10. µg/L
Acenaphthylene	ND Jf	10. µg/L
Anthracene	ND	10. µg/L
Benzo (a) anthracene	ND	10. µg/L
Benzo (b&k) fluoranthene	ND	10. µg/L
Benzo (g,h,i) perylene	ND	10. µg/L
Benzo (a) pyrene	ND	10. µg/L
Chrysene	ND	10. µg/L
Dibenzo (a,h) anthracene	ND	10. µg/L
Fluoranthene	ND	10. µg/L
Fluorene	ND	10. µg/L
Indeno (1,2,3-c,d) pyrene	ND	10. µg/L
Naphthalene	ND Jf	10. µg/L
Phenanthrene	ND	10. µg/L
Pyrene	ND	10. µg/L

QUALITY CONTROL DATA:

Surrogate	% Recovery		Acceptable Range
2-Fluorobiphenyl	29	Sf	43 - 116
Nitrobenzene-d5	42		35 - 114
p-Terphenyl-d14	43		33 - 141

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-MW07**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/30/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005295-03

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	VMM - Reno Division
MATRIX:	Aqueous	EXTRACTED:	6/6/00
DILUTION:	1	ANALYZED:	6/10/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND Jf	10. µg/L
Acenaphthylene	ND Jf	10. µg/L
Anthracene	ND	10. µg/L
Benzo (a) anthracene	ND	10. µg/L
Benzo (b&k) fluoranthene	ND	10. µg/L
Benzo (g,h,i) perylene	ND	10. µg/L
Benzo (a) pyrene	ND	10. µg/L
Chrysene	ND	10. µg/L
Dibenzo (a,h) anthracene	ND	10. µg/L
Fluoranthene	ND	10. µg/L
Fluorene	ND	10. µg/L
Indeno (1,2,3-c,d) pyrene	ND	10. µg/L
Naphthalene	ND Jf	10. µg/L
Phenanthrene	ND	10. µg/L
Pyrene	ND	10. µg/L

QUALITY CONTROL DATA:

Surrogate	% Recovery		Acceptable Range
2-Fluorobiphenyl	42	Sf	43 - 116
Nitrobenzene-d5	62		35 - 114
p-Terphenyl-d14	82		33 - 141

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-LOCR-MW05**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/30/00
PROJECT #:	NA	NEL SAMPLE ID:	L0005295-08

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	VMM - Reno Division
MATRIX:	Aqueous	EXTRACTED:	6/6/00
DILUTION:	1	ANALYZED:	6/10/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND Jf	10. µg/L
Acenaphthylene	ND Jf	10. µg/L
Anthracene	ND	10. µg/L
Benzo (a) anthracene	ND	10. µg/L
Benzo (b&k) fluoranthene	ND	10. µg/L
Benzo (g,h,i) perylene	ND	10. µg/L
Benzo (a) pyrene	ND	10. µg/L
Chrysene	ND	10. µg/L
Dibenzo (a,h) anthracene	ND	10. µg/L
Fluoranthene	ND	10. µg/L
Fluorene	ND	10. µg/L
Indeno (1,2,3-c,d) pyrene	ND	10. µg/L
Naphthalene	ND Jf	10. µg/L
Phenanthrene	ND	10. µg/L
Pyrene	ND	10. µg/L

QUALITY CONTROL DATA:

Surrogate	% Recovery		Acceptable Range
2-Fluorobiphenyl	36	Sf	43 - 116
Nitrobenzene-d5	50		35 - 114
p-Terphenyl-d14	53		33 - 141

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	NA
PROJECT #:	NA	NEL SAMPLE ID:	0606E3-BLK

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	VMM - Reno Division
MATRIX:	Aqueous	EXTRACTED:	6/6/00
		ANALYZED:	6/9/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	10. µg/L
Acenaphthylene	ND	10. µg/L
Anthracene	ND	10. µg/L
Benzo (a) anthracene	ND	10. µg/L
Benzo (b&k) fluoranthene	ND	10. µg/L
Benzo (g,h,i) perylene	ND	10. µg/L
Benzo (a) pyrene	ND	10. µg/L
Chrysene	ND	10. µg/L
Dibenzo (a,h) anthracene	ND	10. µg/L
Fluoranthene	ND	10. µg/L
Fluorene	ND	10. µg/L
Indeno (1,2,3-c,d) pyrene	ND	10. µg/L
Naphthalene	ND	10. µg/L
Phenanthrene	ND	10. µg/L
Pyrene	ND	10. µg/L

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	50	43 - 116
Nitrobenzene-d5	62	35 - 114
p-Terphenyl-d14	45	33 - 141

ND - Not Detected

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NEL LABORATORIES

CLIENT: US Army Corps Of Engineers
PROJECT ID: Langley AFB, VA
PROJECT #: NA
TEST: **Volatile Organic Compounds by EPA 8260B, December 1996**
MATRIX: Aqueous

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery	Acceptable Range	RPD
Benzene	000609AQ60_1A-LCS	50	53	106	70 - 130	
Benzene	L0005295-08-MS	50	49	98	76 - 127	
Benzene	L0005295-08-MSD	50	48	96	76 - 127	2.1
Chlorobenzene	000609AQ60_1A-LCS	50	53	106	70 - 130	
Chlorobenzene	L0005295-08-MS	50	50	100	75 - 130	
Chlorobenzene	L0005295-08-MSD	50	49	98	75 - 130	2.
1,1-Dichloroethene (1,1-DCE)	000609AQ60_1A-LCS	50	44	88	70 - 130	
1,1-Dichloroethene (1,1-DCE)	L0005295-08-MS	50	40	80	61 - 145	
1,1-Dichloroethene (1,1-DCE)	L0005295-08-MSD	50	40	80	61 - 145	0.
Toluene	000609AQ60_1A-LCS	50	55	110	70 - 130	
Toluene	L0005295-08-MS	50	51	102	76 - 125	
Toluene	L0005295-08-MSD	50	50	100	76 - 125	2.
Trichloroethene (TCE)	000609AQ60_1A-LCS	50	51	102	70 - 130	
Trichloroethene (TCE)	L0005295-08-MS	50	46	92	71 - 120	
Trichloroethene (TCE)	L0005295-08-MSD	50	45	90	71 - 120	2.2

ND - Not Detected

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NEL LABORATORIES

CLIENT: US Army Corps Of Engineers
PROJECT ID: Langley AFB, VA
PROJECT #: NA

TEST: **Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**
MATRIX: Aqueous

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery	Acceptable Range	RPD
Naphthalene	0606E3-LCS	80	56.9	71	50 - 96	
Naphthalene	L0005295-02-MS	80	60.3	75	41 - 101	
Acenaphthene	0606E3-LCS	80	65.4	82	50 - 98	
Acenaphthene	L0005295-02-MS	80	64.8	81	41 - 102	
Acenaphthylene	0606E3-LCS	80	66.8	84	40 - 111	
Acenaphthylene	L0005295-02-MS	80	64.5	81	32 - 119	
Fluorene	0606E3-LCS	80	68.8	86	45 - 113	
Fluorene	L0005295-02-MS	80	69.1	86	42 - 109	
Anthracene	0606E3-LCS	80	74.3	93	49 - 116	
Anthracene	L0005295-02-MS	80	71.9	90	49 - 116	
Fluoranthene	0606E3-LCS	80	76.8	96	42 - 127	
Fluoranthene	L0005295-02-MS	80	79.6	99	26 - 119	
Pyrene	0606E3-LCS	80	71.7	90	47 - 111	
Pyrene	L0005295-02-MS	80	76.8	96	27 - 112	
Benzo (a) anthracene	0606E3-LCS	80	68	85	44 - 111	
[illegible]o (a) anthracene	L0005295-02-MS	80	69.4	87	33 - 112	
[illegible]ysene	0606E3-LCS	80	68.5	86	49 - 109	
Chrysene	L0005295-02-MS	80	68.8	86	40 - 116	
Benzo (b&k) fluoranthene	0606E3-LCS	160	128	80	39 - 135	
Benzo (b&k) fluoranthene	L0005295-02-MS	160	137	86	34 - 152	
Benzo (a) pyrene	0606E3-LCS	80	67	84	39 - 122	
Benzo (a) pyrene	L0005295-02-MS	80	68	85	22 - 131	
Indeno (1,2,3-c,d) pyrene	0606E3-LCS	80	93.5	117	31 - 128	
Indeno (1,2,3-c,d) pyrene	L0005295-02-MS	80	83.8	105	22 - 115	
Dibenzo (a,h) anthracene	0606E3-LCS	80	94.6	118	24 - 135	
Dibenzo (a,h) anthracene	L0005295-02-MS	80	85.3	107	27 - 115	
Benzo (g,h,i) perylene	0606E3-LCS	80	97	121	30 - 132	
Benzo (g,h,i) perylene	L0005295-02-MS	80	82.2	103	11 - 128	

ND - Not Detected

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NEL LABORATORIES

Reno • Las Vegas • Boise
Phoenix • So. California

Las Vegas Division • 4208 Arcata Way, Ste. A • Las Vegas, NV 89030
702-657-1010 • Fax: 702-657-1577 • 888-368-3282

CHAIN OF 'JSTODY

NEL Work Order: L0005295

Project Name: Langley AFB, VA
Project Number:
Purchase Order Number:
Sampled By: R Grabowski

Company: US Army Corps of Engineers
Attention: Rick Grabowski
Address: 215 N. 17th St. Omaha NE 68102
Phone Number: (402) 221-7784
Fax Number: (402) 221-7769
Billing Address: Same as above
Expected Due Date: 6/7

page 1 of 2

Requested Turnaround: X 5-day ____ 2-day ____ 1-day ____ Other

Time/Date Sampled	Customer Sample Identification	N.E.L. Identification	# of Containers	Matrix (Box #1)	Preservative (Box #2)	Analysis: VOCs (8260B)	Analysis: PAHs (8270C)	Remarks
1220 5/30/00	LAFB-BOPS-MW07	01	2	AQ	E		X	
1220 5/30/00	LAFB-BOPS-MW08	02	2	AQ	E		X	
1337 5/30/00	LAFB-LOCK-MW07	03	2	AQ	E		X	
1220 5/30/00	LAFB-BOPS-MW07	04	3	AQ	A	X		
1220 5/30/00	LAFB-BOPS-MW08	05	3	AQ	A	X		
1337 5/30/00	LAFB-LOCK-MW07	06	3	AQ	A	X		
1337 5/30/00	LAFB-LOCK-MW07/MS	07	3	AQ	A	X		Matrix Spike
1522 5/30/00	LAFB-LOCK-MW05	08	3	AQ	A	X		
1600 5/16/00	TRIP BLANK	09	3	AQ	A	X		

Custody Seal intact? (Y) N (None) Temp. 3°C
Condition when received (good)

Box #1: DW - Drinking Water; WW - Waste Water; OL - Oil/Organic Liquid; SD - Solid; AQ - Aqueous; A - Air

Box #2: A. HCl; B. HNO_3; C. H_2SO_4; D. NaOH; E. Ice Only; F. Other____; G. Not Preserved

Relinquished by (Print)	(Signature)	Date/Time	Received by (Print)	(Signature)	Date/Time
1 RICHARD GRABOWSKI	[signature]	5/30/00 1900	B Christensen	[signature]	5/31/00 0930
2					
3					

The liability of NEL Laboratories Inc. is limited strictly to the price of sample analysis for those samples received in good condition by NEL. NEL is not responsible for loss, damage, resampling costs and/or qualified data related to samples not received in good condition, including adequate sample volume and number of containers. Customer signature of this CoC constitutes a purchase order for NEL to perform work and constitutes acceptance of all NEL Standard Terms and Conditions. Signature also constitutes acceptance of NEL Standard List Prices for all services ordered here on, except those specified otherwise via an NEL Quotation for Testing Services in effect at the time of sample receipt. NEL turnaround times are measured in regular working days. Samples received at the laboratory after 16:30 will be considered received on the next working day. Commitment of laboratory to the requested turnaround time will be confirmed via Sample Confirmation transmitted to the fax number provided above.

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CHAIN OF CUSTODY

NEL Work Order: L0005295

Project Name: Langley AFB, VA
Project Number:
Purchase Order Number:
Sampled By: R. Grabowski

Company: US Army Corps of Engineers
Attention: Rick Grabowski
Address: 215 N. 17th St. Omaha NE 68102
Phone Number: (402) 221-7784
Fax Number: (402) 221-7769
Billing Address: Same as above
Expected Due Date: 6/7

Page 2 of 2

Requested Turnaround: X 5-day ____ 2-day ____ 1-day ____ Other

Time/Date Sampled	Customer Sample Identification	N.E.L. Identification	# of Containers	Matrix (Box #1)	Preservative (Box #2)	Analysis: PAHs (8270C)												Remarks
1337 5/30/00	LAFB-LOCK-MW07/MS	07	2	AQ	E	X												Matrix Spike
1522 5/30/00	LAFB-LOCK-MW05	08	2	AQ	E	X												

Custody Seal intact? (Y) N (None) Temp. 3°C
Condition when received (good)

Box #1: DW - Drinking Water; WW - Waste Water; OL - Oil/Organic Liquid; SD - Solid; AQ - Aqueous; A - Air

Box #2: A. HCl; B. HNO_3; C. H_2SO_4; D. NaOH; E. Ice Only; F. Other_____; G. Not Preserved

Relinquished by (Print)	(Signature)	Date/Time	Received by (Print)	(Signature)	Date/Time
1 Richard Grabowski	[signature]	5/30/00 1900	B Christensen	[signature]	5/31/00 0930
2					
3					

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1-888-368-3282

CLIENT: US Army Corps Of Engineers
215 N. 17th Street
Omaha, NE 68102
ATTN: Rick Grabowski

PROJECT NAME: Langley AFB, VA
PROJECT NUMBER: NA

NEL ORDER ID: L0006002

Attached are the analytical results for samples in support of the above referenced project.

Samples submitted for this project were not sampled by NEL Laboratories. Samples were received by NEL in good condition, under chain of custody on 6/1/00.

Should you have any questions or comments, please feel free to contact our Client Services department at (702) 657-1010.

Some results have been flagged as follows:

Jf - The surrogate associated with this result has failed acceptance criteria. This concentration may be biased due to a probable matrix phenomena. All other associated QC indicates the method is in control.

Some surrogate results have been flagged as follows:

Sf - This surrogate was outside acceptance limits.

Stan Van Wagenen
Laboratory Manager

6/19/00
Date

CERTIFICATIONS:

	Reno	Las Vegas	S. California
Arizona	AZ0520	AZ0518	AZ0605
California	1707	2002	2264
US Army Corps of Engineers	Certified	Certified	

	Reno	Las Vegas	S. California
Idaho	Certified	Certified	
Montana	Certified	Certified	
Nevada	NV033	NV052	CA084
L.A.C.S.D.			10228

NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-UTIL-MW01
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/31/00
PROJECT #:	NA	NEL SAMPLE ID:	L0006002-03
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260	EXTRACTED:	6/12/00
MATRIX:	Aqueous	ANALYZED:	6/12/00
DILUTION:	1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/L	Reporting Limit	PARAMETER	Result µg/L	Reporting Limit
Acetone	ND	25. µg/L	1,1-Dichloropropene	ND	5. µg/L
Benzene	ND	5. µg/L	cis-1,3-Dichloropropene	ND	5. µg/L
Bromobenzene	ND	5. µg/L	trans-1,3-Dichloropropene	ND	5. µg/L
Bromochloromethane	ND	5. µg/L	Ethylbenzene	ND	5. µg/L
Bromodichloromethane	ND	5. µg/L	Hexachlorobutadiene	ND	5. µg/L
Bromoform	ND	5. µg/L	2-Hexanone	ND	25. µg/L
Bromomethane	ND	5. µg/L	Iodomethane	ND	5. µg/L
2-Butanone	ND	25. µg/L	Isopropylbenzene	ND	5. µg/L
n-Butylbenzene	ND	5. µg/L	p-Isopropyltoluene	ND	5. µg/L
sec-Butylbenzene	ND	5. µg/L	Methylene chloride (Dichloromethane)	ND	5. µg/L
tert-Butylbenzene	ND	5. µg/L	4-Methyl-2-pentanone	ND	25. µg/L
Carbon disulfide	ND	5. µg/L	MTBE	ND	5. µg/L
Carbon tetrachloride	ND	5. µg/L	Naphthalene	ND	10. µg/L
Chlorobenzene	ND	5. µg/L	n-Propylbenzene	ND	5. µg/L
Chloroethane	ND	5. µg/L	Styrene	ND	5. µg/L
Chloroform	ND	5. µg/L	1,1,1,2-Tetrachloroethane	ND	5. µg/L
[illegible]omethane	ND	5. µg/L	1,1,2,2-Tetrachloroethane	ND	5. µg/L
[illegible]lorotoluene	ND	5. µg/L	Tetrachloroethene (PCE)	ND	5. µg/L
4-Chlorotoluene	ND	5. µg/L	Toluene	ND	5. µg/L
Dibromochloromethane	ND	5. µg/L	1,2,3-Trichlorobenzene	ND	5. µg/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	10. µg/L	1,2,4-Trichlorobenzene	ND	5. µg/L
1,2-Dibromoethane (EDB)	ND	5. µg/L	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5. µg/L
Dibromomethane	ND	5. µg/L	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5. µg/L
1,2-Dichlorobenzene (o-DCB)	ND	5. µg/L	Trichloroethene (TCE)	ND	5. µg/L
1,3-Dichlorobenzene (m-DCB)	ND	5. µg/L	Trichlorofluoromethane (Freon 11)	ND	10. µg/L
1,4-Dichlorobenzene (p-DCB)	ND	5. µg/L	1,2,3-Trichloropropane	ND	5. µg/L
Dichlorodifluoromethane (Freon 12)	ND	5. µg/L	1,2,4-Trimethylbenzene	ND	5. µg/L
1,1-Dichloroethane (1,1-DCA)	ND	5. µg/L	1,3,5-Trimethylbenzene	ND	5. µg/L
1,2-Dichloroethane (1,2-DCA)	ND	5. µg/L	Vinyl chloride	ND	5. µg/L
1,1-Dichloroethene (1,1-DCE)	ND	5. µg/L	o-Xylene	ND	5. µg/L
cis-1,2-Dichloroethene	ND	5. µg/L	m,p-Xylene	ND	10. µg/L
trans-1,2-Dichloroethene	ND	5. µg/L			
1,2-Dichloropropane	ND	5. µg/L			
1,3-Dichloropropane	ND	5. µg/L			
2,2-Dichloropropane	ND	10. µg/L			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	101	83 - 112
Dibromofluoromethane	98	84 - 109
Toluene-d8	105	88 - 113

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-UTIL-MW08
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/31/00
PROJECT #:	NA	NEL SAMPLE ID:	L0006002-04
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260	EXTRACTED:	6/12/00
MATRIX:	Aqueous	ANALYZED:	6/12/00
DILUTION:	1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/L	Reporting Limit	PARAMETER	Result µg/L	Reporting Limit
Acetone	ND	25. µg/L	1,1-Dichloropropene	ND	5. µg/L
Benzene	ND	5. µg/L	cis-1,3-Dichloropropene	ND	5. µg/L
Bromobenzene	ND	5. µg/L	trans-1,3-Dichloropropene	ND	5. µg/L
Bromochloromethane	ND	5. µg/L	Ethylbenzene	ND	5. µg/L
Bromodichloromethane	ND	5. µg/L	Hexachlorobutadiene	ND	5. µg/L
Bromoform	ND	5. µg/L	2-Hexanone	ND	25. µg/L
Bromomethane	ND	5. µg/L	Iodomethane	ND	5. µg/L
2-Butanone	ND	25. µg/L	Isopropylbenzene	ND	5. µg/L
n-Butylbenzene	ND	5. µg/L	p-Isopropyltoluene	ND	5. µg/L
sec-Butylbenzene	ND	5. µg/L	Methylene chloride (Dichloromethane)	ND	5. µg/L
tert-Butylbenzene	ND	5. µg/L	4-Methyl-2-pentanone	ND	25. µg/L
Carbon disulfide	ND	5. µg/L	MTBE	ND	5. µg/L
Carbon tetrachloride	ND	5. µg/L	Naphthalene	ND	10. µg/L
Chlorobenzene	ND	5. µg/L	n-Propylbenzene	ND	5. µg/L
Chloroethane	ND	5. µg/L	Styrene	ND	5. µg/L
Chloroform	ND	5. µg/L	1,1,1,2-Tetrachloroethane	ND	5. µg/L
omethane	ND	5. µg/L	1,1,2,2-Tetrachloroethane	ND	5. µg/L
2-Chlorotoluene	ND	5. µg/L	Tetrachloroethene (PCE)	ND	5. µg/L
4-Chlorotoluene	ND	5. µg/L	Toluene	ND	5. µg/L
Dibromochloromethane	ND	5. µg/L	1,2,3-Trichlorobenzene	ND	5. µg/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	10. µg/L	1,2,4-Trichlorobenzene	ND	5. µg/L
1,2-Dibromoethane (EDB)	ND	5. µg/L	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5. µg/L
Dibromomethane	ND	5. µg/L	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5. µg/L
1,2-Dichlorobenzene (o-DCB)	ND	5. µg/L	Trichloroethene (TCE)	ND	5. µg/L
1,3-Dichlorobenzene (m-DCB)	ND	5. µg/L	Trichlorofluoromethane (Freon 11)	ND	10. µg/L
1,4-Dichlorobenzene (p-DCB)	ND	5. µg/L	1,2,3-Trichloropropane	ND	5. µg/L
Dichlorodifluoromethane (Freon 12)	ND	5. µg/L	1,2,4-Trimethylbenzene	ND	5. µg/L
1,1-Dichloroethane (1,1-DCA)	ND	5. µg/L	1,3,5-Trimethylbenzene	ND	5. µg/L
1,2-Dichloroethane (1,2-DCA)	ND	5. µg/L	Vinyl chloride	ND	5. µg/L
1,1-Dichloroethene (1,1-DCE)	ND	5. µg/L	o-Xylene	ND	5. µg/L
cis-1,2-Dichloroethene	ND	5. µg/L	m,p-Xylene	ND	10. µg/L
trans-1,2-Dichloroethene	ND	5. µg/L			
1,2-Dichloropropane	ND	5. µg/L			
1,3-Dichloropropane	ND	5. µg/L			
2,2-Dichloropropane	ND	10. µg/L			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	103	83 - 112
Dibromofluoromethane	99	84 - 109
Toluene-d8	106	88 - 113

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	LAFB-UTIL-MW02
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/31/00
PROJECT #:	NA	NEL SAMPLE ID:	L0006002-05
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260	EXTRACTED:	6/12/00
MATRIX:	Aqueous	ANALYZED:	6/12/00
DILUTION:	1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/L	Reporting Limit	PARAMETER	Result µg/L	Reporting Limit
Acetone	ND	25. µg/L	1,1-Dichloropropene	ND	5. µg/L
Benzene	ND	5. µg/L	cis-1,3-Dichloropropene	ND	5. µg/L
Bromobenzene	ND	5. µg/L	trans-1,3-Dichloropropene	ND	5. µg/L
Bromochloromethane	ND	5. µg/L	Ethylbenzene	ND	5. µg/L
Bromodichloromethane	ND	5. µg/L	Hexachlorobutadiene	ND	5. µg/L
Bromoform	ND	5. µg/L	2-Hexanone	ND	25. µg/L
Bromomethane	ND	5. µg/L	Iodomethane	ND	5. µg/L
2-Butanone	ND	25. µg/L	Isopropylbenzene	ND	5. µg/L
n-Butylbenzene	ND	5. µg/L	p-Isopropyltoluene	ND	5. µg/L
sec-Butylbenzene	ND	5. µg/L	Methylene chloride (Dichloromethane)	ND	5. µg/L
tert-Butylbenzene	ND	5. µg/L	4-Methyl-2-pentanone	ND	25. µg/L
Carbon disulfide	ND	5. µg/L	MTBE	ND	5. µg/L
Carbon tetrachloride	ND	5. µg/L	Naphthalene	ND	10. µg/L
Chlorobenzene	ND	5. µg/L	n-Propylbenzene	ND	5. µg/L
Chloroethane	ND	5. µg/L	Styrene	ND	5. µg/L
Chloroform	ND	5. µg/L	1,1,1,2-Tetrachloroethane	ND	5. µg/L
[illegible]omethane	ND	5. µg/L	1,1,2,2-Tetrachloroethane	ND	5. µg/L
[illegible]lorotoluene	ND	5. µg/L	Tetrachloroethene (PCE)	ND	5. µg/L
4-Chlorotoluene	ND	5. µg/L	Toluene	ND	5. µg/L
Dibromochloromethane	ND	5. µg/L	1,2,3-Trichlorobenzene	ND	5. µg/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	10. µg/L	1,2,4-Trichlorobenzene	ND	5. µg/L
1,2-Dibromoethane (EDB)	ND	5. µg/L	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5. µg/L
Dibromomethane	ND	5. µg/L	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5. µg/L
1,2-Dichlorobenzene (o-DCB)	ND	5. µg/L	Trichloroethene (TCE)	ND	5. µg/L
1,3-Dichlorobenzene (m-DCB)	ND	5. µg/L	Trichlorofluoromethane (Freon 11)	ND	10. µg/L
1,4-Dichlorobenzene (p-DCB)	ND	5. µg/L	1,2,3-Trichloropropane	ND	5. µg/L
Dichlorodifluoromethane (Freon 12)	ND	5. µg/L	1,2,4-Trimethylbenzene	ND	5. µg/L
1,1-Dichloroethane (1,1-DCA)	ND	5. µg/L	1,3,5-Trimethylbenzene	ND	5. µg/L
1,2-Dichloroethane (1,2-DCA)	ND	5. µg/L	Vinyl chloride	ND	5. µg/L
1,1-Dichloroethene (1,1-DCE)	ND	5. µg/L	o-Xylene	ND	5. µg/L
cis-1,2-Dichloroethene	ND	5. µg/L	m,p-Xylene	ND	10. µg/L
trans-1,2-Dichloroethene	ND	5. µg/L			
1,2-Dichloropropane	ND	5. µg/L			
1,3-Dichloropropane	ND	5. µg/L			
2,2-Dichloropropane	ND	10. µg/L			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	104	83 - 112
Dibromofluoromethane	98	84 - 109
Toluene-d8	105	88 - 113

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	Trip Blank
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/31/00
PROJECT #:	NA	NEL SAMPLE ID:	L0006002-06
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260	EXTRACTED:	6/12/00
MATRIX:	Aqueous	ANALYZED:	6/12/00
DILUTION:	1	ANALYST:	JJM - Las Vegas Division

PARAMETER	Result µg/L	Reporting Limit	PARAMETER	Result µg/L	Reporting Limit
Acetone	ND	25. µg/L	1,1-Dichloropropene	ND	5. µg/L
Benzene	ND	5. µg/L	cis-1,3-Dichloropropene	ND	5. µg/L
Bromobenzene	ND	5. µg/L	trans-1,3-Dichloropropene	ND	5. µg/L
Bromochloromethane	ND	5. µg/L	Ethylbenzene	ND	5. µg/L
Bromodichloromethane	ND	5. µg/L	Hexachlorobutadiene	ND	5. µg/L
Bromoform	ND	5. µg/L	2-Hexanone	ND	25. µg/L
Bromomethane	ND	5. µg/L	Iodomethane	ND	5. µg/L
2-Butanone	ND	25. µg/L	Isopropylbenzene	ND	5. µg/L
n-Butylbenzene	ND	5. µg/L	p-Isopropyltoluene	ND	5. µg/L
sec-Butylbenzene	ND	5. µg/L	Methylene chloride (Dichloromethane)	ND	5. µg/L
tert-Butylbenzene	ND	5. µg/L	4-Methyl-2-pentanone	ND	25. µg/L
Carbon disulfide	ND	5. µg/L	MTBE	ND	5. µg/L
Carbon tetrachloride	ND	5. µg/L	Naphthalene	ND	10. µg/L
Chlorobenzene	ND	5. µg/L	n-Propylbenzene	ND	5. µg/L
Chloroethane	ND	5. µg/L	Styrene	ND	5. µg/L
Chloroform	ND	5. µg/L	1,1,1,2-Tetrachloroethane	ND	5. µg/L
[illegible]omethane	ND	5. µg/L	1,1,2,2-Tetrachloroethane	ND	5. µg/L
[illegible]orotoluene	ND	5. µg/L	Tetrachloroethene (PCE)	ND	5. µg/L
4-Chlorotoluene	ND	5. µg/L	Toluene	ND	5. µg/L
Dibromochloromethane	ND	5. µg/L	1,2,3-Trichlorobenzene	ND	5. µg/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	10. µg/L	1,2,4-Trichlorobenzene	ND	5. µg/L
1,2-Dibromoethane (EDB)	ND	5. µg/L	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5. µg/L
Dibromomethane	ND	5. µg/L	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5. µg/L
1,2-Dichlorobenzene (o-DCB)	ND	5. µg/L	Trichloroethene (TCE)	ND	5. µg/L
1,3-Dichlorobenzene (m-DCB)	ND	5. µg/L	Trichlorofluoromethane (Freon 11)	ND	10. µg/L
1,4-Dichlorobenzene (p-DCB)	ND	5. µg/L	1,2,3-Trichloropropane	ND	5. µg/L
Dichlorodifluoromethane (Freon 12)	ND	5. µg/L	1,2,4-Trimethylbenzene	ND	5. µg/L
1,1-Dichloroethane (1,1-DCA)	ND	5. µg/L	1,3,5-Trimethylbenzene	ND	5. µg/L
1,2-Dichloroethane (1,2-DCA)	ND	5. µg/L	Vinyl chloride	ND	5. µg/L
1,1-Dichloroethene (1,1-DCE)	ND	5. µg/L	o-Xylene	ND	5. µg/L
cis-1,2-Dichloroethene	ND	5. µg/L	m,p-Xylene	ND	10. µg/L
trans-1,2-Dichloroethene	ND	5. µg/L			
1,2-Dichloropropane	ND	5. µg/L			
1,3-Dichloropropane	ND	5. µg/L			
2,2-Dichloropropane	ND	10. µg/L			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	103	83 - 112
Dibromofluoromethane	98	84 - 109
Toluene-d8	106	88 - 113

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	NA
PROJECT #:	NA	NEL SAMPLE ID:	000612AQ60_1A-BLK
TEST:	**Volatile Organic Compounds by EPA 8260B, December 1996**		
METHOD:	EPA 8260	ANALYST:	JJM - Las Vegas Division
MATRIX:	Aqueous	EXTRACTED:	6/12/00
		ANALYZED:	6/12/00

PARAMETER	Result µg/L	Reporting Limit	PARAMETER	Result µg/L	Reporting Limit
Acetone	ND	25 µg/L	1,1-Dichloropropene	ND	5 µg/L
Benzene	ND	5 µg/L	cis-1,3-Dichloropropene	ND	5 µg/L
Bromobenzene	ND	5 µg/L	trans-1,3-Dichloropropene	ND	5 µg/L
Bromochloromethane	ND	5 µg/L	Ethylbenzene	ND	5 µg/L
Bromodichloromethane	ND	5 µg/L	Hexachlorobutadiene	ND	5 µg/L
Bromoform	ND	5 µg/L	2-Hexanone	ND	25 µg/L
Bromomethane	ND	5 µg/L	Iodomethane	ND	5 µg/L
2-Butanone	ND	25 µg/L	Isopropylbenzene	ND	5 µg/L
n-Butylbenzene	ND	5 µg/L	p-Isopropyltoluene	ND	5 µg/L
sec-Butylbenzene	ND	5 µg/L	Methylene chloride (Dichloromethane)	ND	5 µg/L
tert-Butylbenzene	ND	5 µg/L	4-Methyl-2-pentanone	ND	25 µg/L
Carbon disulfide	ND	5 µg/L	MTBE	ND	5 µg/L
Carbon tetrachloride	ND	5 µg/L	Naphthalene	ND	10 µg/L
Chlorobenzene	ND	5 µg/L	n-Propylbenzene	ND	5 µg/L
Chloroethane	ND	5 µg/L	Styrene	ND	5 µg/L
Chloroform	ND	5 µg/L	1,1,1,2-Tetrachloroethane	ND	5 µg/L
Chloromethane	ND	5 µg/L	1,1,2,2-Tetrachloroethane	ND	5 µg/L
2-Chlorotoluene	ND	5 µg/L	Tetrachloroethene (PCE)	ND	5 µg/L
4-Chlorotoluene	ND	5 µg/L	Toluene	ND	5 µg/L
Dibromochloromethane	ND	5 µg/L	1,2,3-Trichlorobenzene	ND	5 µg/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	10 µg/L	1,2,4-Trichlorobenzene	ND	5 µg/L
1,2-Dibromoethane (EDB)	ND	5 µg/L	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/L
Dibromomethane	ND	5 µg/L	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/L
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/L	Trichloroethene (TCE)	ND	5 µg/L
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/L	Trichlorofluoromethane (Freon 11)	ND	10 µg/L
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/L	1,2,3-Trichloropropane	ND	5 µg/L
Dichlorodifluoromethane (Freon 12)	ND	5 µg/L	1,2,4-Trimethylbenzene	ND	5 µg/L
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/L	1,3,5-Trimethylbenzene	ND	5 µg/L
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/L	Vinyl chloride	ND	5 µg/L
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/L	o-Xylene	ND	5 µg/L
cis-1,2-Dichloroethene	ND	5 µg/L	m,p-Xylene	ND	10 µg/L
trans-1,2-Dichloroethene	ND	5 µg/L			
1,2-Dichloropropane	ND	5 µg/L			
1,3-Dichloropropane	ND	5 µg/L			
2,2-Dichloropropane	ND	10 µg/L			

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	101	83 - 112
Dibromofluoromethane	98	84 - 109
Toluene-d8	105	88 - 113

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-UTIL-MW01**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/31/00
PROJECT #:	NA	NEL SAMPLE ID:	L0006002-01

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Aqueous	EXTRACTED:	6/7/00
DILUTION:	1	ANALYZED:	6/13/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	10. µg/L
Acenaphthylene	ND	10. µg/L
Anthracene	ND	10. µg/L
Benzo (a) anthracene	ND	10. µg/L
Benzo (b&k) fluoranthene	ND	10. µg/L
Benzo (g,h,i) perylene	ND	10. µg/L
Benzo (a) pyrene	ND	10. µg/L
Chrysene	ND	10. µg/L
Dibenzo (a,h) anthracene	ND	10. µg/L
Fluoranthene	ND	10. µg/L
Fluorene	ND	10. µg/L
Indeno (1,2,3-c,d) pyrene	ND	10. µg/L
Naphthalene	ND	10. µg/L
Phenanthrene	ND	10. µg/L
Pyrene	ND	10. µg/L

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	58	35 - 114
Nitrobenzene-d5	52	35 - 114
p-Terphenyl-d14	72	33 - 141

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-UTIL-MW08**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/31/00
PROJECT #:	NA	NEL SAMPLE ID:	L0006002-02

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Aqueous	EXTRACTED:	6/7/00
DILUTION:	1	ANALYZED:	6/13/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	10. µg/L
Acenaphthylene	ND	10. µg/L
Anthracene	ND	10. µg/L
Benzo (a) anthracene	ND	10. µg/L
Benzo (b&k) fluoranthene	ND	10. µg/L
Benzo (g,h,i) perylene	ND	10. µg/L
Benzo (a) pyrene	ND	10. µg/L
Chrysene	ND	10. µg/L
Dibenzo (a,h) anthracene	ND	10. µg/L
Fluoranthene	ND	10. µg/L
Fluorene	ND	10. µg/L
Indeno (1,2,3-c,d) pyrene	ND	10. µg/L
Naphthalene	ND	10. µg/L
Phenanthrene	ND	10. µg/L
Pyrene	ND	10. µg/L

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	59	35 - 114
Nitrobenzene-d5	50	35 - 114
p-Terphenyl-d14	66	33 - 141

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**LAFB-UTIL-MW02**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	5/31/00
PROJECT #:	NA	NEL SAMPLE ID:	L0006002-07

TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Aqueous	EXTRACTED:	6/7/00
DILUTION:	1	ANALYZED:	6/13/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND Jf	10. µg/L
Acenaphthylene	ND Jf	10. µg/L
Anthracene	ND	10. µg/L
Benzo (a) anthracene	ND	10. µg/L
Benzo (b&k) fluoranthene	ND	10. µg/L
Benzo (g,h,i) perylene	ND	10. µg/L
Benzo (a) pyrene	ND	10. µg/L
Chrysene	ND	10. µg/L
Dibenzo (a,h) anthracene	ND	10. µg/L
Fluoranthene	ND	10. µg/L
Fluorene	ND	10. µg/L
Indeno (1,2,3-c,d) pyrene	ND	10. µg/L
Naphthalene	ND Jf	10. µg/L
Phenanthrene	ND	10. µg/L
Pyrene	ND	10. µg/L

QUALITY CONTROL DATA:

Surrogate	% Recovery		Acceptable Range
2-Fluorobiphenyl	30	Sf	35 - 114
Nitrobenzene-d5	23	Sf	35 - 114
p-Terphenyl-d14	42		33 - 141

ND - Not Detected

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NEL LABORATORIES

CLIENT:	US Army Corps Of Engineers	CLIENT ID:	**Method Blank**
PROJECT ID:	Langley AFB, VA	DATE SAMPLED:	NA
PROJECT #:	NA	NEL SAMPLE ID:	060700-E2-BLK
TEST:	**Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**		
METHOD:	EPA 8270PAH	ANALYST:	YW - Reno Division
MATRIX:	Aqueous	EXTRACTED:	6/7/00
		ANALYZED:	6/12/00

PARAMETER	Result	Reporting Limit
Acenaphthene	ND	10. µg/L
Acenaphthylene	ND	10. µg/L
Anthracene	ND	10. µg/L
Benzo (a) anthracene	ND	10. µg/L
Benzo (b&k) fluoranthene	ND	10. µg/L
Benzo (g,h,i) perylene	ND	10. µg/L
Benzo (a) pyrene	ND	10. µg/L
Chrysene	ND	10. µg/L
Dibenzo (a,h) anthracene	ND	10. µg/L
Fluoranthene	ND	10. µg/L
Fluorene	ND	10. µg/L
Indeno (1,2,3-c,d) pyrene	ND	10. µg/L
Naphthalene	ND	10. µg/L
Phenanthrene	ND	10. µg/L
Pyrene	ND	10. µg/L

QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2-Fluorobiphenyl	58	35 - 114
Nitrobenzene-d5	54	35 - 114
p-Terphenyl-d14	79	33 - 141

ND - Not Detected

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NEL LABORATORIES

CLIENT: US Army Corps Of Engineers
PROJECT ID: Langley AFB, VA
PROJECT #: NA
TEST: **Volatile Organic Compounds by EPA 8260B, December 1996**
MATRIX: Aqueous

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery	Acceptable Range	RPD
Benzene	000612AQ60_1A-LCS	50	54	108	70 - 130	
Benzene	L0006027-03-MS	50	50	100	76 - 127	
Benzene	L0006027-03-MSD	50	51	102	76 - 127	2.
Chlorobenzene	000612AQ60_1A-LCS	50	53	106	70 - 130	
Chlorobenzene	L0006027-03-MS	50	49	98	75 - 130	
Chlorobenzene	L0006027-03-MSD	50	50	100	75 - 130	2.
1,1-Dichloroethene (1,1-DCE)	000612AQ60_1A-LCS	50	45	90	70 - 130	
1,1-Dichloroethene (1,1-DCE)	L0006027-03-MS	50	41	82	61 - 145	
1,1-Dichloroethene (1,1-DCE)	L0006027-03-MSD	50	42	84	61 - 145	2.4
Toluene	000612AQ60_1A-LCS	50	56	112	70 - 130	
Toluene	L0006027-03-MS	50	52	104	76 - 125	
Toluene	L0006027-03-MSD	50	53	106	76 - 125	1.9
Trichloroethene (TCE)	000612AQ60_1A-LCS	50	54	108	70 - 130	
Trichloroethene (TCE)	L0006027-03-MS	50	59	94	71 - 120	
Trichloroethene (TCE)	L0006027-03-MSD	50	60	96	71 - 120	2.1

ND - Not Detected

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NEL LABORATORIES

CLIENT: US Army Corps Of Engineers
PROJECT ID: Langley AFB, VA
PROJECT #: NA
TEST: **Polyaromatic Hydrocarbons (PAH's) by EPA 8270C, Dec. 1996**
MATRIX: Aqueous

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery	Acceptable Range	RPD
Acenaphthene	060700-E2-LCS	80	59.4	74	50 - 98	
Acenaphthene	060700-E2-LCSD	80	56.1	70	50 - 98	5.7
Acenaphthylene	060700-E2-LCS	80	56.8	71	40 - 111	
Acenaphthylene	060700-E2-LCSD	80	52.9	66	40 - 111	7.1
Fluorene	060700-E2-LCS	80	59	74	45 - 113	
Fluorene	060700-E2-LCSD	80	57	71	45 - 113	3.4
Phenanthrene	060700-E2-LCS	80	65.7	82	47 - 117	
Phenanthrene	060700-E2-LCSD	80	64.2	80	47 - 117	2.3
Anthracene	060700-E2-LCS	80	65.1	81	49 - 116	
Anthracene	060700-E2-LCSD	80	63.5	79	49 - 116	2.5
Fluoranthene	060700-E2-LCS	80	66.9	84	42 - 127	
Fluoranthene	060700-E2-LCSD	80	64.7	81	42 - 127	3.3
Pyrene	060700-E2-LCS	80	66.6	83	47 - 111	
Pyrene	060700-E2-LCSD	80	64.4	81	47 - 111	3.4
Benzo (a) anthracene	060700-E2-LCS	80	64.8	81	44 - 111	
Benzo (a) anthracene	060700-E2-LCSD	80	64.2	80	44 - 111	0.9
Chrysene	060700-E2-LCS	80	64.9	81	49 - 109	
Chrysene	060700-E2-LCSD	80	64.4	81	49 - 109	0.8
Benzo (b&k) fluoranthene	060700-E2-LCS	160	136	85	39 - 135	
Benzo (b&k) fluoranthene	060700-E2-LCSD	160	61.1	38	39 - 135	76.
Benzo (a) pyrene	060700-E2-LCS	80	67.8	85	39 - 122	
Benzo (a) pyrene	060700-E2-LCSD	80	65.4	82	39 - 122	3.6
Indeno (1,2,3-c,d) pyrene	060700-E2-LCS	80	54.7	68	31 - 128	
Indeno (1,2,3-c,d) pyrene	060700-E2-LCSD	80	55	69	31 - 128	0.5
Dibenzo (a,h) anthracene	060700-E2-LCS	80	53.1	66	24 - 135	
Dibenzo (a,h) anthracene	060700-E2-LCSD	80	53.3	67	24 - 135	0.4
Benzo (g,h,i) perylene	060700-E2-LCS	80	52.2	65	30 - 132	
Benzo (g,h,i) perylene	060700-E2-LCSD	80	53.3	67	30 - 132	2.1

ND - Not Detected

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702-657-1010 • Fax: 702-657-1577 • 888-368-3282

CHAIN OF [illegible]ISTODY

NEL Work Order: L0006002

Project Name: Langley AFB, UA
Project Number:
Purchase Order Number:
Sampled By: R. Grabowski

Company: US Army Corps of Engineers
Attention: Rick Grabowski
Address: 215 N. 17th St. Omaha NE 68102
Phone Number: (402) 221-7784
Fax Number: (402) 221-7769
Billing Address: Same as above
Expected Due Date: 6/8

Requested Turnaround: X 5-day ___ 2-day ___ 1-day ___ Other

page 1 of 2

Analysis

Time/Date Sampled	Customer Sample Identification	N.E.L. Identification	# of Containers	Matrix (Box #1)	Preservative (Box #2)	VOCs (8260B)	PAHs (8270C)											Remarks
0834 5/31/00	LAFB-UTIL-MW01	01	2	AQ	E		X											
0834 5/31/00	LAFB-UTIL-MW08	02	2	AQ	E		X											
0834 5/31/00	LAFB-UTIL-MW01	03	3	AQ	A	X												
0834 5/31/00	LAFB-UTIL-MW08	04	3	AQ	A	X												
1000 5/31/00	LAFB-UTIL-MW02	05	3	AQ	A	X												
1600 5/16/00	TRIP BLANK	06	3	AQ	A	X												

Custody Seal intact? (Y) N None Temp. 4°C
Condition when received (good)

Box #1: DW - Drinking Water; WW - Waste Water; OL - Oil/Organic Liquid; SD - Solid; AQ - Aqueous; A - Air

Box #2: A. HCl; B. HNO_3; C. H_2SO_4; D. NaOH; E. Ice Only; F. Other_____; G. Not Preserved

Relinquished by (Print)	(Signature)	Date/Time	Received by (Print)	(Signature)	Date/Time
1 Richard Grabowski	[signature]	5/31/00 1600	B Christensen	[signature]	6/1/00 0930
2					
3					

The liability of NEL Laboratories Inc. is limited strictly to the price of sample analysis for those samples received in good condition by NEL. NEL is not responsible for loss, damage, resampling costs and/or qualified data related to samples not received in good condition, including adequate sample volume and number of containers. Customer signature of this CoC constitutes a purchase order for NEL to perform work and constitutes acceptance of all NEL Standard Terms and Conditions. Signature also constitutes acceptance of NEL Standard List Prices for all services ordered here on, except those specified otherwise via an NEL Quotation for Testing Services in effect at the time of sample receipt. NEL turnaround times are measured in regular working days. Samples received at the laboratory after 16:30 will be considered received on the next working day. Commitment of laboratory to the requested turnaround time will be confirmed via Sample Confirmation transmitted to the fax number provided above.

NEL LABORATORIES

Reno • Las Vegas • Boise
Phoenix • So. California

Las Vegas Division • 4208 Arcata Way, Ste. A • Las Vegas, NV 89030
702-657-1010 • Fax: 702-657-1577 • 888-368-3282

CHAIN OF CUSTODY

NEL Work Order: L0001-002

Project Name: Langley AFB, VA
Project Number:
Purchase Order Number:
Sampled By: R. Grabowski

Company: US Army Corps of Engineers
Attention: Rick Grabowski
Address: 215 N. 17th St. Omaha NE 68102
Phone Number: (402) 221-7784
Fax Number: (402) 221-7769
Billing Address: Same as above
Expected Due Date: 6/8

page 2 of 2

Requested Turnaround: X 5-day ____ 2-day ____ 1-day ____ Other

Time/Date Sampled	Customer Sample Identification	N.E.L. Identification	# of Containers	Matrix (Box #1)	Preservative (Box #2)	Analysis: PAHs (8270C)	Remarks
1000 5/31/00	LAFB-UTIL-MW02	07	2	AQ	E	X	Received one container broken BC

Custody Seal intact? (Y) N None Temp. 4°C
Condition when received good

Box #1: DW - Drinking Water; WW - Waste Water; OL - Oil/Organic Liquid; SD - Solid; AQ - Aqueous; A - Air

Box #2: A. HCl; B. HNO_3; C. H_2SO_4; D. NaOH; E. Ice Only; F. Other_____; G. Not Preserved

Relinquished by (Print)	(Signature)	Date/Time	Received by (Print)	(Signature)	Date/Time
1 RICHARD GRABOWSKI	[signature]	5/31/00 1600	B Christensen	[signature]	6/1/00 0930
2					
3					

The liability of NEL Laboratories Inc. is limited strictly to the price of sample analysis for those samples received in good condition by NEL. NEL is not responsible for loss, damage, resampling costs and/or qualified data related to samples not received in good condition, including adequate sample volume and number of containers. Customer signature of this CoC constitutes a purchase order for NEL to perform work and constitutes acceptance of all NEL Standard Terms and Conditions. Signature also constitutes acceptance of NEL Standard List Prices for all services ordered here on, except those specified otherwise via an NEL Quotation for Testing Services in effect at the time of sample receipt. NEL turnaround times are measured in regular working days. Samples received at the laboratory after 16:30 will be considered received on the next working day. Commitment of laboratory to the requested turnaround time will be confirmed via Sample Confirmation transmitted to the fax number provided above.

Appendix C
Passive Soil Gas Survey Report

W. L. GORE & ASSOCIATES, INC.

Creative Technologies Worldwide

100 CHESAPEAKE BLVD., P.O. BOX 10 • ELKTON, MARYLAND 21922-0010 • PHONE: 410/392-7600
FAX: 410/506-4780

GORE-SORBER® Screening Survey
Final Report

Langley AFB, VA

May 10, 2000

Gore Production Order No. 10353033

Prepared For:
U.S. Army Corps of Engineers
215 North 17th Street, Omaha District
Omaha, NE 68102-4978

W.L. Gore & Associates, Inc.

Written/Submitted by:
Jay W. Hodny, Ph.D., Project Manager

Reviewed/Approved by:
Wayne M. Wells, II, Project Manager

Analytical Data Reviewed by:
Jim E. Whetzel, Chemist

I:\MAPPING\PROJECTS\10353033\000510R.DOC

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GORE-SORBER® Screening Survey
Final Report

REPORT DATE: May 10, 2000 **AUTHOR:** JWH

SITE INFORMATION

Site Reference: Langley AFB, VA
Customer Purchase Order Number: DACW45-00-P-0102
Gore Production Order Number: 10353033 **Gore Site Code:** BJA

FIELD PROCEDURES

 # Modules shipped: 242
Installation Date(s): 03/27,28,29/2000 **# Modules Installed:** 229
Field work performed by: U.S. Army Corps of Engineers

Retrieval date(s): 04/17,18/2000 **Exposure Time:** ~21 **[days]**
 # Modules Retrieved: 228 **# Trip Blanks Returned:** 12
 # Modules Lost in Field: 1 **# Unused Modules Returned:** 1

Date/Time Received by Gore: 04/24/2000 @ 02:30 PM **By:** TS
Chain of Custody Form attached: √
Chain of Custody discrepancies: None
Comments:
Modules #325670, -741, -789, -843, -892 through –899 were identified as trip blanks.
Modules #325779 was not retrieved and considered lost from the field.
One module was indicated as returned unused on the COC.

GORE-SORBER® Screening Survey
Final Report

ANALYTICAL PROCEDURES

W.L. Gore & Associates' Screening Module Laboratory operates under the guidelines of its Quality Assurance Manual, Operating Procedures and Methods. The quality assurance program is consistent with Good Laboratory Practices (GLP) and ISO Guide 25, "General Requirements for the Competence of Calibration and Testing Laboratories", third edition, 1990.

Instrumentation consists of state of the art gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation simply involves cutting the tip off the bottom of the sample module and transferring one or more exposed sorbent containers (sorbers, each containing 40mg of a suitable granular adsorbent) to a thermal desorption tube for analysis. Sorbers remain clean and protected from dirt, soil, and ground water by the insertion/retrieval cord, and require no further sample preparation.

Analytical Method Quality Assurance:
The analytical method employed is a modified EPA method 8260A/8270B. Before each run sequence, two instrument blanks, a sorber containing 5µg BFB (Bromofluorobenzene), and a method blank are analyzed. The BFB mass spectra must meet the criteria set forth in the method before samples can be analyzed. A method blank and a sorber containing BFB is also analyzed after every 30 samples and/or trip blanks. Standards containing the selected target compounds at three calibration levels of 5, 20, and 50µg are analyzed at the beginning of each run. The criterion for each target compound is less than 35% RSD (relative standard deviation). If this criterion is not met for any target compound, the analyst has the option of generating second- or third-order standard curves, as appropriate. A second-source reference standard, at a level of 10µg per target compound, is analyzed after every ten samples and/or trip blanks, and at the end of the run sequence. Positive identification of target compounds is determined by 1) the presence of the target ion and at least two secondary ions; 2) retention time versus reference standard; and, 3) the analyst's judgment.

NOTE: All data have been archived. Any replicate sorbers not used in the initial analysis will be discarded fifteen (15) days from the date of analysis.

Laboratory analysis: thermal desorption, gas chromatography, mass selective detection
Quality Assurance Level: 2 (ANA-4/A1)
Instrument ID: # 3 & 5 **Chemist:** JW **Data Subdirectory:** 10353033
Compounds/mixtures requested: Gore Standard VOC/SVOC Target Compounds (A1), plus TPH.
Deviations from Standard Method: None
Comments: Soil vapor analytes and abbreviations are tabulated in the Data Table Key (page 6).

GORE-SORBER® Screening Survey
Final Report

DATA TABULATION

 # CONTOUR MAPS ENCLOSED: Three B-sized color contour maps per four areas sampled
LIST OF MAPS ENCLOSED:

- Benzene, Toluene, Ethyl benzene, and total Xylenes (BTEX)
- Benzene
- Total Petroleum Hydrocarbons (TPH)

NOTE: All data values presented in Appendix A represent masses of compound(s) desorbed from the GORE-SORBER Screening Modules received and analyzed by W.L. Gore, as identified in the Chain of Custody (Appendix A). The measurement traceability and instrument performance are reproducible and accurate for the measurement process documented. Semi-quantitation of the compound mass is based on either a single-level (QA Level 1) or three-level (QA Level 2) standard calibration.

General Comments:

- This survey reports soil gas mass levels present in the vapor phase. Vapors are subject to a variety of attenuation factors during migration away from the source concentration to the module. Thus, mass levels reported from the module will often be less than concentrations reported in soil and groundwater matrix data. In most instances, the soil gas masses reported on the modules compare favorably with concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels relative to other sampled locations on the site, matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.
- Soil gas signals reported by this method cannot be identified to soil adsorbed, groundwater, and/or free-product contamination. The soil gas signal reported from each module can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).
- Currently, soil gas surveys are not designed to replace soil or groundwater matrix sampling. Following a soil gas survey, matrix sampling is recommended in select areas to establish the nature of the contamination (i.e., soil, groundwater, or both), and the relationship to the soil gas levels.

GORE-SORBER® Screening Survey
Final Report

- QA/QC trip blank modules were provided to document contamination occurring that was not part of the soil gas signal of interest (i.e., impact during module shipment, installation and retrieval, and storage). The trip blanks are identically manufactured and packaged soil gas modules to those modules placed in the subsurface. However, the trip blanks remain unopened during all phases of the soil gas survey. Levels reported on the trip blanks may indicate potential impact to modules other than the contaminant source of interest.
- Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central GC elution time in the total ion chromatogram. Typically, UPEs are indicative of complex fluid mixtures that are present in the subsurface. UPEs observed early in the chromatogram are considered to indicate the presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids. Attenuation of the VOC/SVOC soil gas components may suggest the presence of a less volatile fluid, when in fact, a more volatile fluid existed but the volatile components have weathered away.

Project Specific Comments:

- The minimum (gray) contour level for individually mapped target analytes is set at the maximum QA blank level observed or the method detection limit (MDL), whichever is greater. For summed compounds, e.g., BTEX, the minimum contour level is arbitrarily set at 0.02 μg or the maximum blank level observed, whichever is greater. No MDLs exist for summed data. The maximum contour level is set at the maximum value observed, by compound(s).
- The color contour scheme, as defined above, was based on the entire dataset. The same color contour scheme was applied to each area sampled, and allows for cross-comparison of target compound levels in the soil gas.
- Stacked total ion chromatograms (TICs) are included in Appendix A. The six digit serial number of each module is incorporated into the TIC identification (e.g.: 123456S.D represents module #123456).
- Nominal QA blank levels were reported for TPH, tridecane, and pentadecane. In our experience, TPH present in the blanks at these levels can be considered "background." Thus, target analyte levels, reported for the field-installed modules, that exceed trip and method blank levels, and the method detection limits, have a high probability of originating from on-site sources.
- Moderate to high soil gas mass levels were reported for several target analytes in two of the areas sampled for soil gas, while the remaining modules had low or non-detectable levels.
- Areas identified as Site 3 and 4 had well-delineated soil gas plumes.
- The soil gas plumes appear to extend into areas of the site that were not sampled for soil gas. If the objective of the soil gas survey was to delineate the nature and extent of the contamination, then additional soil gas sampling is recommended in those areas. Subsequent soil gas sampling events can be combined onto one set of maps providing increased resolution of the subsurface impact.

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GORE-SORBER® Screening Survey
Final Report

KEY TO DATA TABLE
Langley AFB, , VA

UNITS

µg	micrograms (per sorber), reported for compounds
MDL	method detection limit
bdl	below detection limit
nd	non-detect

ANALYTES

TPH	total petroleum hydrocarbons
BTEX	benzene, toluene, ethylbenzene and total xylenes combined
BENZ	benzene
TOL	toluene
EtBENZ	ethylbenzene
mpXYL	m-, p-xylene
oXYL	o-xylene
C11, C13, & C15	undecane, tridecane, and pentadecane combined (Diesel Range Alkanes)
UNDEC	undecane
TRIDEC	tridecane
PENTADEC	pentadecane
TMBs	1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene combined
135TMB	1,3,5-trimethylbenzene
124TMB	1,2,4-trimethylbenzene
ct12DCE	cis- & trans-1,2-dichloroethene combined
t12DCE	trans-1,2-dichloroethene
c12DCE	cis-1,2-dichloroethene
NAPH&2-MN	naphthalene and 2-methyl naphthalene combined
NAPH	naphthalene
2MeNAPH	2-methyl naphthalene
MTBE	methyl t-butyl ether
11DCA	1,1-dichloroethane
$CHCl_3$	chloroform
111TCA	1,1,1-trichloroethane
12DCA	1,2-dichloroethane
CCl_4	carbon tetrachloride
TCE	trichloroethene
OCT	octane
PCE	tetrachloroethene
ClBENZ	chlorobenzene
14DCB	1,4-dichlorobenzene

BLANKS

TBn	unexposed modules (trip blanks), documents ambient impact during field activities
method blank	QA/QC module, documents ambient impact during analysis

APPENDIX A:

1. CHAIN OF CUSTODY
2. DATA TABLE
3. STACKED TOTAL ION CHROMATOGRAMS
4. COLOR CONTOUR MAPS

GORE-SORBER® Screening Survey Chain of Custody

For W.L. Gore & Associates use only
Production Order # 10353033

GORE
Creative Technologies Worldwide

W. L. Gore & Associates, Inc., Environmental Products Group
100 Chesapeake Boulevard • Elkton, Maryland 21921 • Tel: (410) 392-7600 • Fax (410) 506-4780

Instructions: Customer must complete ALL shaded cells

Customer Name: US ARMY CORP OF ENGINEERS	Site Name: LANGLEY AFB
Address: CANDLEWOOD SUITES	Site Address: VA
410 BUTLER FARM	
HAMPTON VA 23666	Project Manager:
Phone: 757-766-8976	Customer Project No.:
FAX:	Customer P.O. #: DAC W45-00-P-0102 Quote #: 206123

Serial # of Modules Shipped

# 325647	- # 325663	#	- #
# 325670	- # 325789	#	- #
# 325796	- # 325900	#	- #
#	- #	#	- #
#	- #	#	- #
#	- #	#	- #
#	- #	#	- #
#	- #	#	- #
#	- #	#	- #
#	- #	#	- #

# of Modules for Installation 230 # of Trip Blanks 12

Total Modules Shipped: 242 Pieces
Total Modules Received: 242 Pieces
Total Modules Installed: 229 Pieces

Serial # of Trip Blanks (*Client Decides*)		
# 325670	# 325896	#
# 325741	# 325897	#
# 325789	# 325898	#
# 325843	# 325899	#
# 325892	#	#
# 325893	#	#
# 325894	#	#
# 325895	#	#

GORE ANALYTICAL OPTION: [A 1+ TPH]

Installation Performed By:
Name (*please print*): Richard Grabowski
Company/Affiliation: USACE-Omaha District

Installation Method(s) (*circle those that apply*):
Slide Hammer Hammer Drill Auger
Other: Direct Push

Installation Start Date and Time: 3/27/00 / / 08:30 AM PM
Installation Complete Date and Time: [redacted] 3/29/00 / / [redacted] 4:24 AM PM

Retrieval Performed By:
Name (*please print*): Richard Grabowski
Company/Affiliation: USACE-Omaha District

Total Modules Retrieved: 228 Pieces
Total Modules Lost in Field: 1 Pieces
Total Unused Modules Returned: 1 Pieces

Retrieval Start Date and Time: 4 / 17 / 00 4:21 AM PM
Retrieval Complete Date and Time: 4 / 18 / 00 4:35 AM PM

Relinquished By: [signature] Affiliation: W.L. Gore & Associates, Inc.	Date 3/15/00	Time 10am	Received By: [signature] Affiliation: USACE-Omaha District	Date 3/20/00	Time 1530
Relinquished By: [signature] Affiliation: USACE-Omaha District	Date 4/19/00	Time 0800	Received By: [signature] Affiliation:	Date 4/24/00	Time 7:10 am

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GORE-SORBER® Screening Survey
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				LPH	ODOR	NONE	YES	NO	
1.	325647	3/27/00 0830	4/18/00 14:58			X		X	wet
2.	325648	3/27/00 0837	4/18/00 15:00			X		X	wet
3.	325649	3/27/00 0841	4/18/00 15:01			X		X	wet
4.	325650	3/27/00 0851	4/18/00 15:03			X		X	wet
5.	325651	3/27/00 0859	4/18/00 15:05			X		X	wet
6.	325652	3/27/00 0903	4/18/00 15:06			X		X	wet
7.	325653	3/27/00 0910	4/18/00 15:08			X		X	wet
8.	325654	3/27/00 0913	4/18/00 15:10			X		X	wet
9.	325655	3/27/00 0918	4/18/00 15:12			X		X	wet
10.	325656	3/27/00 0927	4/18/00 15:14			X		X	wet
11.	325657	3/27/00 0931	4/18/00 15:15			X		X	wet
12.	325658	3/27/00 0934	4/18/00 15:16			X		X	wet
13.	325659	3/27/00 0939	4/18/00 15:18			X		X	wet
14.	325660	3/27/00 0943	4/18/00 15:20			X		X	wet
15.	325661	3/27/00 0952	4/18/00 15:22			X		X	wet
16.	325662	3/27/00 0957	4/18/00 15:26			X		X	wet
17.	325663	3/27/00 1002	4/18/00 15:29			X		X	wet
18.	325671	3/27/00 1006	4/18/00 15:33			X		X	wet
19.	325672	3/27/00 1012	4/18/00 15:35			X		X	wet
20.	325673	3/27/00 1017	4/18/00 15:37			X		X	wet
21.	325674	3/27/00 1022	4/18/00 15:38			X		X	wet
22.	325675	3/27/00 1026	4/18/00 15:43			X		X	wet
23.	325676	3/27/00 1029	4/18/00 15:44			X		X	wet
24.	325677	3/27/00 1033	4/18/00 15:46			X		X	wet
25.	325678	3/27/00 1037	4/18/00 15:48			X		X	wet
26.	325679	3/27/00 1042	4/18/00 15:50			X		X	wet
27.	325680	3/27/00 1047	4/18/00 15:52			X		X	wet
28.	325681	3/27/00 1054	4/18/00 15:53			X		X	wet
29.	325682	3/27/00 1058	4/18/00 15:55			X		X	wet
30.	325683	3/27/00 1103	4/18/00 15:57			X		X	wet
31.	325684	3/27/00 1107	4/18/00 15:59			X		X	wet
32.	325685	3/27/00 1110	4/18/00 16:01			X		X	wet
33.	325686	3/27/00 1114	4/18/00 16:03			X		X	wet
34.	325687	3/27/00 1120	4/18/00 16:08			X		X	wet
35.	325688	3/27/00 1125	4/18/00 16:07			X		X	wet
36.	325689	3/27/00 1126	4/18/00 16:05			X		X	wet
37.	325690	3/27/00 1233	4/18/00 8:17			X		X	dry
38.	325691	3/27/00 1237	4/18/00 8:19			X		X	wet
39.	325692	3/27/00 1241	4/18/00 8:21			X		X	wet
40.	325693	3/27/00 1244	4/18/00 8:22			X		X	wet
41.	325694	3/27/00 1248	4/18/00 8:24			X		X	wet
42.	325695	3/27/00 1252	4/18/00 8:26			X		X	wet

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				LPH	ODOR	NONE	YES	NO	
43.	325696	3/27/00 1257	4/18/00 8:29			X		X	wet
44.	325697	3/27/00 1301	4/18/00 8:31			X		X	wet
45.	325698	3/27/00 1304	4/18/00 8:38			X		X	wet
46.	325699	3/27/00 1307	4/18/00 8:34			X		X	wet
47.	325700	3/27/00 1310	4/18/00 8:39			X		X	wet
48.	325701	3/27/00 1314	4/18/00 8:41			X		X	wet
49.	325702	3/27/00 1318	4/18/00 8:43			X		X	wet
50.	325703	3/27/00 1321	4/18/00 8:44			X		X	wet
51.	325704	3/27/00 1325	4/18/00 8:49			X		X	wet
52.	325705	3/27/00 1331	4/18/00 8:51			X		X	wet
53.	325706	3/27/00 1336	4/18/00 8:53			X		X	wet
54.	325707	3/27/00 1338	4/18/00 8:56			X		X	wet
55.	325708	3/27/00 1342	4/18/00 8:57			X		X	wet
56.	325709	3/27/00 1344	4/18/00 8:59			X		X	wet
57.	325710	3/27/00 1352	4/18/00 9:00			X		X	wet
58.	325711	3/27/00 1355	4/18/00 9:02			X		X	wet
59.	325712	3/27/00 1358	4/18/00 9:03			X		X	wet
60.	325713	3/27/00 1402	4/18/00 9:05			X		X	wet
61.	325714	3/27/00 1405	4/18/00 9:07			X		X	wet
62.	325715	3/27/00 1407	4/18/00 9:08			X		X	wet
63.	325716	3/27/00 1410	4/18/00 9:10			X		X	wet
64.	325717	3/27/00 1413	4/18/00 9:11			X		X	wet
65.	325718	3/27/00 1415	4/18/00 9:13			X		X	wet
66.	325719	3/27/00 1418	4/18/00 9:14			X		X	wet
67.	325720	3/27/00 1420	4/18/00 9:15			X		X	wet
68.	325721	3/27/00 1423	4/18/00 9:17			X		X	wet
69.	325722	3/27/00 1432	4/18/00 9:19			X		X	wet
70.	325723	3/27/00 1434	4/18/00 9:20			X		X	wet
71.	325724	3/27/00 1437	4/18/00 9:22			X		X	wet
72.	325725	3/27/00 1440	4/18/00 9:23			X		X	wet
73.	325726	3/27/00 1443	4/18/00 9:25			X		X	wet
74.	325727	3/27/00 1445	4/18/00 9:27			X		X	wet
75.	325728	3/27/00 1453	4/18/00 9:28			X		X	wet
76.	325729	3/27/00 1507	4/18/00 9:29			X		X	wet
77.	325730	3/27/00 1511	4/18/00 9:32			X		X	wet
78.	325731	3/27/00 1518	4/18/00 9:34			X		X	wet
79.	325732	3/27/00 1521	4/18/00 9:49			X		X	wet
80.	325733	3/27/00 1523	4/18/00 9:51			X		X	wet
81.	325734	3/27/00 1524	4/18/00 9:52			X		X	wet
82.	325735	3/27/00 1529	4/18/00 9:53			X		X	wet
83.	325736	3/27/00 1533	4/18/00 9:55			X		X	wet
84.	325737	3/27/00 1537	4/18/00 9:33			X		X	wet

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				LPH	ODOR	NONE	YES	NO	
85.	325738	3/27/00 1547	4/18/00 9:57			X		X	wet
86.	325739	3/27/00 1558	4/18/00 9:58			X		X	wet
87.	325742	3/27/00 1558	4/18/00 10:01			X		X	wet
88.	325743	3/28/00 0752	4/18/00 10:03			X		X	wet
89.	325744	3/28/00 0757	4/18/00 10:04			X		X	wet
90.	325745	3/28/00 0802	4/18/00 10:06			X		X	wet
91.	325740	3/27/00 1553	4/18/00 9:59			X		X	wet
92.	325746	3/28/00 0810	4/18/00 10:07			X		X	wet
93.	325747	3/28/00 0814	4/18/00 10:09			X		X	wet
94.	325748	3/28/00 0819	4/18/00 10:11			X		X	wet
95.	325749	3/28/00 0823	4/18/00 10:13			X		X	wet
96.	325750	3/28/00 0827	4/18/00 10:14			X		X	wet
97.	325751	3/28/00 0832	4/18/00 10:15			X		X	wet
98.	325752	3/28/00 0836	4/18/00 10:17			X		X	wet
99.	325753	3/28/00 0840	4/18/00 10:18			X		X	wet
100.	325754	3/28/00 0847	4/18/00 10:20			X		X	wet
101.	325755	3/28/00 0852	4/18/00 10:22			X		X	wet
102.	325756	3/28/00 0857	4/18/00 10:24			X		X	wet
103.	325757	3/28/00 0900	4/18/00 10:25			X		X	wet
104.	325758	3/28/00 0904	4/18/00 10:31			X		X	wet
105.	325759	3/28/00 0906	4/18/00 10:32			X		X	wet
106.	325760	3/28/00 0909	4/18/00 10:33			X		X	wet
107.	325761	3/28/00 0912	4/18/00 10:35			X		X	wet
108.	325762	3/28/00 0915	4/18/00 10:37			X		X	wet
109.	325763	3/28/00 0920	4/18/00 10:38			X		X	wet
110.	325764	3/28/00 0924	4/18/00 10:40			X		X	wet
111.	325765	3/28/00 0929	4/18/00 10:43			X		X	wet
112.	325766	3/28/00 0933	4/18/00 10:44			X		X	wet
113.	325767	3/28/00 0940	4/18/00 10:46			X		X	wet
114.	325768	3/28/00 0945	4/18/00 10:47			X		X	wet
115.	325769	3/28/00 0948	4/18/00 10:50			X		X	dry
116.	325770	3/28/00 0953	4/18/00 10:51			X		X	wet
117.	325771	3/28/00 0958	4/18/00 10:53			X		X	wet
118.	325772	3/28/00 1001	4/18/00 10:54			X		X	wet
119.	325773	3/28/00 1004	4/18/00 10:56			X		X	wet
120.	325774	3/28/00 1008	4/18/00 10:58			X	X		wet
121.	325775	3/28/00 1011	4/18/00 11:01			X		X	wet
122.	325776	3/28/00 1014	4/18/00 11:17			X		X	wet
123.	325777	3/28/00 1024	4/18/00 11:20			X		X	wet
124.	325778	3/28/00 1025	4/18/00 11:21			X		X	dry
125.	325779	3/28/00 1032				X		X	did not Retrieve
126.	325780	3/28/00 1037	4/18/00 11:25			X		X	wet

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127.	325781	3/28/00 1040	~~4/17/00~~ 4/18/00 11:27			X		X	~~wet~~ wet
128.	325782	3/28/00 1043	4/18/00 11:29			X		X	wet
129.	325783	3/28/00 1200	4/17/00 19:26			X		X	wet
130.	325784	3/28/00 1205	4/17/00 19:28			X		X	wet
131.	325785	3/28/00 1210	4/17/00 19:30			X		X	wet
132.	325786	3/28/00 1214	4/17/00 19:31			X		X	wet
133.	325787	3/28/00 1225	4/17/00 19:33			X		X	dry
134.	325788	3/28/00 1246	4/17/00 16:21			X		X	wet
135.	325796	3/28/00 1249	4/17/00 16:28			X		X	wet
136.	325797	3/28/00 1253	4/17/00 16:30			X		X	wet
137.	325798	3/28/00 1256	4/17/00 16:32			X		X	wet
138.	325799	3/28/00 1259	4/17/00 16:35			X		X	wet
139.	325800	3/28/00 1303	4/17/00 16:37			X		X	wet
140.	325801	3/28/00 1307	4/17/00 16:39			X		X	wet
141.	325802	3/28/00 1311	4/17/00 16:42			X		X	wet
142.	325803	3/28/00 1314	4/17/00 16:44			X		X	wet
143.	325804	3/28/00 1317	4/17/00 16:46			X		X	wet
144.	325805	3/28/00 1320	4/17/00 16:48			X		X	wet
145.	325806	3/28/00 1324	4/17/00 16:52			X		X	wet
146.	325807	3/28/00 1327	4/17/00 16:54			X		X	wet
147.	325808	3/28/00 1330	4/17/00 16:59			X		X	wet
148.	325809	3/28/00 1333	4/17/00 17:01			X		X	wet
149.	325810	3/28/00 1336	4/17/00 17:04			X		X	wet
150.	325811	3/28/00 1339	4/17/00 17:07			X		X	wet
151.	325812	3/28/00 1341	4/17/00 17:09			X		X	wet
152.	325813	3/28/00 1345	4/17/00 17:12			X		X	wet
153.	325814	3/28/00 1348	4/17/00 17:15			X		X	wet
154.	325815	3/28/00 1352	4/17/00 17:18			X		X	wet
155.	325816	3/28/00 1354	4/17/00 17:20			X		X	wet
156.	325817	3/28/00 1357	4/17/00 17:23			X		X	wet
157.	325818	3/28/00 1359	4/17/00 17:25			X		X	wet
158.	325819	3/28/00 1402	4/17/00 17:27			X		X	wet
159.	325820	3/28/00 1404	4/17/00 17:29			X		X	wet
160.	325821	3/28/00 1408	4/17/00 17:31			X		X	wet
161.	325822	3/28/00 1411	4/17/00 17:44			X		X	wet
162.	325823	3/28/00 1413	4/17/00 17:46			X		X	wet
163.	325824	3/28/00 1416	4/17/00 17:46			X		X	wet
164.	325825	3/28/00 1418	4/17/00 17:50			X		X	wet
165.	325826	3/28/00 1422	4/17/00 17:52			X		X	wet
166.	325827	3/28/00 1424	4/17/00 17:55			X		X	wet
167.	325828	3/28/00 1427	4/17/00 17:57			X		X	wet
168.	325829	3/28/00 1429	4/17/00 17:59			X		X	wet

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169.	325830	3/28/00 1433	4/17/00 18:02			X		X	wet
170.	325831	3/28/00 1436	4/17/00 18:04			X		X	wet
171.	325832	3/28/00 1439	4/17/00 18:06			X		X	wet
172.	325833	3/28/00 1441	4/17/00 18:09			X		X	wet
173.	325834	3/28/00 1444	4/17/00 18:11			X		X	wet
174.	325835	3/28/00 1504	4/17/00 18:14			X		X	dry
175.	325836	3/28/00 1507	4/17/00 18:15			X		X	wet
176.	325837	3/28/00 1510	4/17/00 18:17			X		X	wet
177.	325838	3/28/00 1513	4/17/00 18:20			X		X	wet
178.	325839	3/28/00 1516	4/17/00 18:22			X		X	wet
179.	325840	3/28/00 1523	4/17/00 18:28			X		X	wet
180.	325841	3/28/00 1527	4/17/00 18:29			X		X	wet
181.	325842	3/28/00 1529	4/17/00 18:32			X		X	wet
182.	325844	3/28/00 1533	4/17/00 18:34			X		X	wet
183.	325845	3/28/00 1536	4/17/00 18:37			X		X	wet
184.	325846	3/28/00 1538	4/17/00 18:39			X		X	wet
185.	325847	3/28/00 1541	4/17/00 18:41			X		X	wet
186.	325848	3/28/00 1544	4/17/00 18:44			X		X	wet
187.	325849	3/28/00 1546	4/17/00 18:46			X		X	wet
188.	325850	3/28/00 1551	4/17/00 18:48			X		X	wet
189.	325851	3/28/00 1555	4/17/00 18:50			X		X	dry
190.	325852	3/28/00 1600	4/17/00 18:52			X		X	dry
191.	325853	3/28/00 1603	4/17/00 18:53			X		X	dry
192.	325854	3/28/00 1626	4/17/00 18:54			X		X	wet
193.	325855	3/28/00 1632	4/17/00 18:56			X		X	wet
194.	325856	3/28/00 1637	4/17/00 18:58			X		X	wet
195.	325857	3/28/00 1640	4/17/00 18:59			X		X	wet
196.	325858	3/28/00 1643	4/17/00 19:01			X		X	wet
197.	325859	3/28/00 1646	4/17/00 19:03			X		X	dry
198.	325860	3/28/00 1649	4/17/00 19:04			X		X	dry
199.	325861	3/28/00 1653	4/17/00 19:06			X		X	dry
200.	325862	3/28/00 1658	4/17/00 19:08			X		X	dry
201.	325863	3/28/00 1702	4/17/00 19:09			X		X	dry
202.	325864	3/28/00 1705	4/17/00 19:10			X	X		wet
203.	325865	3/28/00 1709	4/17/00 19:12			X		X	dry
204.	325866	3/28/00 1711	4/17/00 19:13			X		X	dry
205.	325867	3/28/00 1713	4/17/00 19:15			X		X	dry
206.	325868	3/28/00 1715	4/17/00 19:16			X		X	dry
207.	325869	3/29/00 0802	4/17/00 19:17			X		X	wet
208.	325870	3/29/00 0809	4/17/00 19:19			X		X	wet
209.	325871	3/29/00 0812	4/17/00 19:21			X		X	dry
210.	325872	3/29/00 0904	4/17/00 19:37			X		X	

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GORE-SORBER® Screening Survey
Installation and Retrieval Log

Page 6 of 1

SITE NAME & LOCATION

LINE #	MODULE #	INSTALLATION DATE/TIME	RETRIEVAL DATE/TIME	EVIDENCE OF LIQUID HYDROCARBONS (LPH) or HYDROCARBON ODOR (Check as appropriate)			MODULE IN WATER (check one)		COMMENTS
				LPH	ODOR	NONE	YES	NO	
211.	325873	3/29/00 0910	4/17/00 19:38			X		X	wet
212.	325874	3/29/00 0917	4/17/00 19:40			X		X	dry
213.	325875	3/29/00 0925	4/17/00 19:42			X		X	wet
214.	325876	3/29/00 0938	4/17/00 19:35			X		X	dry
215.	325877	3/29/00 1025	4/18/00 11:14			X		X	wet
216.	325878	3/29/00 1029	4/18/00 11:12			X		X	wet
217.	325879	3/29/00 1155	4/18/00 16:31			X		X	wet
218.	325880	3/29/00 1201	4/18/00 16:15			X		X	wet
219.	325881	3/29/00 1206	4/18/00 16:16			X		X	wet
220.	325882	3/29/00 1212	4/18/00 16:33			X		X	wet
221.	325883	3/29/00 1216	4/18/00 16:34			X		X	wet
222.	325884	3/29/00 1220	4/18/00 16:35			X		X	wet
223.	325885	3/29/00 1226	4/18/00 16:17			X		X	wet
224.	325886	3/29/00 1308	4/18/00 16:27			X		X	wet
225.	325887	3/29/00 1313	4/18/00 16:25			X		X	wet
226.	325888	3/29/00 1318	4/18/00 16:23			X		X	wet
227.	325889	3/29/00 1415	4/18/00 16:29			X		X	wet
228.	325890	3/29/00 1420	4/18/00 16:30			X		X	wet
229.	325891	3/29/00 1424	4/18/00 16:32			X		X	wet
230.									
231.									
232.									
233.									
234.									
235.									
236.									
237.									
238.									
239.									
240.									
241.									
242.									
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251.									
252.									

GORE-SORBER ® Screening Survey is a registered service mark of W.L. Gore & Associates, Inc.

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
US ARMY CORP OF ENGINEERS, OMAHA, NE
GORE STANDARD TARGET VOCs/SVOCs (A1)
LANGLEY AFB, VA
SITE BJA - PRODUCTION ORDER #10353033

TE YZED	SAMPLE NAME	TPH, ug	BTEX, ug	BENZ, ug	TOL, ug	EtBENZ, ug	mpXYL, ug	oXYL, ug	C11, C13, &C15, ug	UNDEC, ug	TRIDEC, ug	PENTADEC, ug
	MDL=			0.05	0.03	0.03	0.04	0.02		0.03	0.04	0.01
4/24/00	325647	0.41	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	bdl
4/24/00	325648	1.10	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/24/00	325649	0.45	0.00	nd	nd	nd	nd	nd	0.00	bdl	nd	nd
4/24/00	325650	9.84	0.07	0.07	nd	nd	nd	nd	0.12	0.12	nd	nd
4/24/00	325651	0.51	0.05	nd	nd	nd	0.05	nd	0.00	nd	nd	nd
4/24/00	325652	2.17	0.06	nd	0.06	nd	bdl	nd	0.00	nd	nd	bdl
4/24/00	325653	0.05	0.29	nd	nd	0.06	0.16	0.07	0.00	nd	nd	nd
4/24/00	325654	0.04	0.00	nd	nd	nd	nd	nd	0.00	bdl	nd	nd
4/24/00	325655	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/24/00	325656	0.10	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/24/00	325657	0.06	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/24/00	325658	0.16	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/24/00	325659	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/24/00	325660	0.10	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/24/00	325661	0.01	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/24/00	325662	0.03	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/24/00	325663	0.06	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/24/00	325671	0.08	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	325672	0.03	0.00	nd	nd	nd	nd	nd	0.02	nd	bdl	0.02
4/25/00	325673	0.07	0.00	nd	nd	bdl	bdl	bdl	0.01	nd	nd	0.01
4/25/00	325674	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	bdl
4/25/00	325675	0.06	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	bdl
4/25/00	325676	0.12	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	bdl
4/25/00	325677	2.86	0.03	nd	nd	bdl	bdl	0.03	0.00	nd	nd	bdl
4/25/00	325678	0.07	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	325679	0.25	0.00	nd	nd	nd	nd	nd	0.07	nd	nd	0.07
4/25/00	325680	0.09	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	325681	0.07	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
5/00	325682	0.04	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
5/00	325683	0.28	0.13	nd	0.04	bdl	0.06	0.04	0.00	nd	nd	bdl
4/25/00	325684	0.14	0.07	nd	0.07	nd	nd	nd	0.00	nd	nd	nd
4/25/00	325685	0.06	0.14	nd	0.14	nd	bdl	nd	0.00	nd	nd	nd
4/25/00	325686	0.05	0.00	nd	nd	nd	bdl	nd	0.00	nd	nd	nd
4/25/00	325687	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	325688	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	325689	0.05	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	325690	0.04	0.05	nd	0.05	nd	nd	nd	0.00	nd	nd	nd
4/25/00	325691	0.07	0.18	nd	nd	0.04	0.10	0.05	0.00	nd	nd	nd
4/25/00	325692	0.06	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	325693	0.12	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	325694	0.06	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	325695	0.21	0.68	nd	0.04	0.11	0.39	0.15	0.00	nd	nd	nd
4/25/00	325696	0.08	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	325697	0.03	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	325698	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	325699	0.03	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	325700	0.18	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	325701	0.13	0.05	nd	nd	nd	0.05	bdl	0.00	nd	nd	nd
4/25/00	325702	0.41	0.03	nd	0.03	nd	nd	nd	0.00	nd	nd	nd
4/25/00	325703	0.03	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325704	0.04	0.09	nd	nd	bdl	0.06	0.03	0.00	nd	nd	nd
4/26/00	325705	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325706	8.74	0.00	nd	nd	nd	nd	nd	0.12	0.06	0.05	0.02
4/26/00	325707	0.04	0.00	nd	nd	nd	bdl	nd	0.00	nd	nd	nd
4/26/00	325708	0.04	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325709	0.68	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325710	0.04	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325711	0.26	0.00	nd	bdl	nd	bdl	nd	0.00	nd	nd	nd
4/26/00	325712	0.04	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
6/00	325713	0.03	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
/00	325714	0.01	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
6/00	325715	0.06	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325716	0.03	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325717	0.03	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325718	0.06	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
US ARMY CORP OF ENGINEERS, OMAHA, NE
GORE STANDARD TARGET VOCs/SVOCs (A1)
LANGLEY AFB, VA
SITE BJA - PRODUCTION ORDER #10353033

ATE YZED	SAMPLE NAME	TPH, ug	BTEX, ug	BENZ, ug	TOL, ug	EtBENZ, ug	mpXYL, ug	oXYL, ug	C11, C13, &C15, ug	UNDEC, ug	TRIDEC, ug	PENTADEC, ug
	MDL=			0.05	0.03	0.03	0.04	0.02		0.03	0.04	0.01
4/26/00	325719	0.12	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325720	0.10	0.00	nd	nd	nd	nd	nd	0.00	bdl	nd	nd
4/26/00	325721	0.07	0.05	nd	0.05	nd	bdl	bdl	0.00	nd	nd	nd
4/26/00	325722	0.04	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325723	0.08	0.09	nd	0.09	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325724	0.21	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325725	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325726	0.09	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325727	0.07	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325728	0.05	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325729	0.01	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325730	0.10	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325731	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325732	0.03	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325733	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325734	0.01	0.00	nd	nd	nd	bdl	nd	0.00	nd	nd	nd
4/26/00	325735	0.00	0.09	nd	0.09	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325736	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325737	0.19	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325738	0.02	0.04	nd	nd	nd	0.04	bdl	0.00	nd	nd	nd
4/26/00	325739	0.08	0.14	nd	nd	bdl	0.10	0.04	0.00	nd	nd	nd
4/26/00	325740	0.04	0.00	nd	nd	nd	bdl	bdl	0.00	nd	nd	nd
4/26/00	325742	0.02	0.00	nd	nd	nd	bdl	nd	0.00	nd	nd	nd
4/26/00	325743	0.03	0.12	nd	0.12	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325744	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325745	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325746	0.07	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325747	0.03	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
6/00	325748	0.01	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
/00	325749	0.05	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325750	0.05	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325751	0.03	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325752	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325753	0.01	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325754	0.03	0.00	nd	nd	nd	bdl	nd	0.00	nd	nd	nd
4/26/00	325755	0.11	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	325756	1.64	0.00	nd	nd	nd	nd	nd	0.01	bdl	bdl	0.01
4/26/00	325757	0.06	0.05	nd	0.05	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325758	0.03	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325759	0.18	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325760	0.04	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325761	0.05	0.03	nd	0.03	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325762	13.47	0.00	nd	nd	nd	bdl	nd	0.37	0.37	bdl	nd
4/27/00	325763	1.93	0.00	nd	nd	nd	nd	nd	0.00	bdl	bdl	nd
4/27/00	325764	0.10	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325765	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325766	0.38	0.00	nd	nd	nd	nd	nd	0.29	0.29	nd	nd
4/27/00	325767	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325768	0.01	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325769	0.03	0.05	nd	0.05	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325770	0.17	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325771	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325772	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325773	0.02	0.04	nd	0.04	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325774	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325775	0.05	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325776	0.06	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325777	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325778	0.33	0.46	nd	0.46	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325780	0.04	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
'00	325781	0.15	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
/00	325782	0.10	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325783	0.01	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325784	0.38	0.00	nd	nd	nd	nd	nd	0.14	0.12	bdl	0.02
4/27/00	325785	2.14	0.70	nd	bdl	0.17	0.30	0.23	0.06	0.06	bdl	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
US ARMY CORP OF ENGINEERS, OMAHA, NE
GORE STANDARD TARGET VOCs/SVOCs (A1)
LANGLEY AFB, VA
SITE BJA - PRODUCTION ORDER #10353033

TE YZED	SAMPLE NAME	TPH, ug	BTEX, ug	BENZ, ug	TOL, ug	EtBENZ, ug	mpXYL, ug	oXYL, ug	C11, C13, &C15, ug	UNDEC, ug	TRIDEC, ug	PENTADEC, ug
	MDL=			0.05	0.03	0.03	0.04	0.02		0.03	0.04	0.01
4/27/00	325786	0.10	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325787	0.11	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325788	2.05	0.00	bdl	nd	nd	bdl	bdl	0.00	bdl	nd	nd
4/27/00	325796	0.27	0.00	nd	nd	nd	bdl	nd	0.00	nd	nd	nd
4/27/00	325797	22.60	0.13	0.13	bdl	nd	bdl	bdl	0.15	0.14	bdl	0.01
4/27/00	325798	0.05	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325799	0.08	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	325800	0.18	0.07	nd	nd	nd	0.04	0.02	0.00	bdl	nd	nd
4/27/00	325801	43.22	0.09	0.06	nd	bdl	bdl	0.03	0.42	0.38	bdl	0.03
4/27/00	325802	14.03	0.00	nd	nd	nd	nd	nd	0.45	0.16	0.15	0.15
4/27/00	325803	6.43	0.18	0.06	nd	nd	0.07	0.05	0.00	bdl	bdl	nd
4/27/00	325804	1.34	0.00	nd	nd	nd	bdl	bdl	0.00	bdl	nd	nd
4/27/00	325805	4.69	0.55	nd	nd	0.08	0.33	0.14	0.06	0.06	bdl	bdl
4/27/00	325806	3.81	0.00	bdl	nd	nd	bdl	bdl	0.00	bdl	nd	nd
4/27/00	325807	13.74	0.15	0.07	0.04	bdl	bdl	0.03	0.08	0.08	bdl	bdl
4/27/00	325808	82.04	0.46	0.37	0.05	nd	bdl	0.05	0.29	0.25	bdl	0.04
4/27/00	325809	85.51	0.33	0.15	bdl	0.09	0.06	0.03	1.65	1.43	0.19	0.03
4/27/00	325810	47.35	2.37	2.11	bdl	0.04	0.08	0.15	0.08	0.07	bdl	0.01
4/27/00	325811	2110.45	37.83	4.05	0.27	5.53	19.99	8.00	9.48	8.58	0.85	0.06
4/27/00	325812	445.57	1.57	0.94	0.20	0.04	0.16	0.24	2.66	2.27	0.30	0.10
4/28/00	325813	200.92	0.49	0.26	0.11	bdl	0.06	0.07	1.23	0.96	0.14	0.13
4/28/00	325814	105.06	1.44	0.47	0.12	0.05	0.41	0.40	0.52	0.41	0.07	0.04
4/28/00	325815	260.67	1.72	0.81	0.17	0.20	0.36	0.18	0.85	0.77	0.06	0.02
4/28/00	325816	100.13	0.76	0.59	0.04	bdl	0.06	0.07	1.27	1.14	0.08	0.04
4/28/00	325817	53.32	4.28	3.48	0.11	0.13	0.38	0.18	0.30	0.30	bdl	nd
4/28/00	325818	829.49	12.23	8.26	0.42	0.62	1.56	1.37	4.80	4.23	0.45	0.12
4/28/00	325819	184.48	0.48	0.34	0.09	bdl	bdl	0.05	0.17	0.17	bdl	bdl
4/28/00	325820	467.47	2.51	1.29	0.81	0.07	0.20	0.15	1.26	0.63	0.35	0.28
[illegible]00	325821	395.16	1.52	0.65	0.22	0.09	0.33	0.24	0.19	0.18	bdl	0.01
[illegible]/00	325822	12.18	0.05	bdl	0.05	nd	bdl	bdl	0.00	bdl	nd	nd
4/28/00	325823	23.08	0.09	0.06	bdl	bdl	bdl	0.03	0.14	0.09	bdl	0.05
4/28/00	325824	6.56	0.14	0.09	0.05	nd	bdl	nd	0.00	bdl	nd	nd
4/28/00	325825	27.00	0.63	0.16	0.07	0.10	0.21	0.10	0.11	0.11	bdl	nd
4/28/00	325826	0.86	0.08	nd	nd	nd	0.05	0.03	0.00	nd	nd	nd
4/28/00	325827	0.28	0.00	nd	nd	nd	bdl	nd	0.00	nd	nd	nd
4/28/00	325828	2.55	0.48	nd	0.04	0.06	0.26	0.12	0.00	bdl	bdl	bdl
4/28/00	325829	0.39	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/28/00	325830	0.17	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/28/00	325831	0.34	0.05	bdl	0.05	nd	bdl	bdl	0.00	nd	nd	nd
4/28/00	325832	0.50	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/28/00	325833	5.51	0.06	0.06	nd	nd	bdl	nd	0.00	bdl	bdl	nd
4/28/00	325834	6.09	0.00	nd	nd	nd	nd	nd	0.07	0.07	nd	nd
4/28/00	325835	0.05	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/28/00	325836	0.97	0.11	nd	nd	bdl	0.07	0.04	0.00	nd	nd	nd
4/28/00	325837	7.07	0.09	0.09	nd	nd	bdl	bdl	0.00	bdl	nd	nd
4/28/00	325838	0.48	0.05	nd	nd	nd	0.05	bdl	0.00	nd	nd	nd
4/28/00	325839	0.25	0.05	nd	0.05	nd	bdl	nd	0.00	nd	nd	nd
4/28/00	325840	9.20	0.00	nd	nd	nd	bdl	nd	0.13	0.03	0.05	0.05
4/28/00	325841	40.86	0.00	bdl	nd	nd	bdl	nd	0.73	0.44	0.14	0.14
4/28/00	325842	8.93	0.20	bdl	0.07	nd	0.09	0.04	0.18	0.18	bdl	nd
4/28/00	325844	10.00	0.70	0.19	0.42	nd	0.07	0.02	0.08	0.08	bdl	bdl
4/28/00	325845	9.30	0.00	bdl	nd	nd	bdl	nd	0.05	0.05	nd	nd
4/28/00	325846	0.60	0.05	0.05	nd	nd	bdl	bdl	0.00	bdl	nd	nd
4/28/00	325847	6.04	0.26	0.16	nd	nd	0.06	0.04	0.00	bdl	nd	nd
4/28/00	325848	88.94	0.71	0.17	0.24	0.03	0.23	0.04	2.58	1.67	0.64	0.27
4/28/00	325849	539.23	2.12	1.52	0.23	0.08	0.21	0.08	0.18	0.16	bdl	0.01
4/28/00	325850	413.22	2.05	0.98	0.51	0.09	0.25	0.22	10.62	10.49	0.11	0.02
4/28/00	325851	0.77	0.08	0.08	nd	nd	nd	nd	0.00	nd	nd	nd
4/28/00	325852	0.16	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
[illegible]/00	325853	0.21	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
[illegible]00	325854	0.26	0.00	nd	nd	nd	nd	nd	0.01	nd	nd	0.01
[illegible]/00	325855	0.35	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/28/00	325856	334.49	1.06	0.72	0.10	0.07	0.09	0.08	1.38	0.25	0.77	0.36
4/28/00	325857	7.48	0.00	nd	nd	nd	nd	nd	0.01	bdl	bdl	0.01
4/28/00	325858	1.29	0.00	nd	nd	nd	nd	nd	0.01	nd	nd	0.01

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
US ARMY CORP OF ENGINEERS, OMAHA, NE
GORE STANDARD TARGET VOCs/SVOCs (A1)
LANGLEY AFB, VA
SITE BJA - PRODUCTION ORDER #10353033

ATE YZED	SAMPLE NAME	TPH, ug	BTEX, ug	BENZ, ug	TOL, ug	EtBENZ, ug	mpXYL, ug	oXYL, ug	C11, C13, &C15, ug	UNDEC, ug	TRIDEC, ug	PENTADEC, ug
	MDL=			0.05	0.03	0.03	0.04	0.02		0.03	0.04	0.01
4/28/00	325859	0.21	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/28/00	325860	0.33	0.06	nd	0.06	nd	nd	nd	0.00	nd	nd	nd
4/28/00	325861	0.13	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/28/00	325862	0.36	0.05	nd	0.05	nd	nd	nd	0.00	bdl	nd	nd
4/28/00	325863	0.47	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/28/00	325864	0.26	0.00	nd	nd	nd	nd	nd	0.00	nd	bdl	bdl
4/28/00	325865	0.36	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/28/00	325866	6.43	0.00	nd	nd	nd	nd	nd	0.46	0.34	0.11	0.02
4/28/00	325867	0.19	0.05	nd	0.05	nd	nd	nd	0.00	nd	nd	bdl
4/28/00	325868	27.80	0.00	nd	nd	nd	nd	nd	1.37	1.00	0.31	0.06
4/28/00	325869	0.16	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/28/00	325870	0.06	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/28/00	325871	0.66	0.20	0.20	nd	bdl	bdl	nd	0.00	nd	nd	nd
4/28/00	325872	0.15	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/28/00	325873	0.45	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	bdl
4/28/00	325874	0.36	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	bdl
4/28/00	325875	0.51	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/28/00	325876	1.28	0.00	nd	nd	nd	bdl	nd	0.00	nd	nd	bdl
4/29/00	325877	1.04	0.00	nd	nd	nd	bdl	nd	0.00	bdl	nd	nd
4/29/00	325878	0.62	0.00	nd	nd	nd	bdl	nd	0.00	nd	nd	nd
4/29/00	325879	30.94	1.53	1.53	nd	nd	nd	nd	0.70	0.25	0.33	0.12
4/29/00	325880	34.46	2.00	1.73	0.07	bdl	0.07	0.13	0.71	0.46	0.12	0.14
4/29/00	325881	33.60	7.94	7.89	0.05	nd	nd	nd	1.37	0.73	0.50	0.14
4/29/00	325882	1506.62	62.99	51.49	1.00	7.44	2.49	0.57	0.82	0.66	0.08	0.08
4/29/00	325883	37.39	0.11	0.06	0.05	nd	nd	nd	0.12	0.09	bdl	0.03
4/29/00	325884	11.32	0.00	bdl	nd	nd	nd	nd	0.18	0.10	0.06	0.02
4/29/00	325885	5.83	0.13	0.13	nd	nd	nd	nd	0.02	nd	nd	0.02
4/29/00	325886	5.62	0.00	nd	nd	nd	nd	nd	0.05	0.04	nd	0.01
[illegible]9/00	325887	3.21	0.00	nd	nd	nd	bdl	nd	0.01	nd	bdl	0.01
[illegible]/00	325888	668.69	0.47	0.19	0.14	bdl	0.10	0.04	0.01	bdl	bdl	0.01
[illegible]29/00	325889	3.19	0.00	nd	nd	nd	nd	nd	0.03	nd	nd	0.03
4/29/00	325890	29.09	167.72	163.38	0.11	3.29	0.85	0.09	0.19	0.07	0.08	0.05
4/29/00	325891	6.56	7.08	6.37	0.12	0.22	0.29	0.08	0.04	0.04	bdl	bdl
4/29/00	325900	1.65	0.00	nd	nd	nd	nd	nd	0.00	nd	bdl	bdl
4/24/00	TB1 - 325670	0.05	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/24/00	TB2 - 325741	0.03	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	TB3 - 325789	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	TB4 - 325843	nd	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	TB5 - 325892	0.12	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	bdl
4/26/00	TB6 - 325893	0.11	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	TB7 - 325894	0.06	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	TB8 - 325895	0.21	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	TB9 - 325896	0.11	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	TB10 - 325897	0.09	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	TB11 - 325898	0.05	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	TB12 - 325899	0.11	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/24/00	method blank	nd	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/25/00	method blank	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	bdl	bdl
4/25/00	method blank	0.01	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	method blank	0.00	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/26/00	method blank	0.00	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/27/00	method blank	0.01	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/28/00	method blank	0.02	0.00	nd	nd	nd	nd	nd	0.01	nd	nd	0.01
4/28/00	method blank	nd	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd
4/29/00	method blank	8.49	0.00	nd	nd	nd	nd	nd	0.01	nd	nd	0.01
	Maximum	2110.45	167.72	163.38	1.00	7.44	19.99	8.00	10.62	10.49	0.85	0.36
	Standard Dev.	196.61	12.10	11.33	0.11	0.65	1.33	0.54	1.04	0.96	0.11	0.04
	Mean	41.57	1.45	1.14	0.03	0.08	0.14	0.06	0.22	0.18	0.03	0.01

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
US ARMY CORP OF ENGINEERS, OMAHA, NE
GORE STANDARD TARGET VOCs/SVOCs (A1)
LANGLEY AFB, VA
SITE BJA - PRODUCTION ORDER #10353033

MPLE AME	TMBs, ug	124TMB, ug	135TMB, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	NAPH&2-MN, ug	NAPH, ug	2MeNAPH, ug	MTBE, ug	11DCA, ug
MDL=		0.02	0.03		0.03	0.02		0.02	0.02	0.36	0.06
325647	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325648	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325649	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325650	0.02	0.02	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325651	0.00	nd	nd	0.05	nd	0.05	0.00	nd	nd	nd	nd
325652	0.17	0.09	0.08	0.00	nd	nd	0.14	0.07	0.07	nd	nd
325653	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325654	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325655	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325656	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325657	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325658	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325659	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325660	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325661	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325662	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325663	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325671	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325672	0.00	nd	nd	0.00	nd	nd	0.07	0.03	0.05	nd	nd
325673	0.00	nd	nd	0.00	nd	nd	0.00	nd	bdl	nd	nd
325674	0.00	nd	nd	0.00	nd	nd	0.00	nd	bdl	nd	nd
325675	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325676	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325677	0.08	0.02	0.05	0.00	nd	nd	0.35	0.35	bdl	nd	nd
325678	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325679	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325680	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325681	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325682	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325683	0.03	0.03	nd	0.00	nd	nd	0.02	0.02	nd	nd	nd
325684	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325685	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325686	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325687	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325688	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325689	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325690	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325691	0.00	bdl	nd	0.00	nd	nd	0.02	0.02	nd	nd	nd
325692	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325693	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325694	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325695	0.03	0.03	nd	0.00	nd	nd	0.03	0.03	nd	nd	nd
325696	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325697	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325698	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325699	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325700	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325701	0.00	bdl	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325702	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325703	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325704	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325705	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325706	0.07	0.07	bdl	0.00	nd	nd	0.14	0.11	0.04	nd	nd
325707	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325708	0.00	nd	nd	0.00	nd	nd	0.00	nd	bdl	nd	nd
325709	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325710	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325711	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325712	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325713	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325714	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325715	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325716	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325717	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325718	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd

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US ARMY CORP OF ENGINEERS, OMAHA, NE
GORE STANDARD TARGET VOCs/SVOCs (A1)
LANGLEY AFB, VA
SITE BJA - PRODUCTION ORDER #10353033

MPLE ME	TMBs, ug	124TMB, ug	135TMB, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	NAPH&2-MN, ug	NAPH, ug	2MeNAPH, ug	MTBE, ug	11DCA, ug
MDL=		0.02	0.03		0.03	0.02		0.02	0.02	0.36	0.06
325719	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325720	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325721	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325722	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325723	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325724	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325725	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325726	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325727	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325728	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325729	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325730	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325731	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325732	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325733	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325734	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325735	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325736	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325737	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325738	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325739	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325740	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325742	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325743	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325744	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325745	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325746	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325747	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325748	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325749	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325750	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325751	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325752	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325753	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325754	0.00	nd	nd	0.00	nd	nd	0.00	nd	bdl	nd	nd
325755	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325756	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325757	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325758	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325759	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325760	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325761	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325762	0.00	bdl	bdl	0.00	nd	nd	0.00	nd	nd	nd	nd
325763	0.00	nd	nd	0.00	nd	nd	0.41	0.13	0.28	nd	nd
325764	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325765	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325766	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325767	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325768	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325769	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325770	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325771	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325772	0.00	nd	nd	0.00	nd	nd	0.00	nd	bdl	nd	nd
325773	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325774	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325775	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325776	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325777	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325778	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325780	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325781	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325782	0.00	nd	nd	0.00	nd	nd	0.52	0.30	0.23	nd	nd
325783	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325784	0.00	nd	nd	0.00	nd	nd	0.00	nd	bdl	nd	nd
325785	0.56	0.38	0.18	0.00	nd	nd	1.76	1.13	0.63	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
US ARMY CORP OF ENGINEERS, OMAHA, NE
GORE STANDARD TARGET VOCs/SVOCs (A1)
LANGLEY AFB, VA
SITE BJA - PRODUCTION ORDER #10353033

MPLE AME	TMBs, ug	124TMB, ug	135TMB, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	NAPH&2-MN, ug	NAPH, ug	2MeNAPH, ug	MTBE, ug	11DCA, ug
MDL=		0.02	0.03		0.03	0.02		0.02	0.02	0.36	0.06
325786	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325787	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325788	0.00	bdl	nd	0.00	nd	nd	0.00	nd	bdl	nd	nd
325796	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325797	0.60	0.21	0.40	0.00	nd	nd	0.05	0.05	bdl	nd	nd
325798	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325799	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325800	0.02	0.02	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325801	0.07	0.04	0.03	0.00	nd	nd	0.07	0.04	0.03	nd	nd
325802	0.08	0.05	0.03	0.00	nd	nd	0.18	0.07	0.11	nd	nd
325803	0.03	0.03	bdl	0.00	nd	nd	0.10	0.05	0.04	nd	nd
325804	0.00	bdl	nd	0.00	nd	nd	0.00	nd	bdl	nd	nd
325805	0.15	0.12	0.04	0.00	nd	nd	0.24	0.17	0.08	bdl	nd
325806	0.03	0.03	bdl	0.00	nd	nd	0.02	0.02	bdl	nd	nd
325807	0.09	0.05	0.04	0.00	nd	nd	0.09	0.06	0.03	nd	nd
325808	0.28	0.05	0.22	0.00	nd	nd	0.04	0.04	bdl	nd	nd
325809	1.30	0.96	0.34	0.04	nd	0.04	8.02	5.59	2.44	nd	nd
325810	0.71	0.30	0.42	0.00	nd	nd	0.19	0.15	0.04	nd	nd
325811	41.33	23.07	18.26	0.00	nd	nd	0.48	0.41	0.08	nd	nd
325812	0.87	0.12	0.75	0.00	nd	nd	0.68	0.14	0.53	nd	nd
325813	0.15	0.03	0.12	0.00	nd	nd	0.11	0.04	0.06	nd	nd
325814	2.08	0.49	1.58	0.00	nd	nd	0.16	0.11	0.05	nd	nd
325815	0.47	0.15	0.32	0.00	nd	nd	0.39	0.20	0.19	nd	nd
325816	1.17	0.34	0.82	0.00	nd	nd	0.15	0.11	0.04	nd	nd
325817	2.54	1.31	1.23	0.00	nd	nd	0.35	0.25	0.09	nd	nd
325818	2.13	0.47	1.65	0.00	nd	nd	1.32	0.91	0.42	bdl	nd
325819	0.50	0.09	0.40	0.00	nd	nd	0.03	0.03	bdl	nd	nd
325820	0.18	0.06	0.12	0.08	nd	0.08	0.44	0.23	0.21	bdl	nd
325821	1.51	0.49	1.02	0.00	nd	nd	2.13	0.83	1.30	bdl	nd
325822	0.00	bdl	bdl	0.00	nd	nd	0.00	nd	bdl	nd	nd
325823	0.54	0.21	0.33	0.00	nd	nd	0.38	0.28	0.10	nd	nd
325824	0.00	bdl	bdl	0.00	nd	nd	0.00	nd	bdl	nd	nd
325825	1.81	1.06	0.75	0.00	nd	nd	0.33	0.23	0.10	nd	nd
325826	0.00	bdl	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325827	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325828	0.08	0.08	bdl	0.00	nd	nd	0.28	0.11	0.17	nd	nd
325829	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325830	0.00	nd	nd	0.00	nd	nd	0.06	0.06	bdl	nd	nd
325831	0.00	nd	nd	0.26	nd	0.26	0.00	nd	nd	nd	nd
325832	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325833	0.00	bdl	bdl	0.00	nd	nd	0.00	nd	nd	nd	nd
325834	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325835	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325836	0.03	0.03	bdl	0.00	nd	nd	0.02	0.02	bdl	nd	nd
325837	0.08	0.03	0.04	0.00	nd	nd	0.00	bdl	bdl	nd	nd
325838	0.00	bdl	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325839	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325840	0.00	bdl	bdl	0.00	nd	nd	0.00	nd	bdl	nd	nd
325841	0.27	0.16	0.11	0.00	nd	nd	5.19	1.97	3.23	nd	nd
325842	0.49	0.29	0.20	0.00	nd	nd	0.12	0.08	0.04	nd	nd
325844	0.08	0.05	0.04	0.00	nd	nd	0.00	nd	bdl	nd	nd
325845	0.00	bdl	bdl	0.00	nd	nd	0.00	nd	bdl	nd	nd
325846	0.03	0.03	bdl	0.00	nd	nd	0.02	0.02	bdl	nd	nd
325847	0.00	bdl	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325848	0.41	0.27	0.13	0.00	nd	nd	0.43	0.40	0.03	nd	nd
325849	0.09	0.04	0.05	0.00	nd	nd	0.00	nd	bdl	nd	nd
325850	0.76	0.55	0.21	13.75	0.41	13.34	1.95	1.82	0.13	bdl	0.29
325851	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325852	0.00	nd	nd	0.00	nd	nd	0.00	nd	bdl	nd	nd
325853	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325854	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325855	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325856	0.03	0.03	bdl	0.00	nd	nd	4.02	2.00	2.02	nd	nd
325857	0.00	nd	nd	0.00	nd	nd	0.00	bdl	bdl	nd	nd
325858	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
US ARMY CORP OF ENGINEERS, OMAHA, NE
GORE STANDARD TARGET VOCs/SVOCs (A1)
LANGLEY AFB, VA
SITE BJA - PRODUCTION ORDER #10353033

SAMPLE NAME	TMBs, ug	124TMB, ug	135TMB, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	NAPH&2-MN, ug	NAPH, ug	2MeNAPH, ug	MTBE, ug	11DCA, ug
MDL=		0.02	0.03		0.03	0.02		0.02	0.02	0.36	0.06
325859	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325860	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325861	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325862	0.00	nd	nd	0.00	nd	nd	0.00	nd	bdl	nd	nd
325863	0.00	nd	nd	0.00	nd	nd	0.00	nd	bdl	nd	nd
325864	0.00	nd	nd	0.00	nd	nd	0.05	nd	0.05	nd	nd
325865	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325866	0.03	0.03	bdl	0.00	nd	nd	0.02	0.02	bdl	nd	nd
325867	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325868	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325869	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325870	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325871	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325872	0.00	nd	nd	0.00	nd	nd	0.00	nd	bdl	nd	nd
325873	0.00	nd	nd	0.00	nd	nd	0.02	nd	0.02	nd	nd
325874	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325875	0.00	nd	nd	1.25	nd	1.25	0.00	nd	nd	nd	nd
325876	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325877	0.00	bdl	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325878	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325879	0.17	0.03	0.14	0.04	nd	0.04	1.34	0.39	0.96	nd	nd
325880	1.23	0.95	0.28	0.08	nd	0.08	1.28	0.54	0.74	1.71	nd
325881	0.07	0.07	bdl	0.00	nd	nd	0.11	0.08	0.02	2.93	nd
325882	1.67	1.19	0.48	0.06	nd	0.06	2.06	0.47	1.58	bdl	nd
325883	0.00	bdl	nd	0.00	nd	nd	0.00	nd	bdl	nd	nd
325884	0.05	0.05	bdl	0.00	nd	nd	0.57	0.09	0.49	nd	nd
325885	0.00	bdl	nd	0.00	nd	nd	0.00	nd	bdl	bdl	nd
325886	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325887	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
325888	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	0.40	nd
325889	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	1.15	nd
325890	8.23	7.37	0.85	0.98	0.09	0.89	2.89	2.68	0.21	17.56	nd
325891	0.06	0.06	bdl	0.10	nd	0.10	0.04	0.04	bdl	bdl	nd
325900	0.00	nd	nd	0.00	nd	nd	0.00	nd	bdl	nd	nd
TB1 - 325670	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
TB2 - 325741	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
TB3 - 325789	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
TB4 - 325843	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
TB5 - 325892	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
TB6 - 325893	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
TB7 - 325894	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
TB8 - 325895	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
TB9 - 325896	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
TB10 - 325897	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
TB11 - 325898	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
TB12 - 325899	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
method blank	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
method blank	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
method blank	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
method blank	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
method blank	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
method blank	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
method blank	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
method blank	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
method blank	0.00	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd
Maximum	41.33	23.07	18.26	13.75	0.41	13.34	8.02	5.59	3.23	17.56	0.29
Standard Dev.	2.80	1.60	1.22	0.91	0.03	0.89	0.76	0.48	0.34	1.18	0.02
M	0.32	0.18	0.14	0.07	0.00	0.07	0.17	0.10	0.08	0.11	0.00

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
US ARMY CORP OF ENGINEERS, OMAHA, NE
GORE STANDARD TARGET VOCs/SVOCs (A1)
LANGLEY AFB, VA
SITE BJA - PRODUCTION ORDER #10353033

PLE ME	111TCA, ug	12DCA, ug	TCE, ug	OCT, ug	PCE, ug	14DCB, ug	CHCl3, ug	CCl4, ug	ClBENZ, ug
MDL=	0.04	0.03	0.03	0.10	0.04	0.01	0.02	0.03	0.02
325647	nd	nd	nd	nd	nd	nd	nd	nd	nd
325648	nd	nd	nd	nd	nd	nd	nd	nd	nd
325649	nd	nd	nd	nd	nd	nd	nd	nd	nd
325650	nd	nd	nd	bdl	nd	nd	nd	nd	nd
325651	nd	nd	nd	nd	nd	nd	nd	nd	nd
325652	nd	nd	nd	nd	nd	nd	0.14	nd	nd
325653	nd	nd	nd	nd	nd	nd	nd	nd	nd
325654	nd	nd	nd	nd	nd	nd	nd	nd	nd
325655	nd	nd	nd	nd	nd	nd	nd	nd	nd
325656	nd	nd	nd	nd	nd	nd	nd	nd	nd
325657	nd	nd	nd	nd	nd	nd	nd	nd	nd
325658	nd	nd	nd	nd	nd	nd	nd	nd	nd
325659	nd	nd	nd	nd	nd	nd	nd	nd	nd
325660	nd	nd	nd	nd	nd	nd	nd	nd	nd
325661	nd	nd	nd	nd	nd	nd	nd	nd	nd
325662	nd	nd	nd	nd	nd	nd	nd	nd	nd
325663	nd	nd	nd	nd	nd	nd	nd	nd	nd
325671	nd	nd	nd	nd	nd	nd	nd	nd	nd
325672	nd	nd	nd	nd	nd	nd	nd	nd	nd
325673	nd	nd	nd	nd	nd	nd	nd	nd	nd
325674	nd	nd	nd	nd	nd	nd	nd	nd	nd
325675	nd	nd	nd	nd	nd	nd	nd	nd	nd
325676	nd	nd	nd	nd	nd	nd	nd	nd	nd
325677	nd	nd	nd	bdl	nd	nd	nd	nd	nd
325678	nd	nd	nd	nd	nd	nd	nd	nd	nd
325679	nd	nd	nd	nd	nd	nd	nd	nd	nd
325680	nd	nd	nd	nd	nd	nd	nd	nd	nd
325681	nd	nd	nd	nd	nd	nd	nd	nd	nd
682	nd	nd	nd	nd	nd	nd	nd	nd	nd
683	nd	nd	nd	nd	nd	nd	nd	nd	nd
325684	nd	nd	nd	nd	nd	nd	0.10	nd	nd
325685	nd	nd	nd	nd	nd	nd	nd	nd	nd
325686	nd	nd	nd	nd	nd	nd	nd	nd	nd
325687	nd	nd	nd	nd	nd	nd	nd	nd	nd
325688	nd	nd	nd	nd	nd	nd	nd	nd	nd
325689	nd	nd	nd	nd	nd	nd	nd	nd	nd
325690	nd	nd	nd	nd	nd	nd	nd	nd	nd
325691	nd	nd	nd	nd	nd	nd	nd	nd	nd
325692	nd	nd	nd	nd	nd	nd	nd	nd	nd
325693	nd	nd	nd	nd	nd	nd	nd	nd	nd
325694	nd	nd	nd	nd	0.04	nd	nd	nd	nd
325695	nd	nd	nd	nd	nd	nd	nd	nd	nd
325696	nd	nd	nd	nd	nd	nd	nd	nd	nd
325697	nd	nd	nd	nd	nd	nd	nd	nd	nd
325698	nd	nd	nd	nd	nd	nd	nd	nd	nd
325699	nd	nd	nd	nd	nd	nd	0.07	nd	nd
325700	nd	nd	nd	nd	0.06	nd	nd	nd	nd
325701	nd	nd	nd	nd	nd	nd	nd	nd	nd
325702	nd	nd	nd	nd	nd	nd	nd	nd	nd
325703	nd	nd	nd	nd	nd	nd	nd	nd	nd
325704	nd	nd	nd	nd	nd	nd	nd	nd	nd
325705	nd	nd	nd	nd	0.06	nd	nd	nd	nd
325706	nd	nd	nd	nd	nd	nd	nd	nd	nd
325707	nd	nd	nd	nd	nd	nd	nd	nd	nd
325708	nd	nd	nd	nd	nd	nd	nd	nd	nd
325709	nd	nd	nd	nd	nd	nd	nd	nd	nd
325710	nd	nd	nd	nd	nd	nd	nd	nd	nd
325711	nd	nd	nd	nd	nd	nd	nd	nd	nd
325712	nd	nd	nd	nd	nd	nd	nd	nd	nd
713	nd	nd	nd	nd	nd	nd	nd	nd	nd
714	nd	nd	nd	nd	nd	nd	nd	nd	nd
715	nd	nd	nd	nd	nd	nd	nd	nd	nd
325716	nd	nd	nd	nd	nd	nd	0.07	nd	nd
325717	nd	nd	nd	nd	nd	nd	nd	nd	nd
325718	nd	nd	nd	nd	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
US ARMY CORP OF ENGINEERS, OMAHA, NE
GORE STANDARD TARGET VOCs/SVOCs (A1)
LANGLEY AFB, VA
SITE BJA - PRODUCTION ORDER #10353033

MPLE AME	111TCA, ug	12DCA, ug	TCE, ug	OCT, ug	PCE, ug	14DCB, ug	CHCl3, ug	CCl4, ug	ClBENZ, ug
MDL=	0.04	0.03	0.03	0.10	0.04	0.01	0.02	0.03	0.02
325719	nd	nd	nd	nd	nd	nd	nd	nd	nd
325720	nd	nd	nd	nd	nd	nd	nd	nd	nd
325721	nd	nd	nd	nd	nd	nd	nd	nd	nd
325722	nd	nd	nd	nd	nd	nd	nd	nd	nd
325723	nd	nd	nd	nd	nd	nd	nd	nd	nd
325724	nd	nd	nd	nd	nd	nd	nd	nd	nd
325725	nd	nd	nd	nd	nd	nd	nd	nd	nd
325726	nd	nd	nd	nd	nd	nd	nd	nd	nd
325727	nd	nd	nd	nd	nd	nd	nd	nd	nd
325728	nd	nd	nd	nd	nd	nd	nd	nd	nd
325729	nd	nd	nd	nd	nd	nd	nd	nd	nd
325730	nd	nd	nd	nd	nd	nd	nd	nd	nd
325731	nd	nd	nd	nd	nd	nd	nd	nd	nd
325732	nd	nd	nd	nd	nd	nd	nd	nd	nd
325733	nd	nd	nd	nd	nd	nd	nd	nd	nd
325734	nd	nd	nd	nd	nd	nd	nd	nd	nd
325735	nd	nd	nd	nd	nd	nd	nd	nd	nd
325736	nd	nd	nd	nd	nd	nd	nd	nd	nd
325737	nd	nd	nd	nd	nd	nd	0.10	nd	nd
325738	nd	nd	nd	nd	nd	nd	nd	nd	nd
325739	nd	nd	nd	nd	nd	nd	nd	nd	nd
325740	nd	nd	nd	nd	nd	nd	nd	nd	nd
325742	nd	nd	nd	nd	nd	nd	nd	nd	nd
325743	nd	nd	nd	nd	nd	nd	nd	nd	nd
325744	nd	nd	nd	nd	nd	nd	nd	nd	nd
325745	nd	nd	nd	nd	nd	nd	nd	nd	nd
325746	nd	nd	nd	nd	nd	nd	nd	nd	nd
325747	nd	nd	nd	nd	nd	nd	nd	nd	nd
325748	nd	nd	nd	nd	nd	nd	nd	nd	nd
325749	nd	nd	nd	nd	nd	nd	nd	nd	nd
325750	nd	nd	nd	nd	nd	nd	nd	nd	nd
325751	nd	nd	nd	nd	nd	nd	nd	nd	nd
325752	nd	nd	nd	nd	nd	nd	nd	nd	nd
325753	nd	nd	nd	nd	nd	nd	nd	nd	nd
325754	nd	nd	nd	nd	nd	nd	nd	nd	nd
325755	nd	nd	nd	nd	nd	nd	nd	nd	nd
325756	nd	nd	nd	nd	nd	nd	nd	nd	nd
325757	nd	nd	nd	nd	nd	nd	nd	nd	nd
325758	nd	nd	nd	nd	nd	nd	nd	nd	nd
325759	nd	nd	nd	nd	nd	nd	nd	nd	nd
325760	nd	nd	nd	nd	nd	nd	nd	nd	nd
325761	nd	nd	nd	nd	nd	nd	nd	nd	nd
325762	nd	nd	nd	bdl	nd	nd	nd	nd	nd
325763	nd	nd	nd	nd	nd	nd	nd	nd	nd
325764	nd	nd	nd	nd	nd	nd	nd	nd	nd
325765	nd	nd	nd	nd	nd	nd	nd	nd	nd
325766	nd	nd	nd	nd	bdl	nd	nd	nd	nd
325767	nd	nd	nd	nd	nd	nd	0.07	nd	nd
325768	nd	nd	nd	nd	nd	nd	nd	nd	nd
325769	nd	nd	nd	nd	nd	nd	nd	nd	nd
325770	nd	nd	nd	nd	nd	nd	nd	nd	nd
325771	nd	nd	nd	nd	nd	nd	nd	nd	nd
325772	nd	nd	nd	nd	nd	nd	nd	nd	nd
325773	nd	nd	nd	nd	nd	nd	nd	nd	nd
325774	nd	nd	nd	nd	nd	nd	nd	nd	nd
325775	nd	nd	nd	nd	nd	nd	nd	nd	nd
325776	nd	nd	nd	nd	nd	nd	nd	nd	nd
325777	nd	nd	nd	nd	nd	nd	0.10	nd	nd
325778	nd	nd	nd	nd	nd	nd	0.81	nd	nd
325780	nd	nd	nd	nd	nd	nd	nd	nd	nd
325781	nd	nd	nd	nd	nd	nd	nd	nd	nd
325782	nd	nd	nd	nd	nd	nd	nd	nd	nd
325783	nd	nd	nd	nd	nd	nd	nd	nd	nd
325784	nd	nd	nd	nd	nd	nd	nd	nd	nd
325785	nd	nd	nd	nd	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
US ARMY CORP OF ENGINEERS, OMAHA, NE
GORE STANDARD TARGET VOCs/SVOCs (A1)
LANGLEY AFB, VA
SITE BJA - PRODUCTION ORDER #10353033

MPLE ME	111TCA, ug	12DCA, ug	TCE, ug	OCT, ug	PCE, ug	14DCB, ug	CHCl3, ug	CCl4, ug	ClBENZ, ug
MDL=	0.04	0.03	0.03	0.10	0.04	0.01	0.02	0.03	0.02
325786	nd	nd	bdl	nd	0.06	nd	nd	nd	nd
325787	nd	nd	nd	nd	nd	nd	nd	nd	nd
325788	nd	nd	nd	nd	nd	nd	nd	nd	nd
325796	nd	nd	nd	nd	nd	nd	nd	nd	nd
325797	nd	nd	nd	0.12	nd	nd	nd	nd	nd
325798	nd	nd	nd	nd	0.46	nd	0.09	nd	nd
325799	nd	nd	nd	nd	nd	nd	0.07	nd	nd
325800	nd	nd	nd	nd	nd	nd	nd	nd	nd
325801	nd	nd	nd	0.16	nd	nd	nd	nd	nd
325802	nd	nd	nd	bdl	nd	nd	nd	nd	nd
325803	nd	nd	nd	nd	nd	nd	nd	nd	nd
325804	nd	nd	nd	nd	nd	nd	nd	nd	nd
325805	nd	nd	nd	nd	nd	nd	nd	nd	nd
325806	nd	nd	nd	bdl	nd	nd	nd	nd	nd
325807	nd	nd	nd	bdl	nd	nd	nd	nd	nd
325808	nd	nd	nd	0.52	nd	nd	0.82	nd	nd
325809	nd	nd	nd	bdl	nd	nd	nd	nd	nd
325810	nd	0.05	nd	0.25	nd	nd	nd	nd	nd
325811	nd	0.11	nd	16.39	nd	nd	nd	nd	nd
325812	nd	bdl	nd	1.50	nd	nd	0.05	nd	0.07
325813	nd	nd	nd	0.62	nd	nd	0.19	nd	nd
325814	nd	nd	nd	0.64	nd	nd	0.18	nd	nd
325815	nd	nd	nd	1.09	nd	nd	nd	nd	nd
325816	nd	nd	nd	0.40	nd	nd	nd	nd	nd
325817	nd	nd	nd	0.29	nd	nd	nd	nd	nd
325818	nd	0.04	nd	7.19	nd	nd	nd	nd	nd
325819	nd	nd	nd	0.51	nd	nd	nd	nd	nd
325820	nd	0.04	nd	1.17	nd	nd	nd	nd	nd
325821	nd	0.05	nd	1.43	nd	nd	nd	nd	nd
325822	nd	nd	nd	0.13	nd	nd	0.12	nd	nd
325823	nd	nd	nd	0.11	nd	nd	0.04	nd	nd
325824	nd	nd	nd	bdl	nd	nd	nd	nd	nd
325825	nd	nd	nd	0.18	nd	bdl	nd	nd	nd
325826	nd	nd	nd	nd	nd	nd	nd	nd	nd
325827	nd	nd	nd	nd	nd	nd	0.08	nd	nd
325828	nd	nd	nd	bdl	0.07	nd	nd	nd	nd
325829	nd	nd	nd	nd	nd	nd	nd	nd	nd
325830	nd	nd	nd	nd	nd	nd	nd	nd	nd
325831	nd	nd	nd	nd	nd	nd	0.17	nd	nd
325832	nd	nd	0.09	nd	0.15	nd	0.27	nd	nd
325833	nd	nd	nd	nd	nd	nd	0.06	nd	nd
325834	nd	nd	nd	nd	0.08	nd	0.15	nd	nd
325835	nd	nd	nd	nd	nd	nd	nd	nd	nd
325836	nd	nd	nd	nd	nd	nd	0.04	nd	nd
325837	nd	nd	nd	nd	nd	nd	0.08	nd	nd
325838	nd	nd	nd	bdl	nd	nd	0.04	nd	nd
325839	nd	nd	nd	nd	nd	nd	0.41	nd	nd
325840	nd	nd	nd	nd	nd	nd	nd	nd	nd
325841	nd	nd	nd	nd	nd	nd	nd	nd	nd
325842	nd	nd	nd	nd	nd	nd	0.05	nd	nd
325844	nd	nd	nd	nd	nd	nd	nd	nd	nd
325845	nd	nd	nd	nd	nd	nd	0.09	nd	nd
325846	nd	nd	nd	nd	nd	nd	0.09	nd	nd
325847	nd	nd	nd	nd	nd	nd	0.05	nd	nd
325848	0.07	12.71	nd	0.13	nd	nd	0.16	nd	nd
325849	nd	nd	nd	1.69	nd	nd	0.19	nd	nd
325850	nd	nd	11.41	2.61	nd	nd	nd	nd	0.02
325851	nd	nd	0.12	nd	nd	nd	nd	nd	nd
325852	nd	nd	nd	nd	nd	nd	nd	nd	nd
325853	nd	nd	nd	nd	nd	nd	nd	nd	nd
325854	nd	nd	nd	nd	nd	nd	nd	nd	nd
325855	nd	nd	nd	nd	nd	nd	nd	nd	nd
325856	nd	nd	nd	0.66	nd	nd	0.69	nd	nd
325857	nd	nd	nd	nd	nd	nd	0.07	nd	nd
325858	nd	nd	nd	nd	nd	nd	0.04	nd	nd

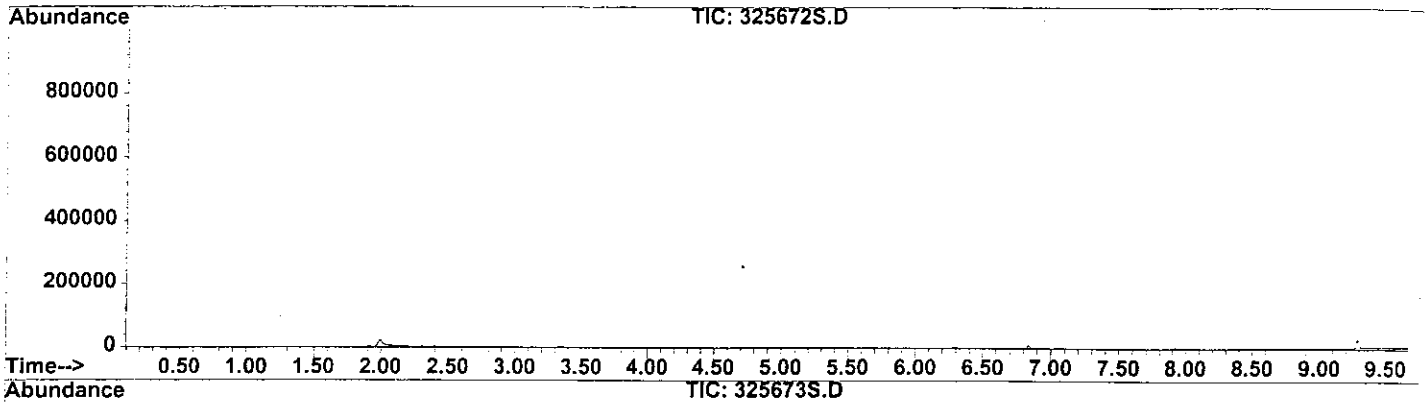
No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl

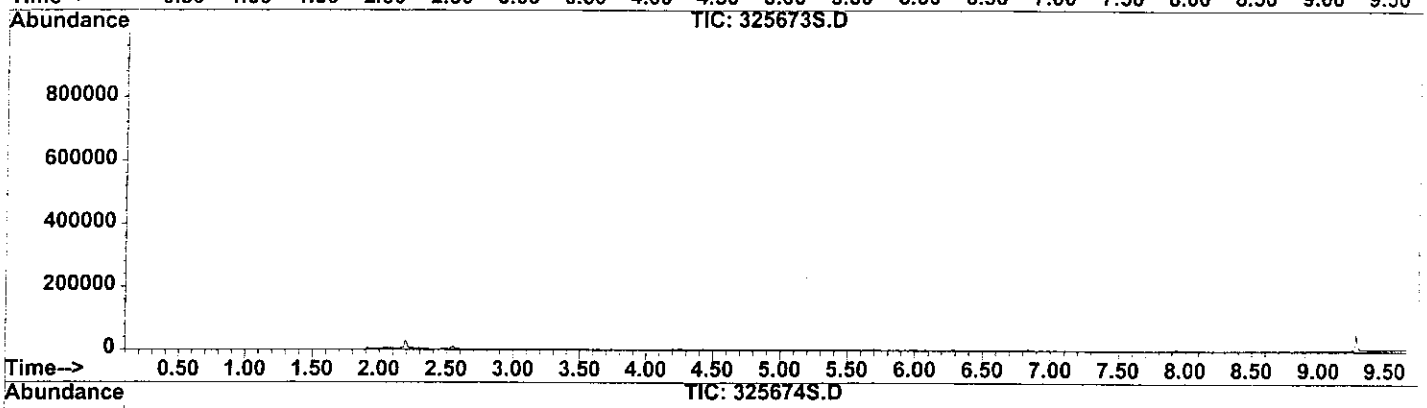
GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
US ARMY CORP OF ENGINEERS, OMAHA, NE
GORE STANDARD TARGET VOCs/SVOCs (A1)
LANGLEY AFB, VA
SITE BJA - PRODUCTION ORDER #10353033

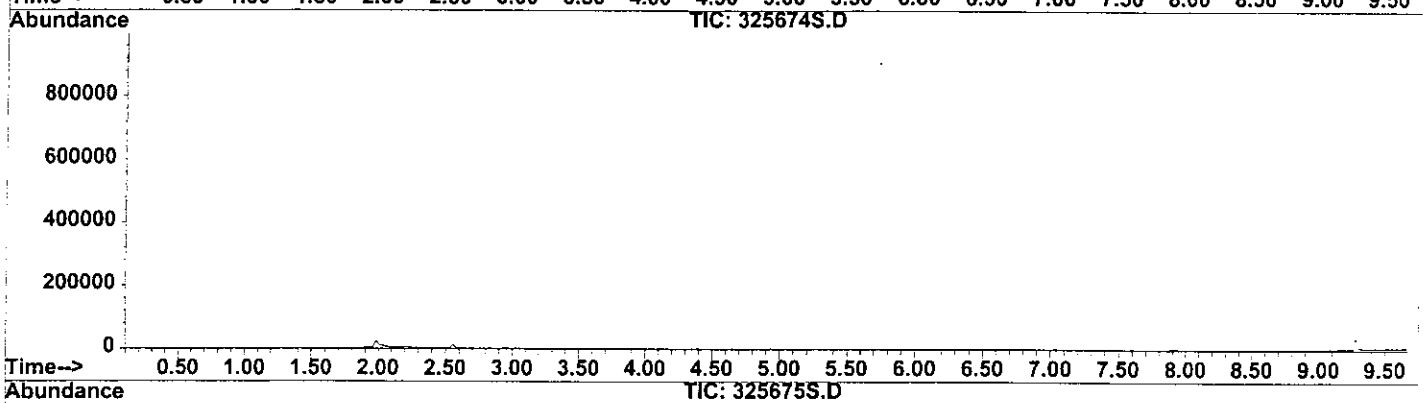
SAMPLE NAME	111TCA, ug	12DCA, ug	TCE, ug	OCT, ug	PCE, ug	14DCB, ug	CHCl3, ug	CCl4, ug	ClBENZ, ug
MDL=	0.04	0.03	0.03	0.10	0.04	0.01	0.02	0.03	0.02
325859	nd	nd	nd	nd	nd	nd	nd	nd	nd
325860	nd	nd	nd	nd	nd	nd	nd	nd	nd
325861	nd	nd	nd	nd	nd	nd	nd	nd	nd
325862	nd	nd	nd	nd	nd	nd	0.05	nd	nd
325863	nd	nd	nd	nd	nd	nd	nd	nd	nd
325864	nd	nd	nd	nd	nd	nd	nd	nd	nd
325865	nd	nd	nd	nd	nd	nd	0.06	nd	nd
325866	nd	nd	nd	nd	nd	nd	nd	nd	nd
325867	nd	nd	nd	nd	nd	nd	nd	nd	nd
325868	nd	nd	nd	bdl	nd	nd	nd	nd	nd
325869	nd	nd	nd	nd	nd	nd	nd	nd	nd
325870	nd	nd	nd	nd	nd	nd	nd	nd	nd
325871	nd	nd	nd	nd	nd	nd	nd	nd	nd
325872	nd	nd	nd	nd	nd	nd	nd	nd	nd
325873	nd	nd	nd	nd	nd	nd	nd	nd	nd
325874	nd	nd	nd	nd	nd	nd	nd	nd	nd
325875	bdl	nd	1.77	nd	0.34	nd	0.05	nd	nd
325876	nd	nd	nd	nd	nd	nd	0.08	nd	nd
325877	nd	nd	nd	nd	nd	nd	0.27	nd	nd
325878	nd	nd	nd	nd	nd	nd	0.24	nd	nd
325879	nd	nd	nd	bdl	nd	nd	nd	nd	nd
325880	nd	nd	nd	bdl	nd	nd	nd	nd	nd
325881	nd	nd	nd	nd	nd	nd	0.05	nd	nd
325882	nd	nd	0.10	27.28	0.23	nd	nd	nd	nd
325883	nd	nd	nd	0.16	nd	nd	nd	nd	nd
325884	nd	nd	nd	nd	nd	nd	nd	nd	nd
325885	nd	nd	nd	nd	nd	nd	nd	nd	nd
325886	nd	nd	nd	nd	bdl	nd	nd	nd	nd
325887	nd	nd	nd	nd	nd	nd	nd	nd	nd
325888	bdl	0.08	nd	2.21	nd	nd	nd	nd	nd
325889	nd	nd	nd	nd	nd	nd	nd	nd	nd
325890	nd	nd	nd	nd	nd	nd	nd	nd	nd
325891	nd	nd	nd	nd	nd	nd	0.13	nd	nd
325900	nd	nd	nd	nd	nd	nd	nd	nd	nd
TB1 - 325670	nd	nd	nd	nd	nd	nd	nd	nd	nd
TB2 - 325741	nd	nd	nd	nd	nd	nd	nd	nd	nd
TB3 - 325789	nd	nd	nd	nd	nd	nd	nd	nd	nd
TB4 - 325843	nd	nd	nd	nd	nd	nd	nd	nd	nd
TB5 - 325892	nd	nd	nd	nd	nd	nd	nd	nd	nd
TB6 - 325893	nd	nd	nd	nd	nd	nd	nd	nd	nd
TB7 - 325894	nd	nd	nd	nd	nd	nd	nd	nd	nd
TB8 - 325895	nd	nd	nd	nd	nd	nd	nd	nd	nd
TB9 - 325896	nd	nd	nd	nd	nd	nd	nd	nd	nd
TB10 - 325897	nd	nd	nd	nd	nd	nd	nd	nd	nd
TB11 - 325898	nd	nd	nd	nd	nd	nd	nd	nd	nd
TB12 - 325899	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
Maximum	0.07	12.71	11.41	27.28	0.46	0.01	0.82	0.00	0.07
Standard Dev.	0.00	0.84	0.76	2.16	0.04	0.00	0.10	0.00	0.00
Me[illegible]	0.00	0.06	0.06	0.30	0.01	0.00	0.03	0.00	0.00

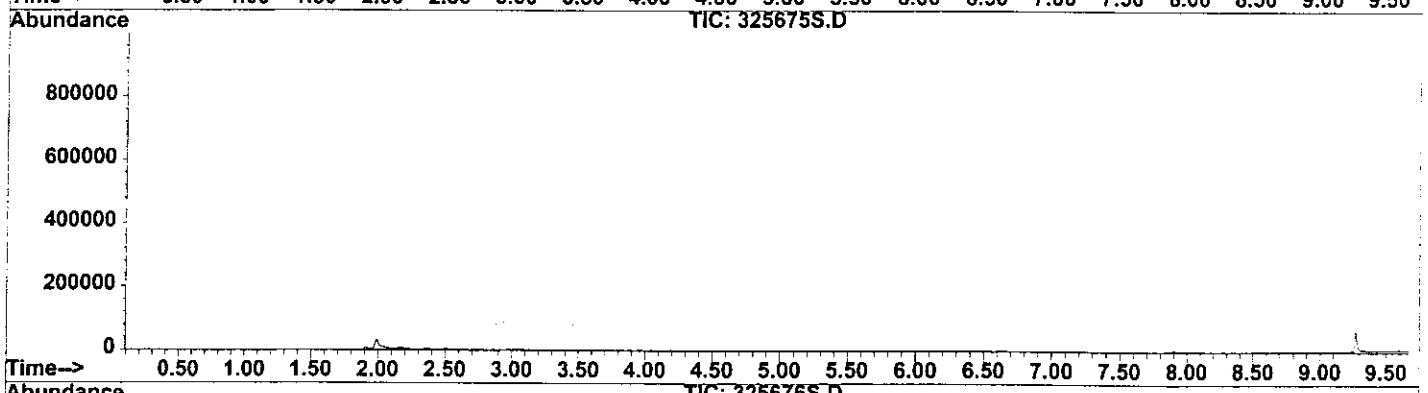
No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl

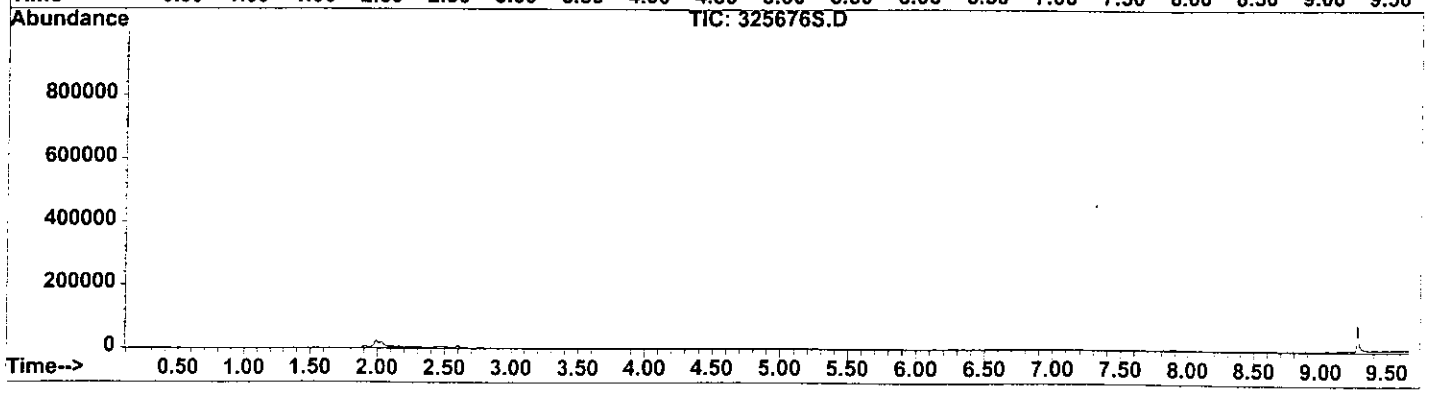
TIC - SITE BJA - PRODUCTION ORDER #10353033
In Numerical Order



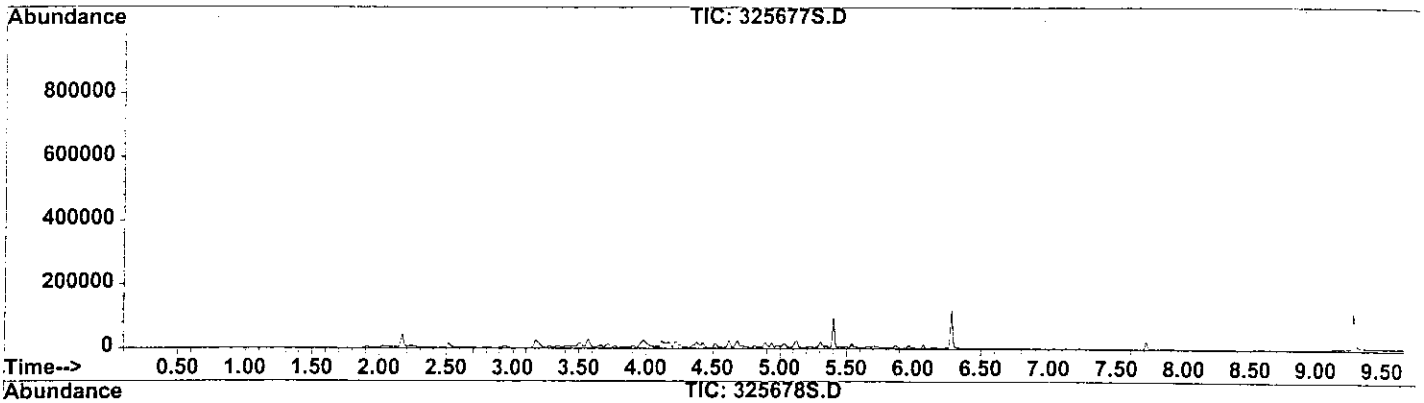


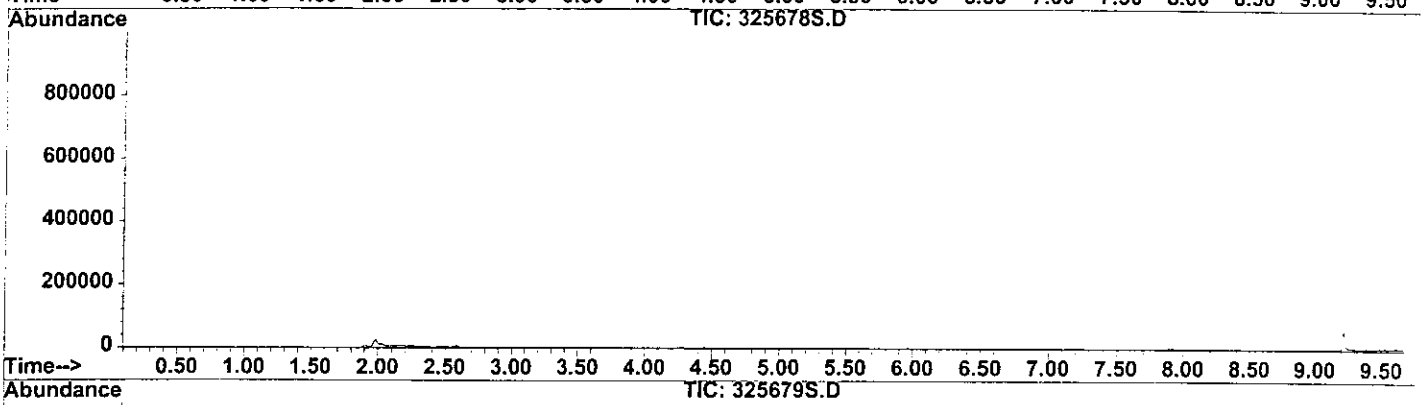


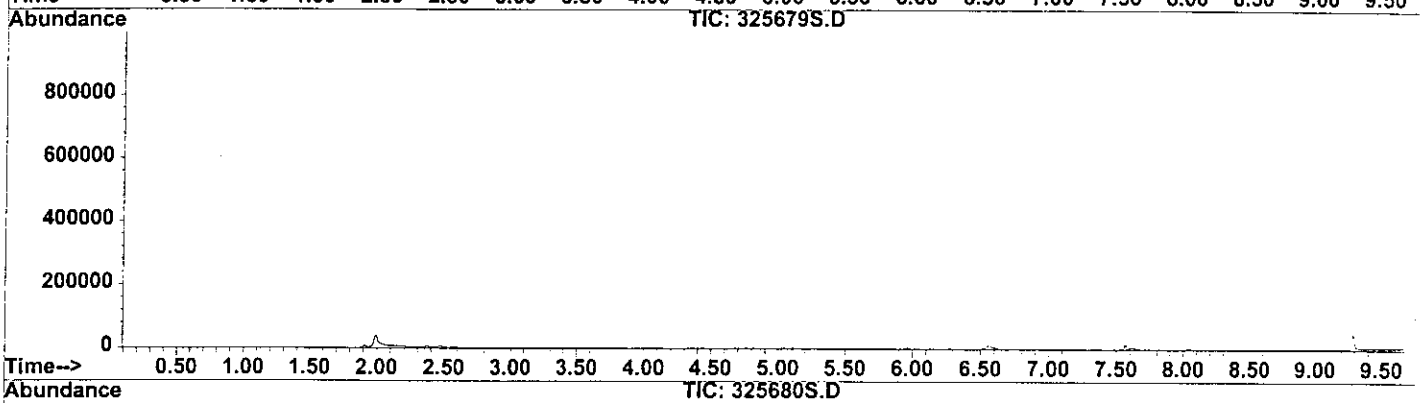


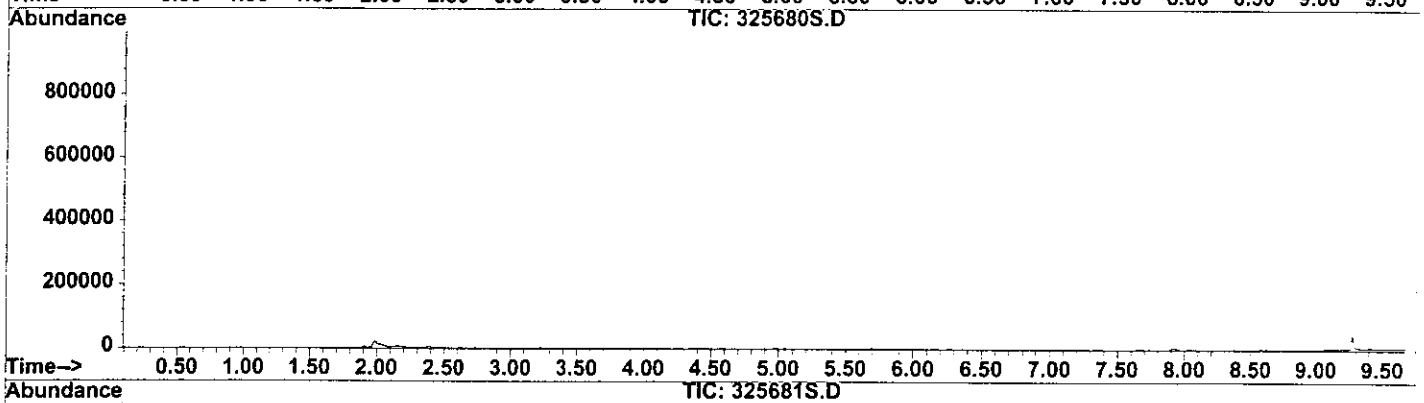


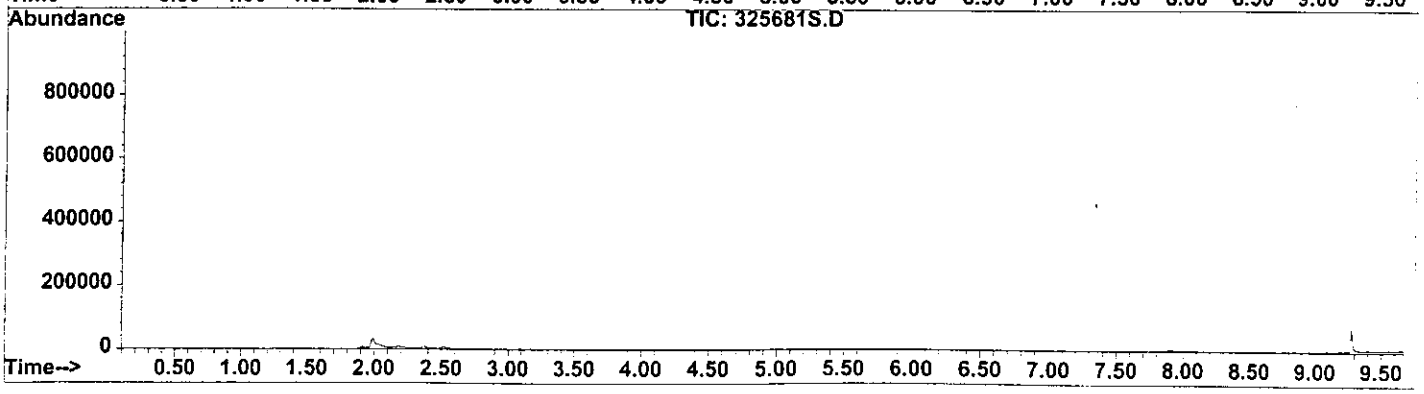
TIC - SITE BJA - PRODUCTION ORDER #10353033
In Numerical Order



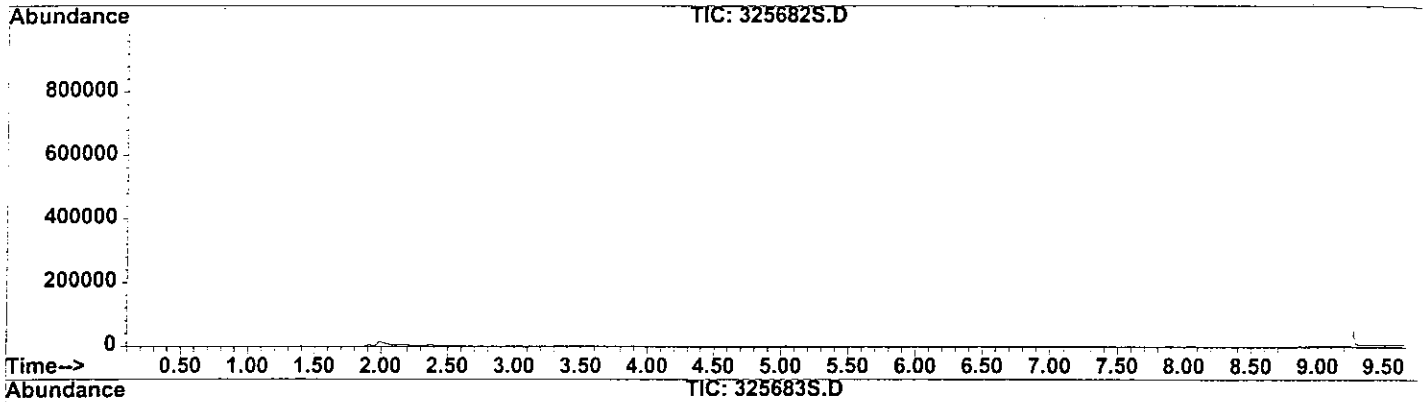


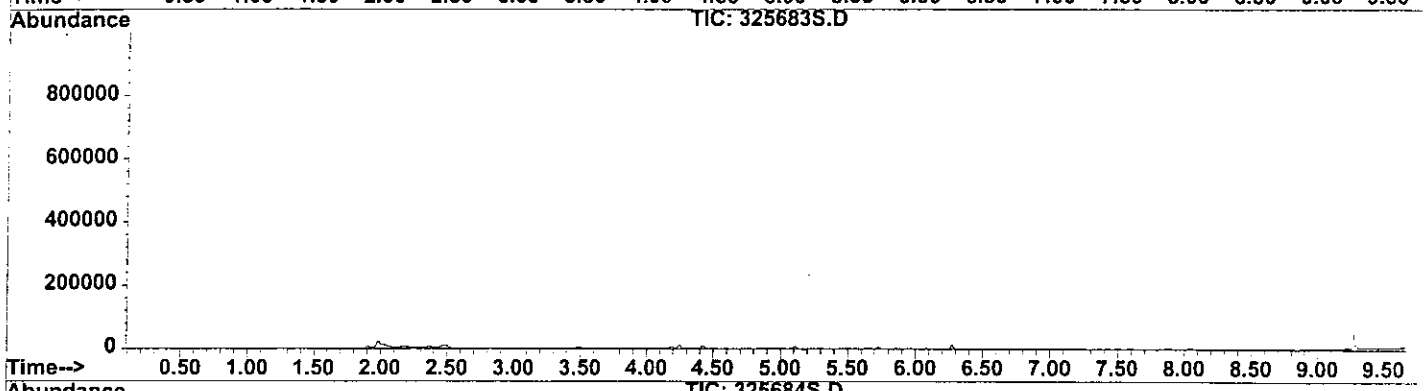


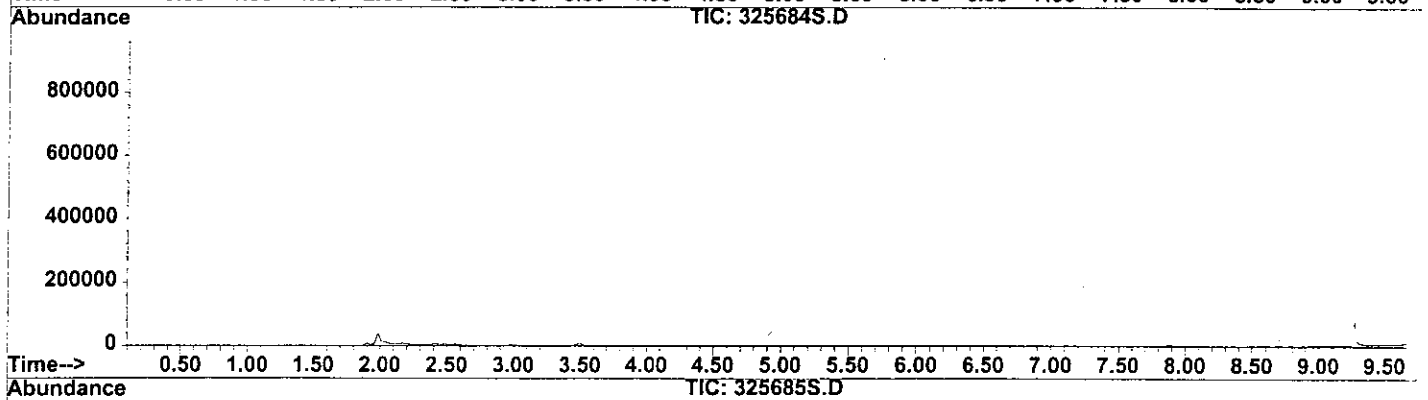


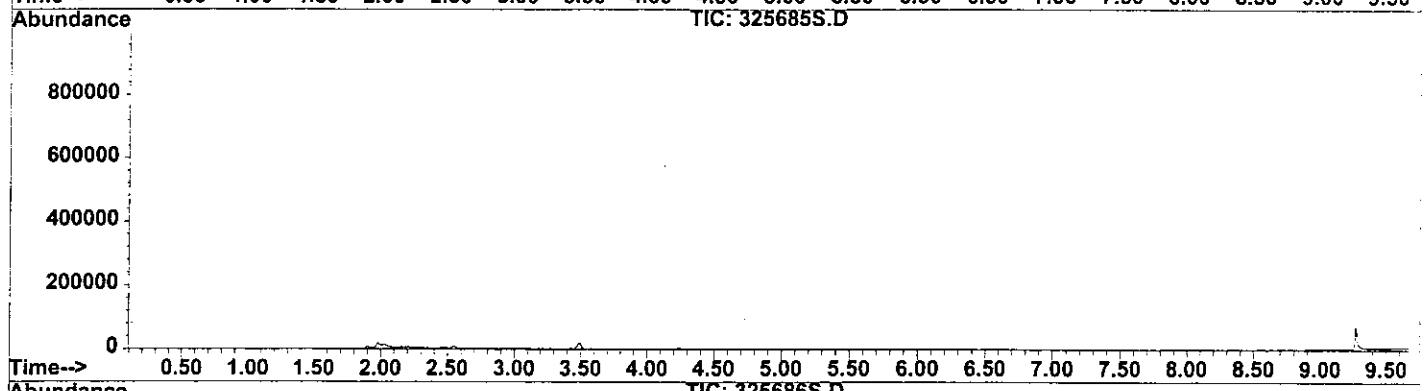


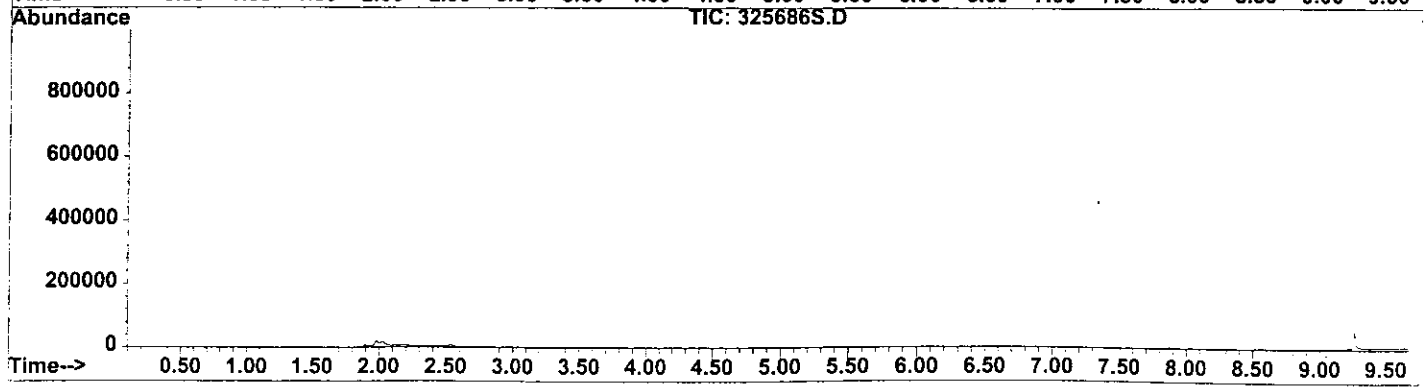
TIC - SITE BJA - PRODUCTION ORDER #10353033
In Numerical Order



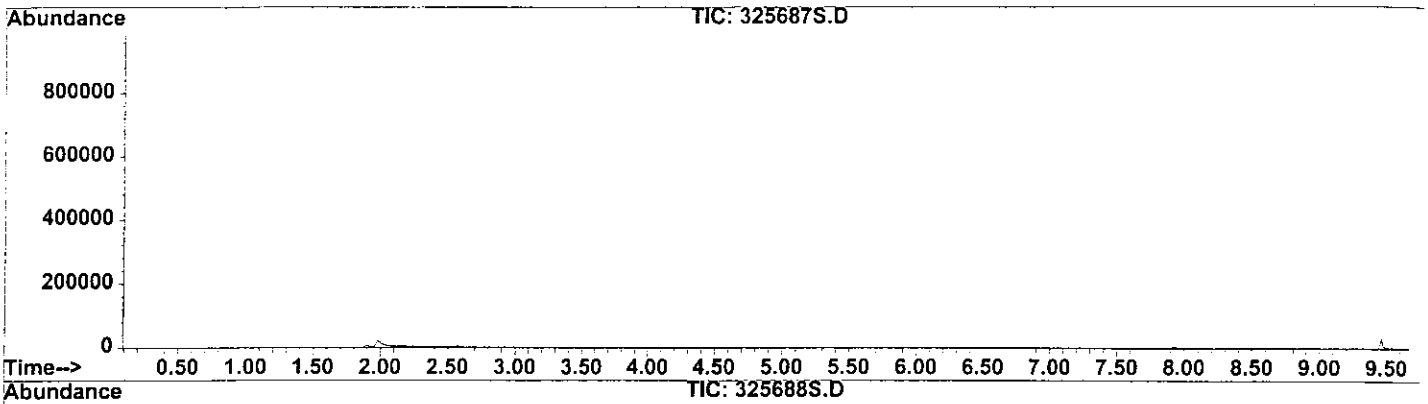


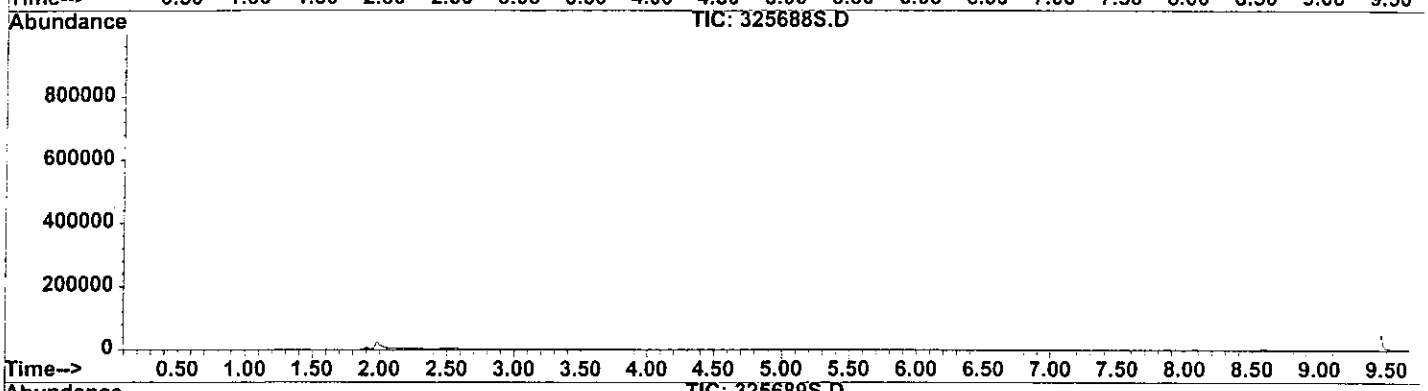


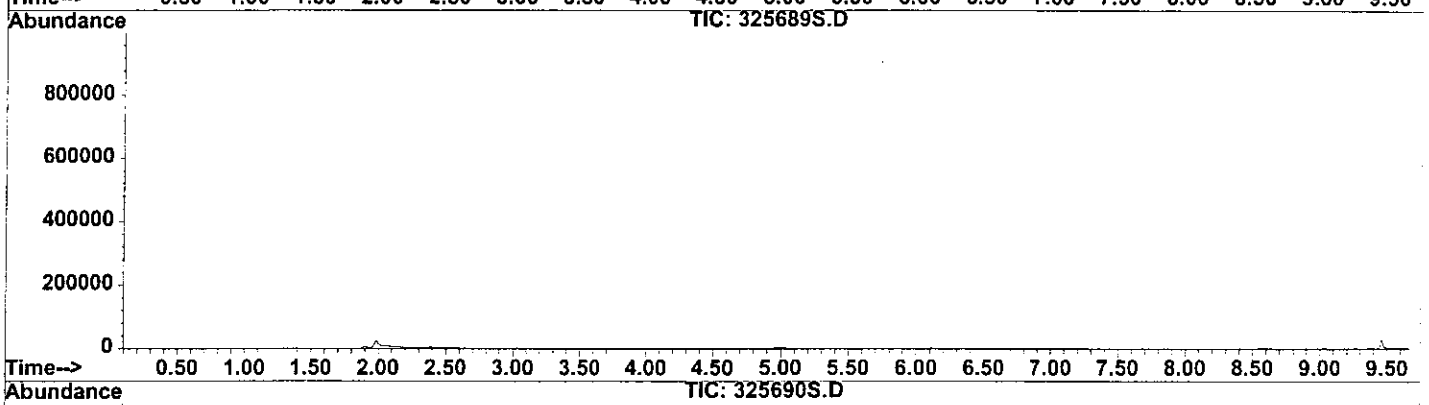


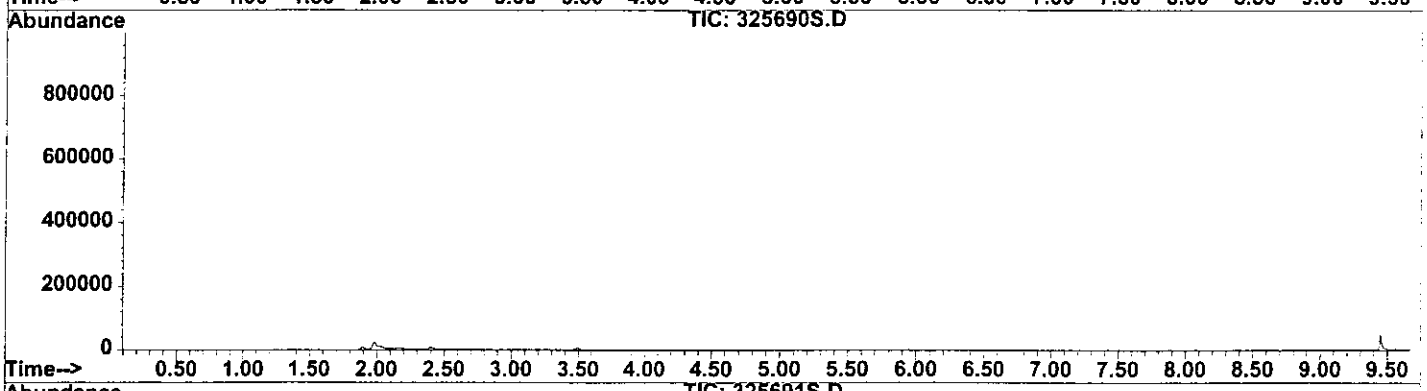


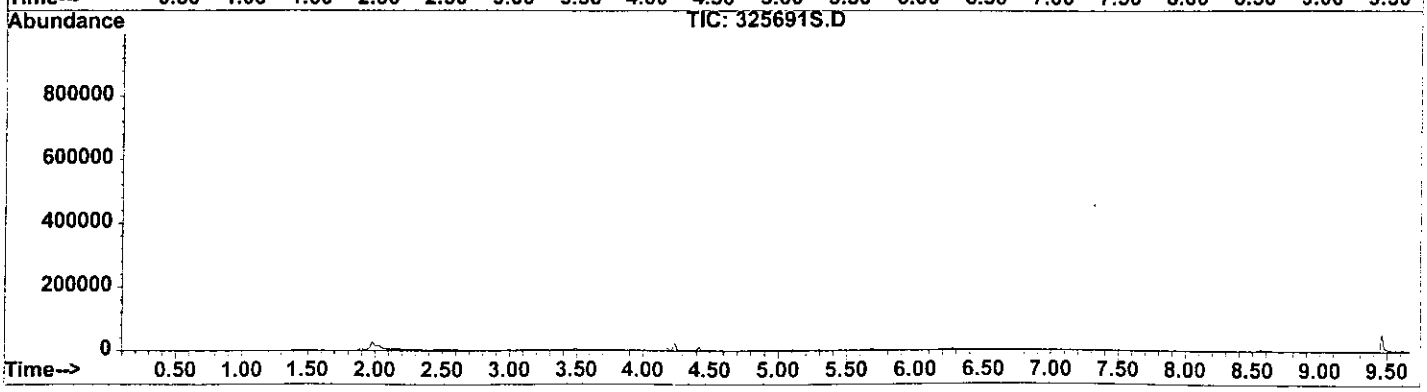
TIC - SITE BJA - PRODUCTION ORDER #10353033
In Numerical Order



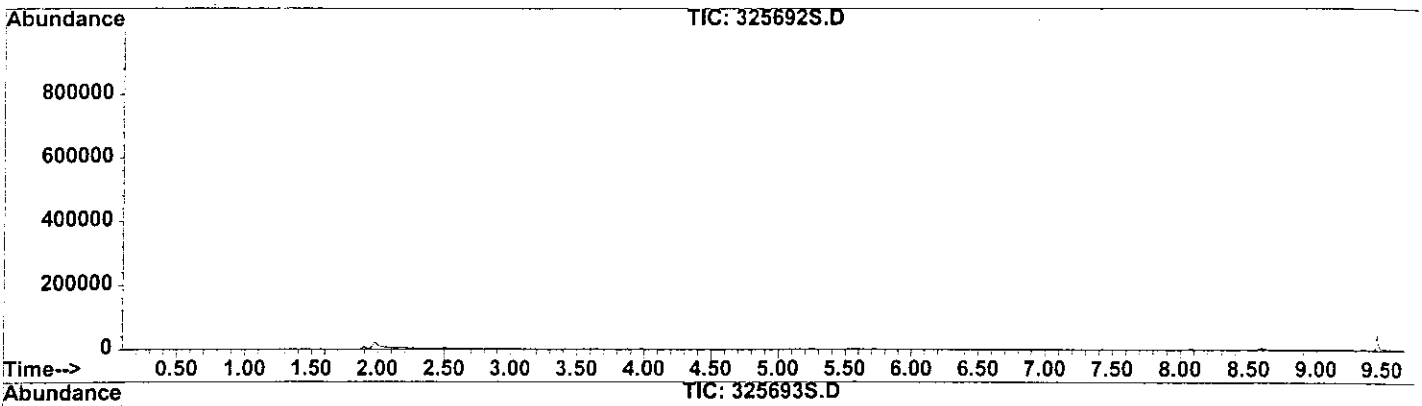


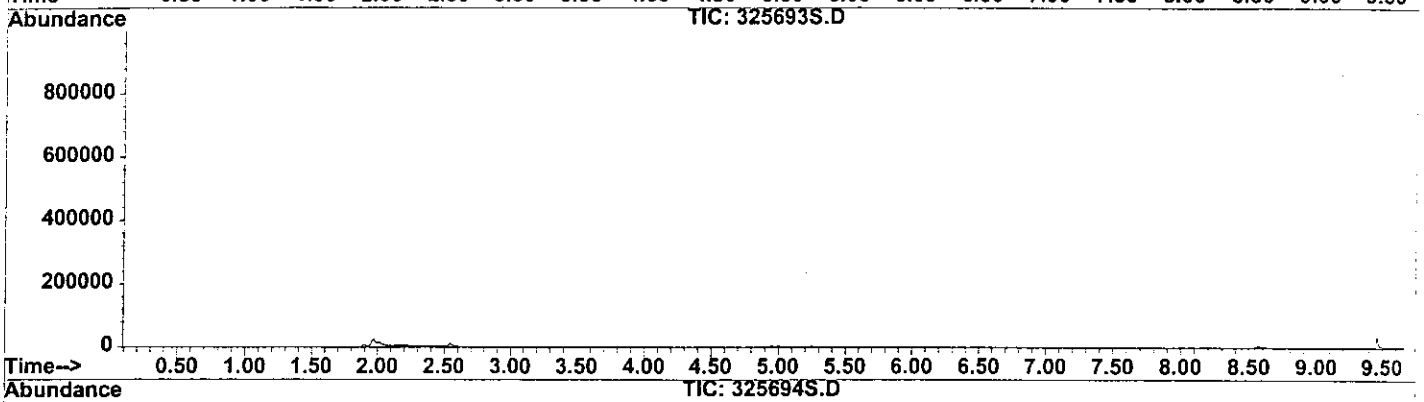


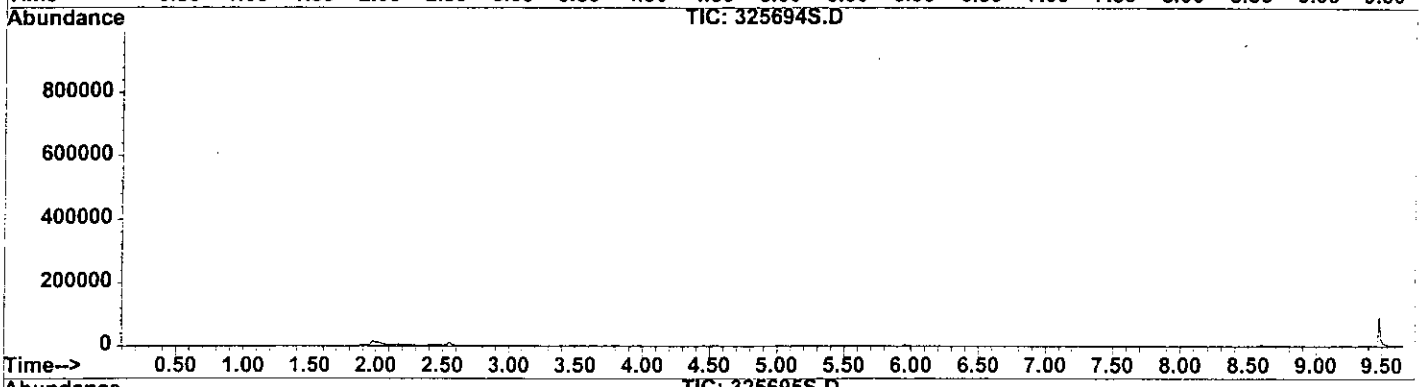


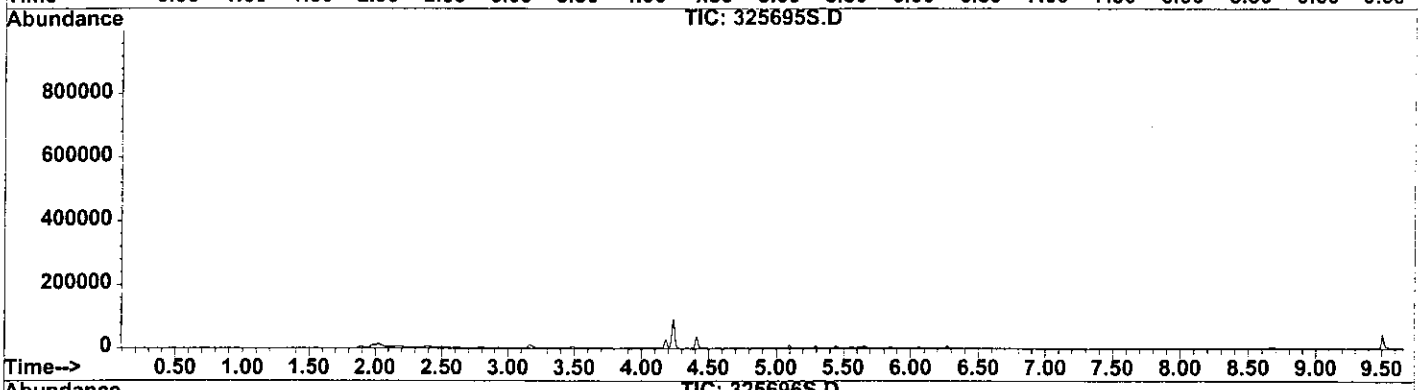


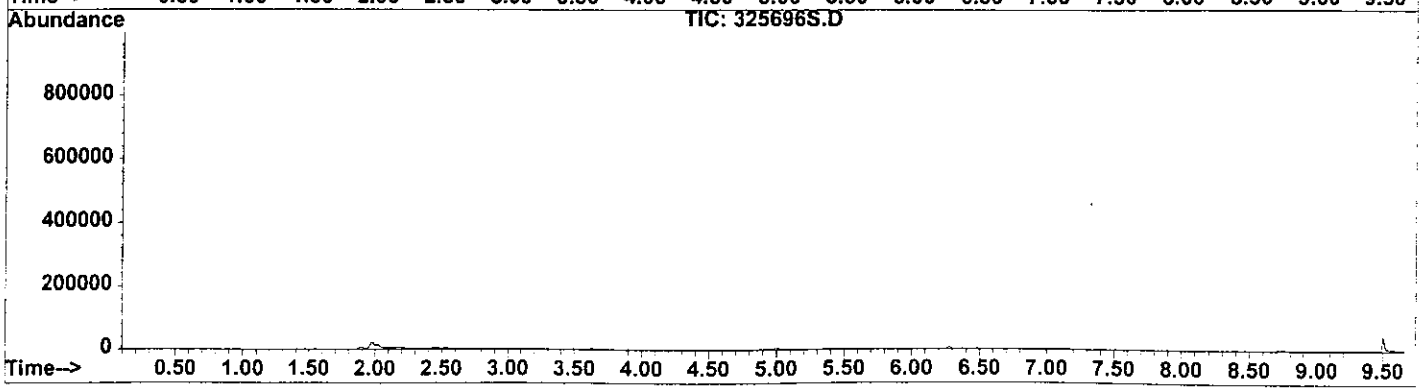
TIC - SITE BJA - PRODUCTION ORDER #10353033
In Numerical Order



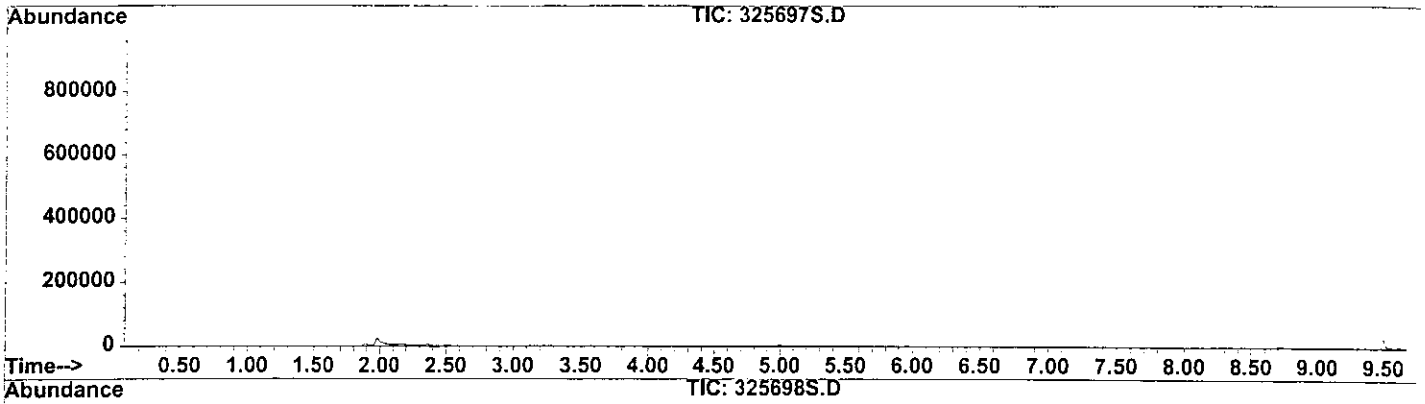


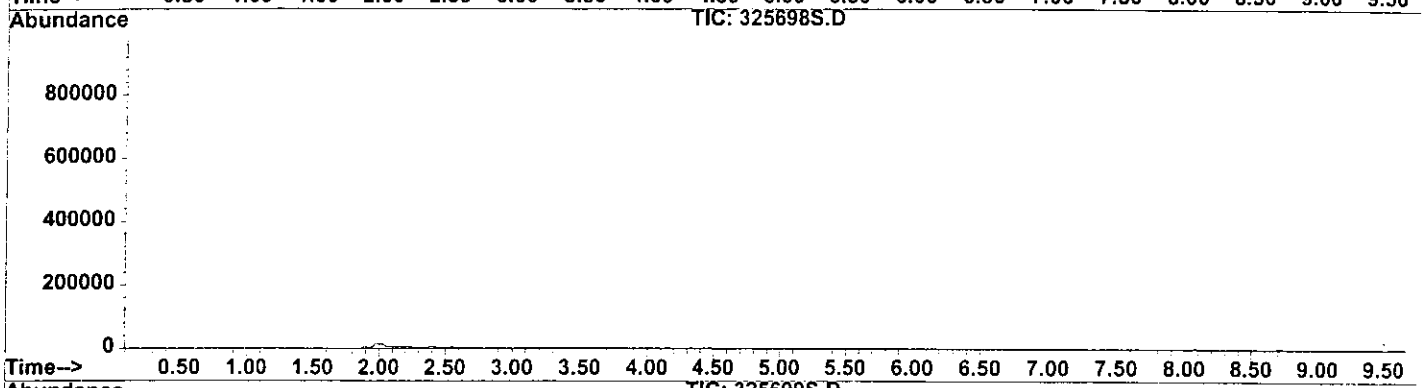


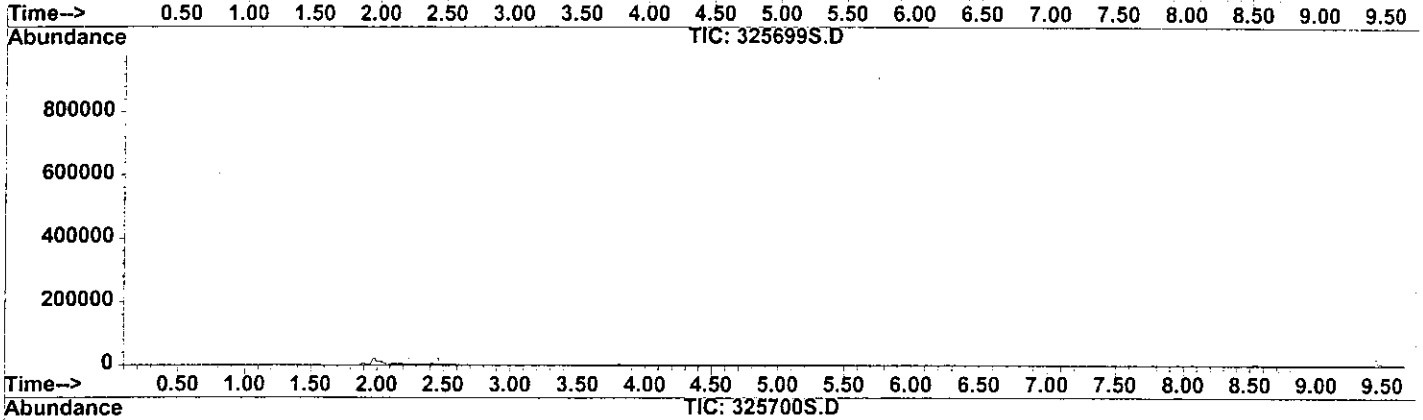


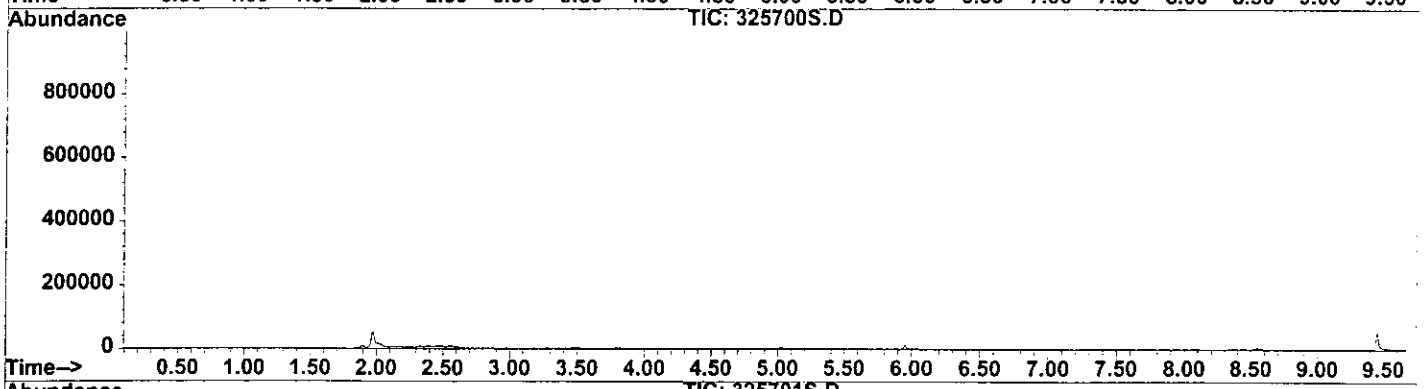


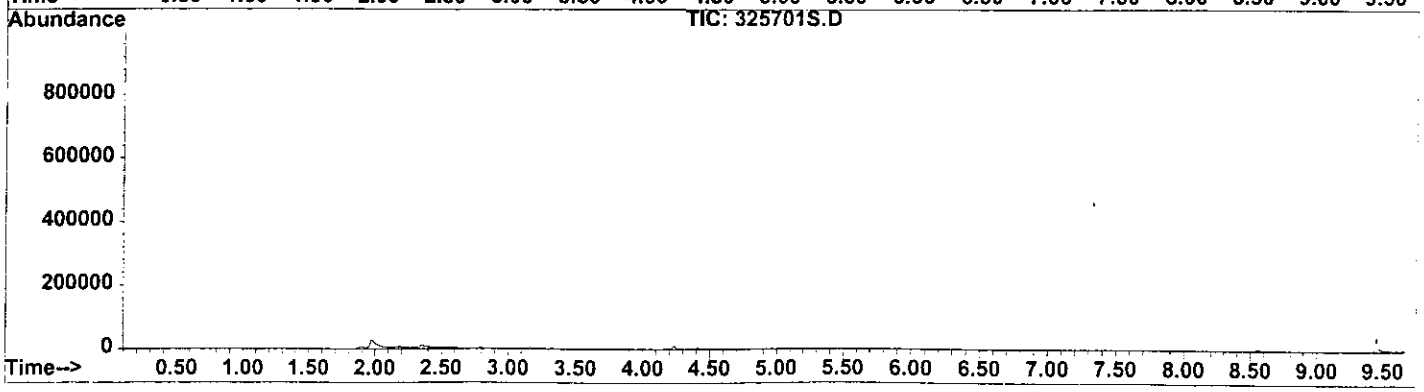
TIC - SITE BJA - PRODUCTION ORDER #10353033
In Numerical Order



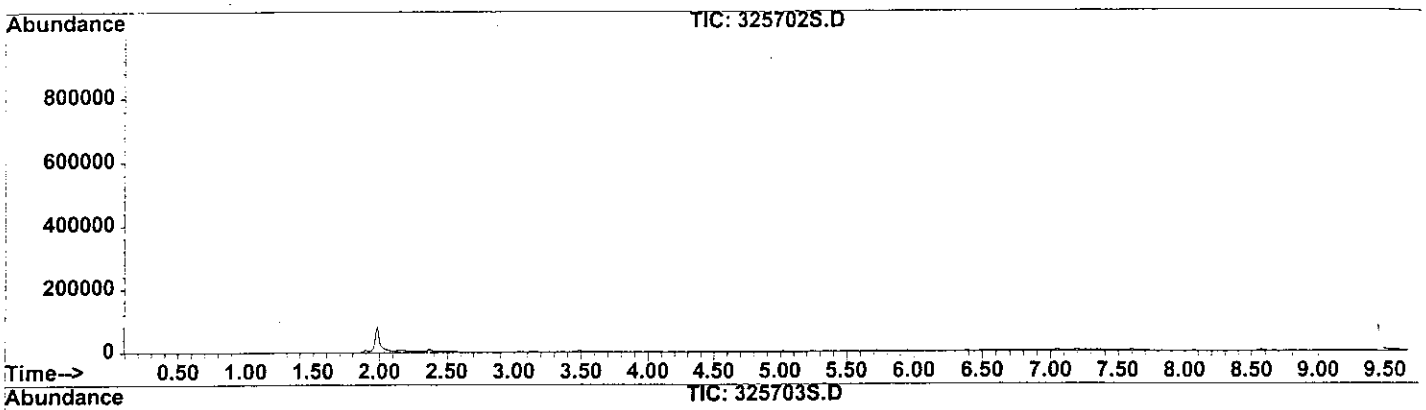


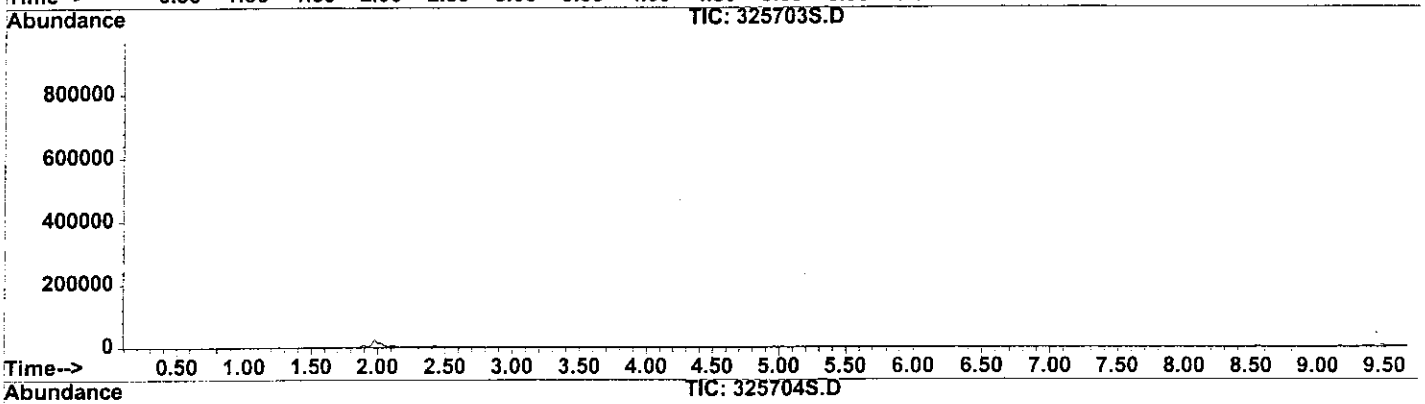


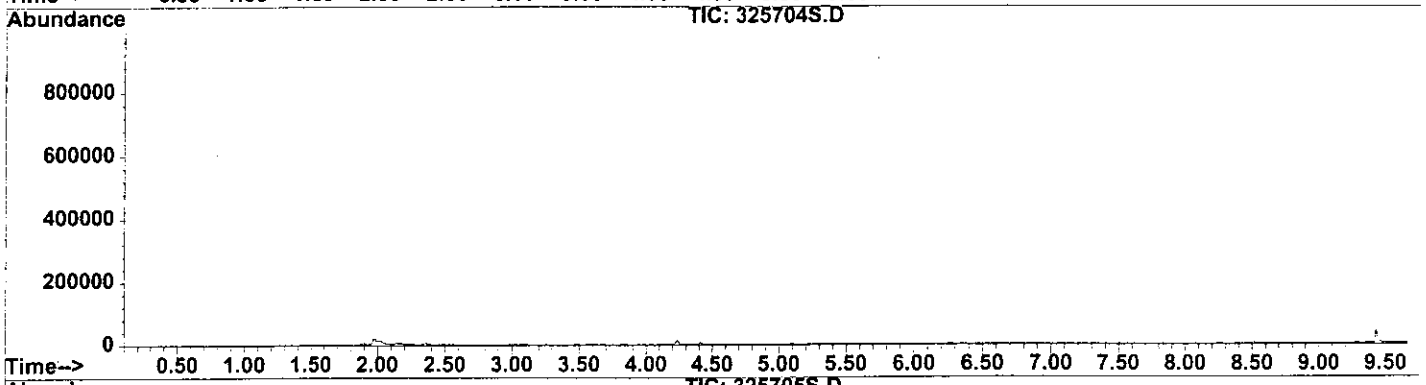


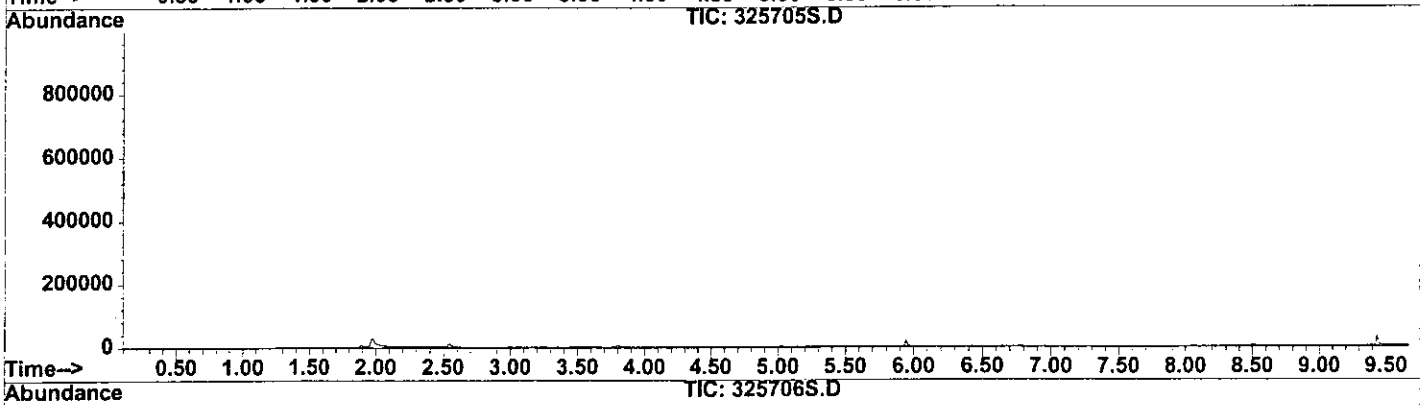


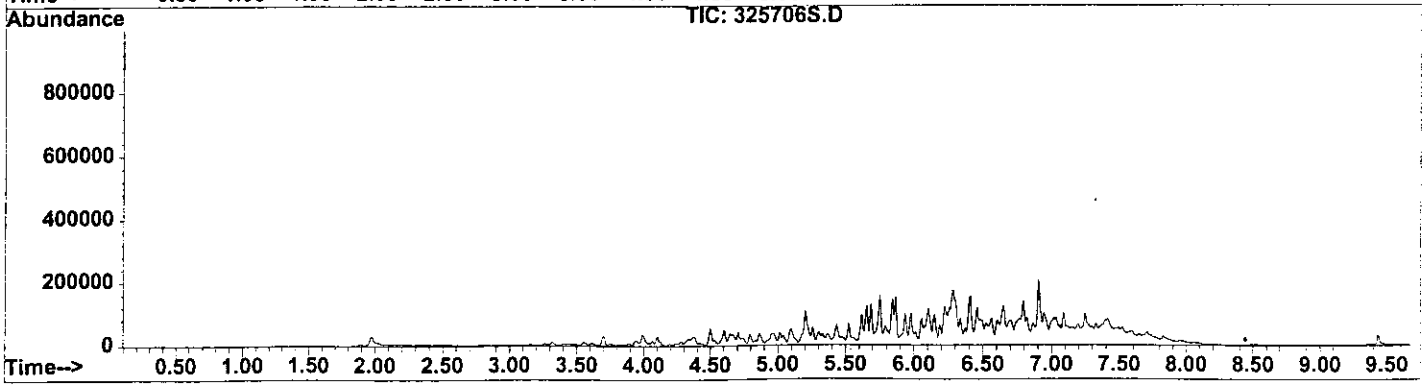
TIC - SITE BJA - PRODUCTION ORDER #10353033
In Numerical Order











TIC - SITE BJA - PRODUCTION ORDER #10353033
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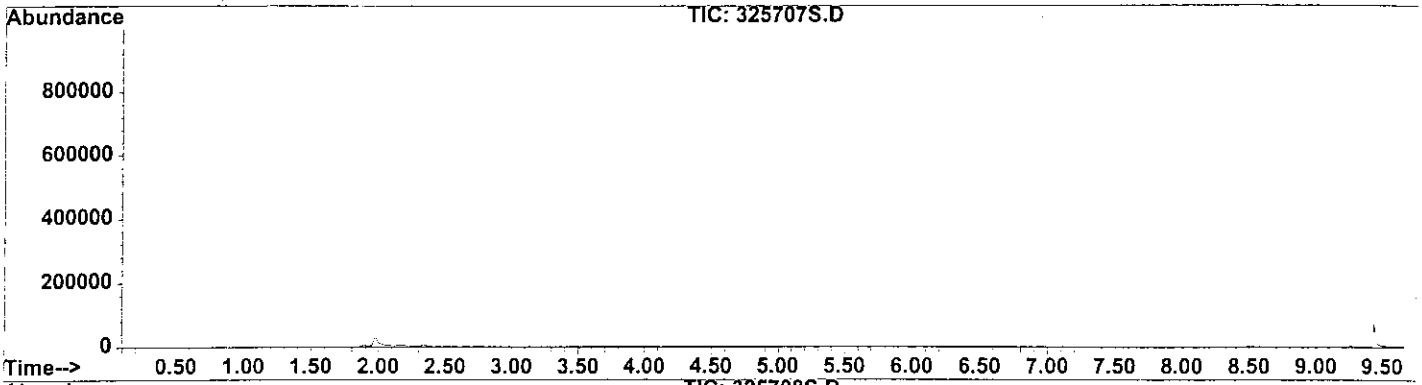

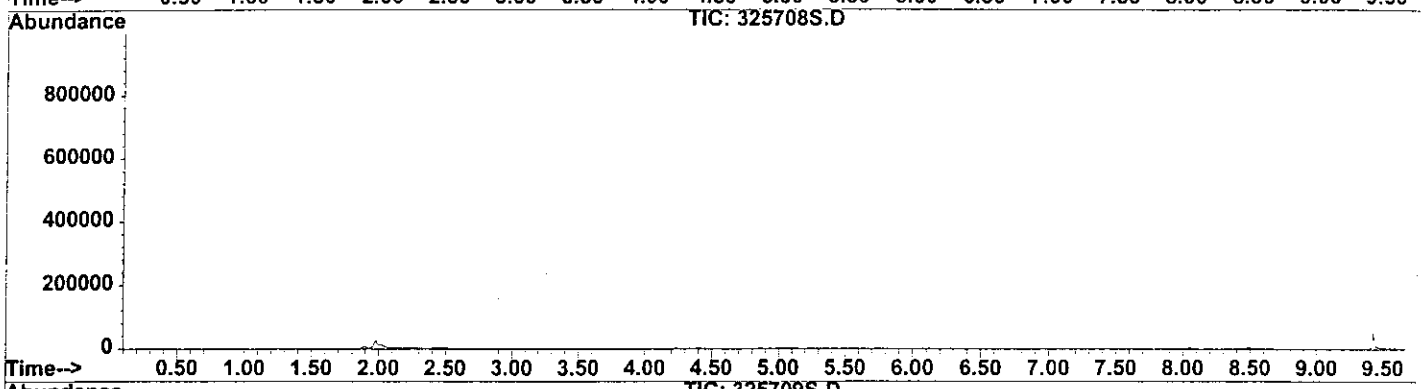

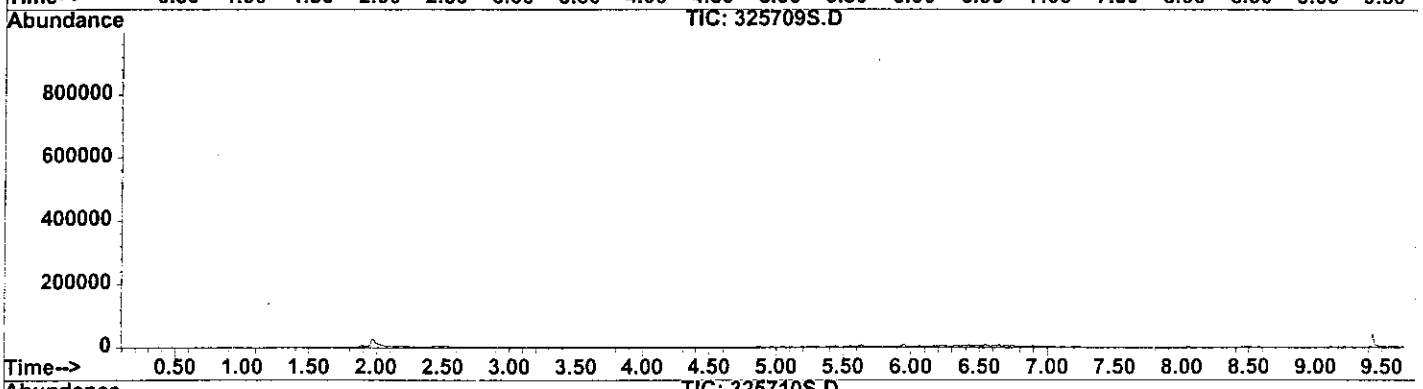

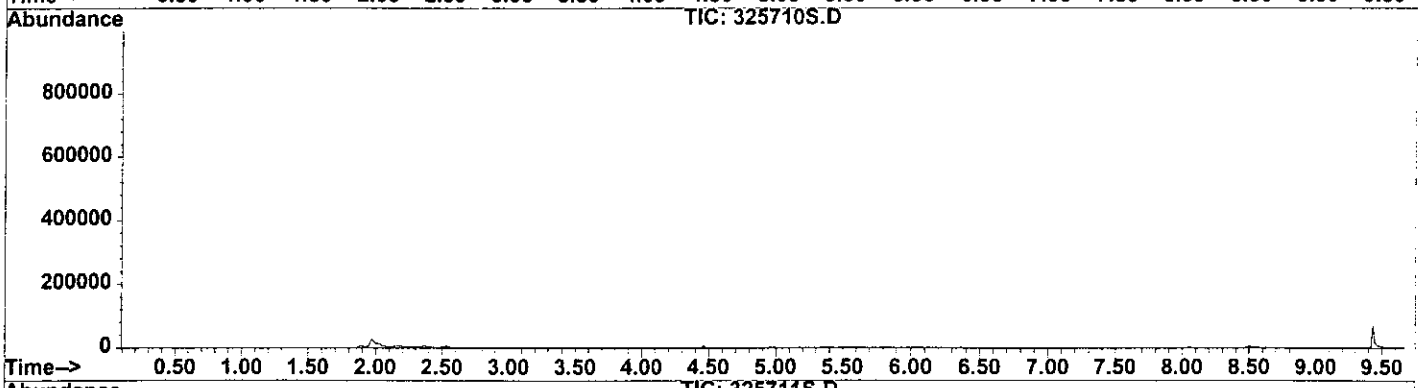

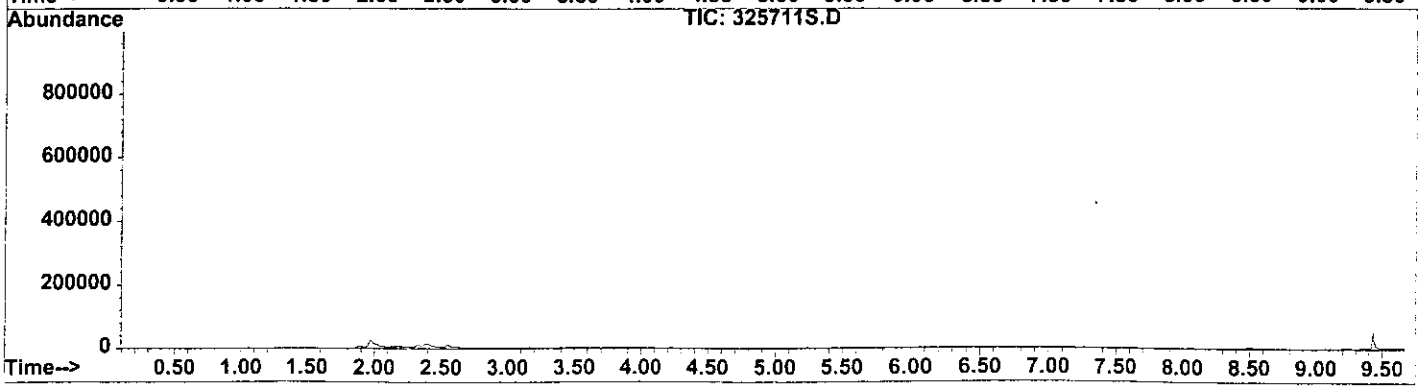

TIC - SITE BJA - PRODUCTION ORDER #10353033
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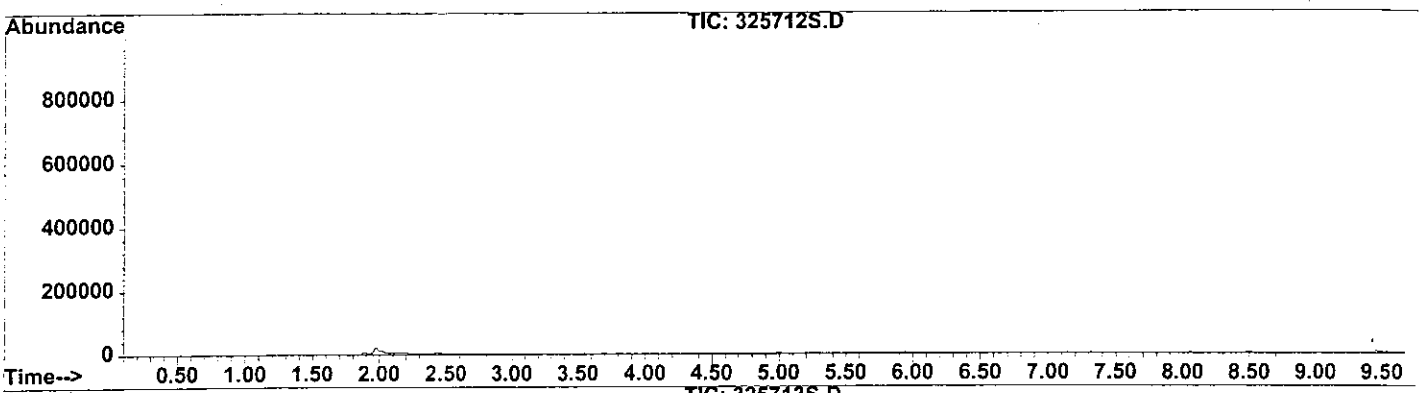

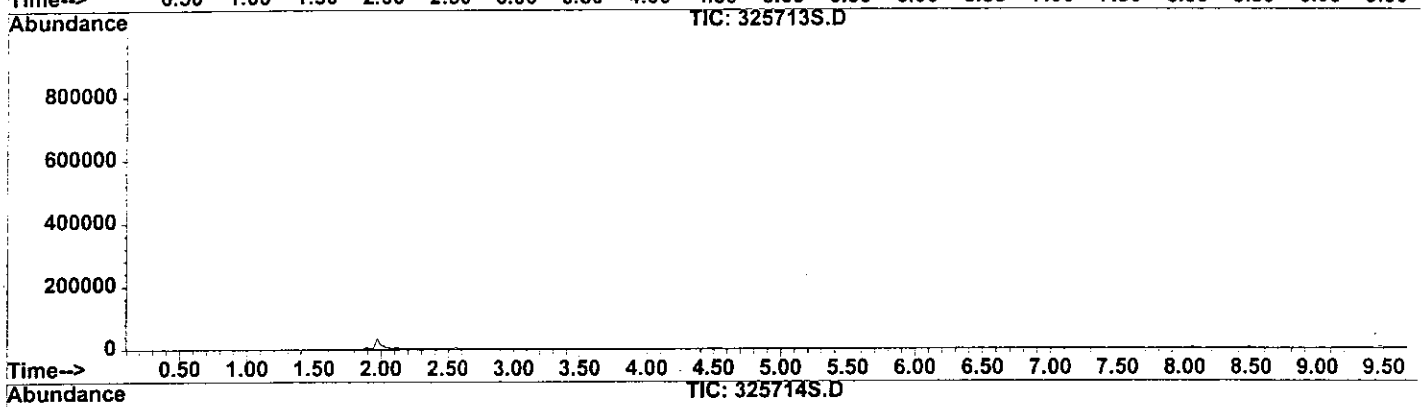

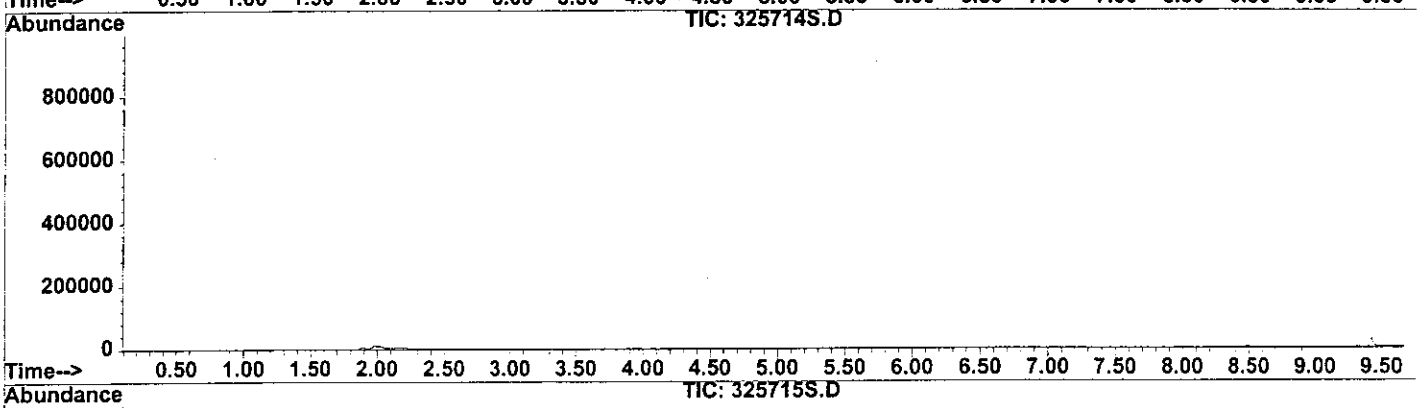

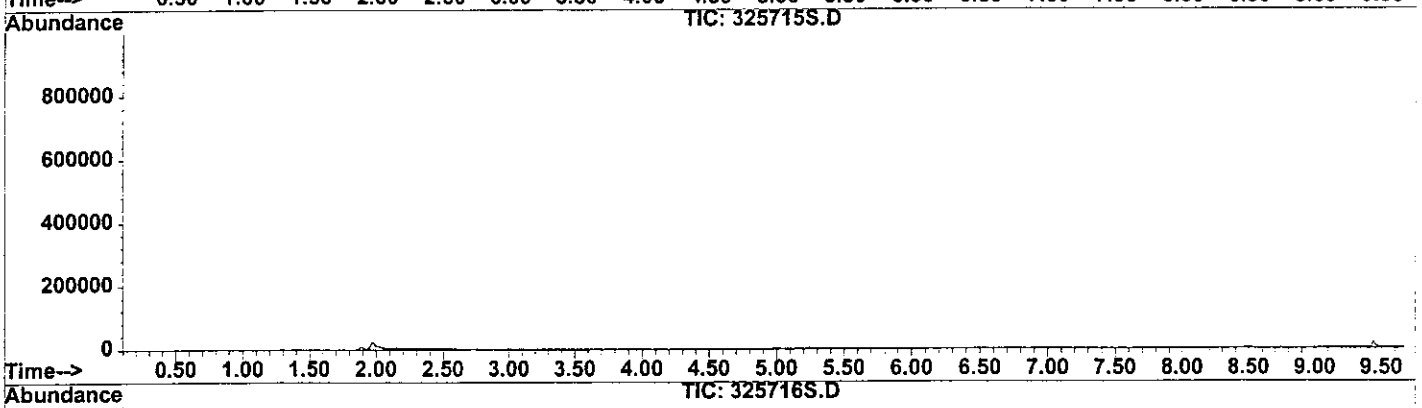

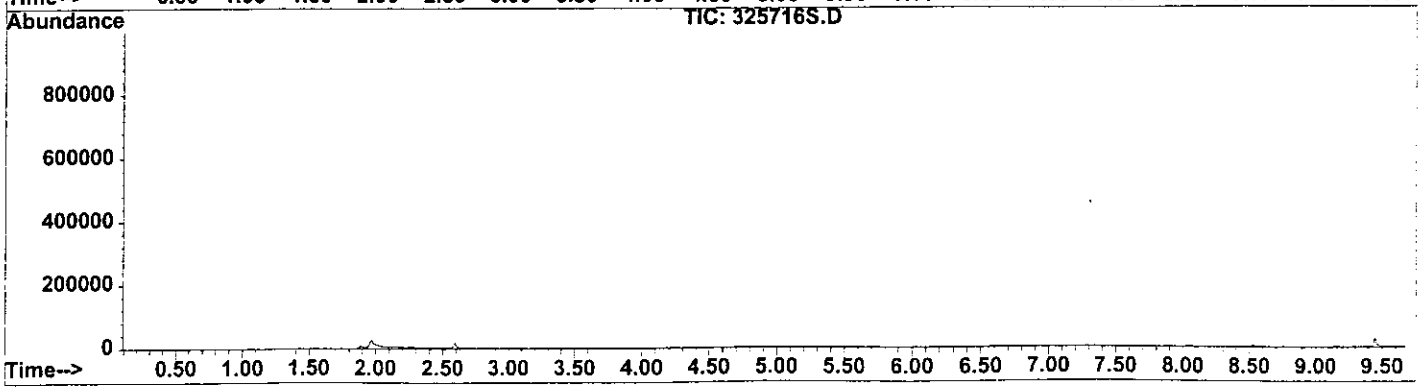

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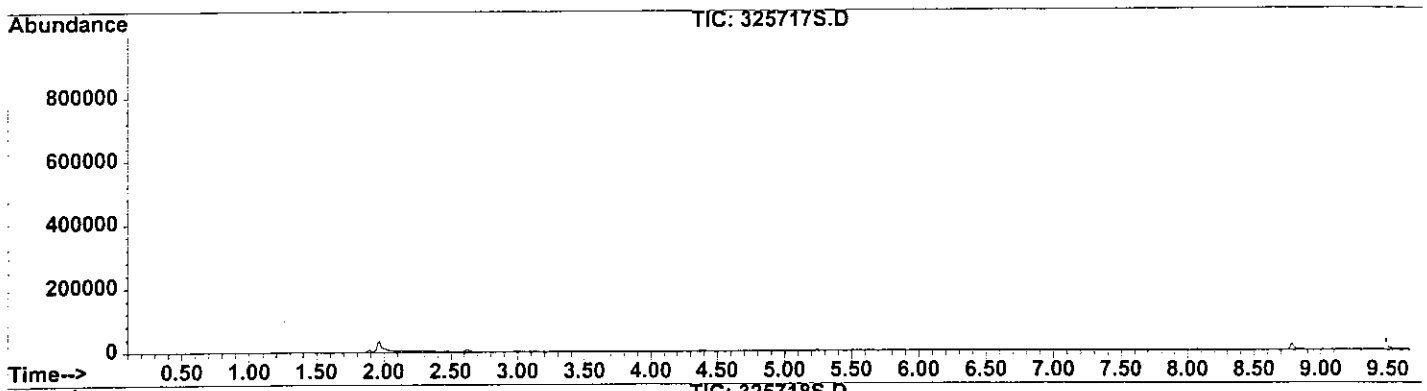

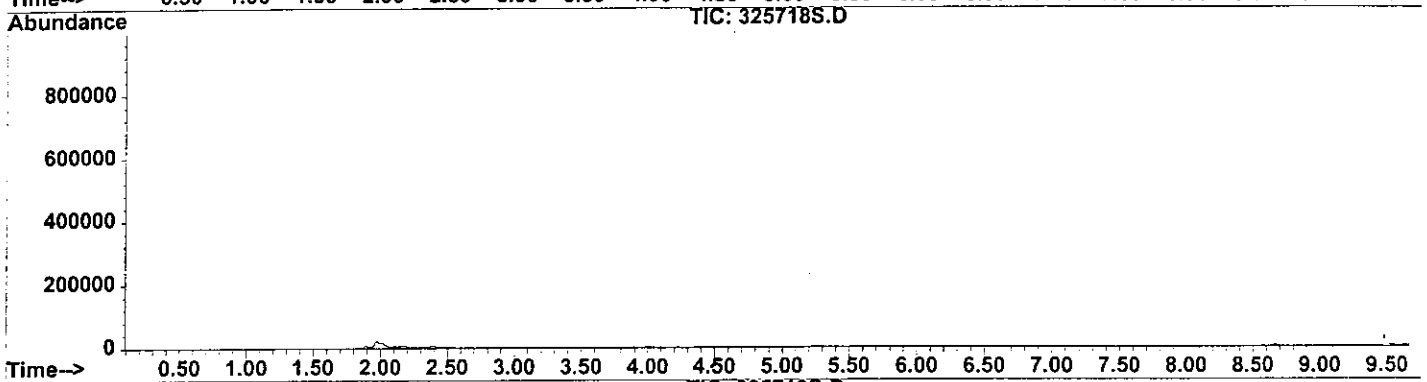

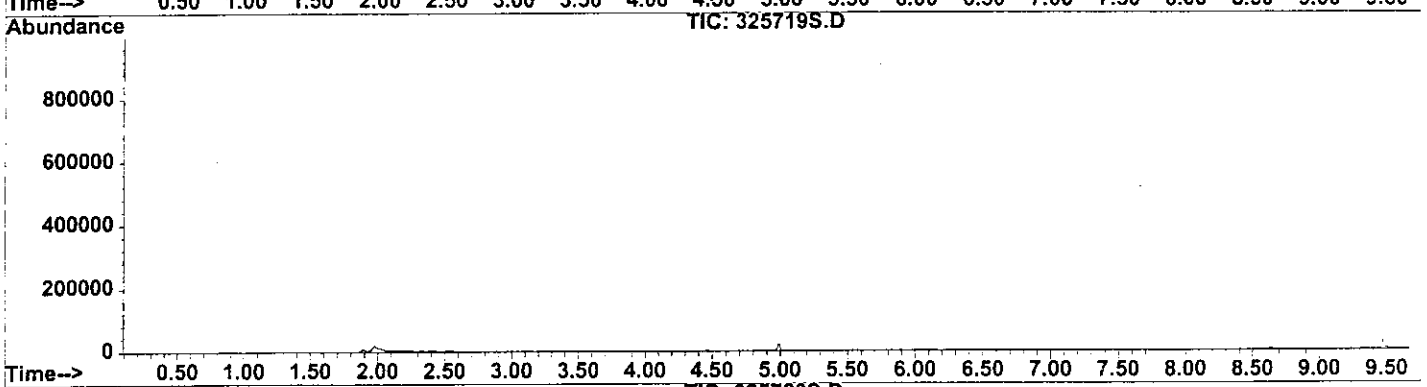

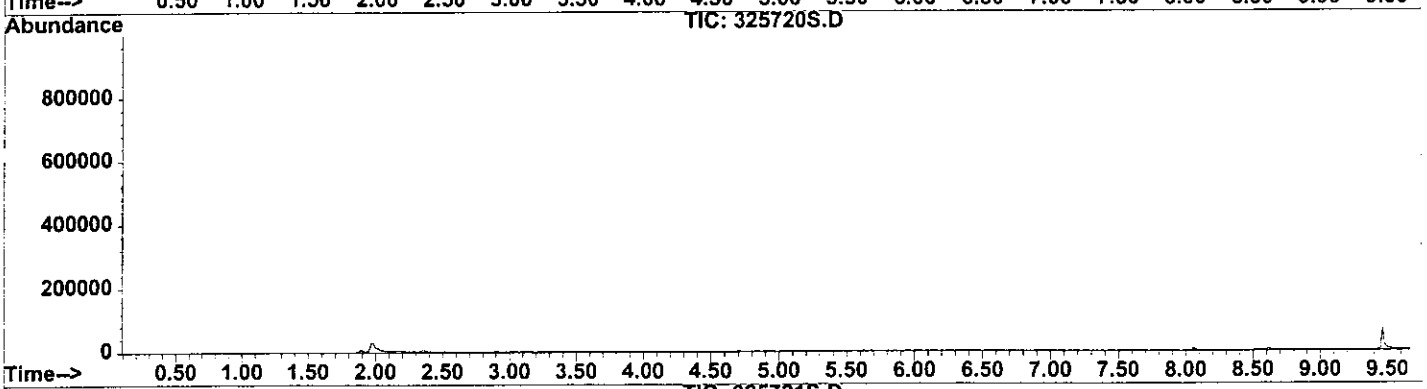

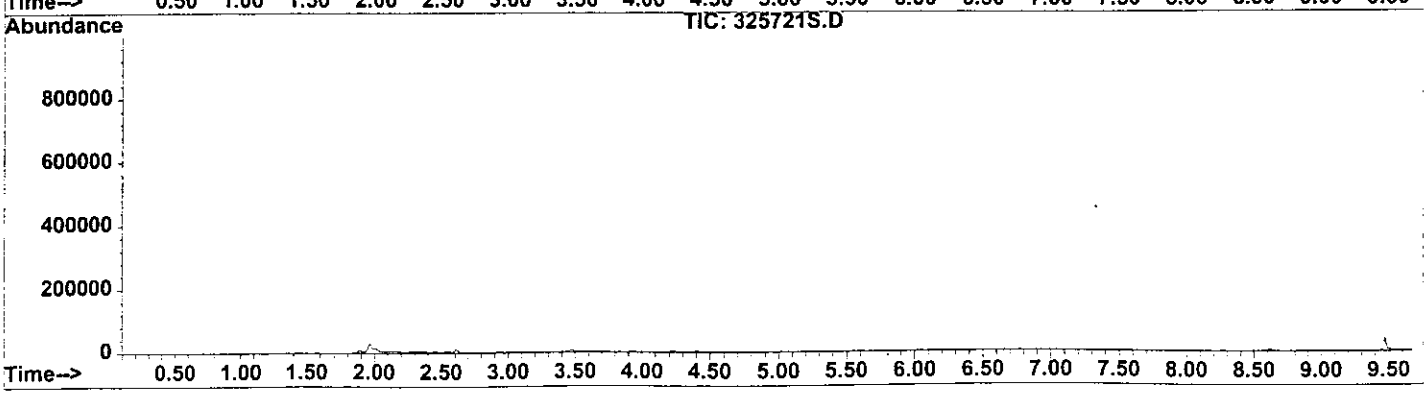

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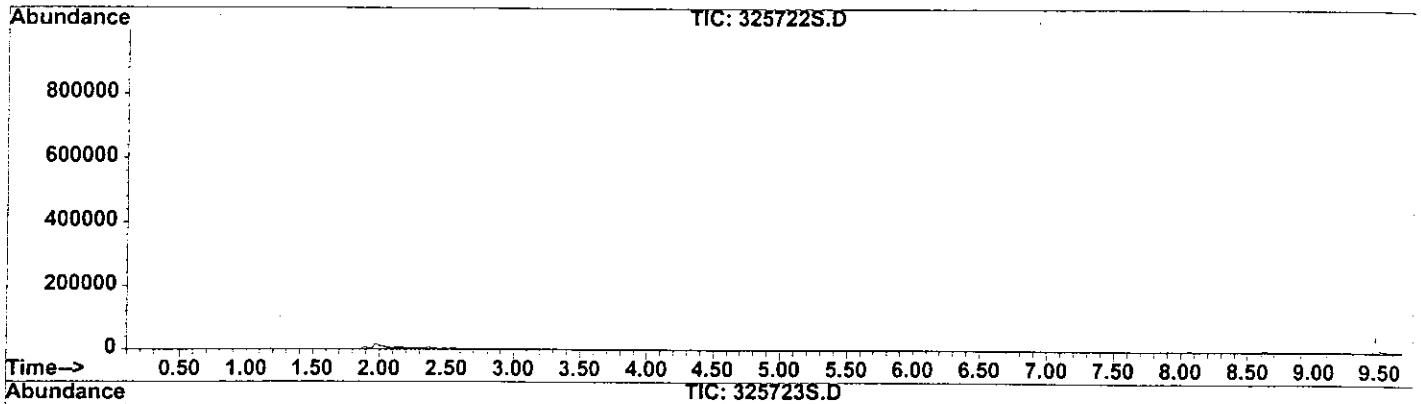

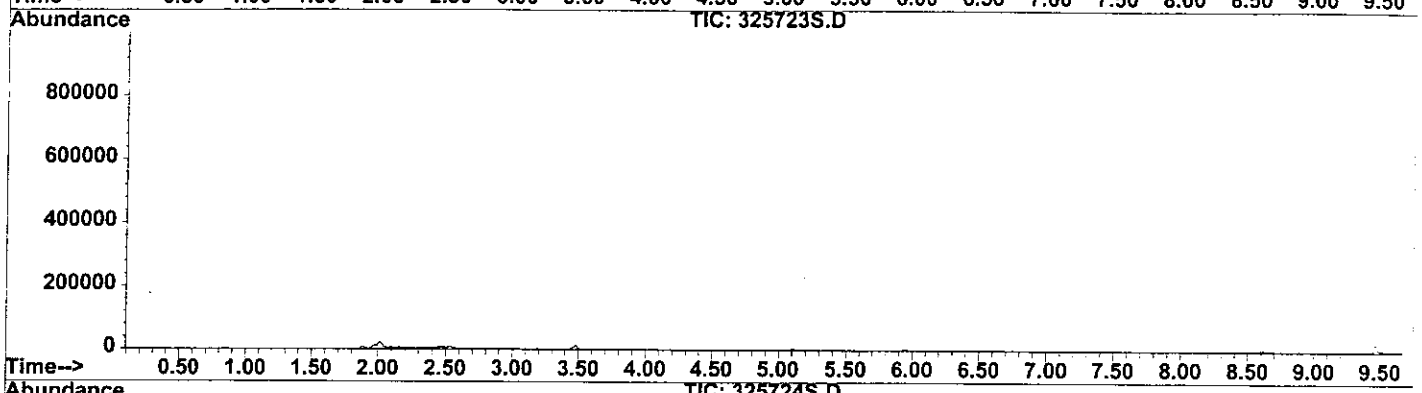

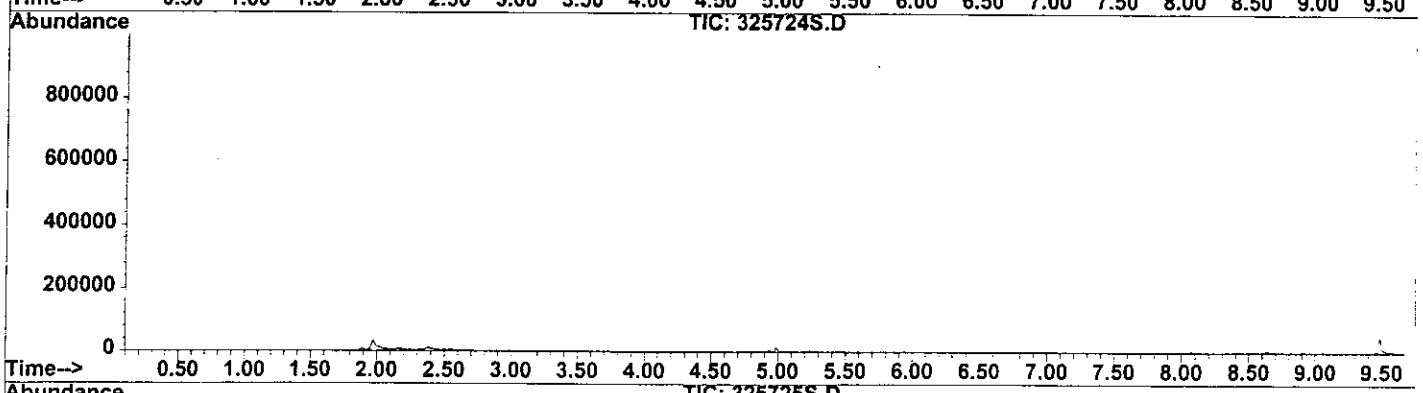

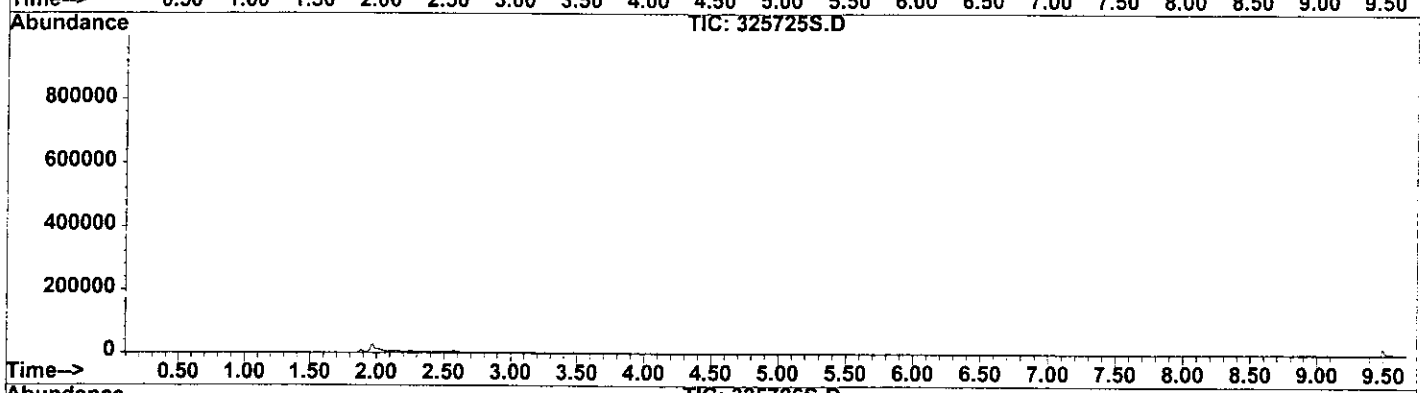

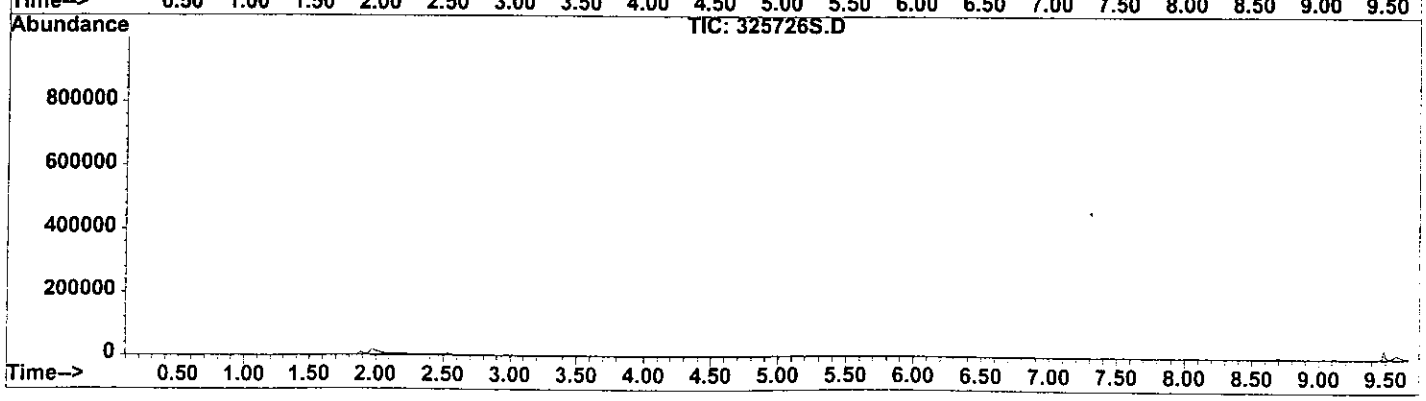

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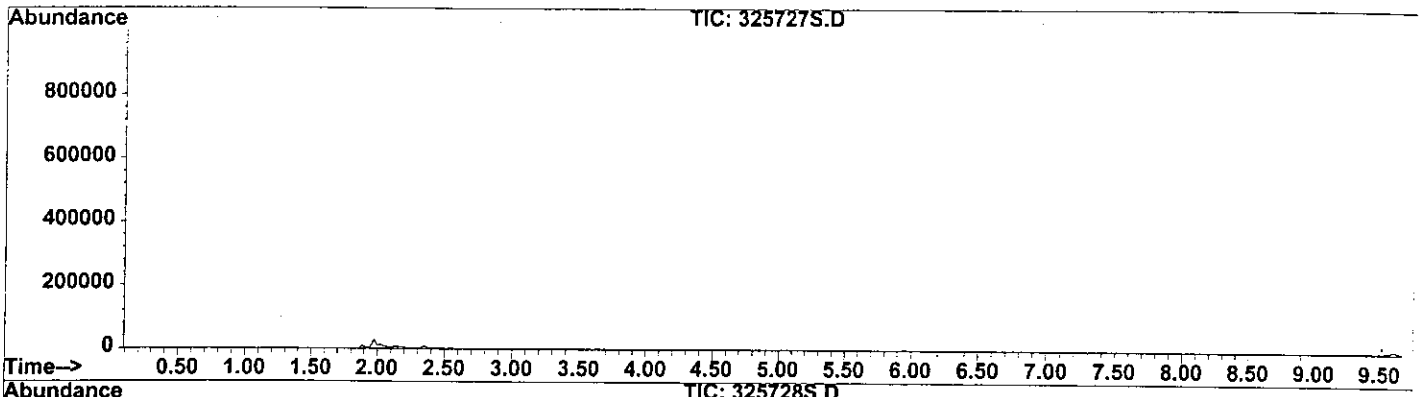

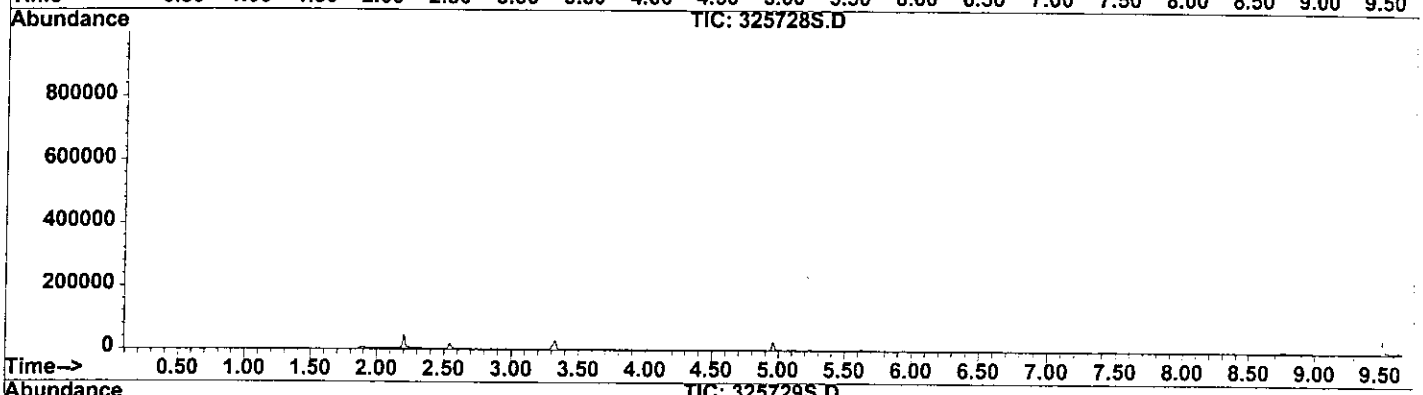

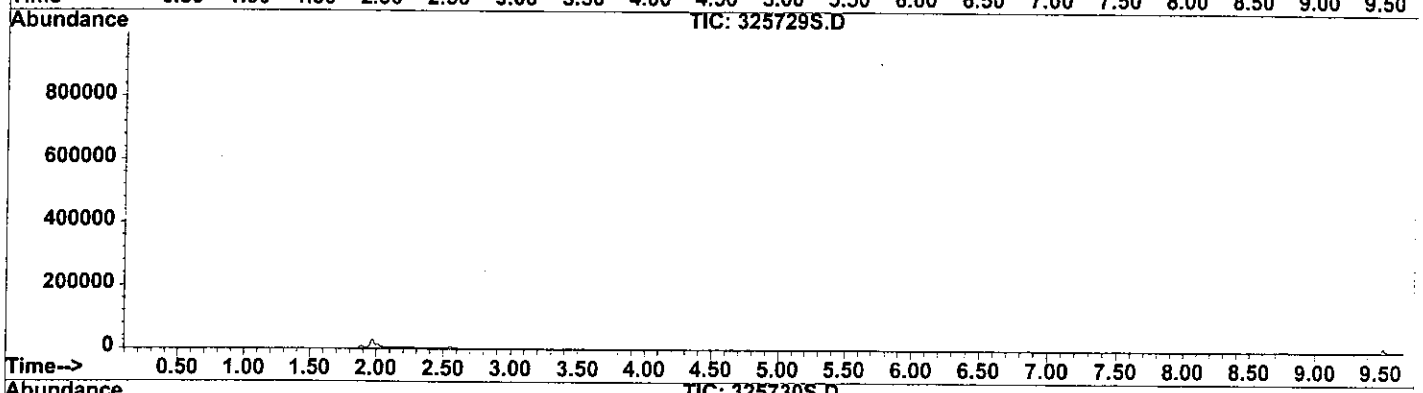

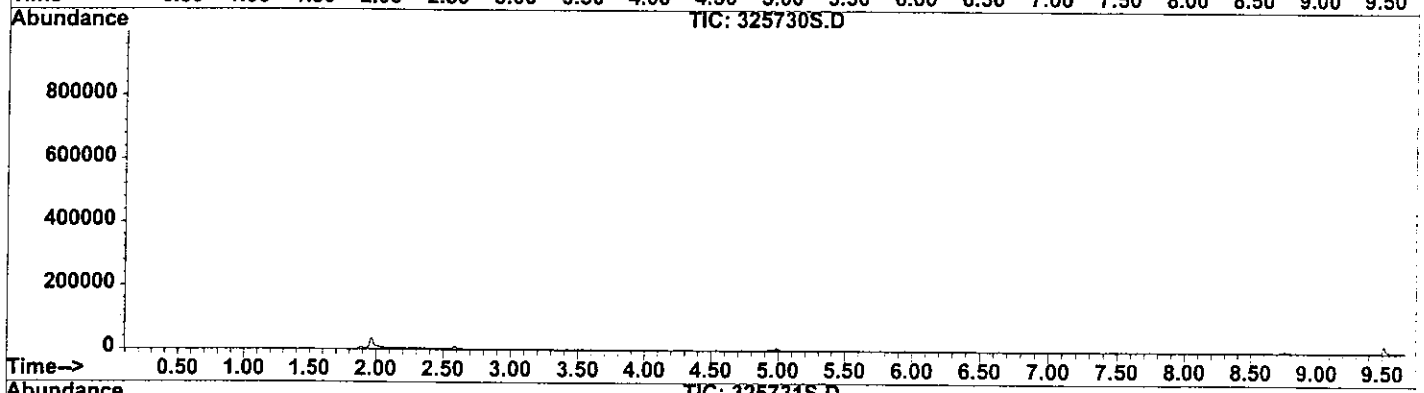

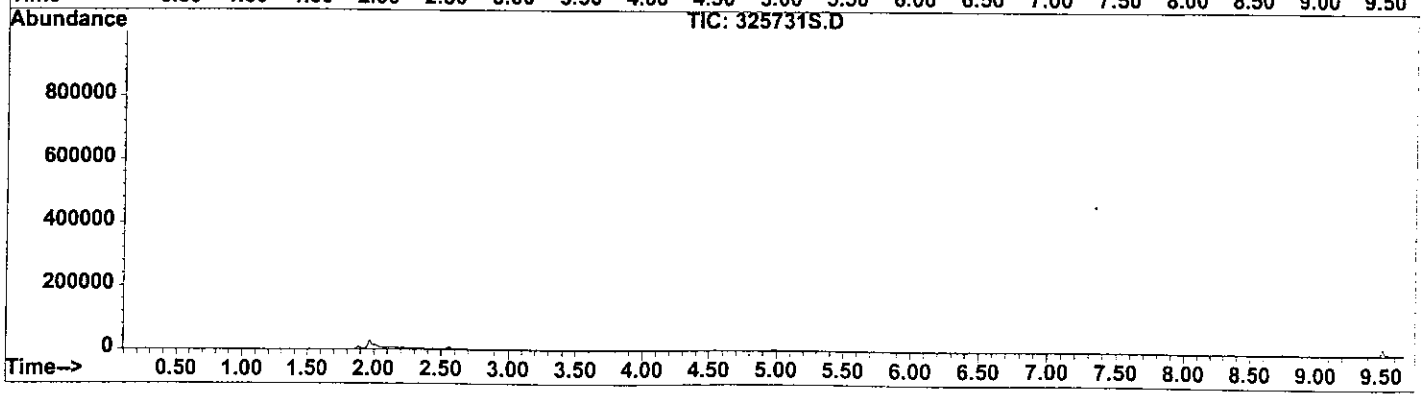

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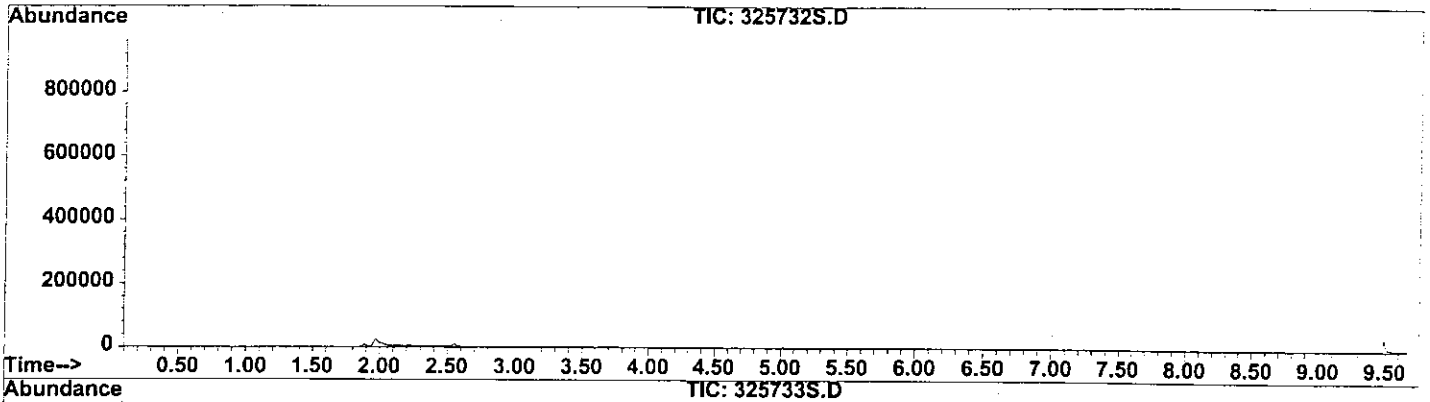

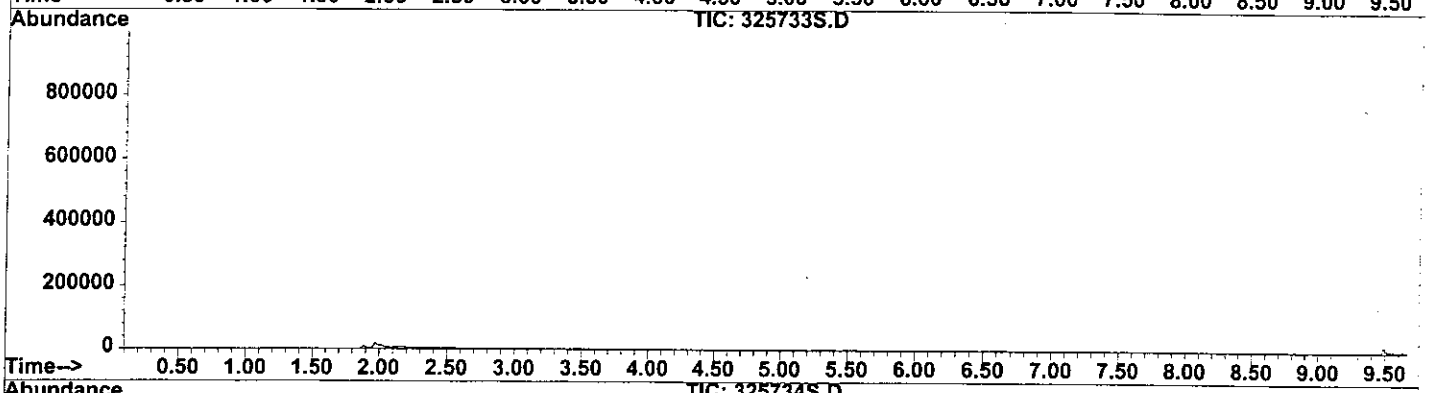

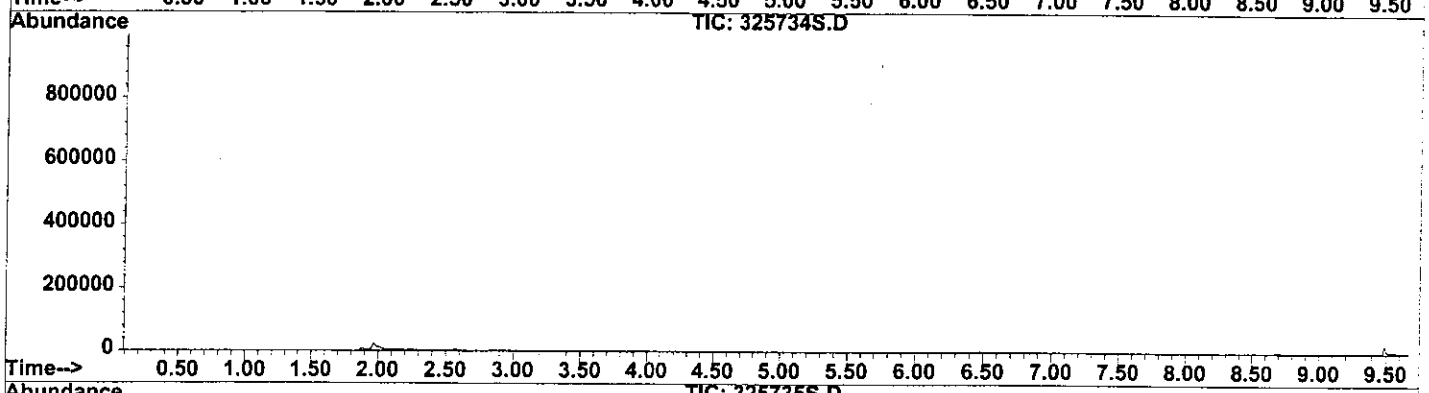

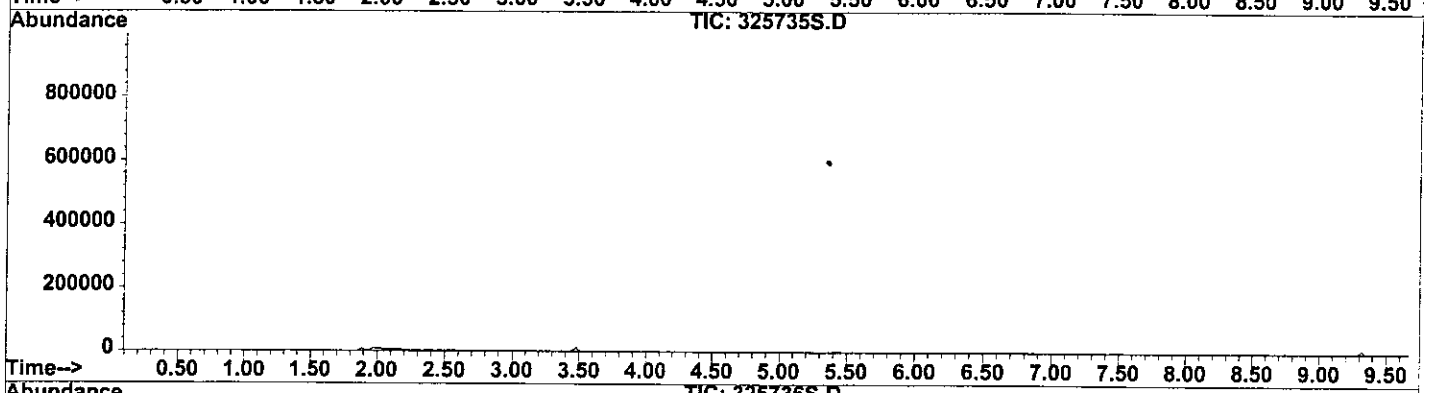

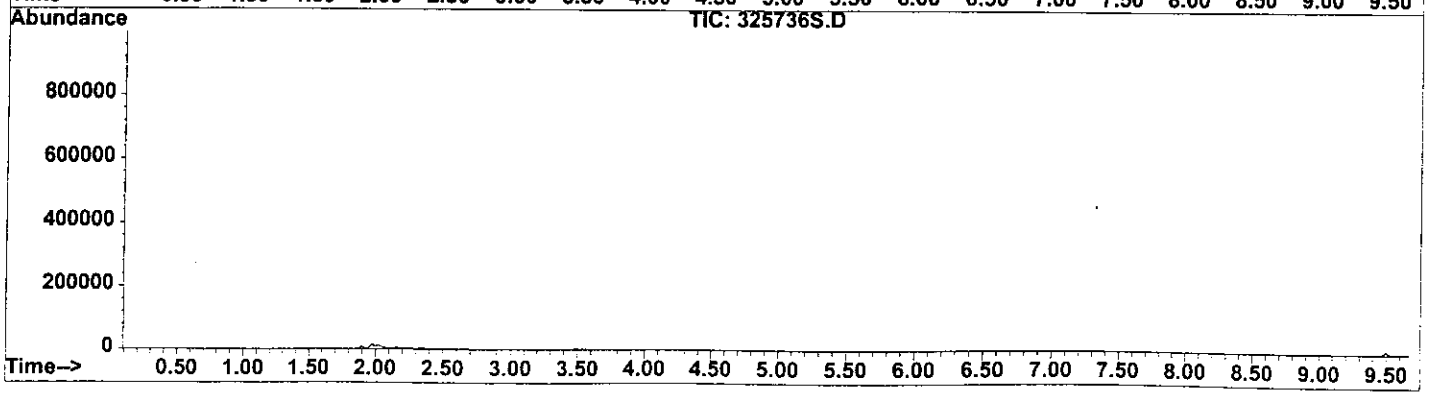

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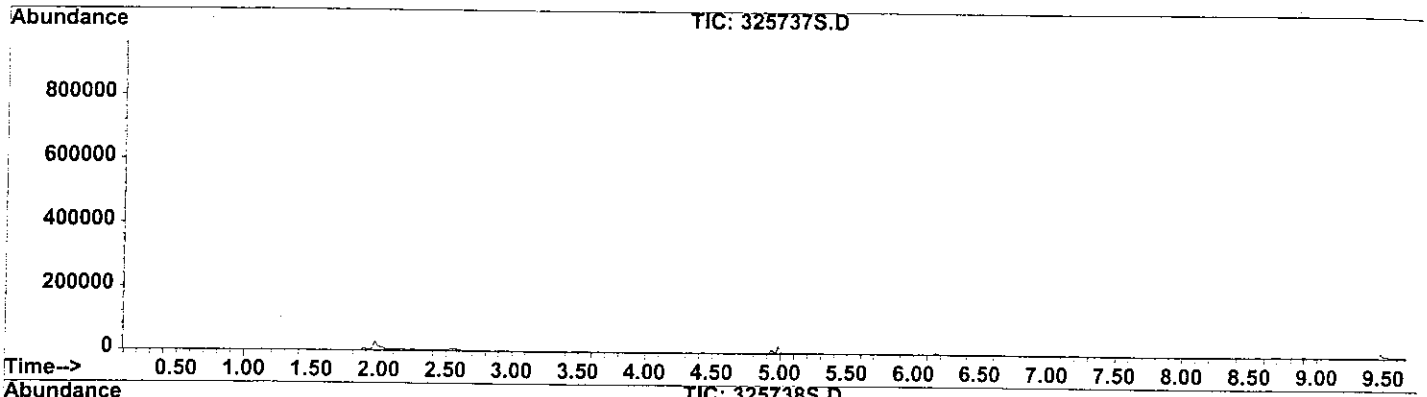

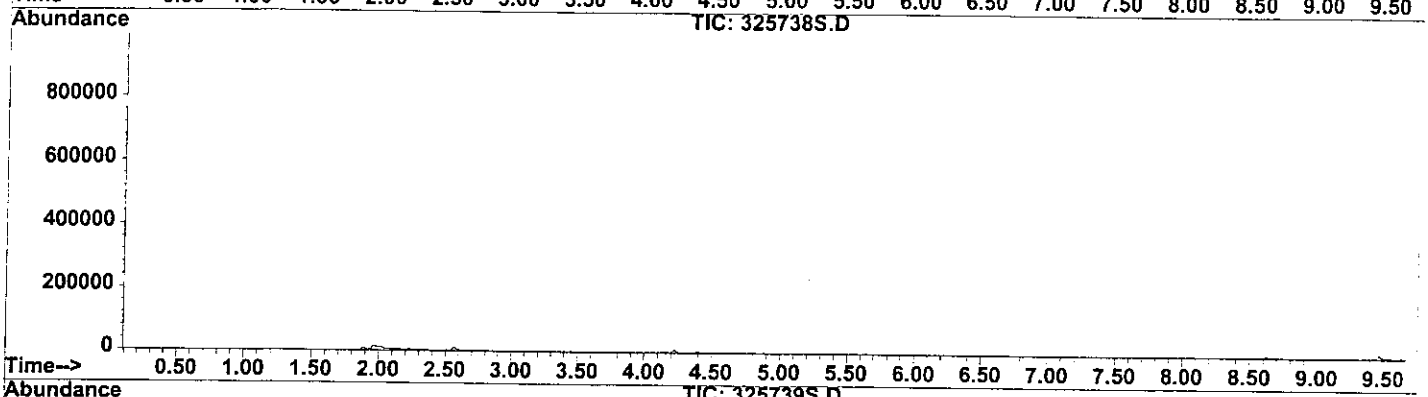

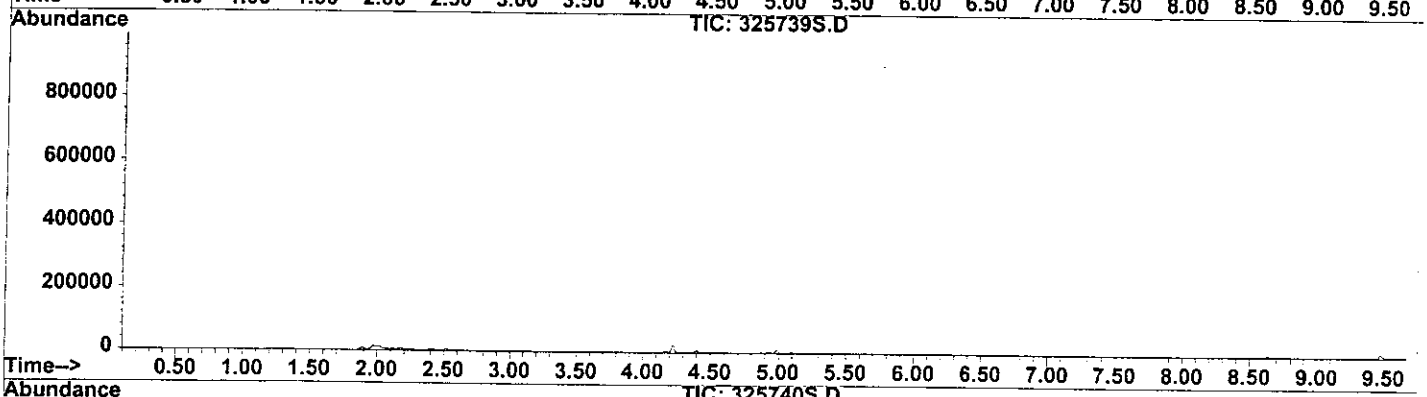

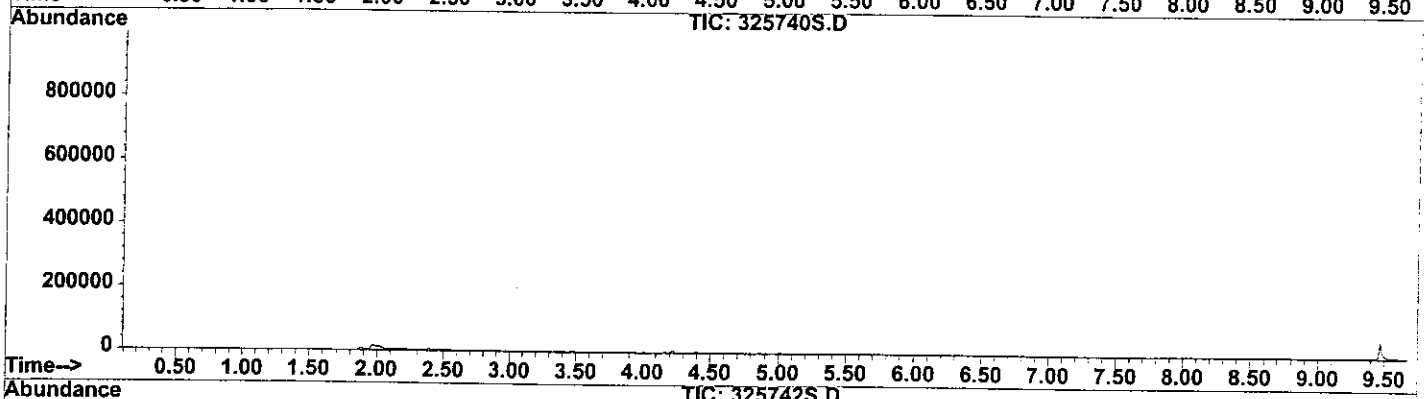

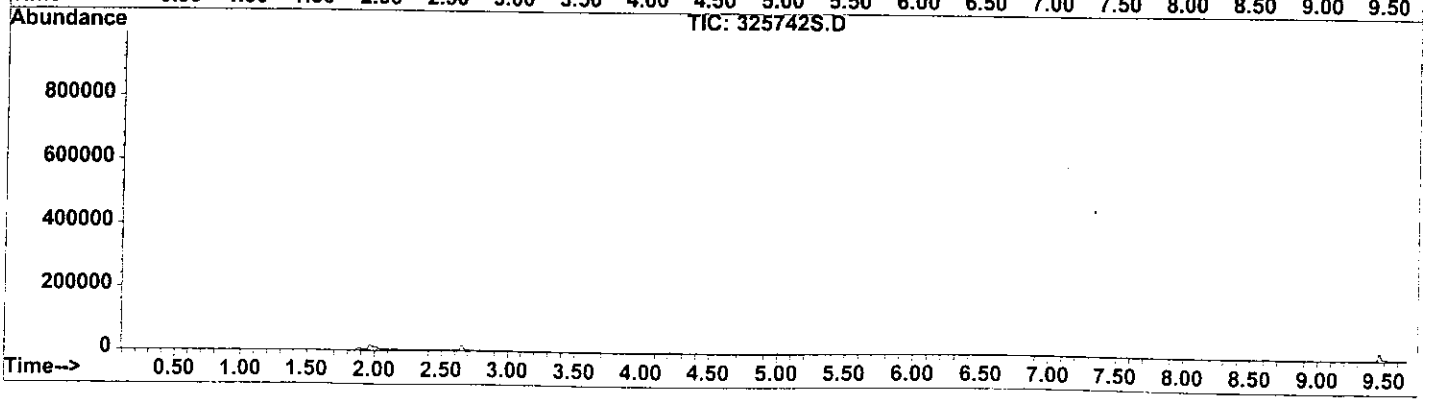

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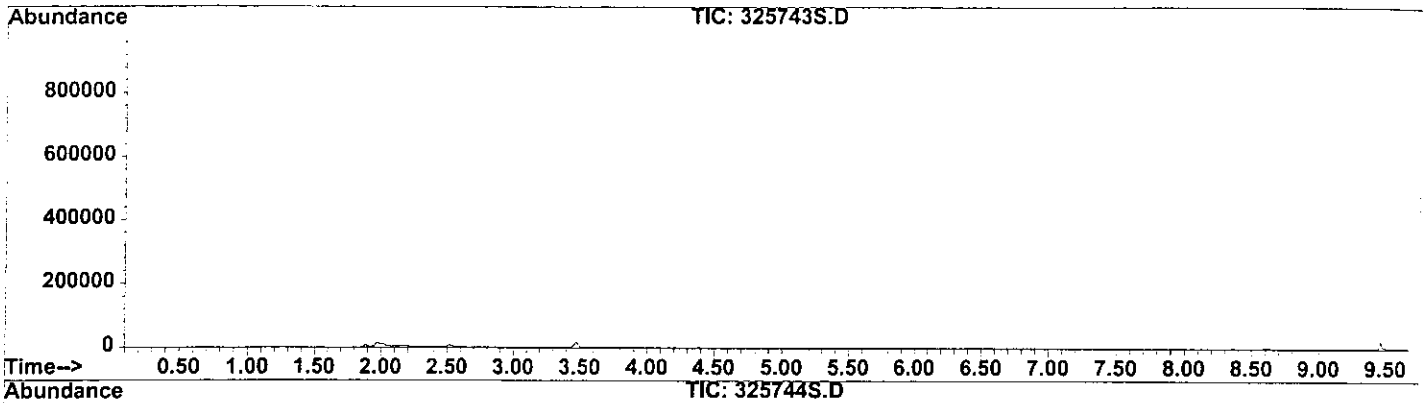

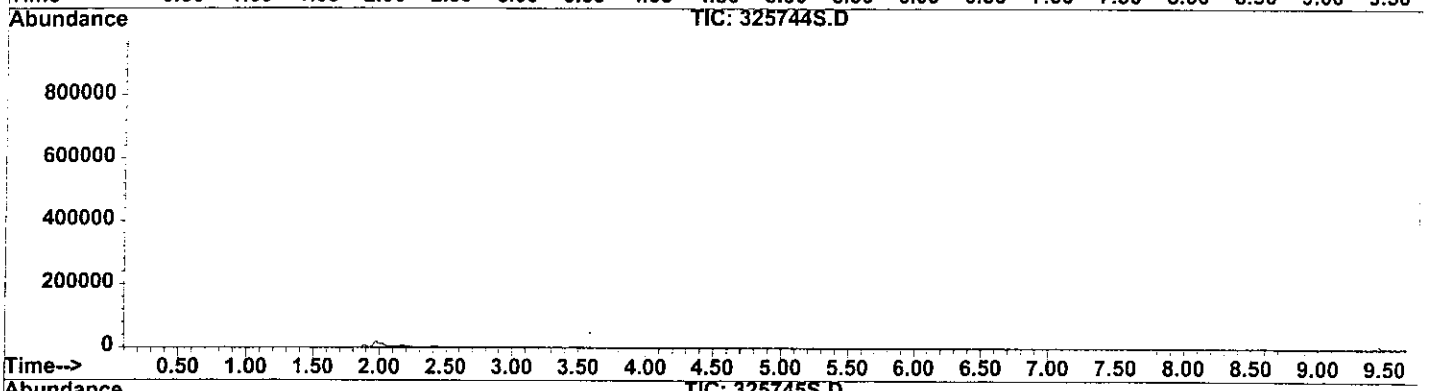

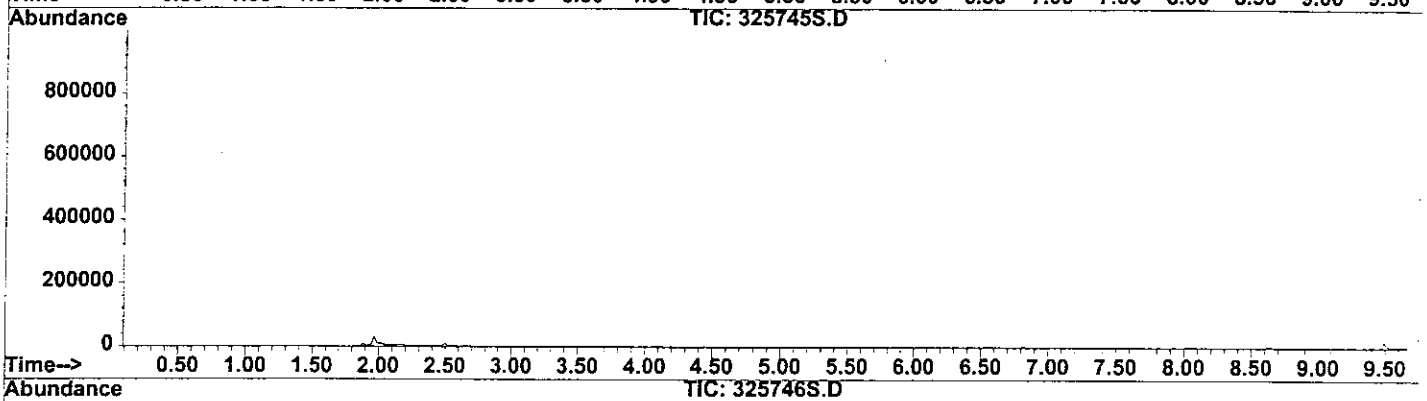

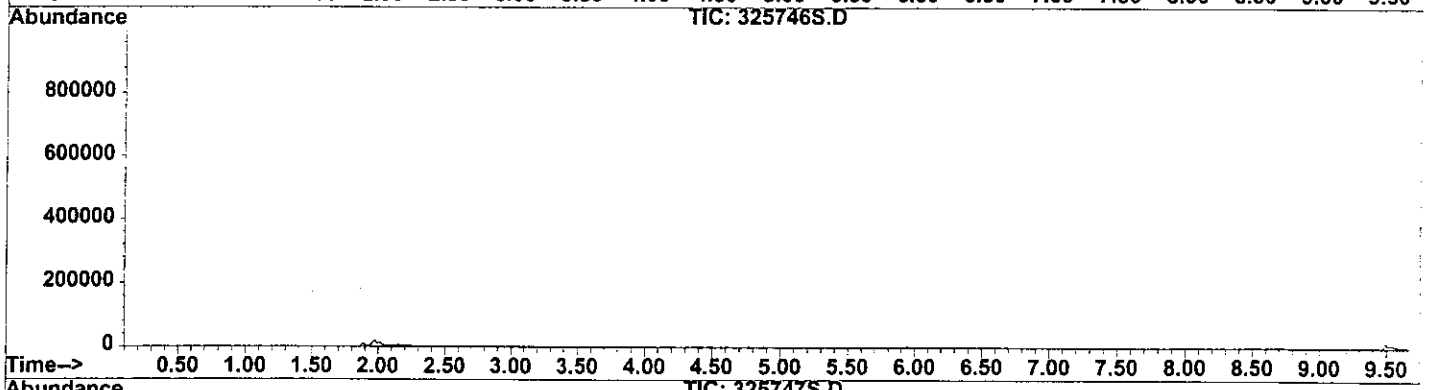

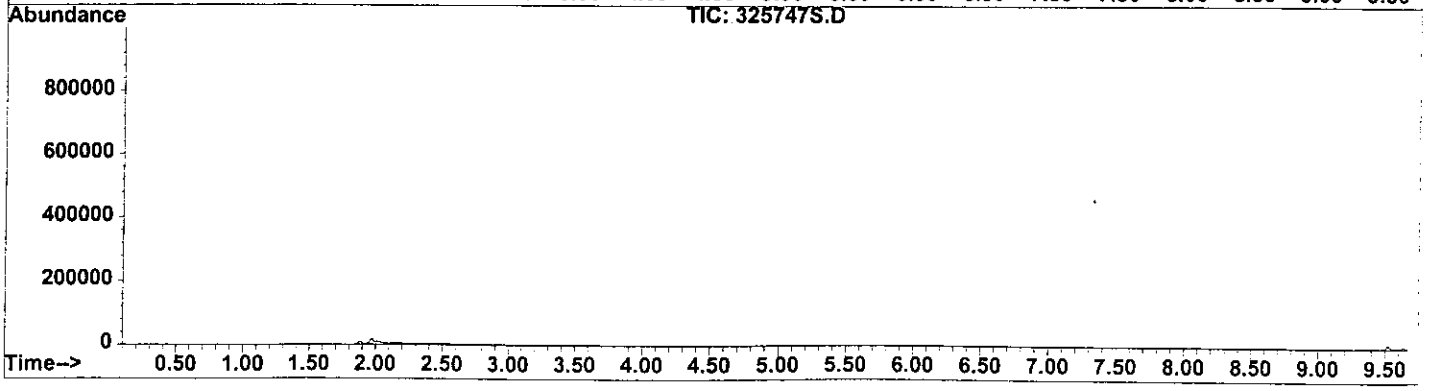

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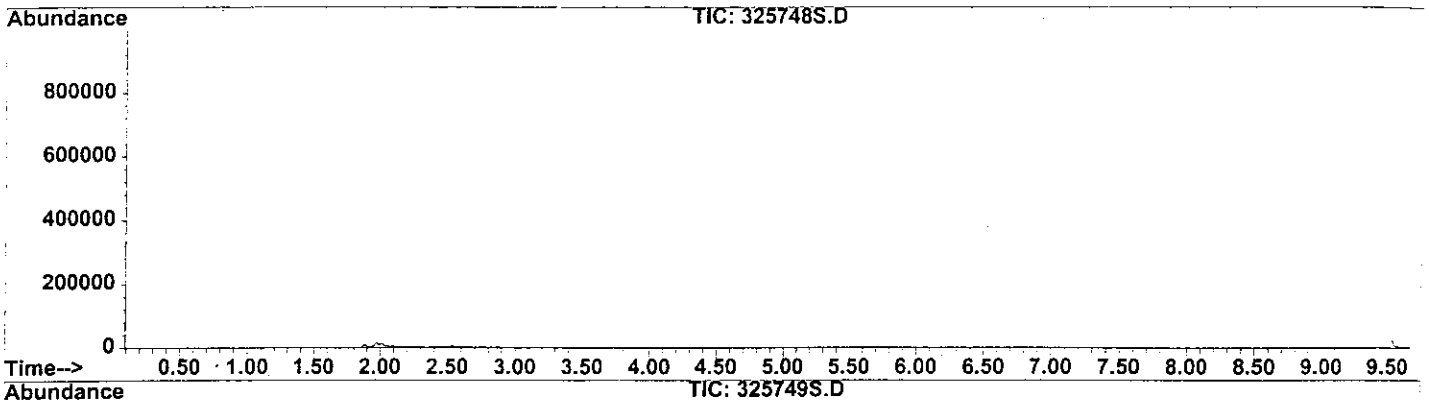
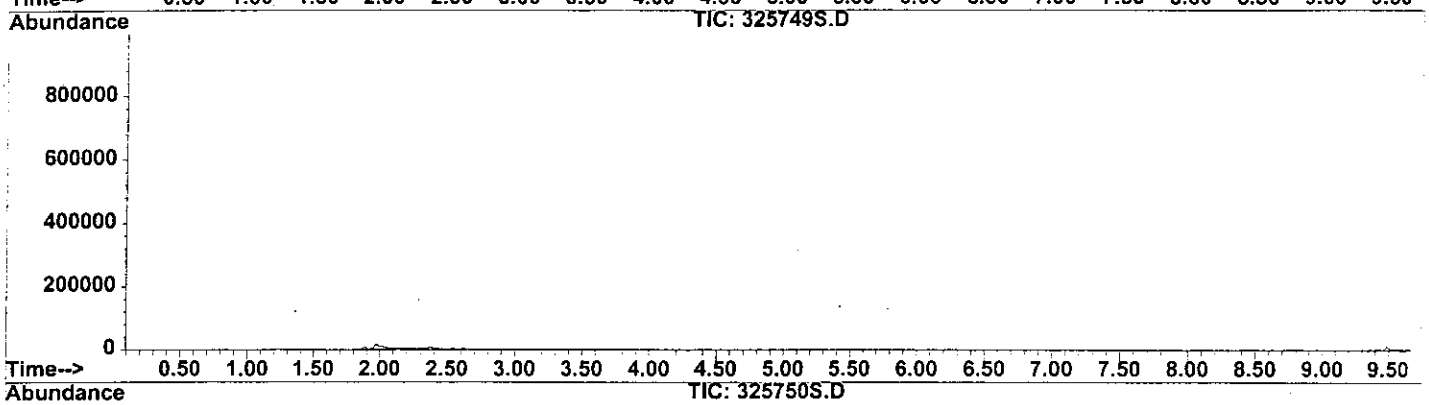
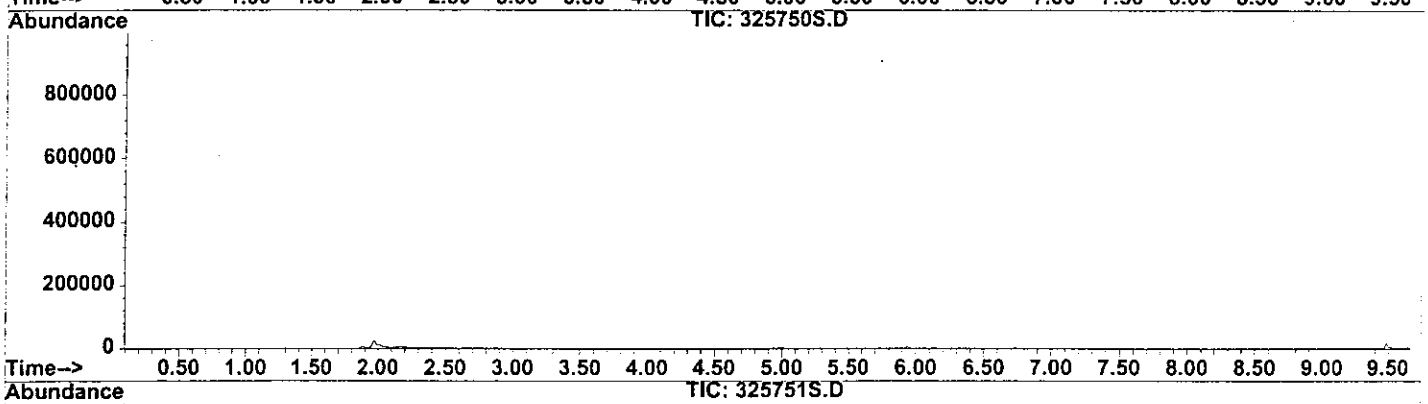
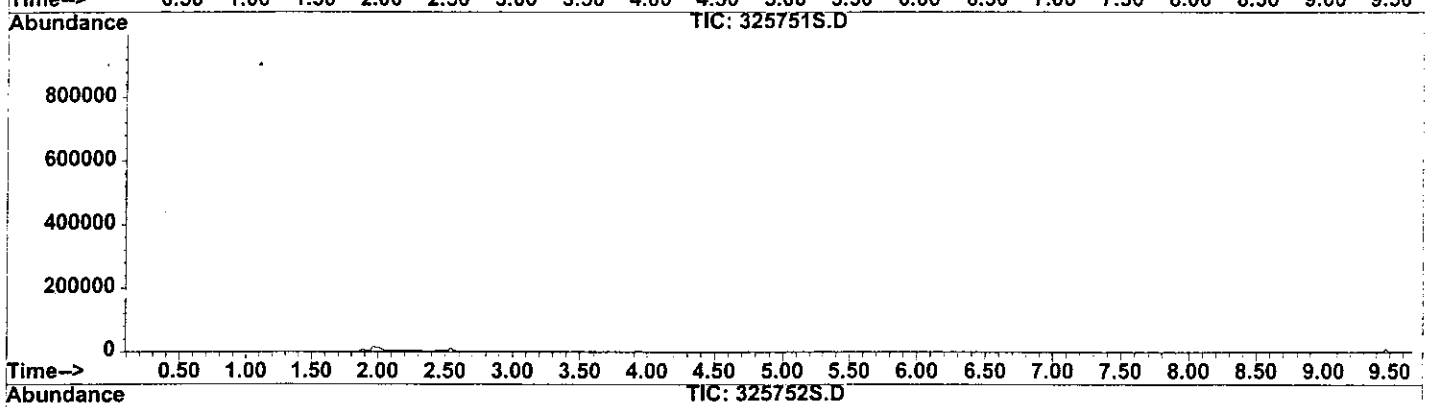
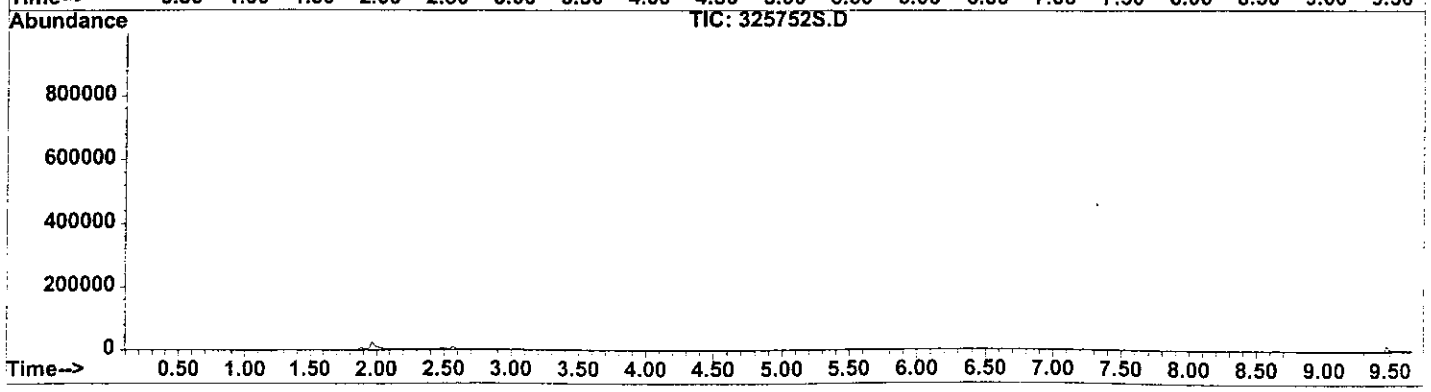


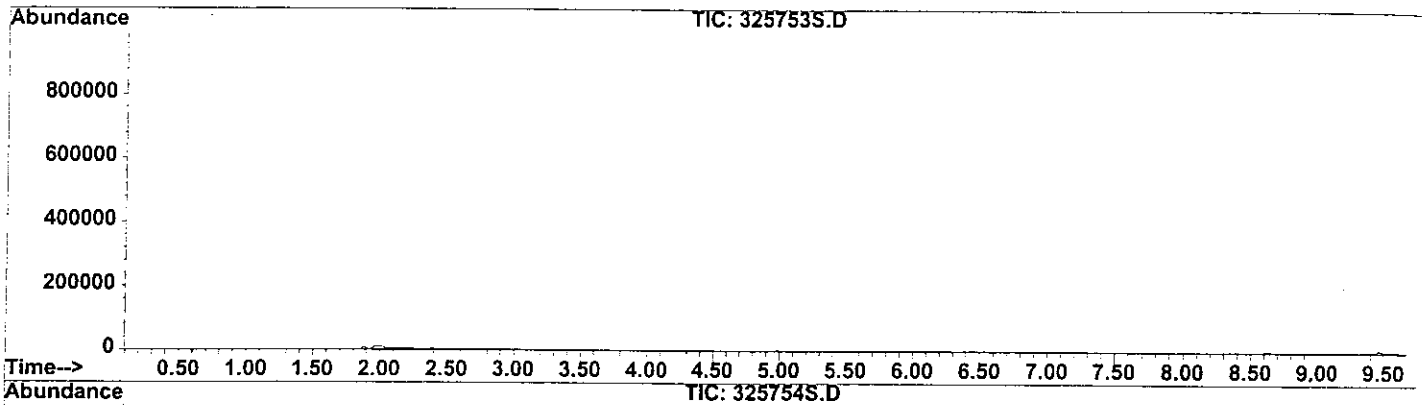


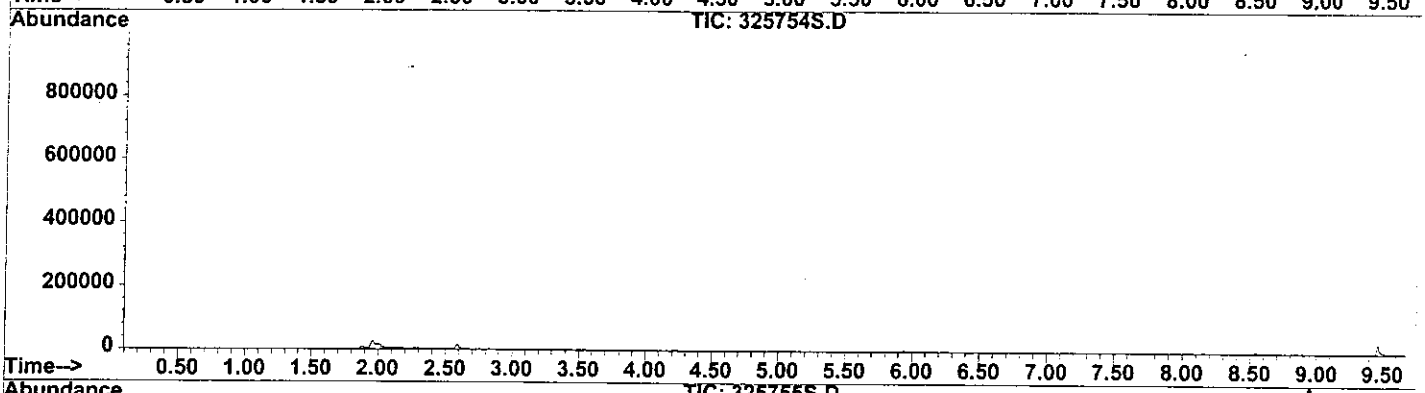


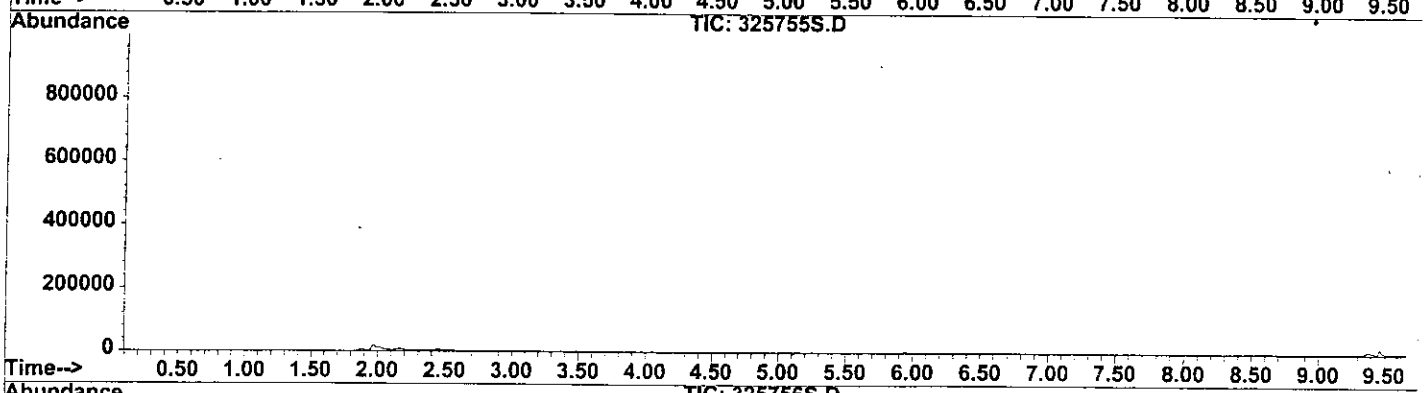


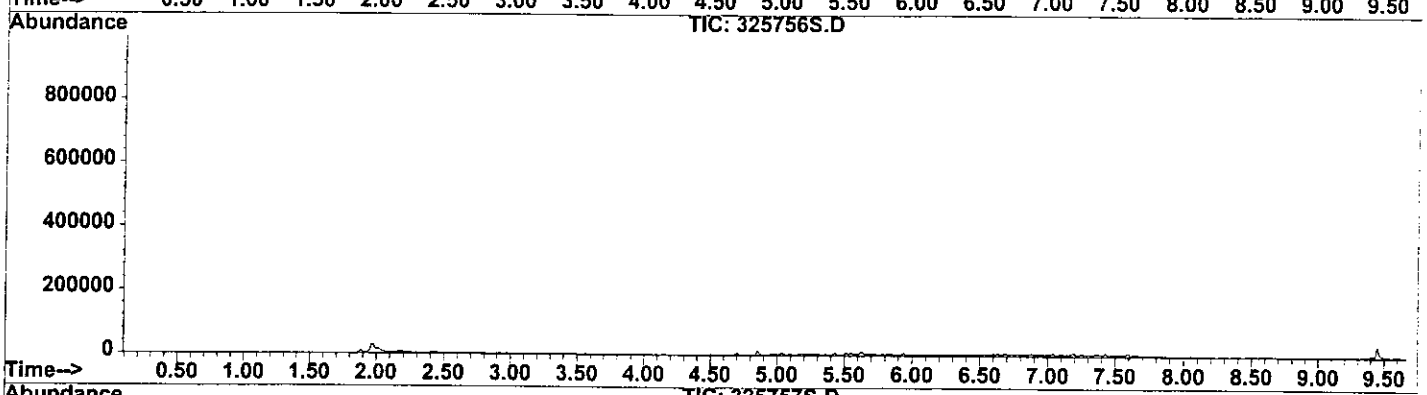


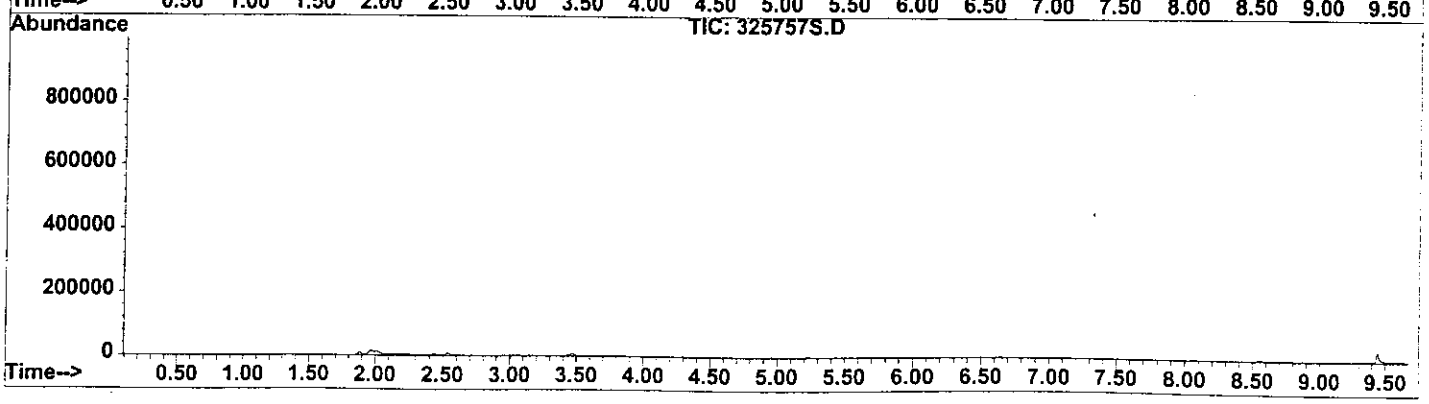
TIC - SITE BJA - PRODUCTION ORDER #10353033
In Numerical Order











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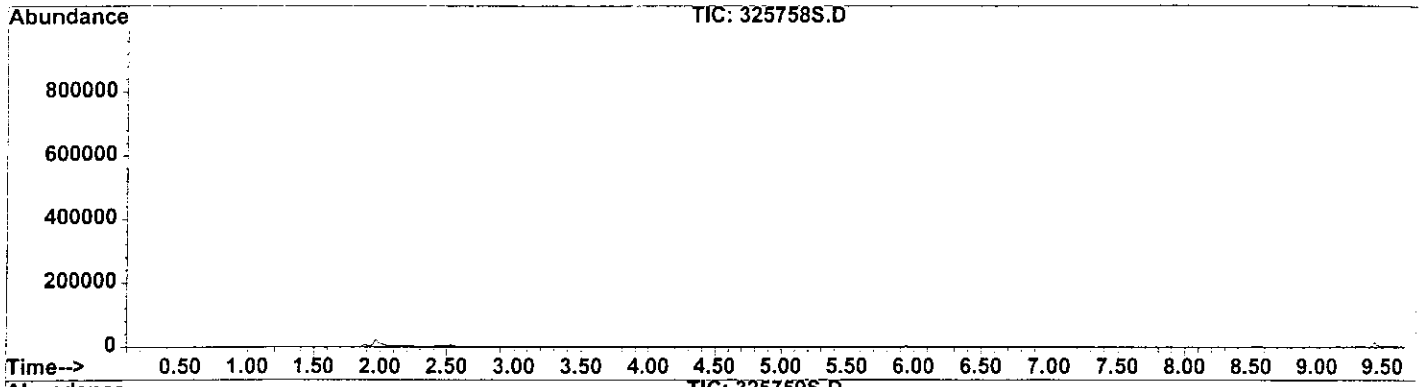
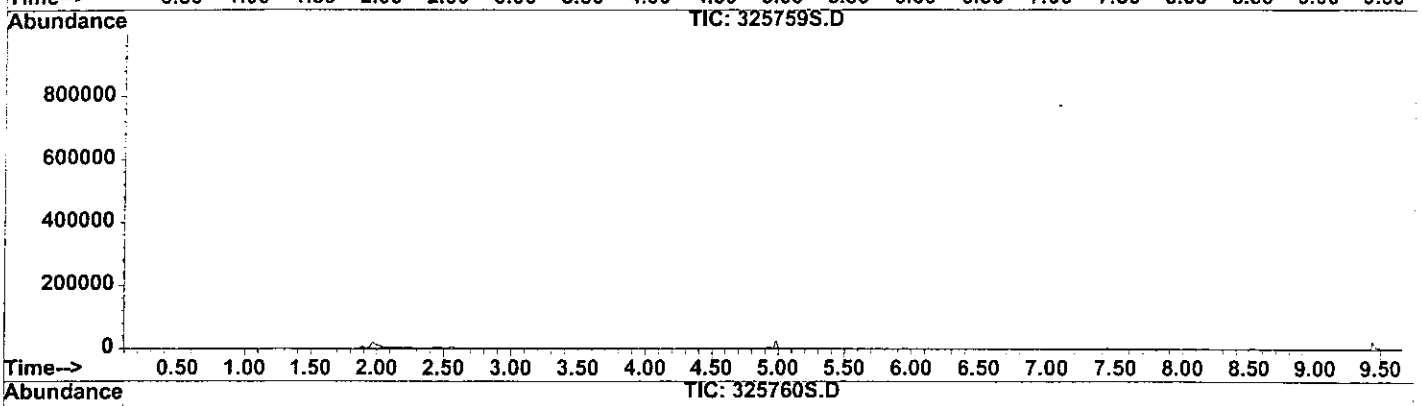
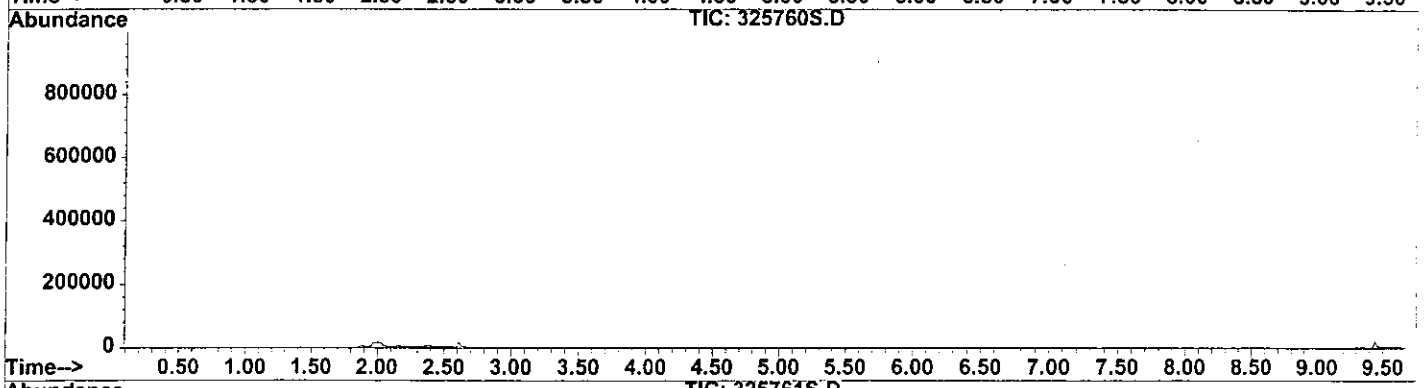
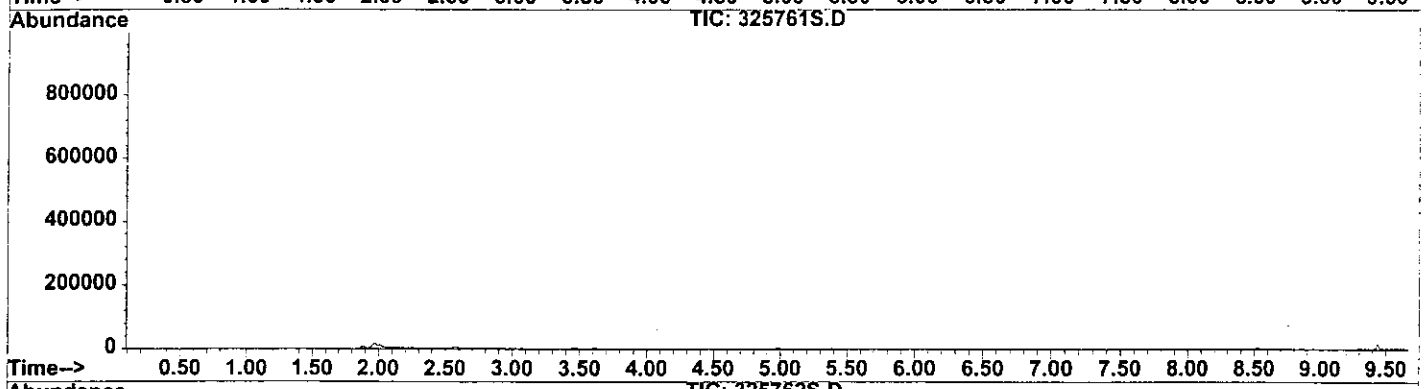
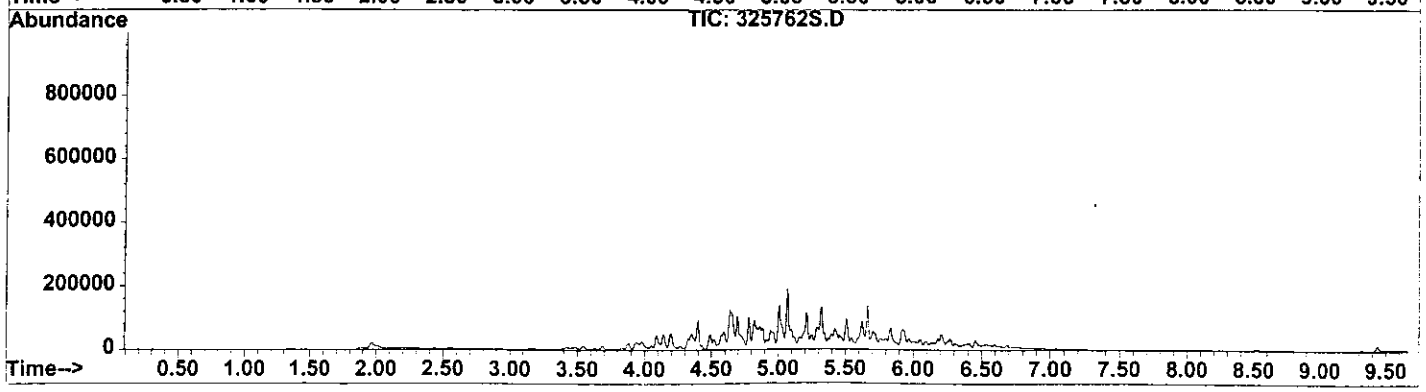
In Numerical Order



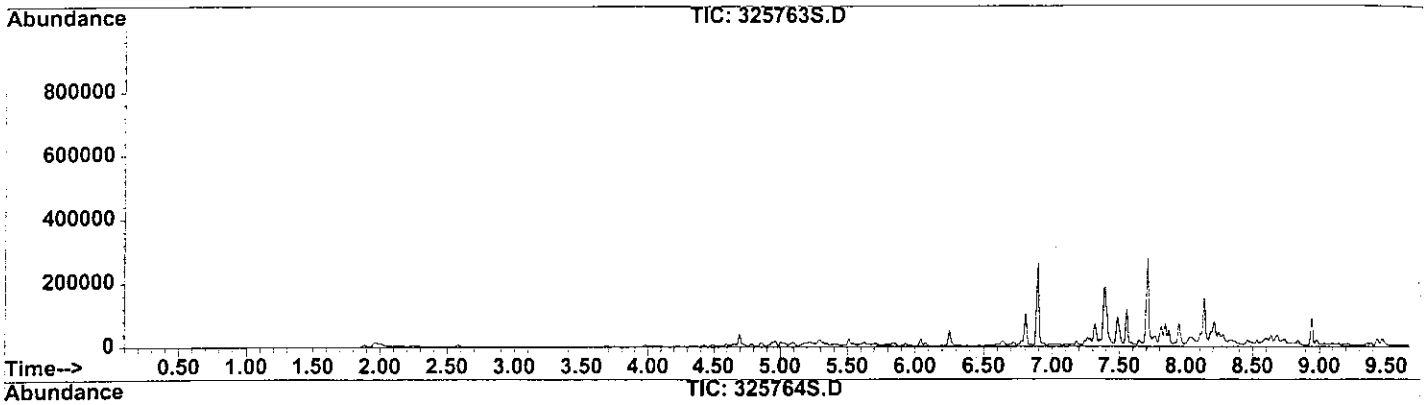


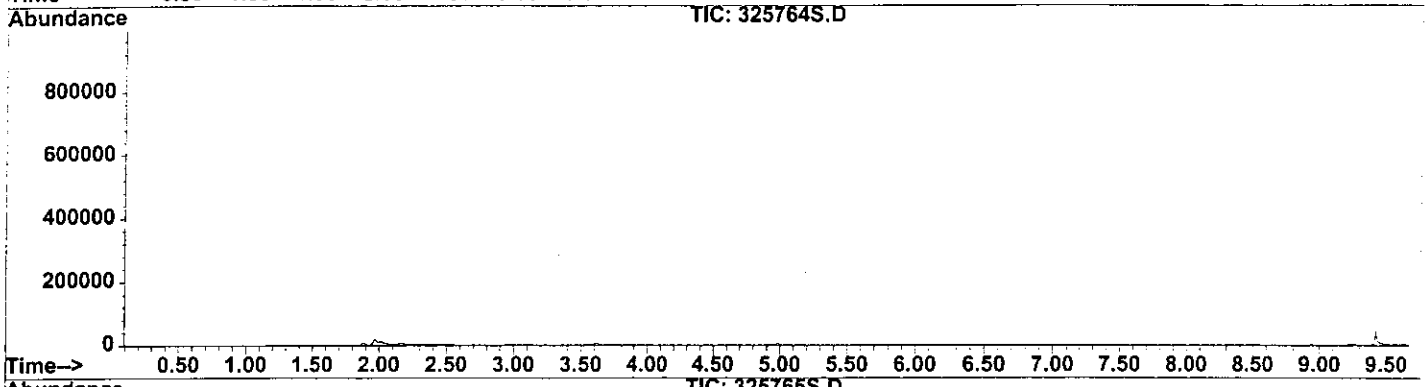


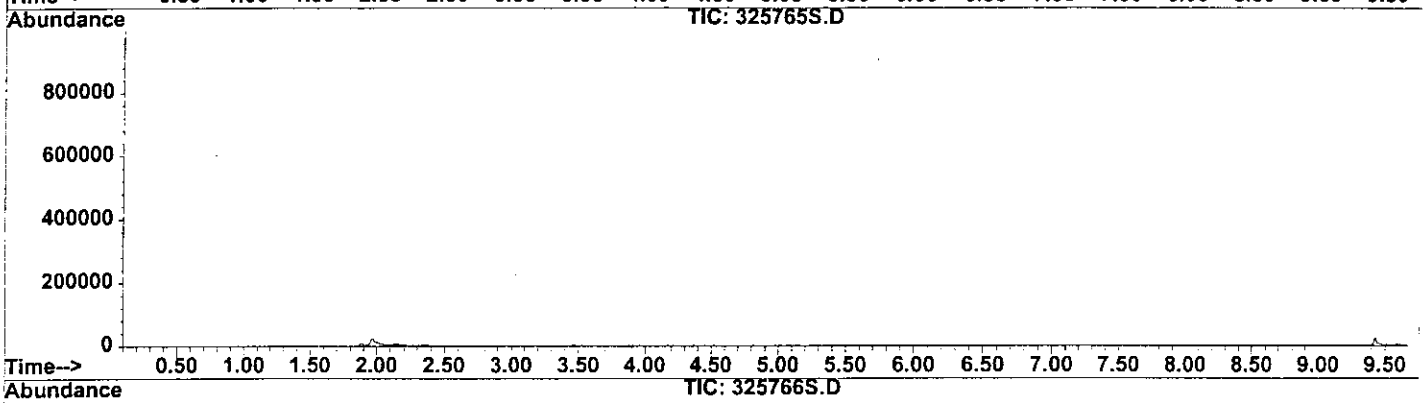


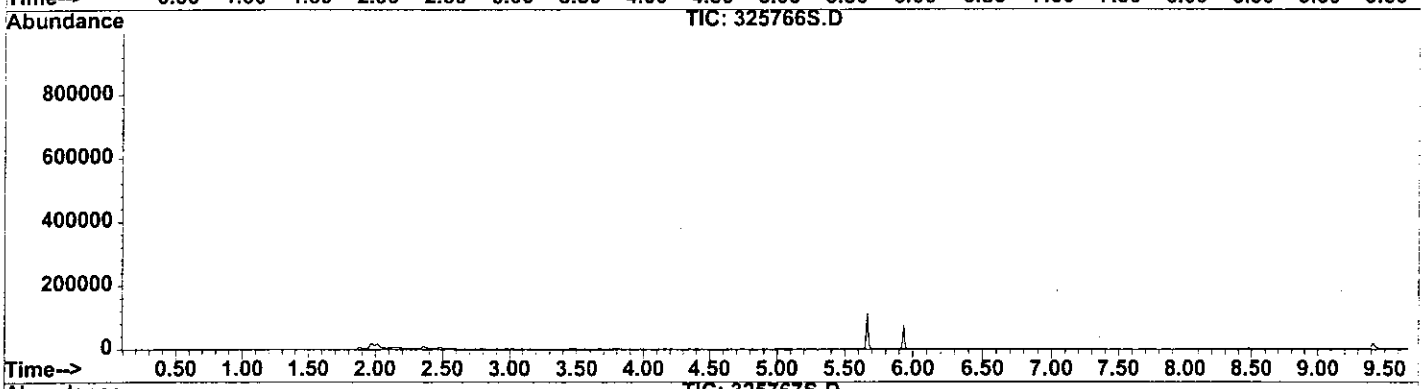


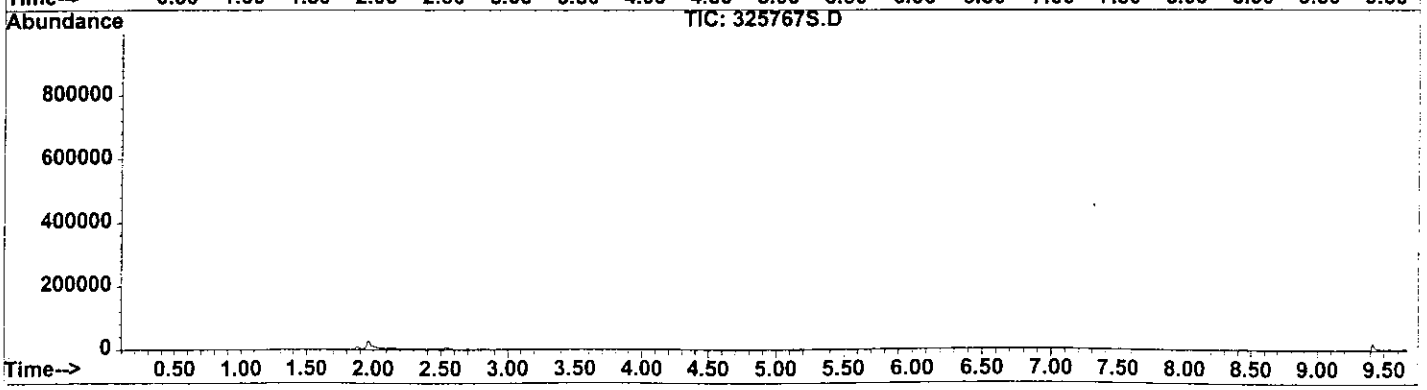
TIC - SITE BJA - PRODUCTION ORDER #10353033
In Numerical Order



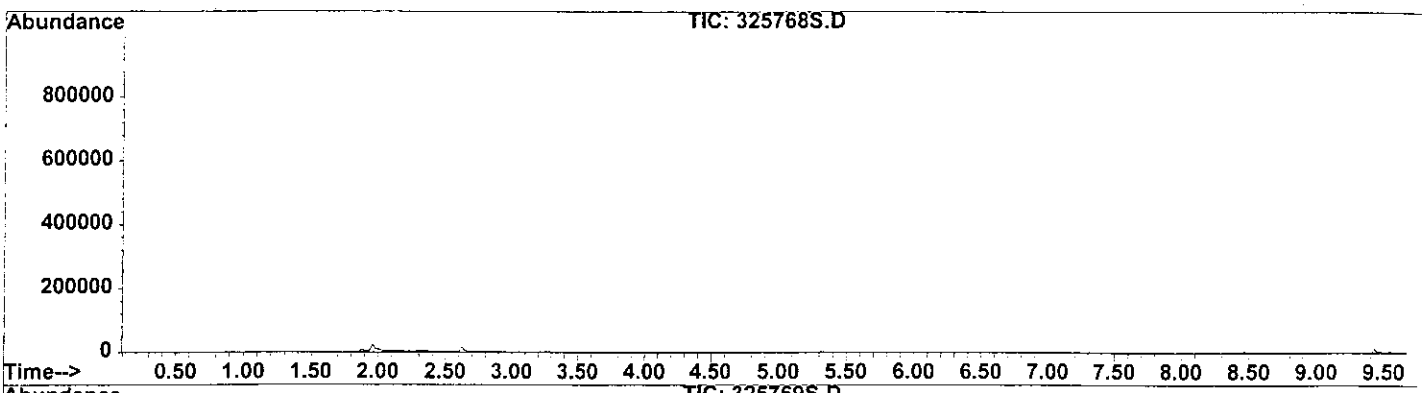


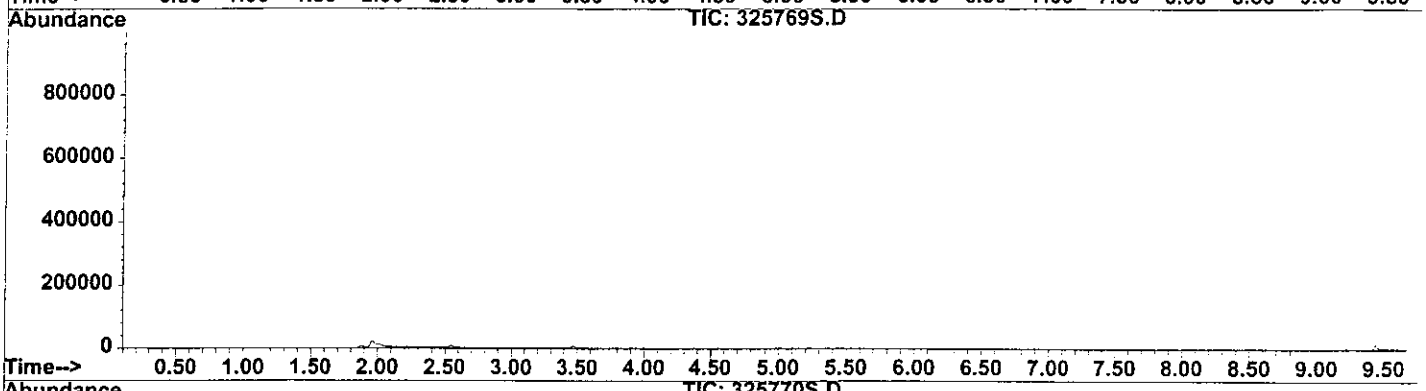


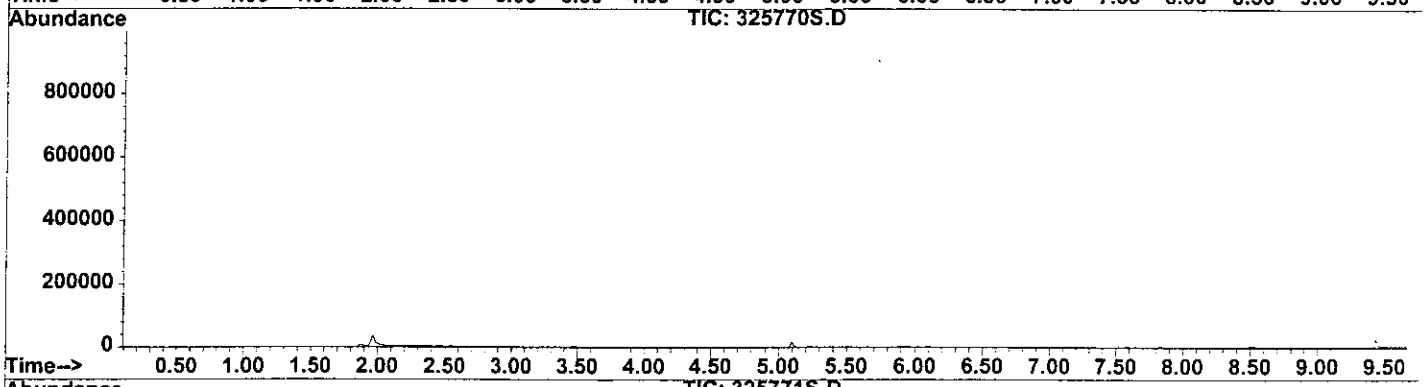


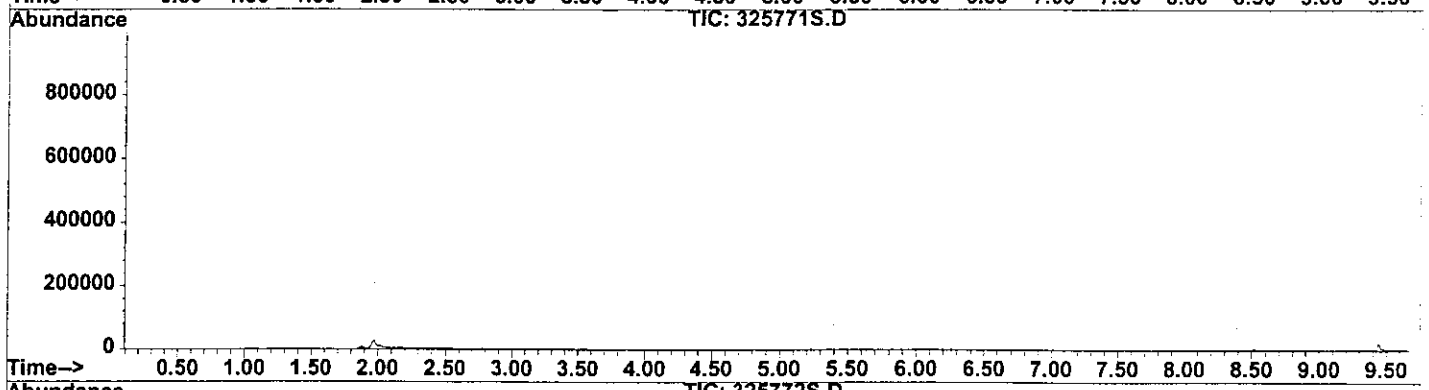


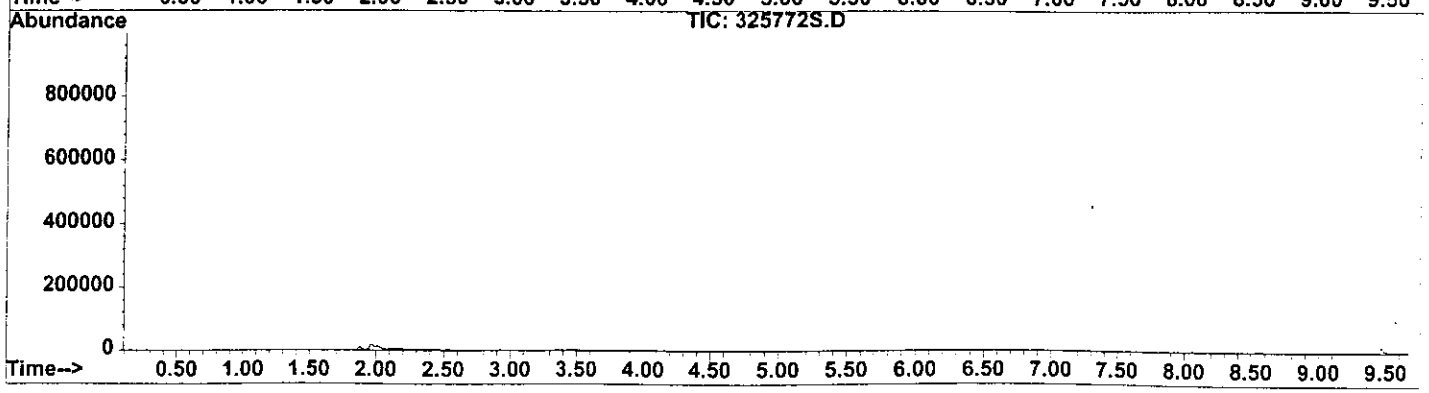
TIC - SITE BJA - PRODUCTION ORDER #10353033
In Numerical Order











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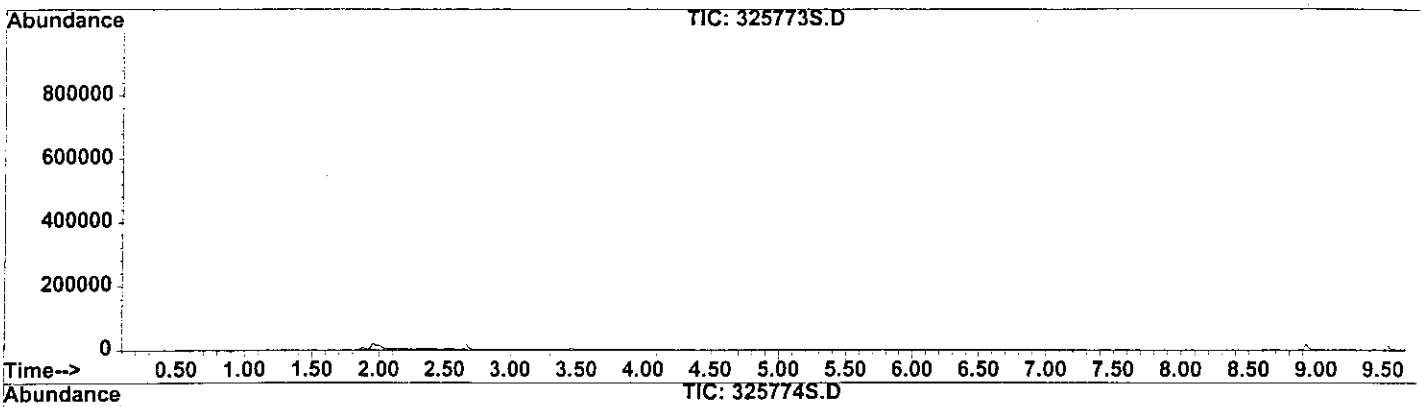
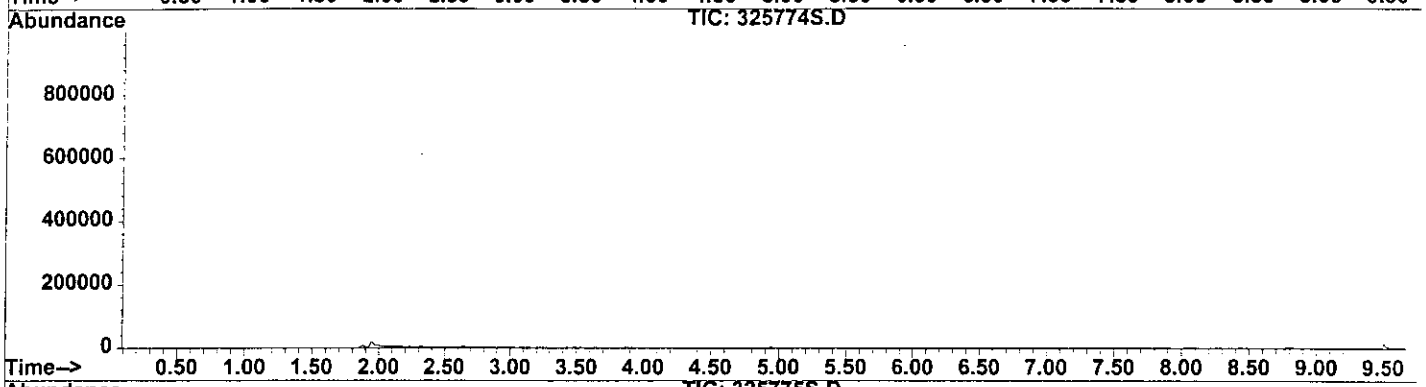
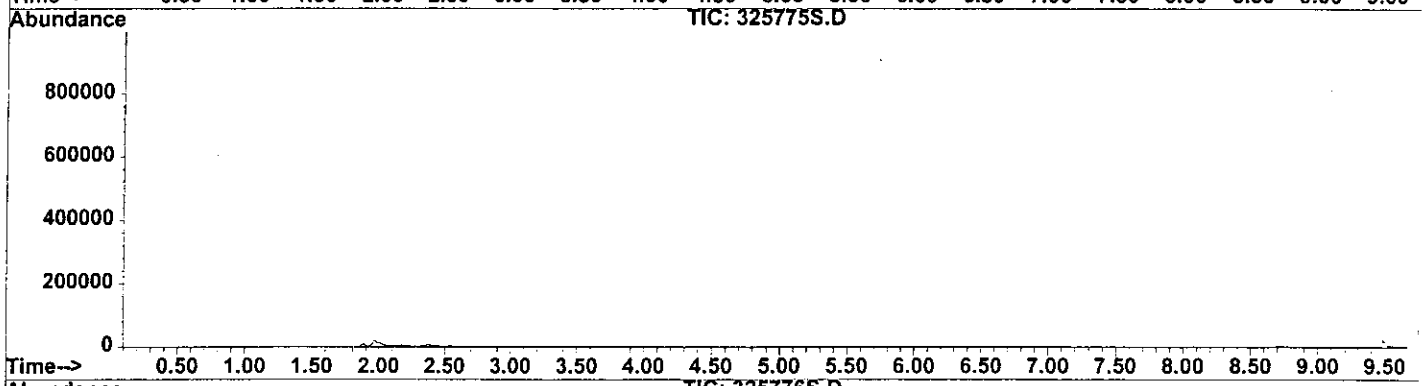
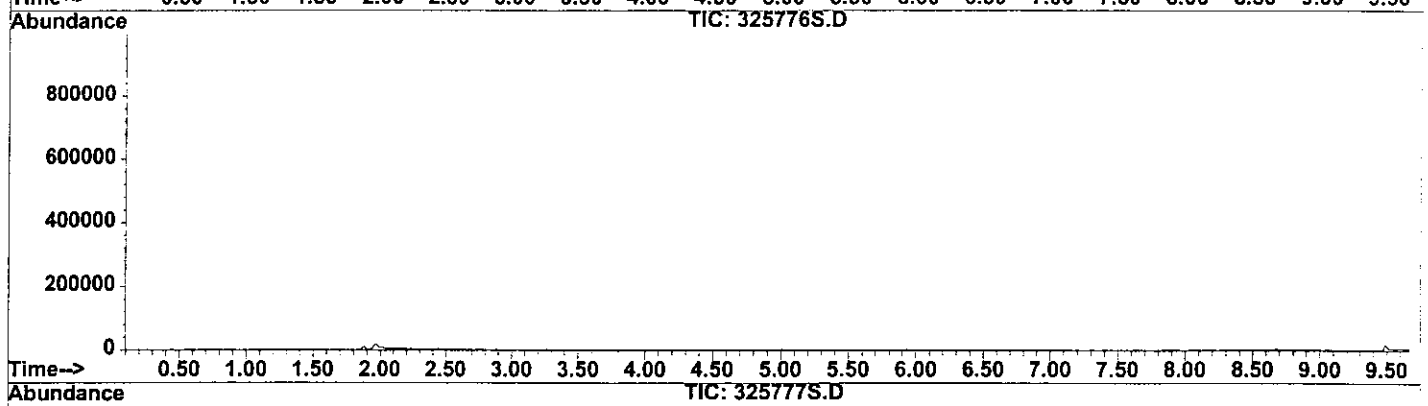
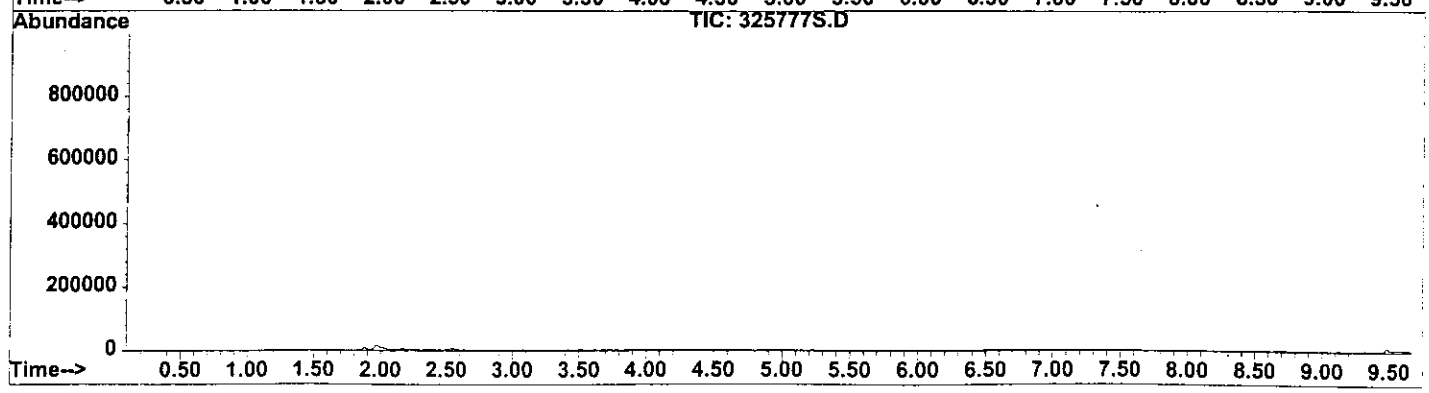
In Numerical Order











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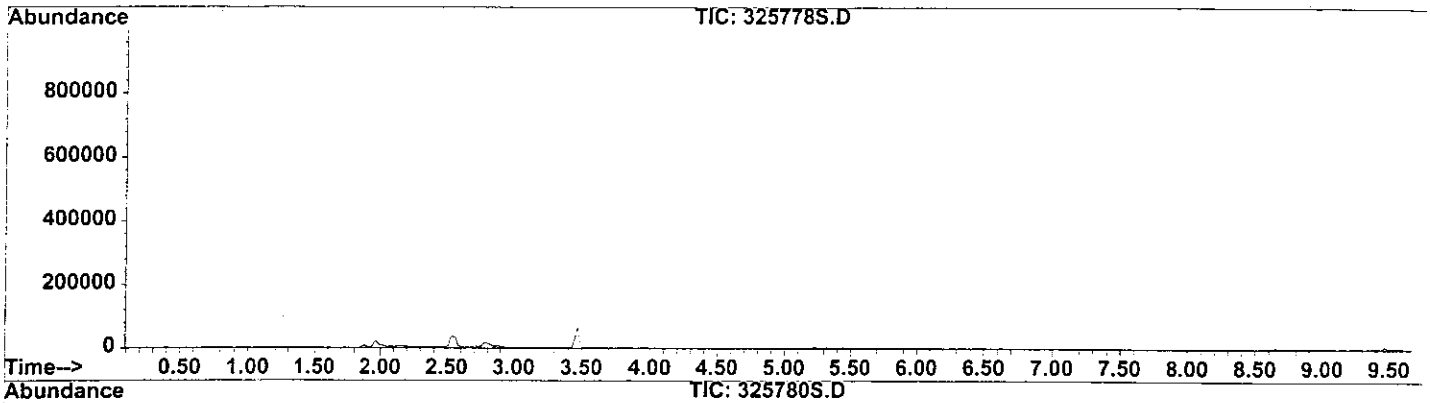
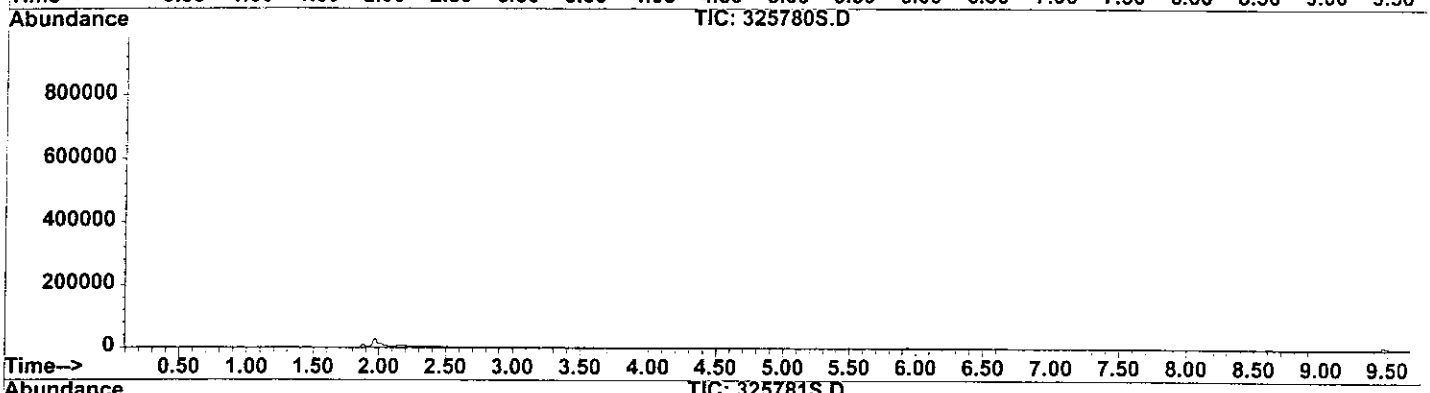
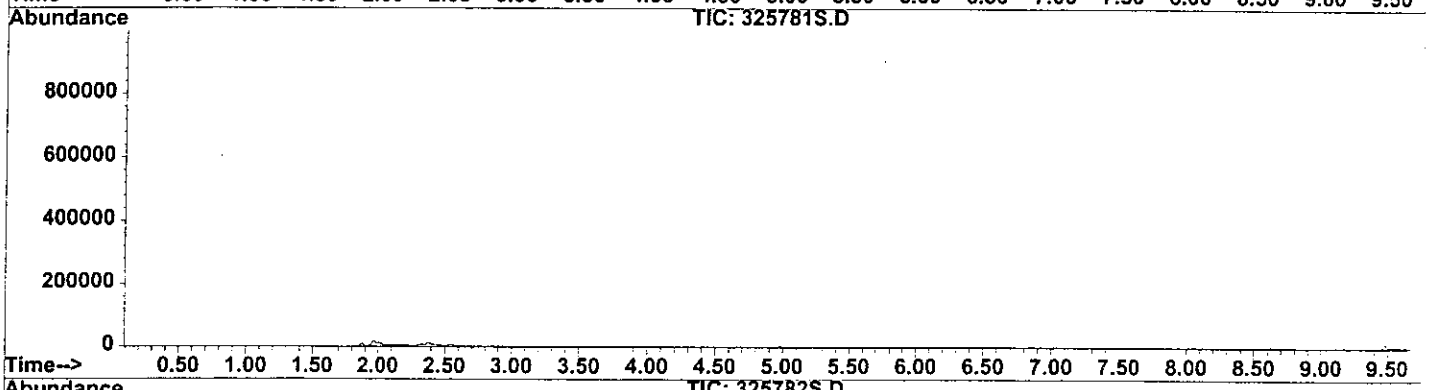
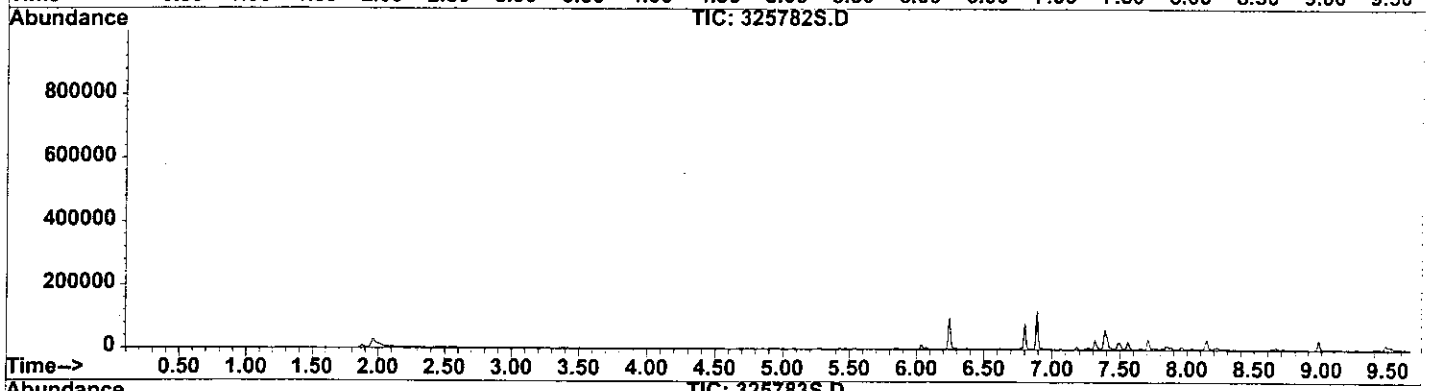
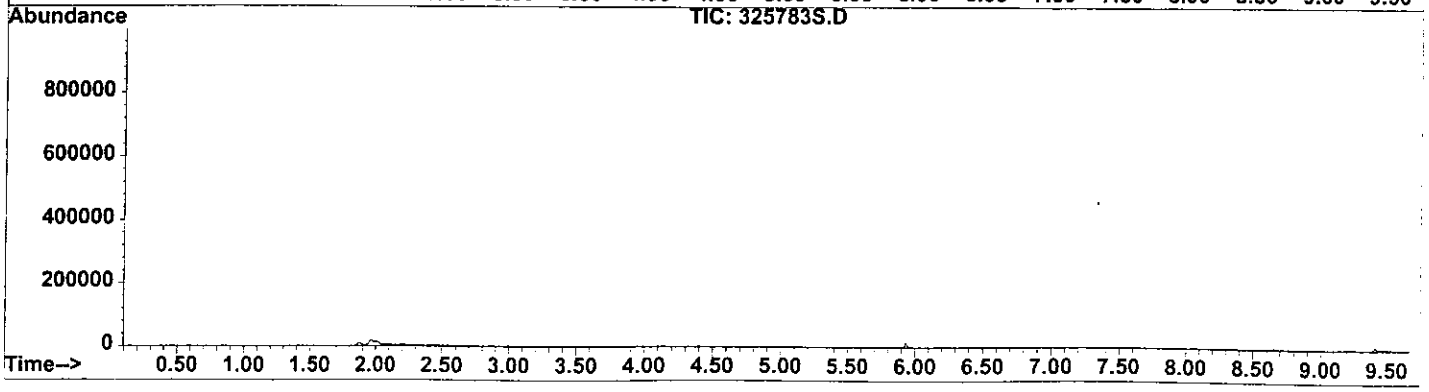
In Numerical Order











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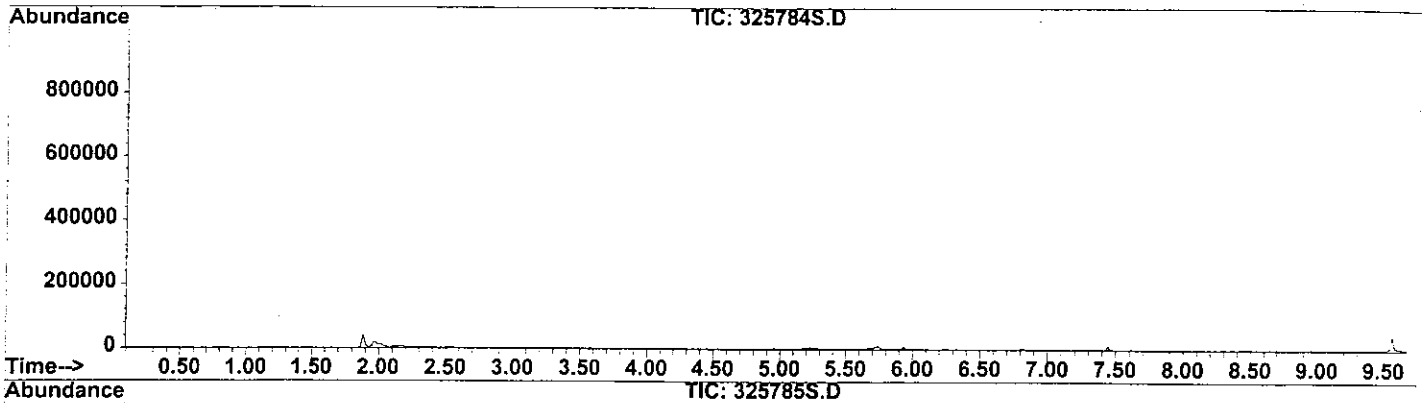

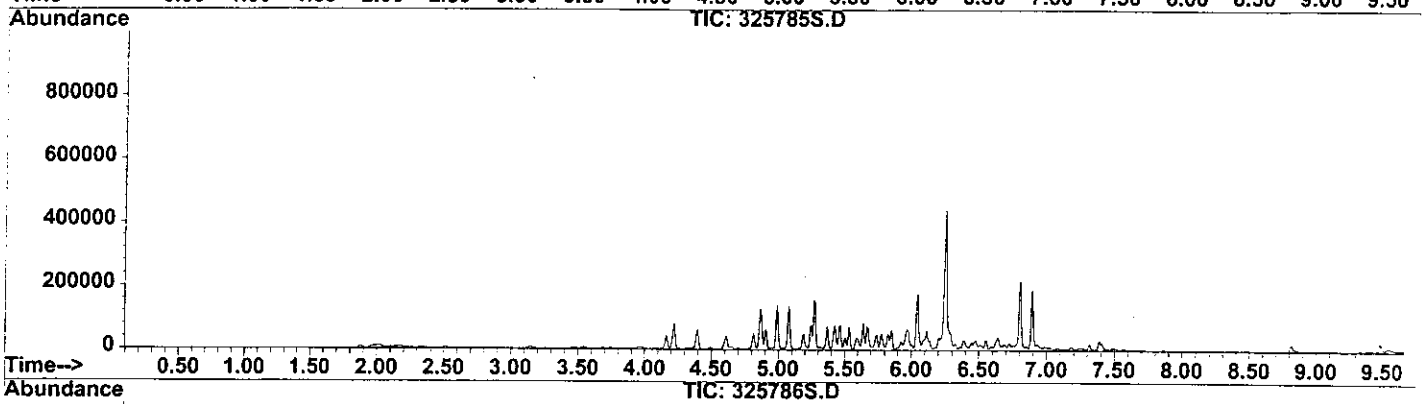

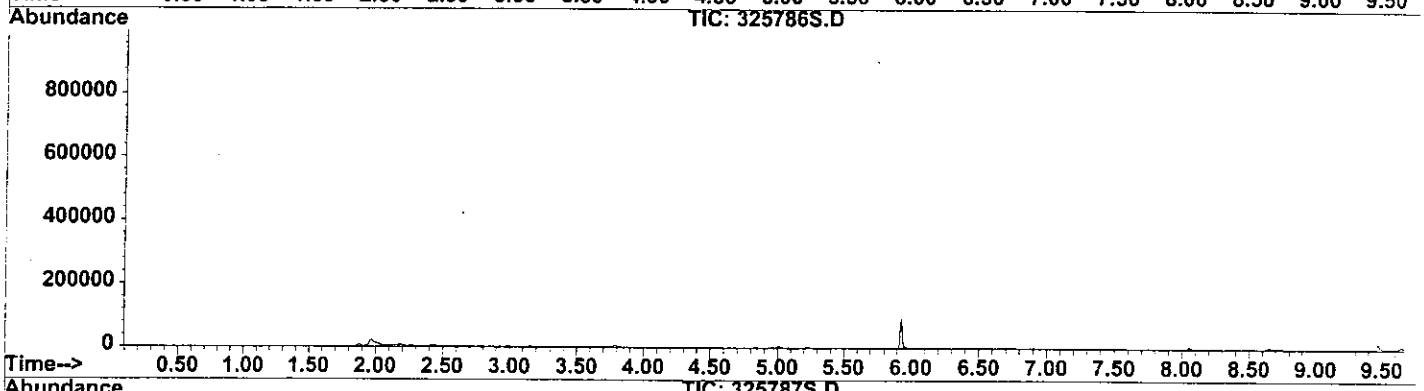

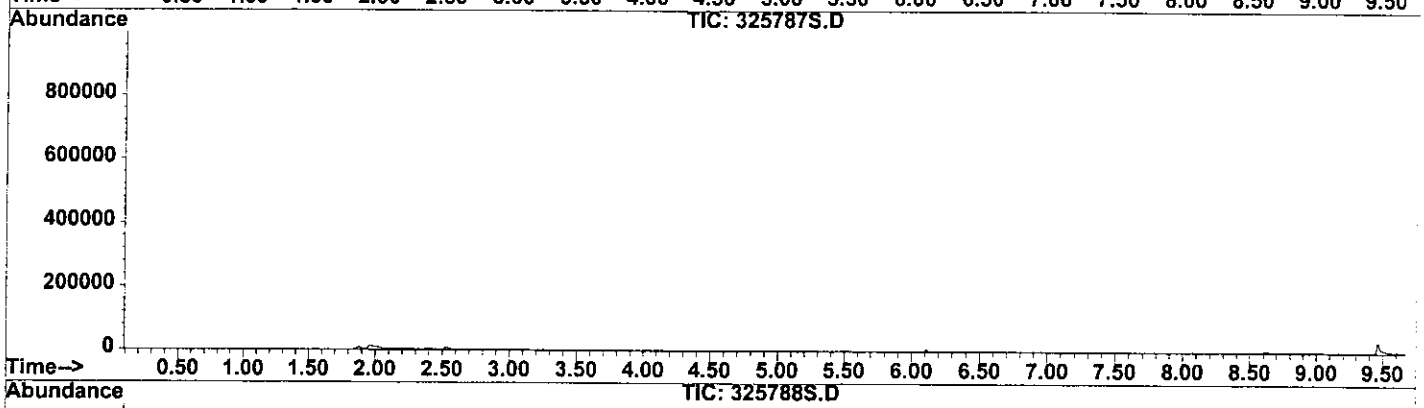

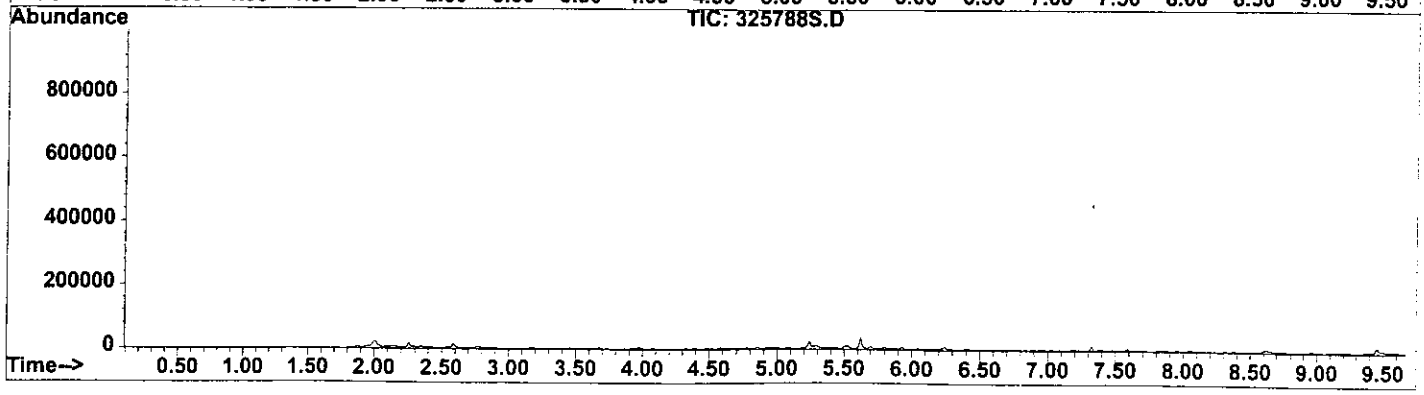

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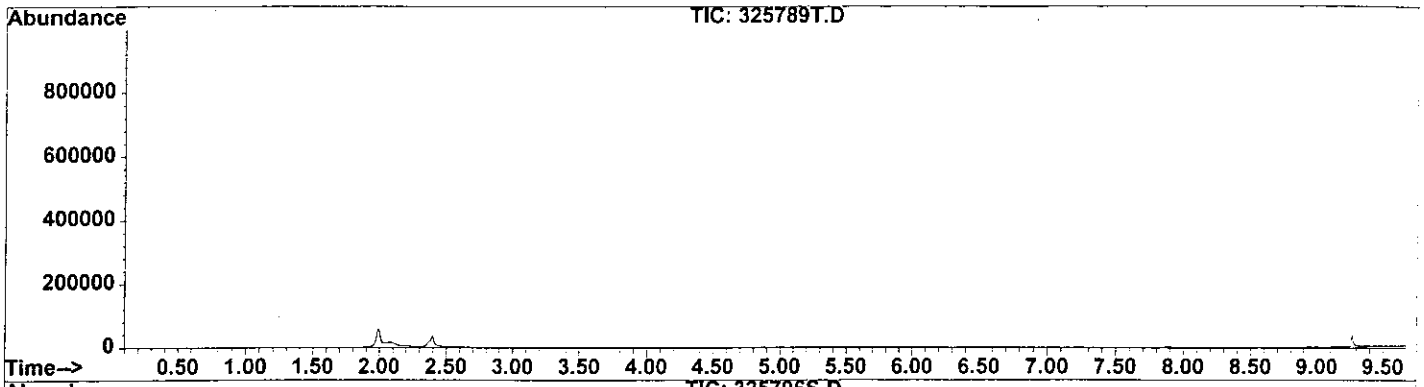

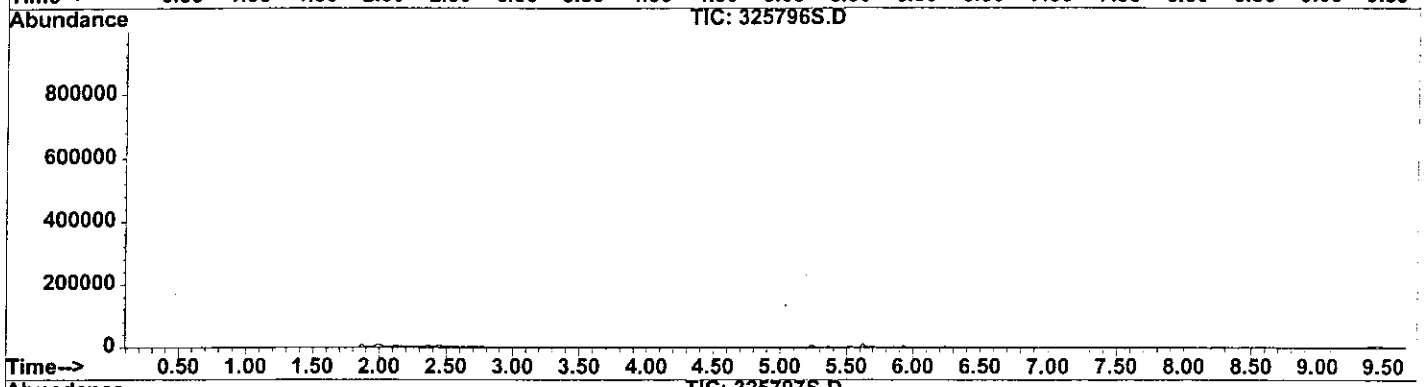

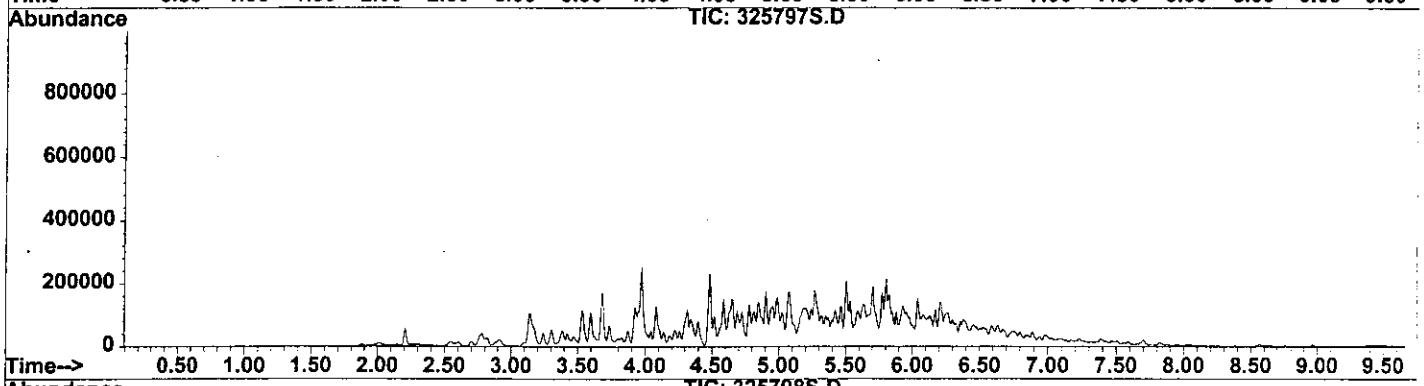

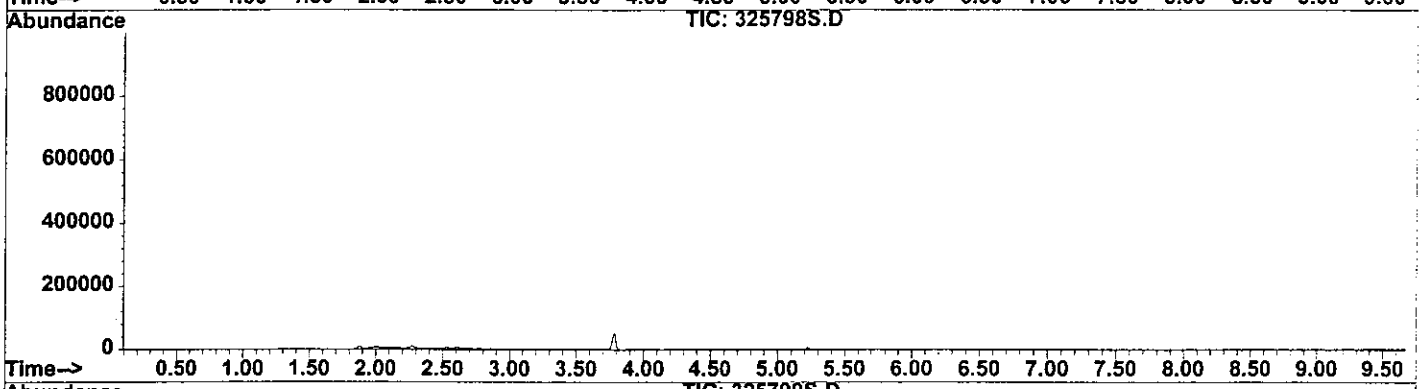

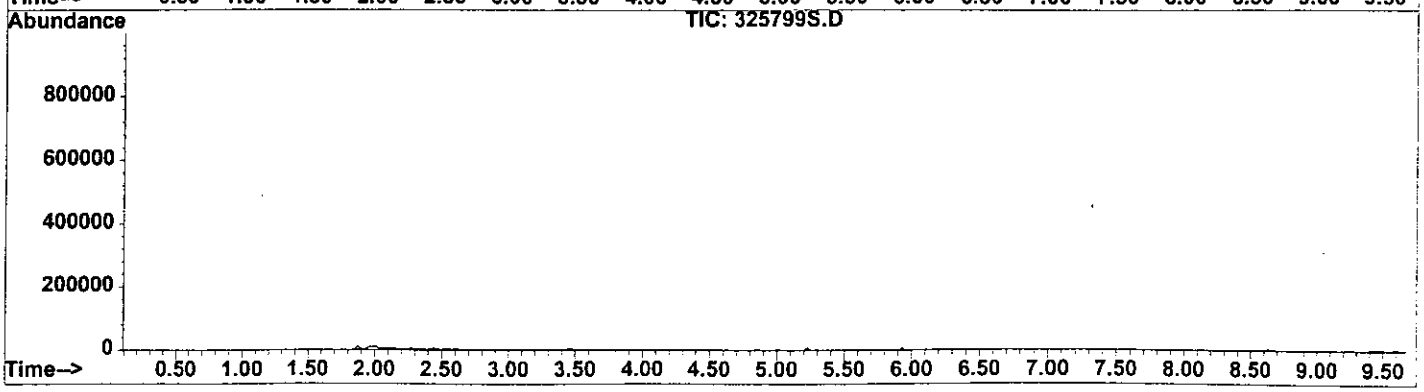

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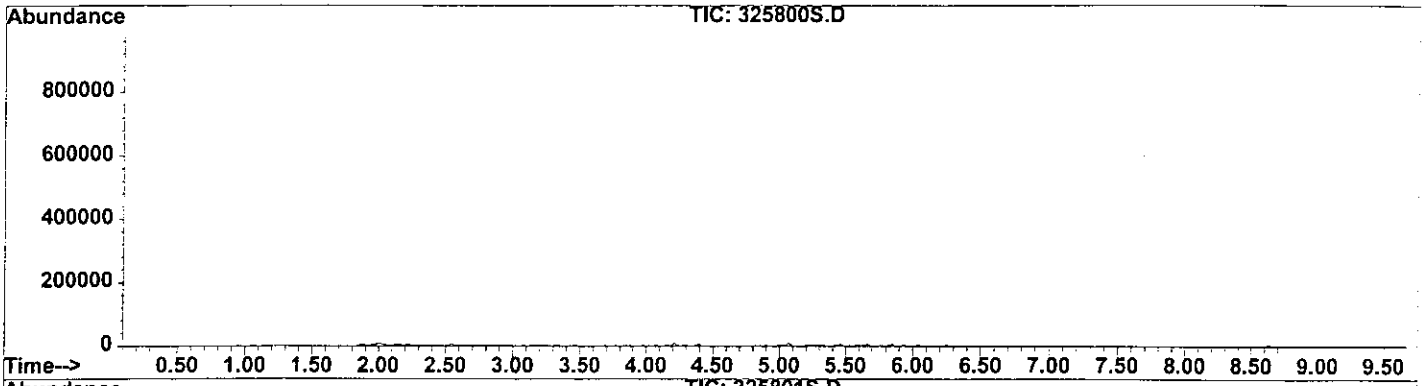

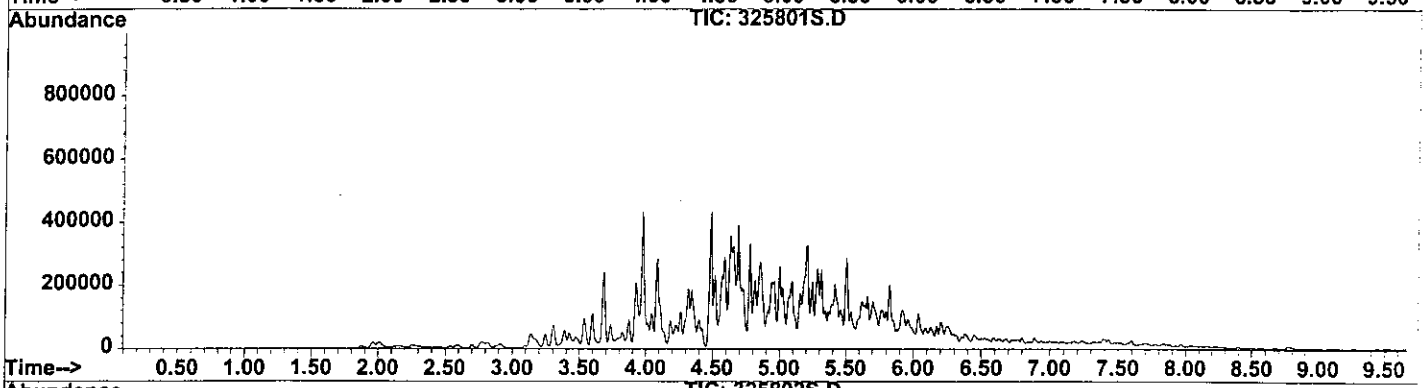

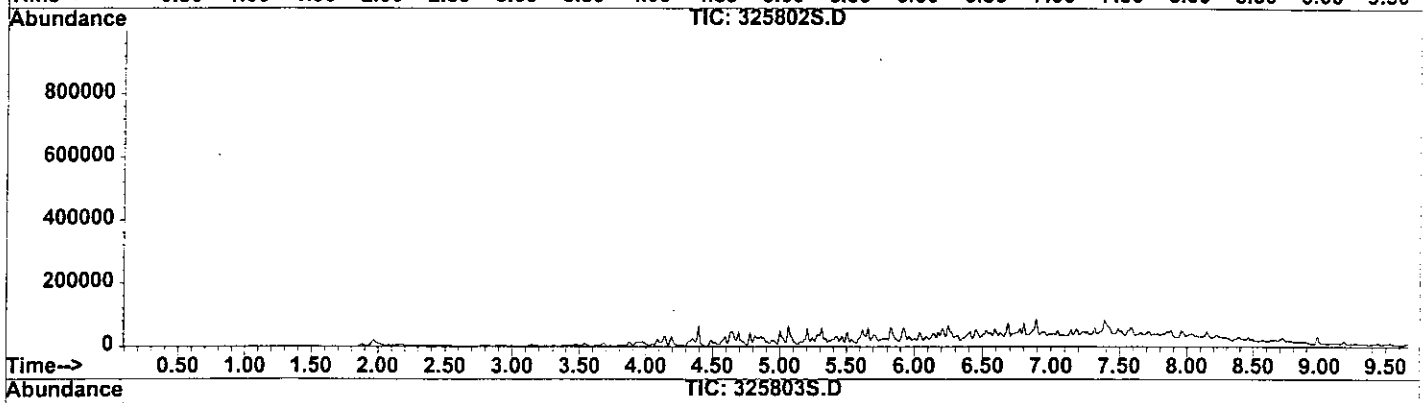

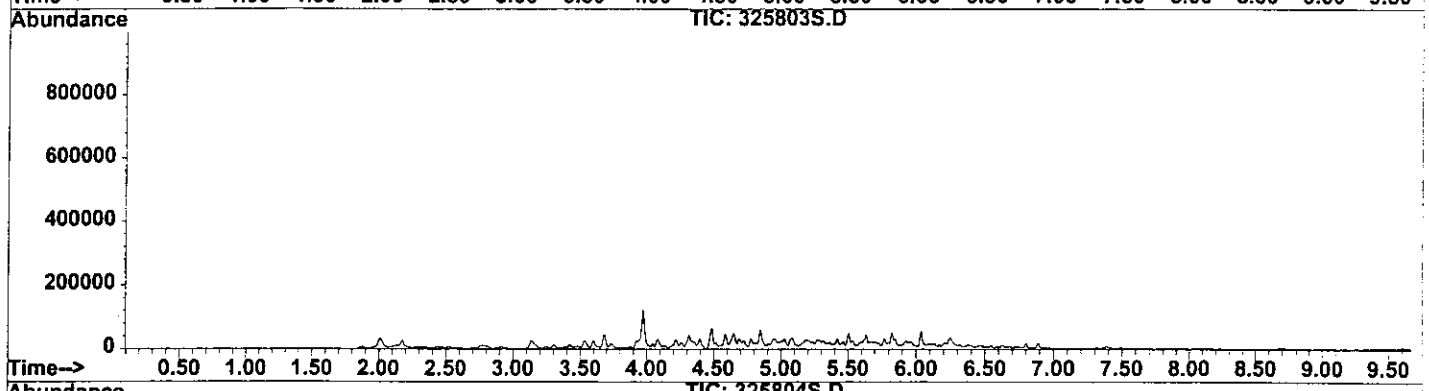

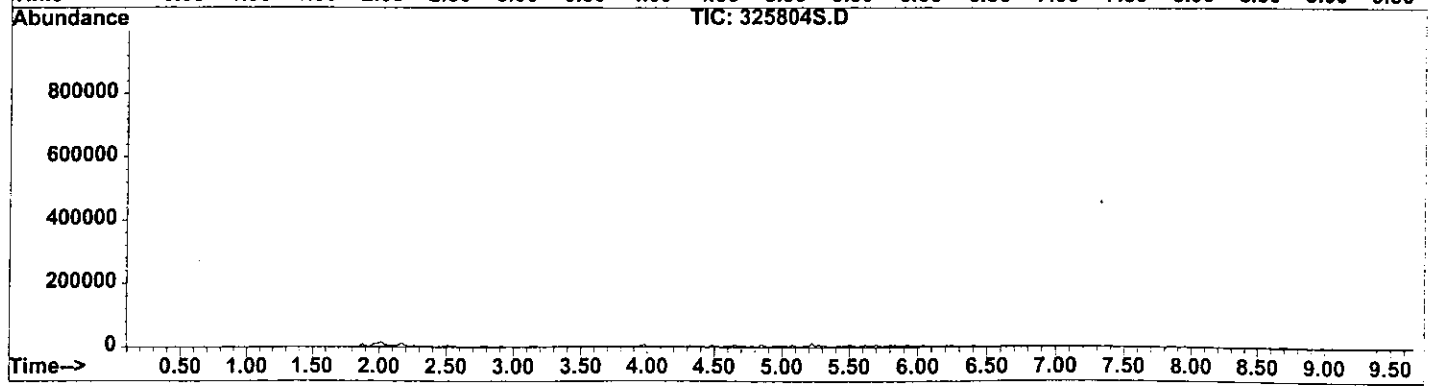

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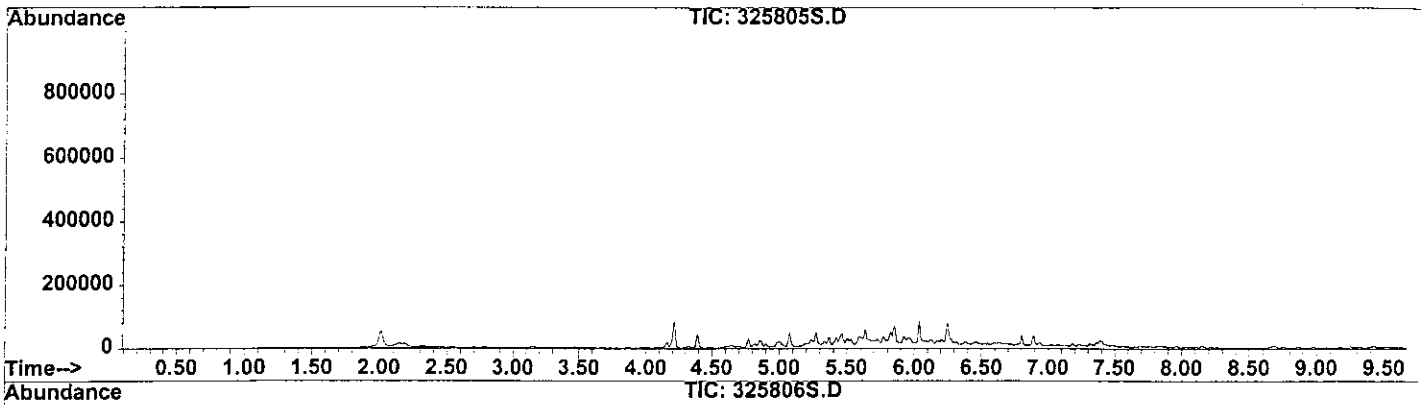

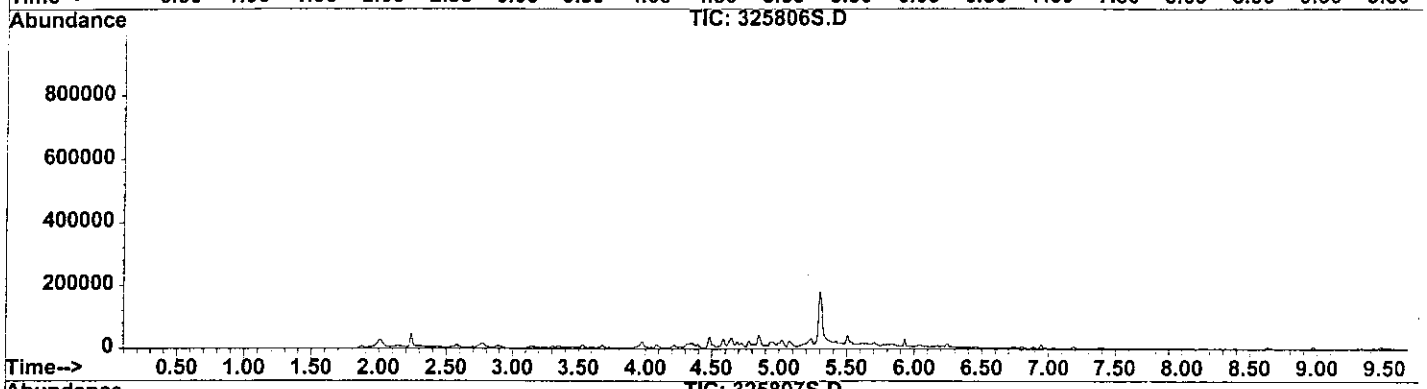

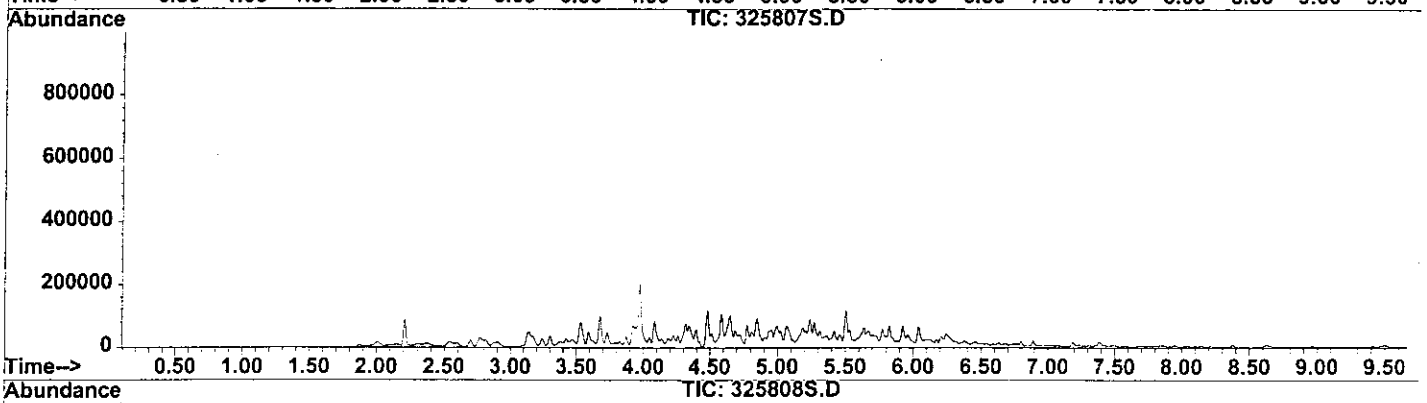

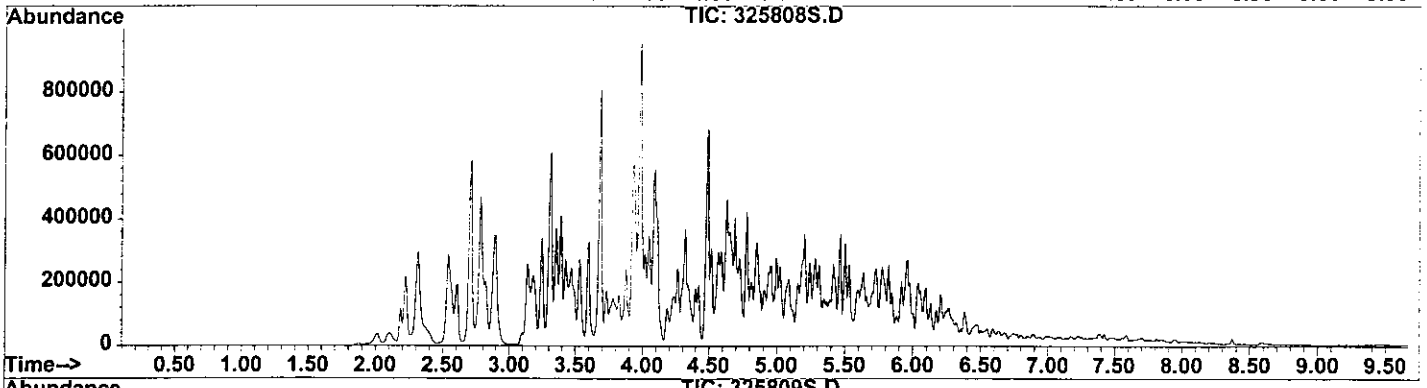

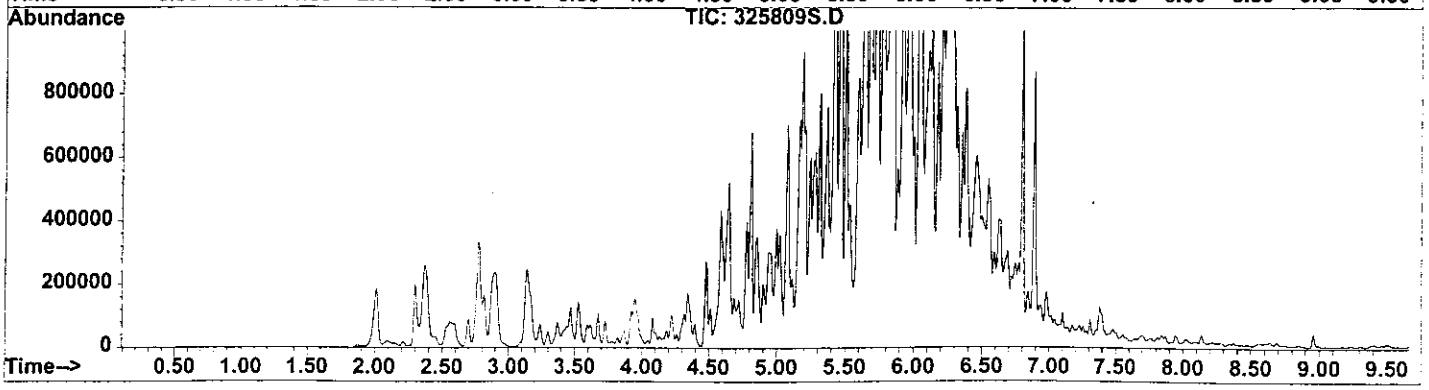

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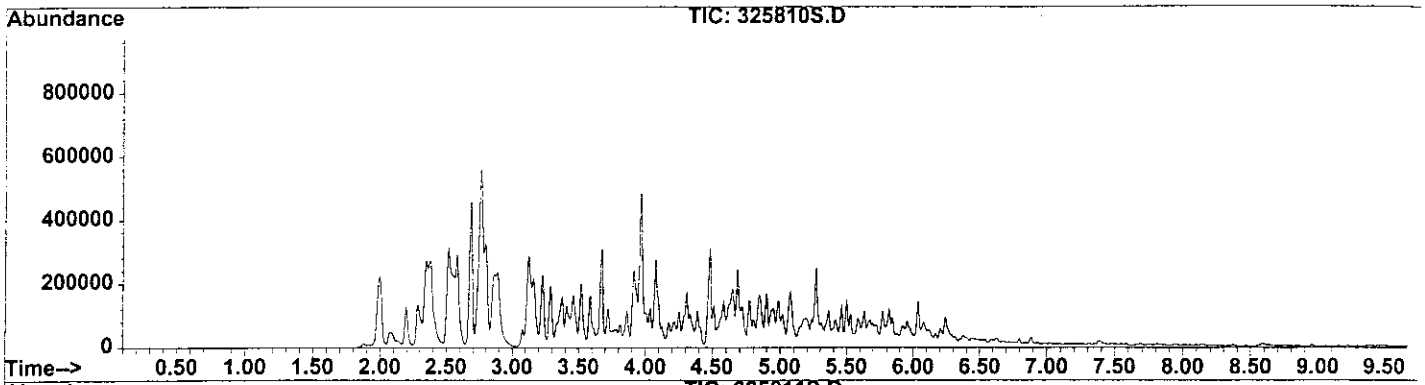

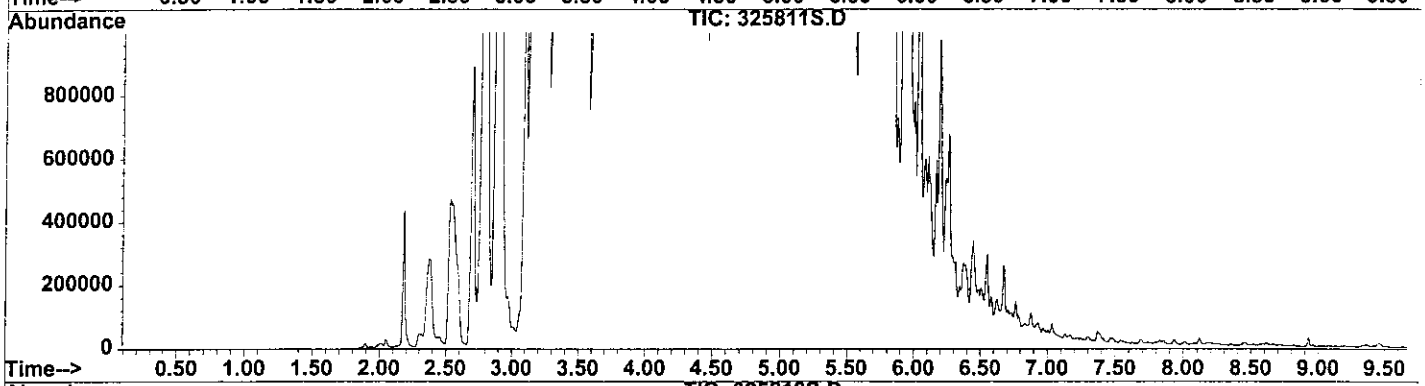

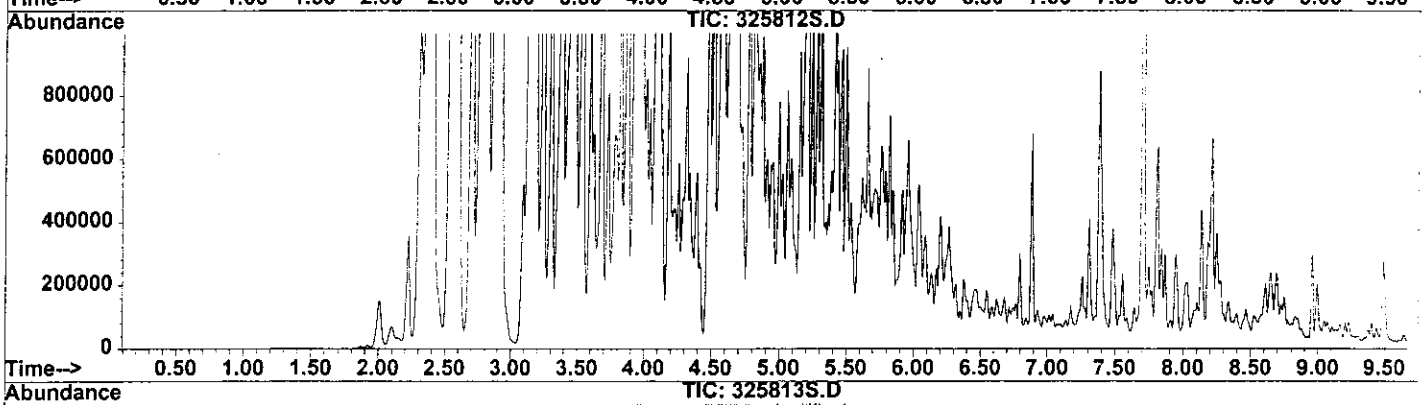

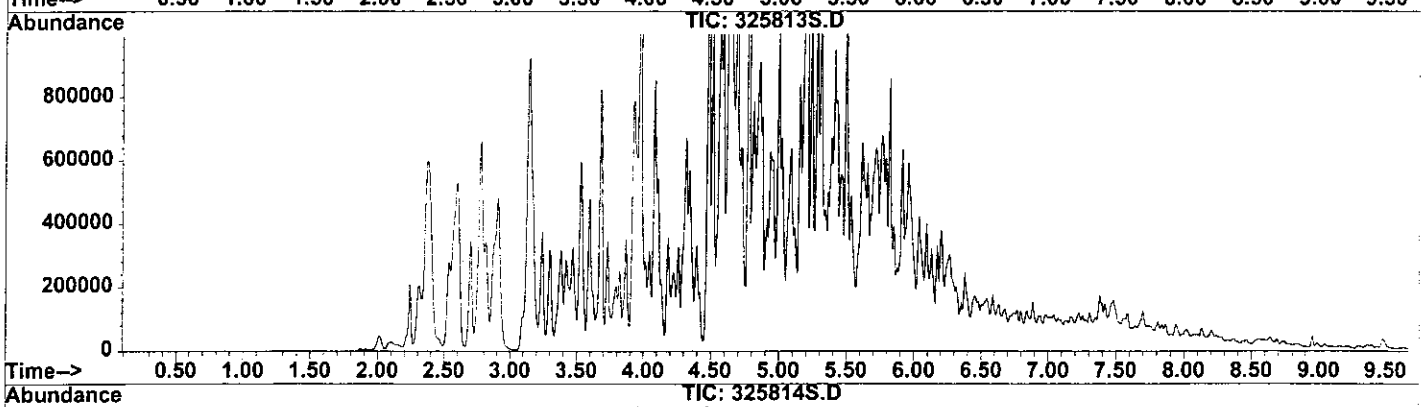

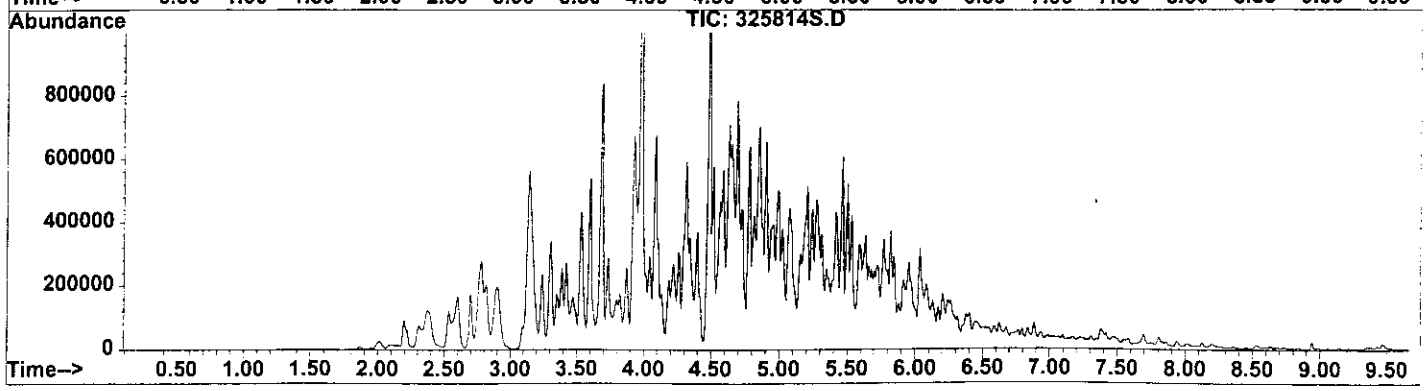

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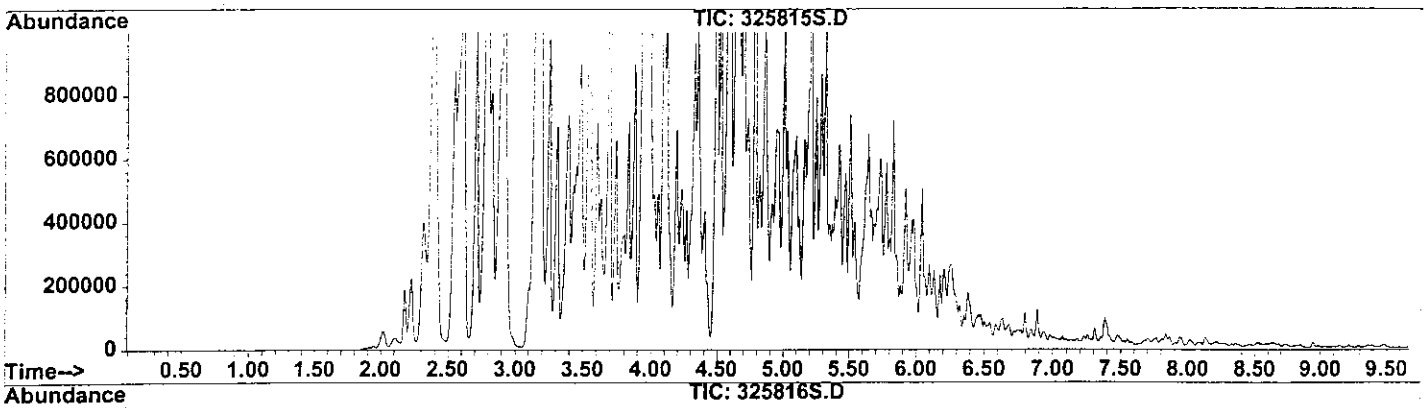
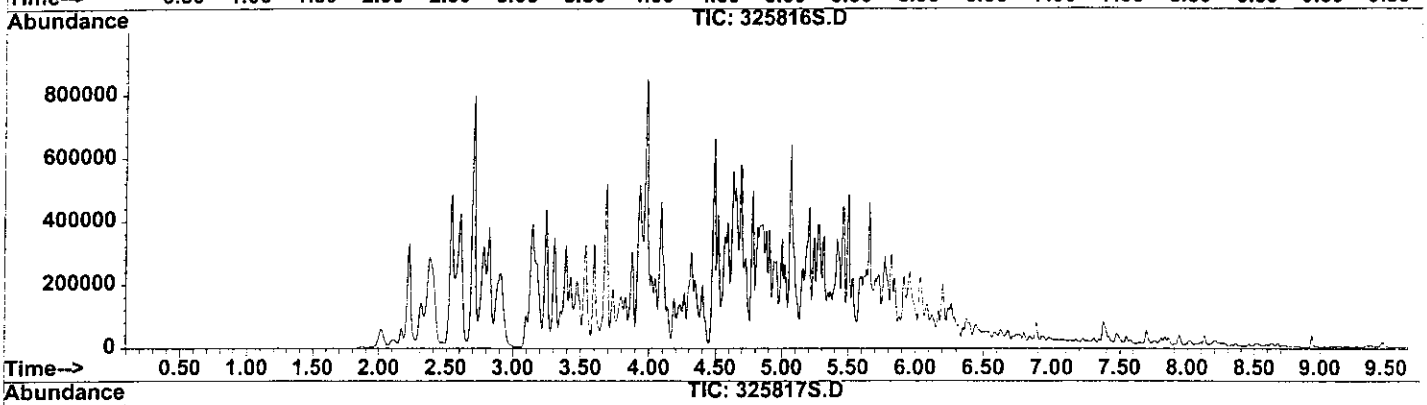
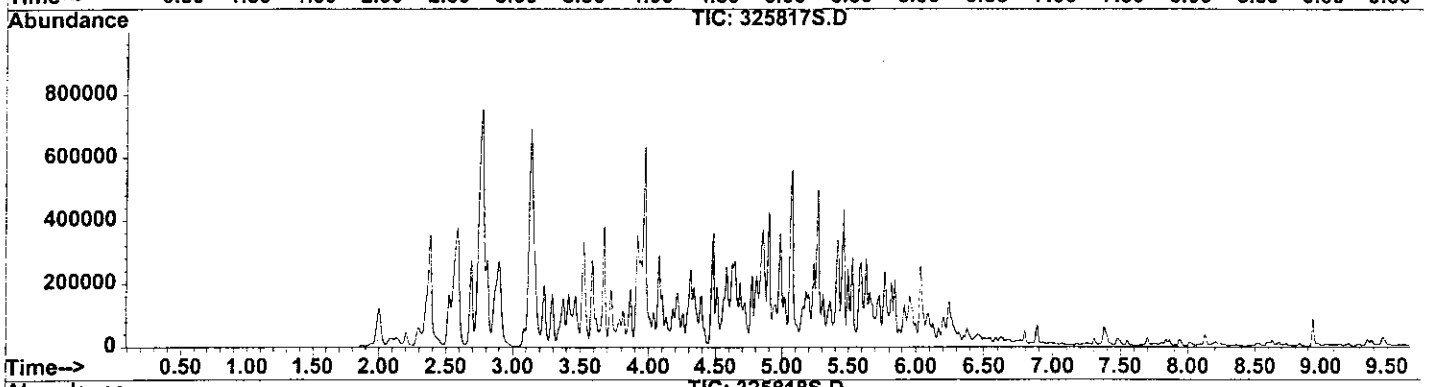
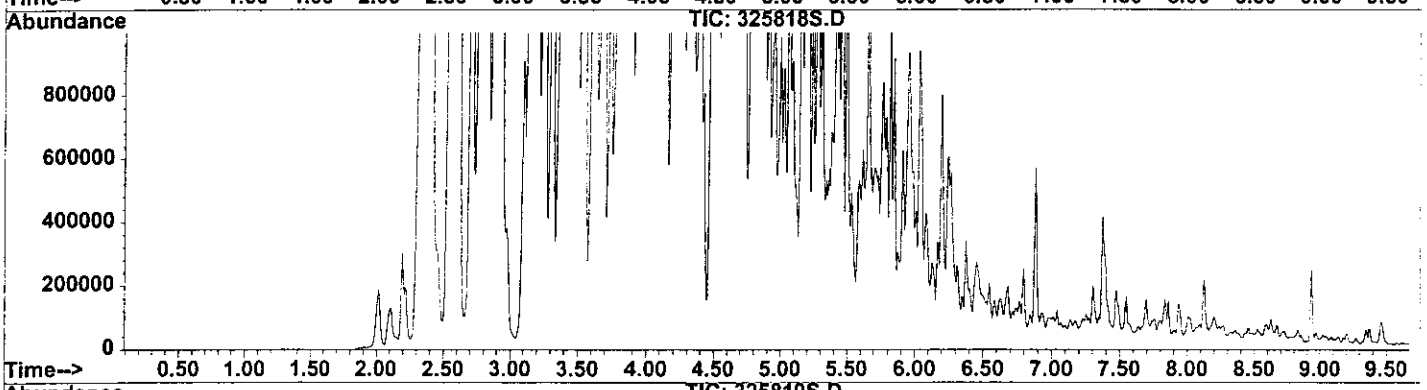
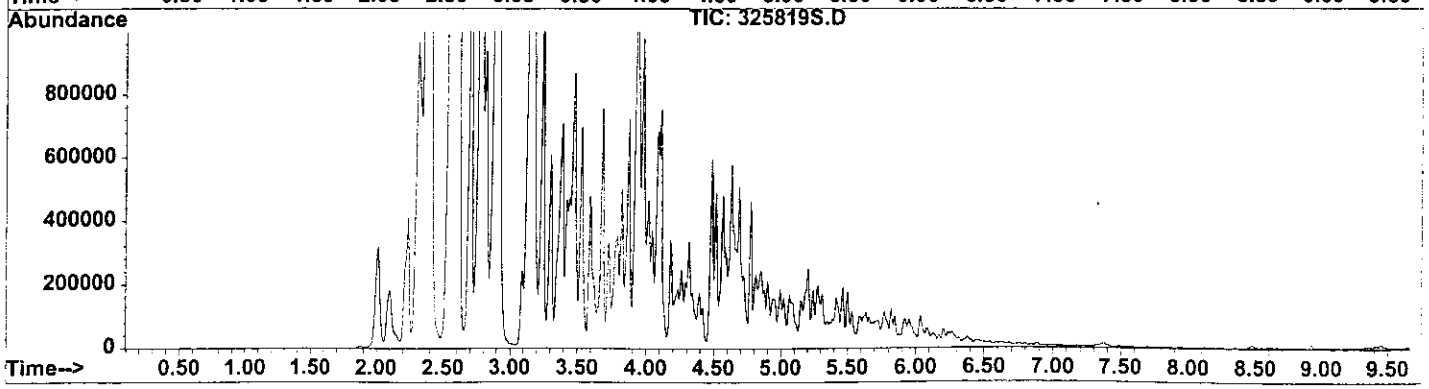


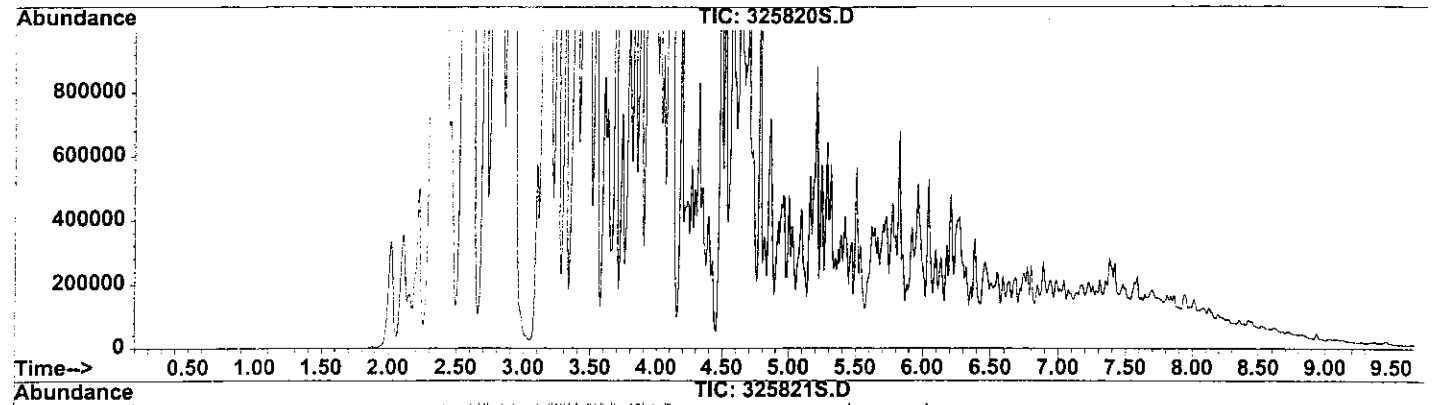


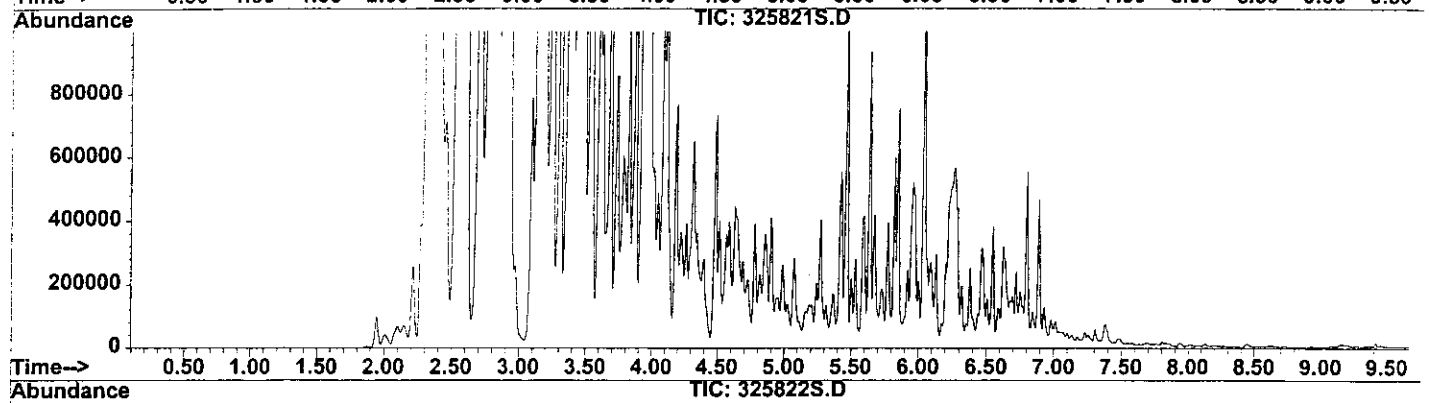


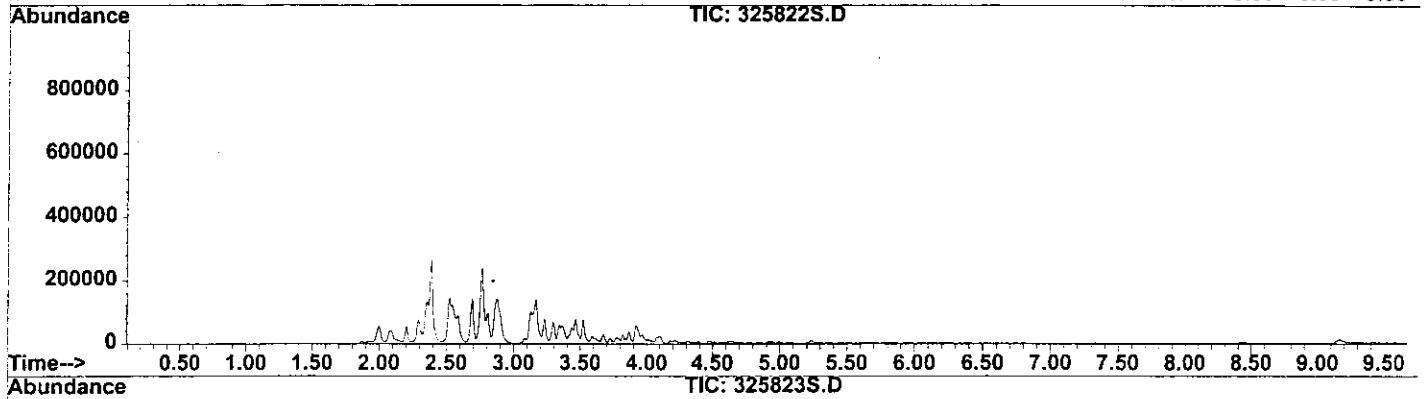


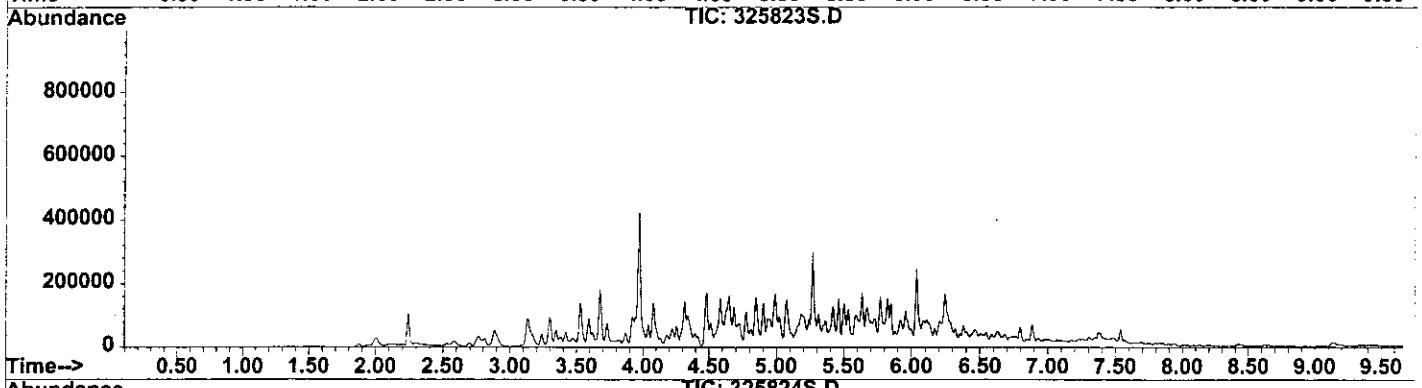


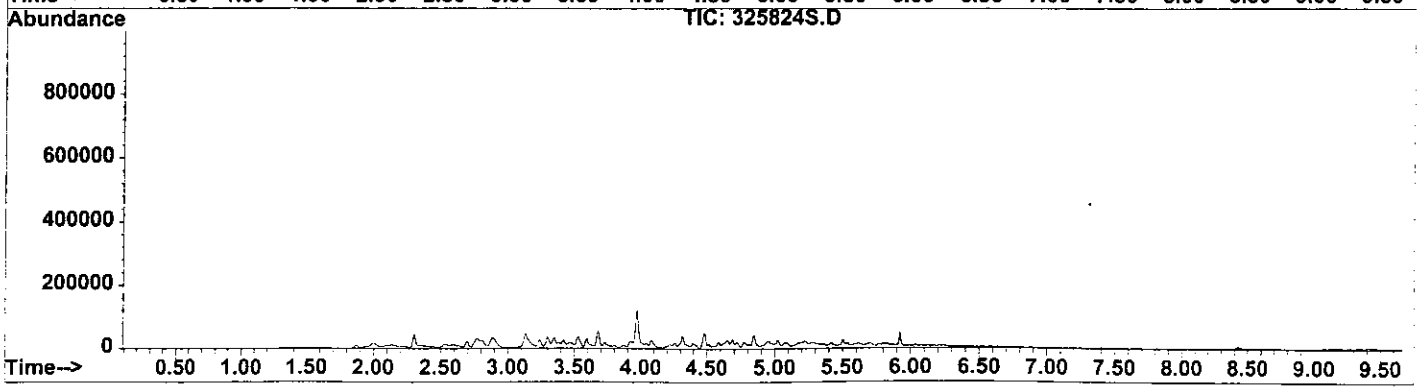
TIC - SITE BJA - PRODUCTION ORDER #10353033
In Numerical Order











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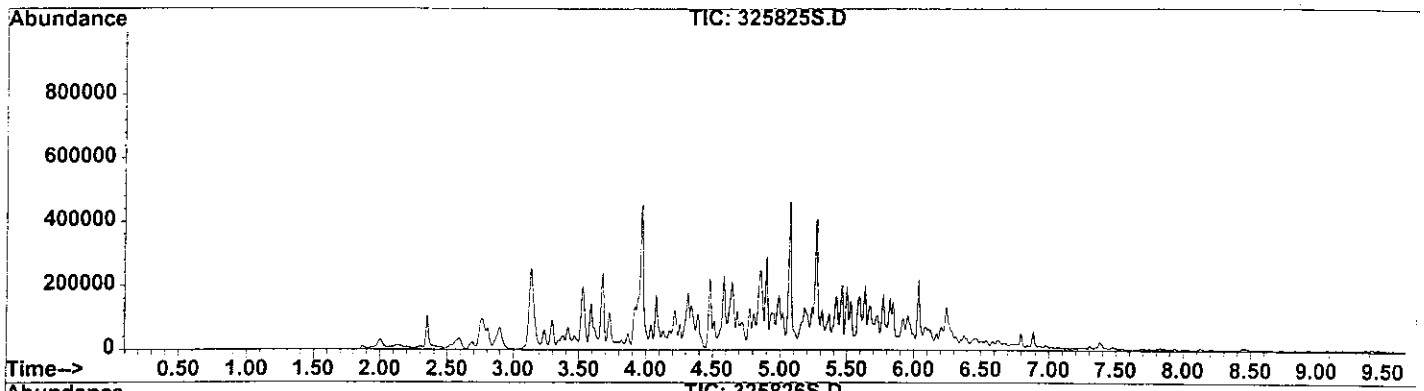

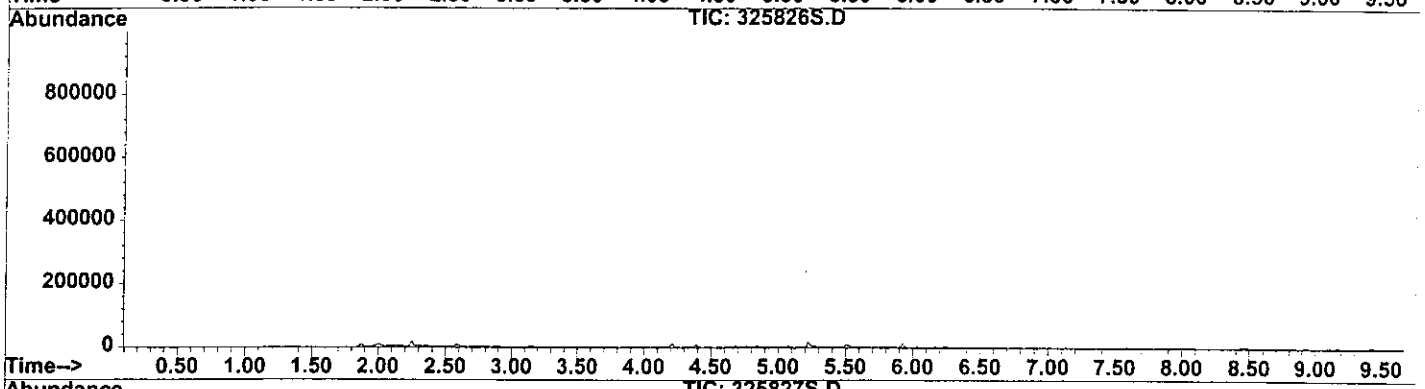

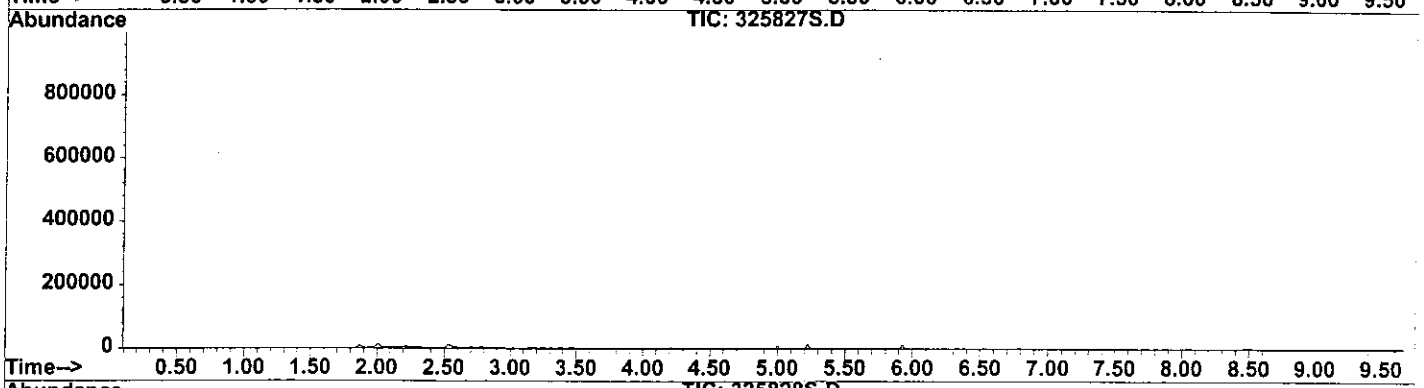

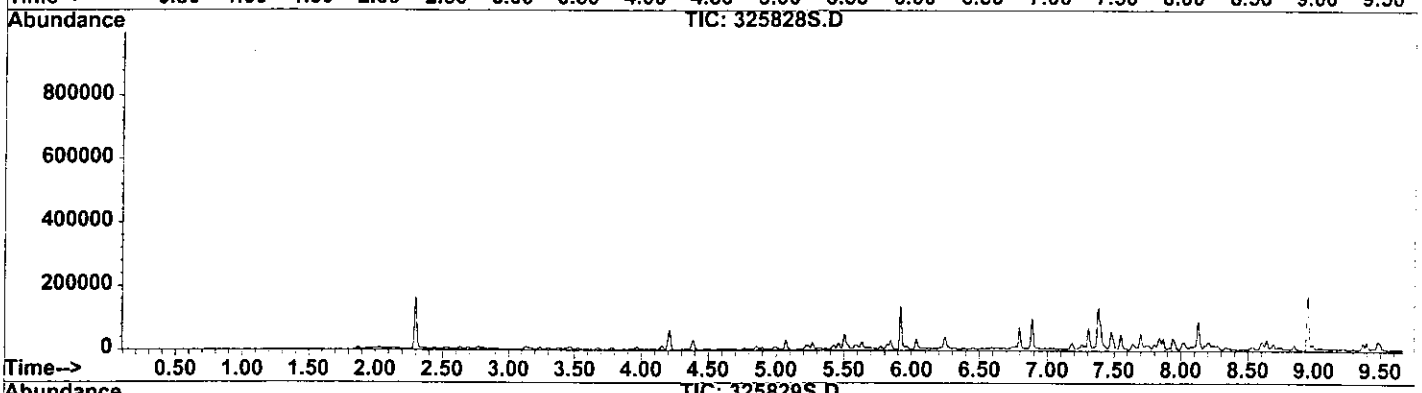

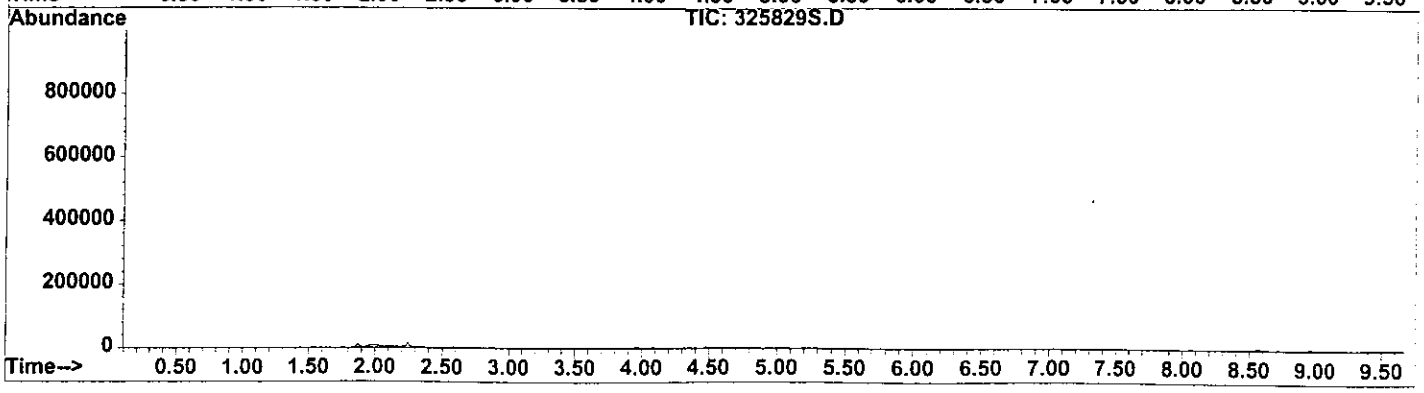

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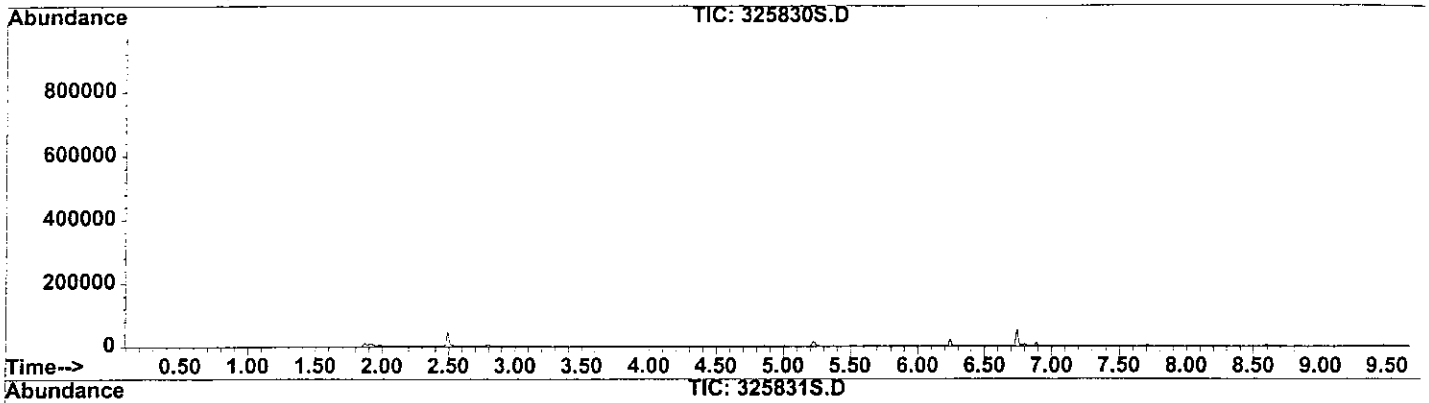

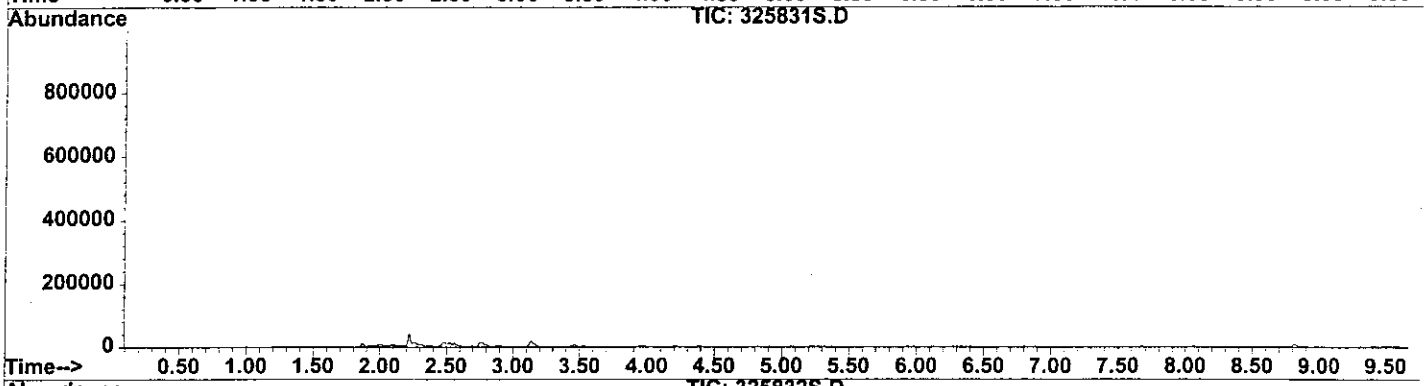

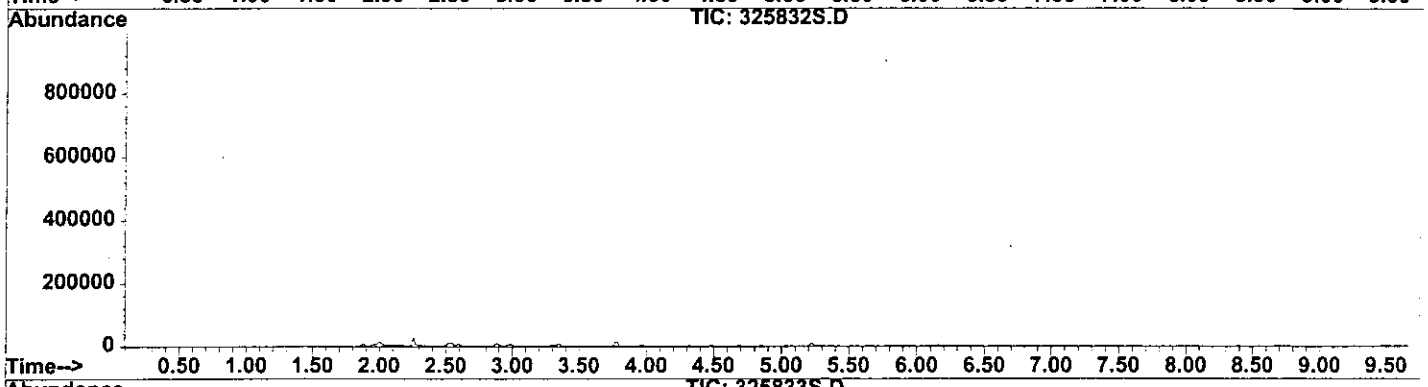

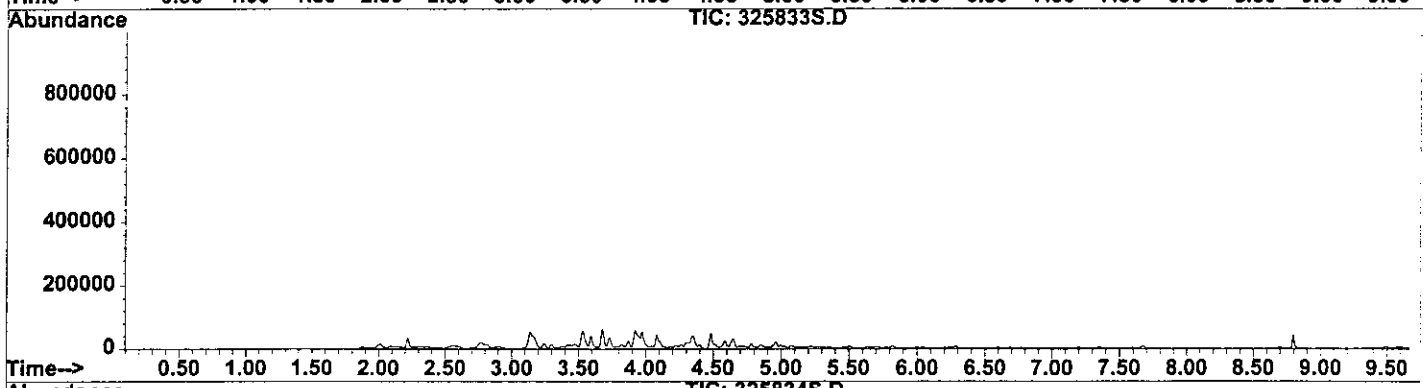

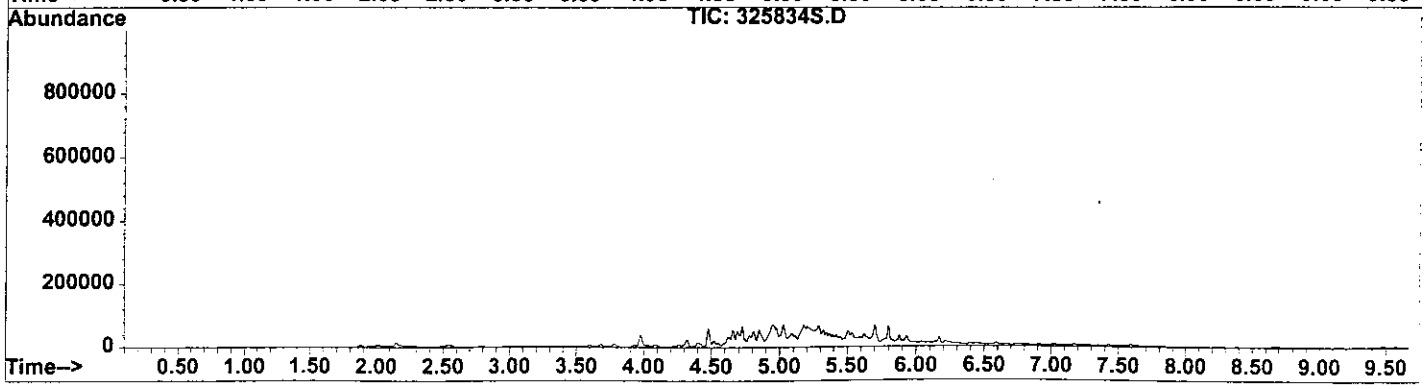

TIC - SITE BJA - PRODUCTION ORDER #10353033
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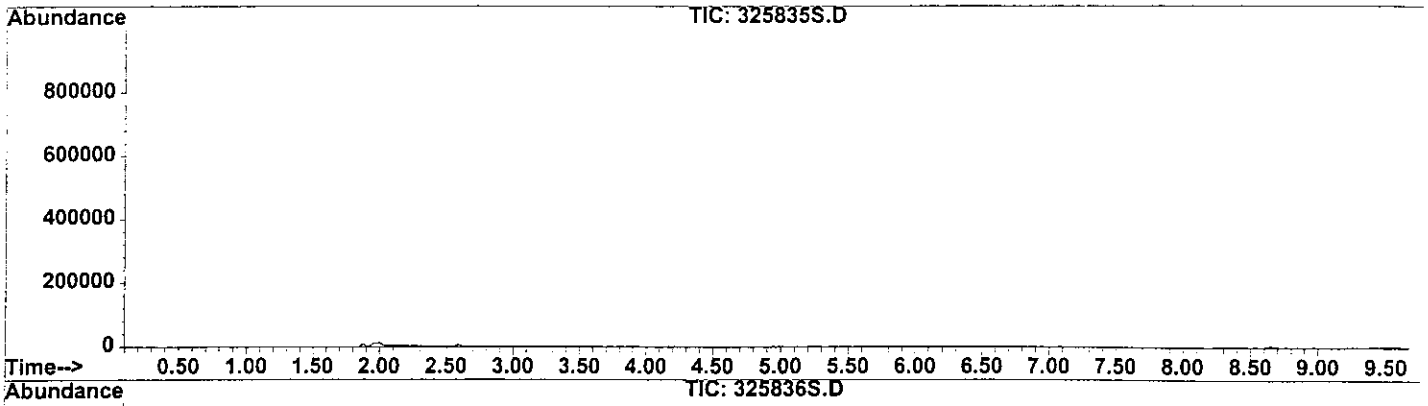

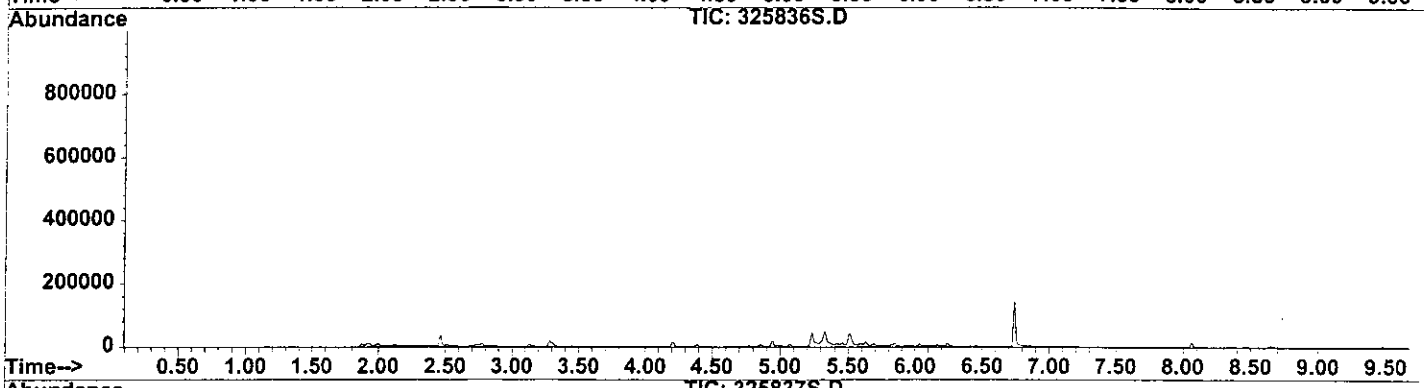

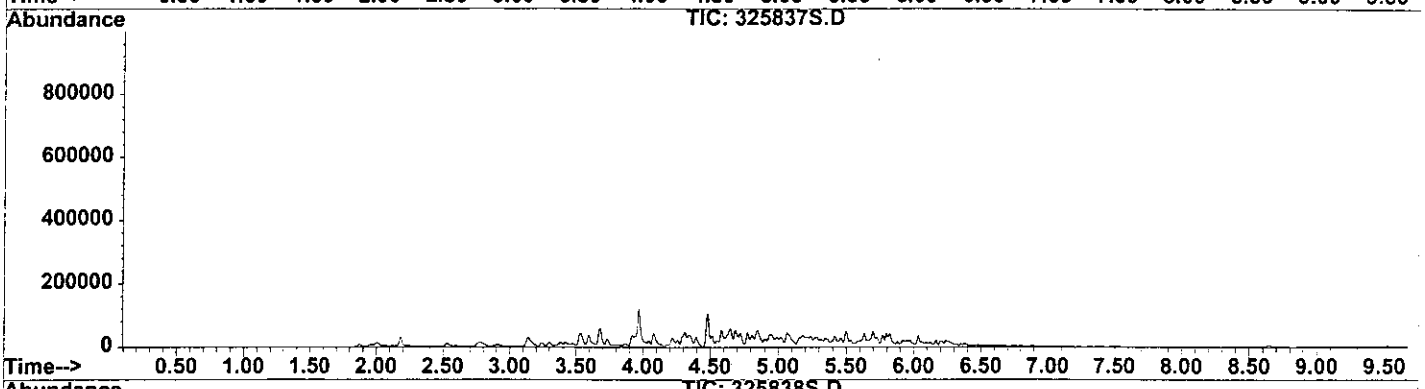

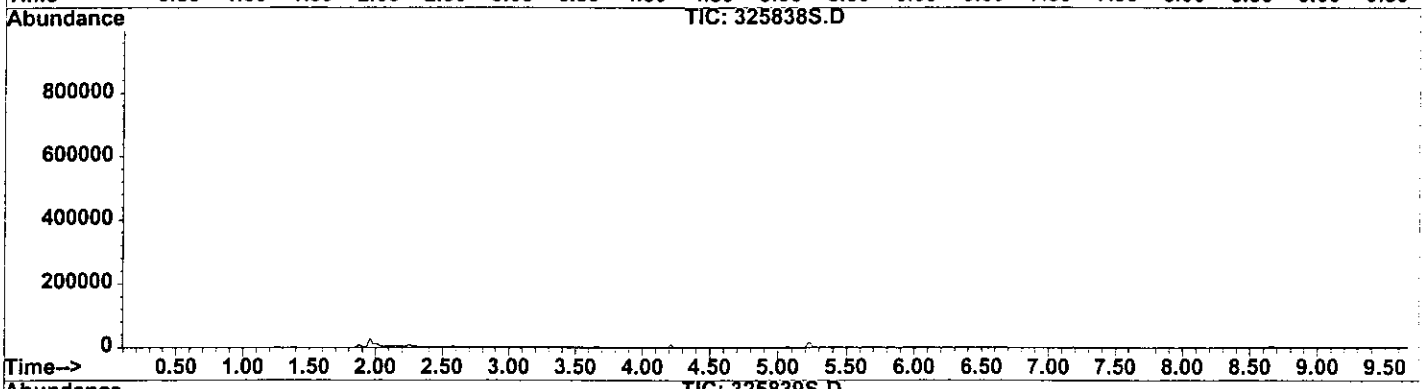

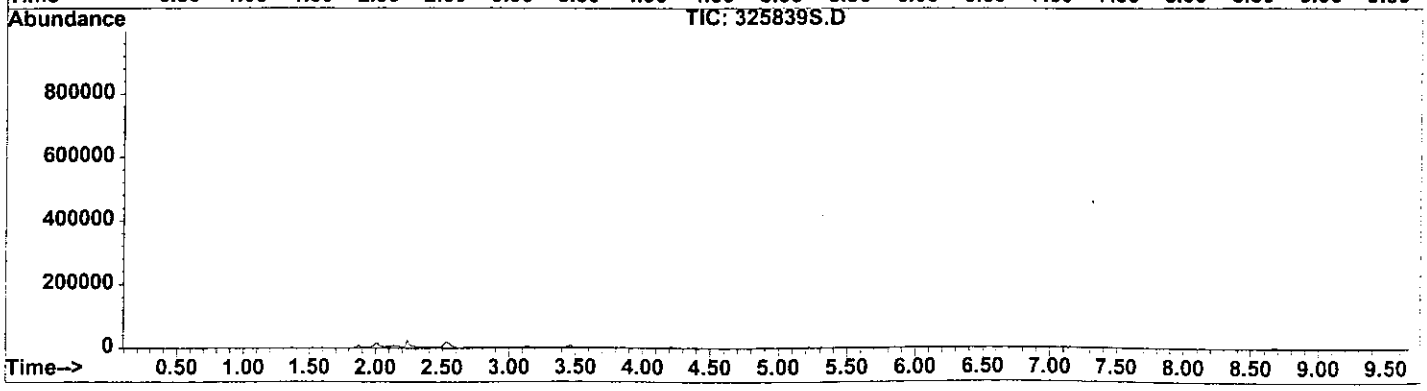

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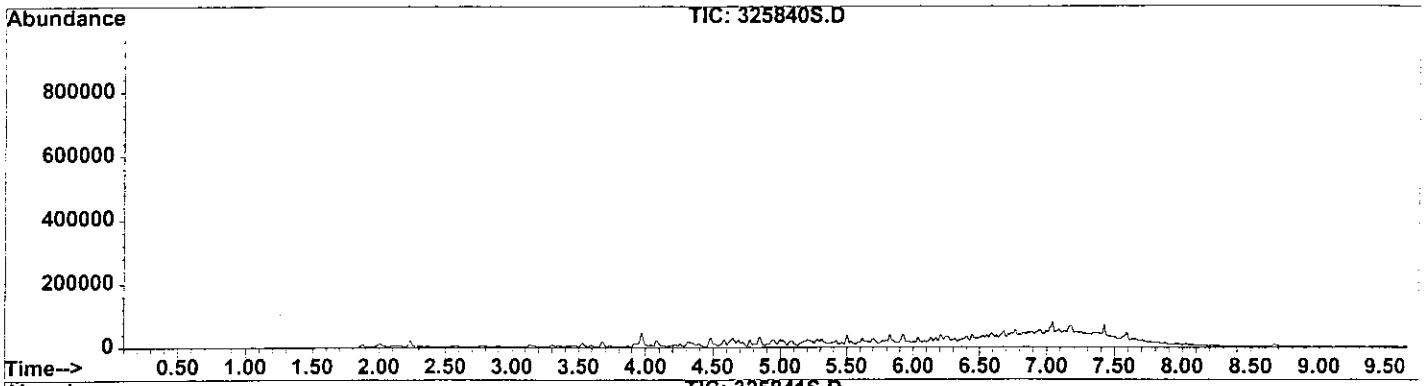

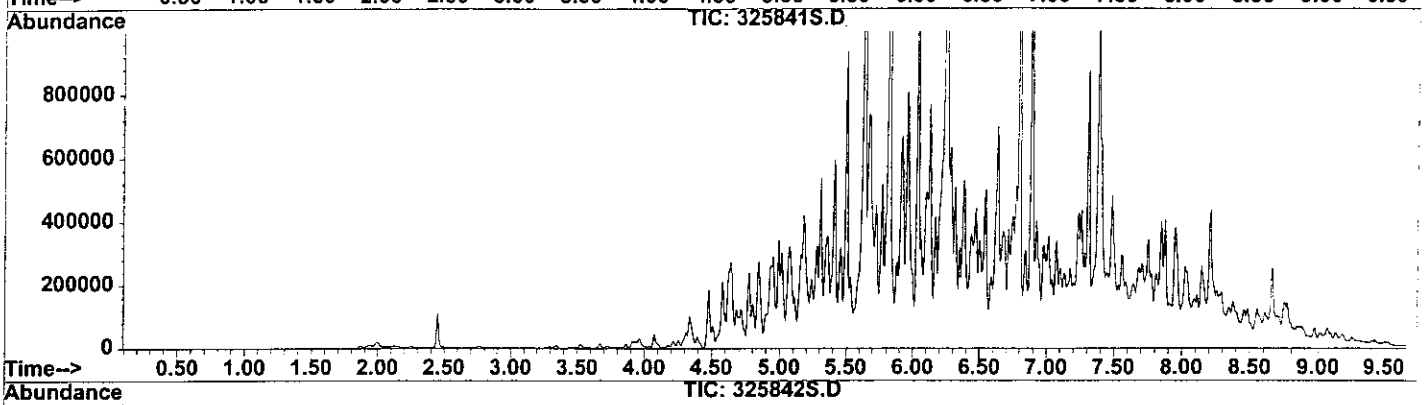

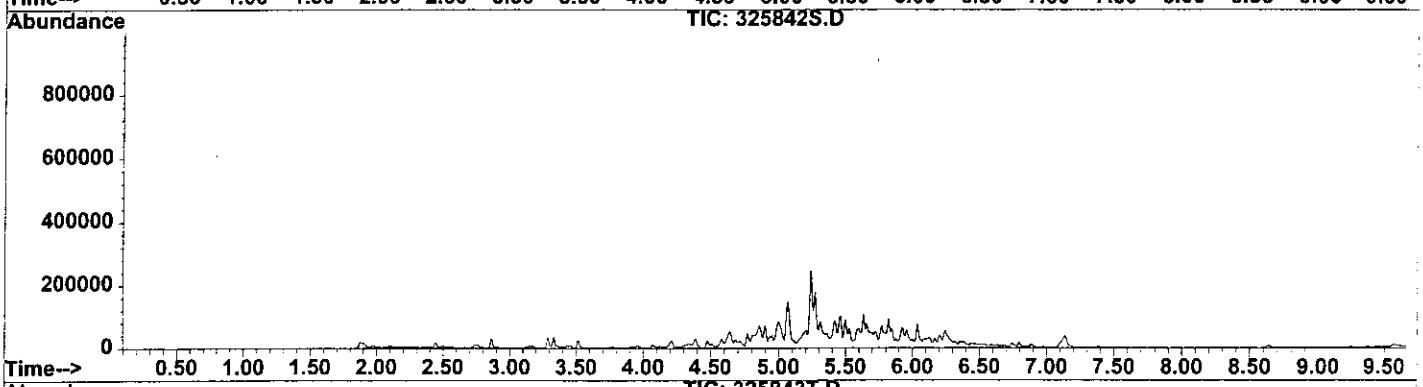

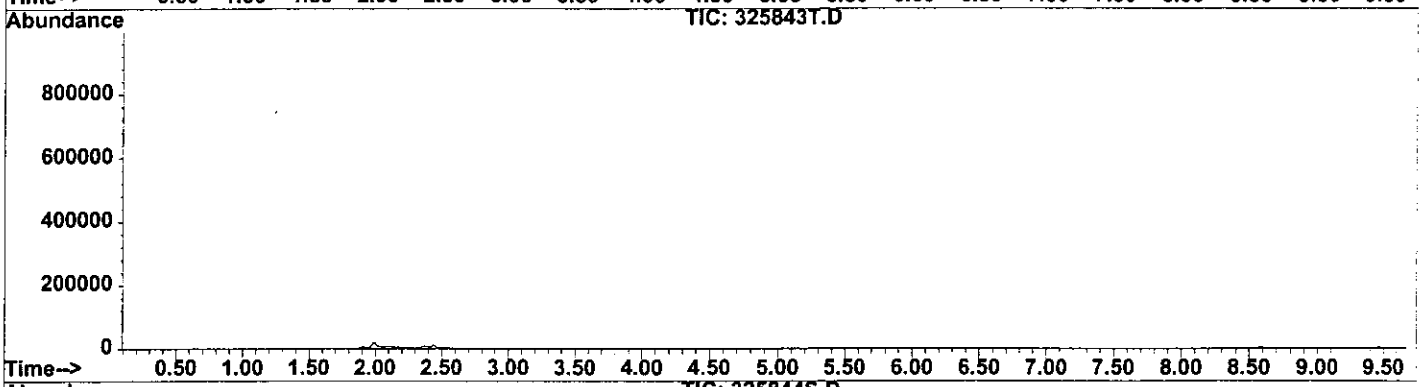

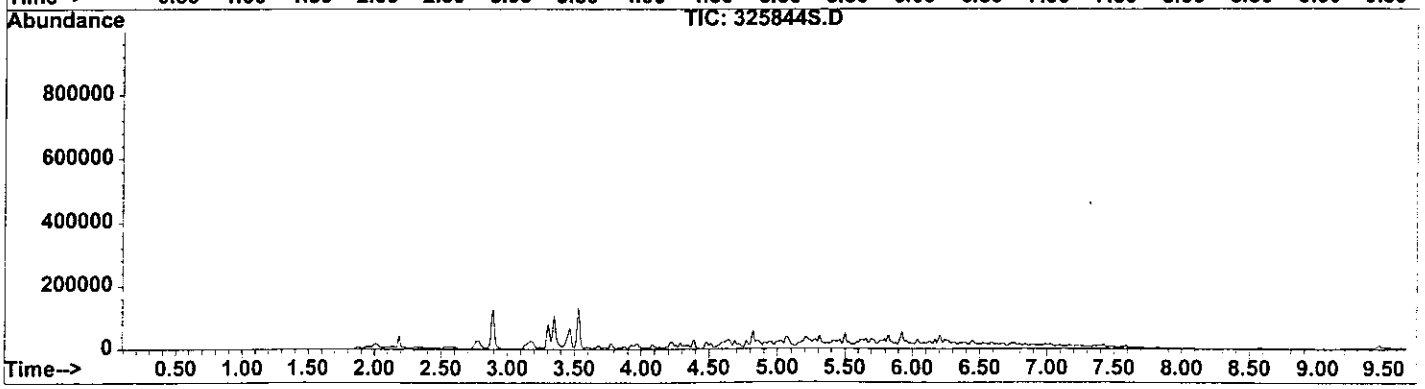

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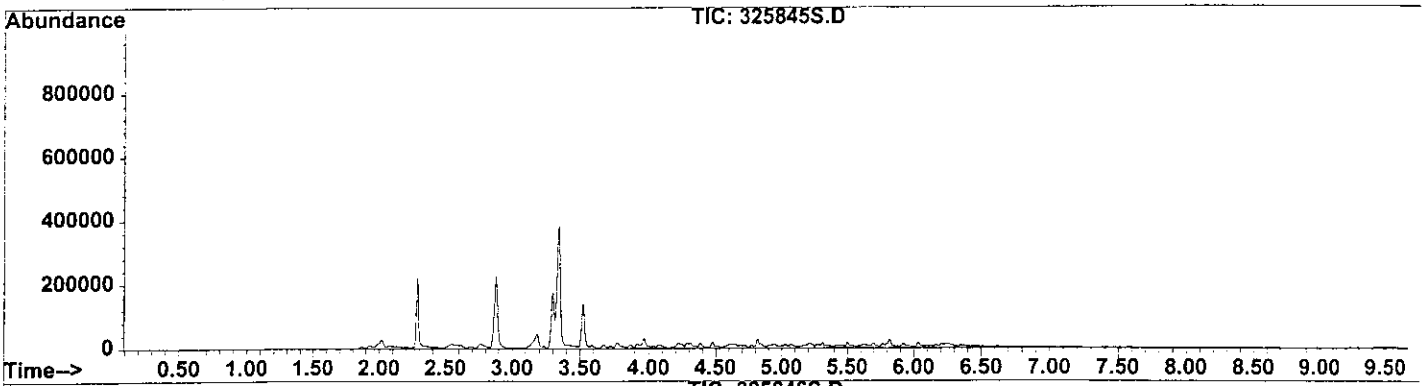

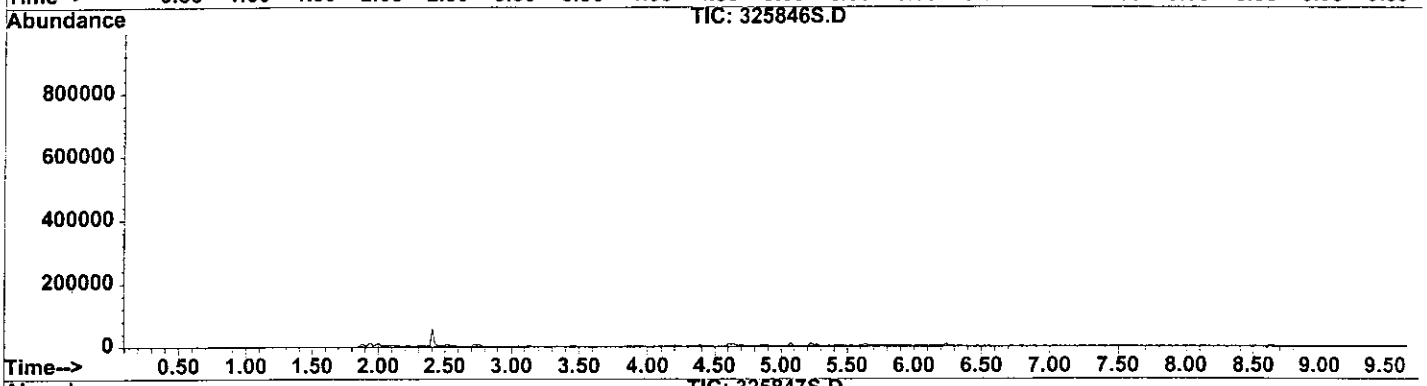

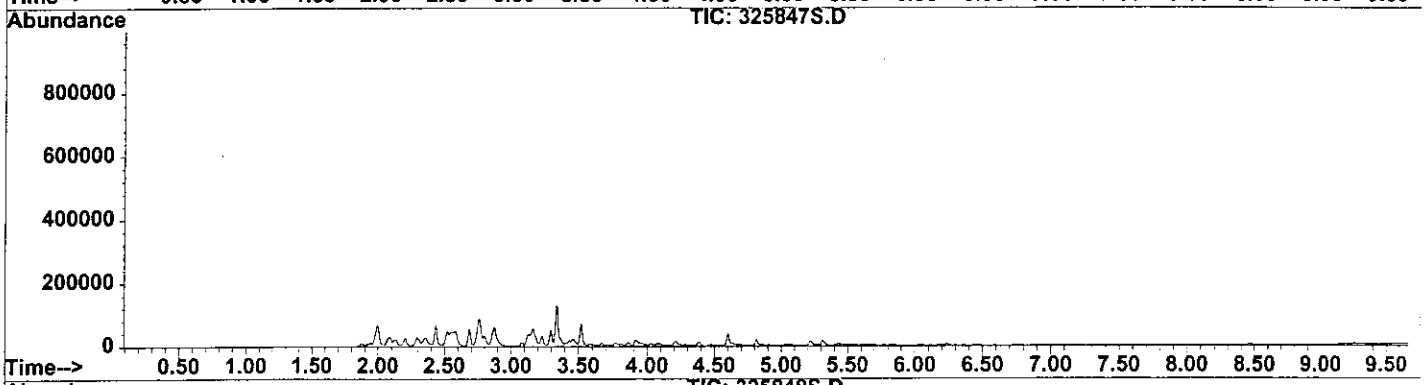

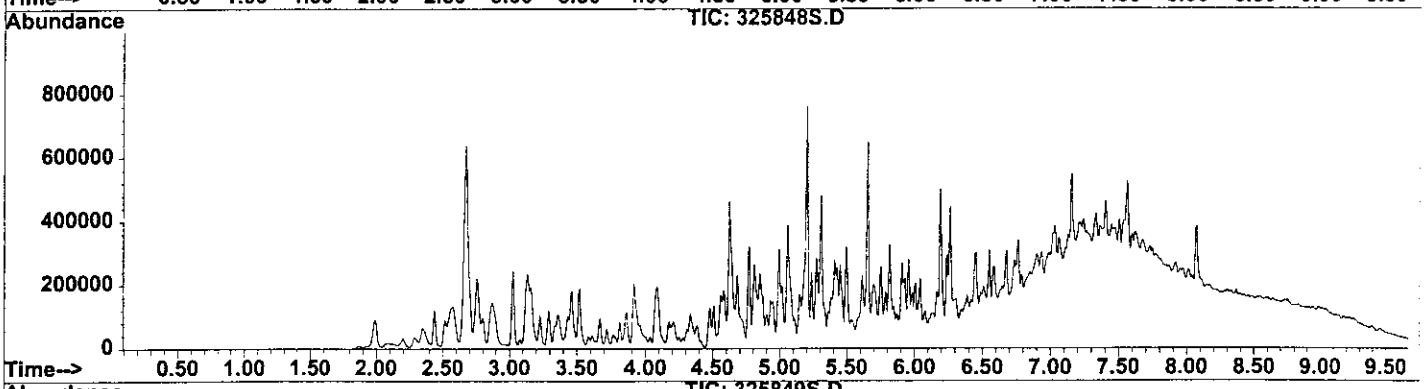

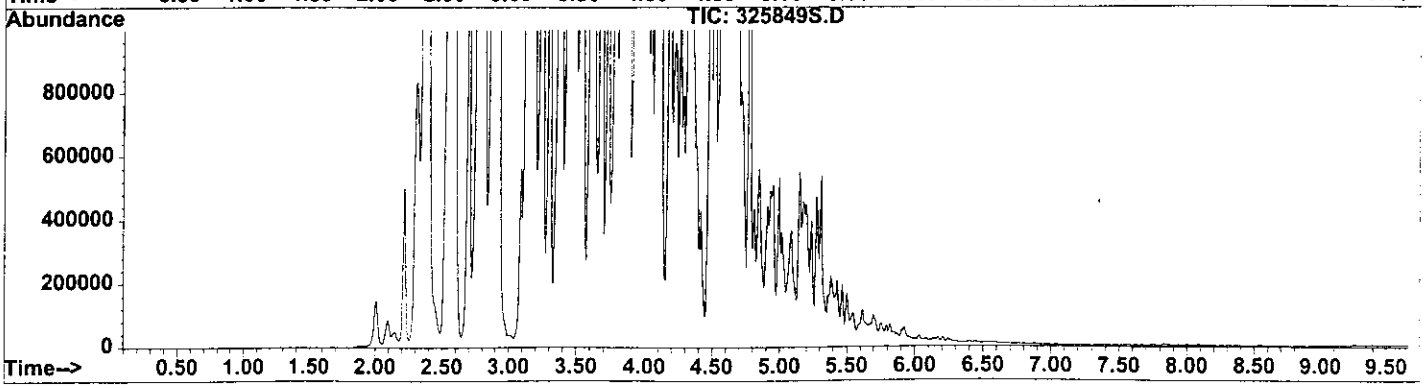

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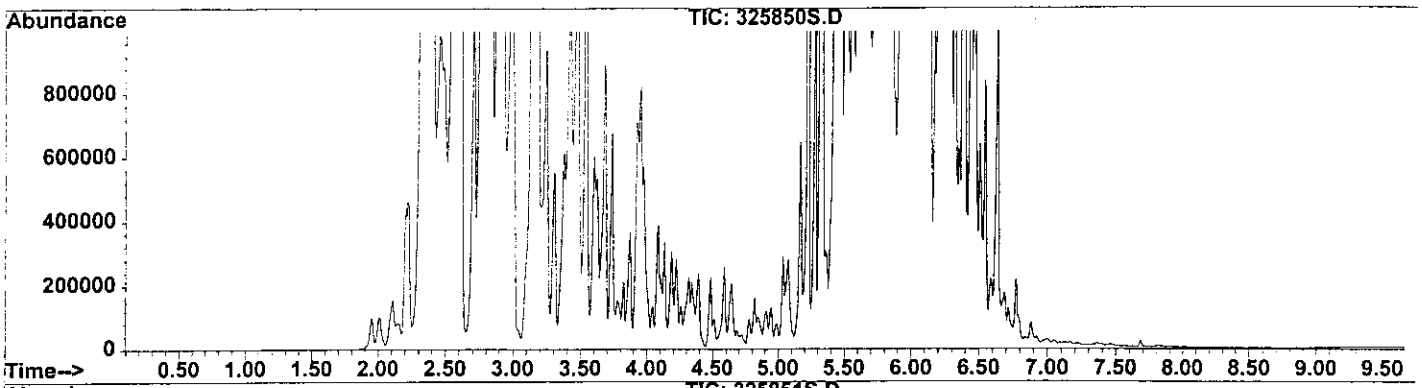

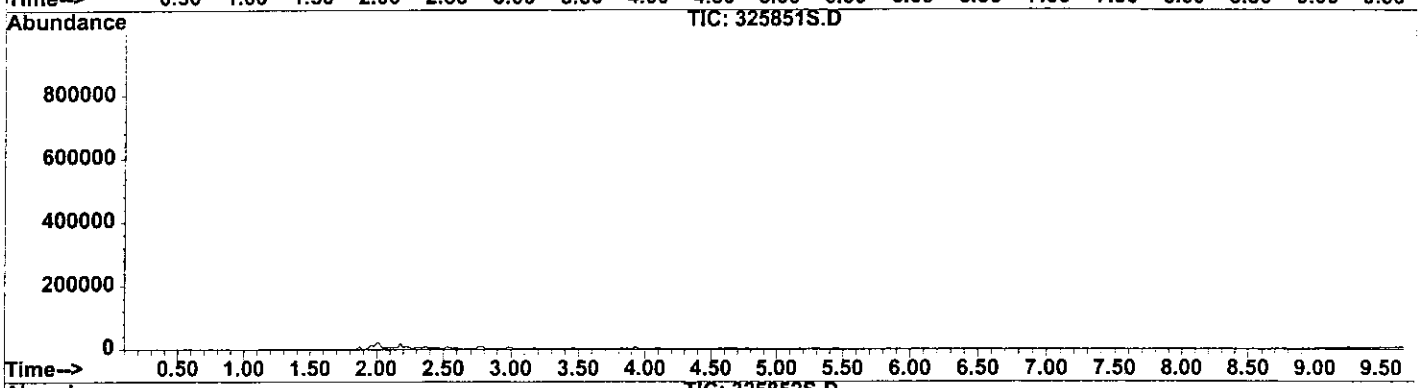

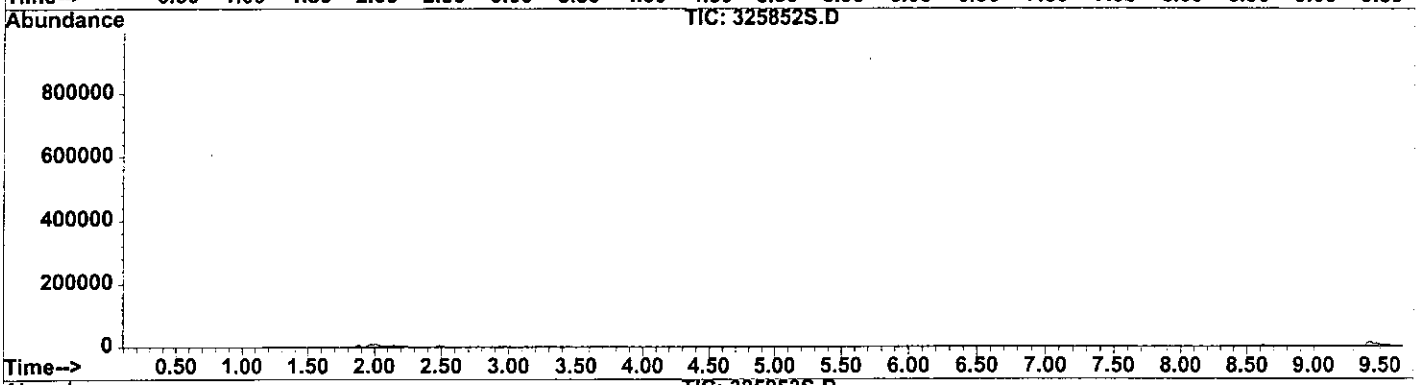

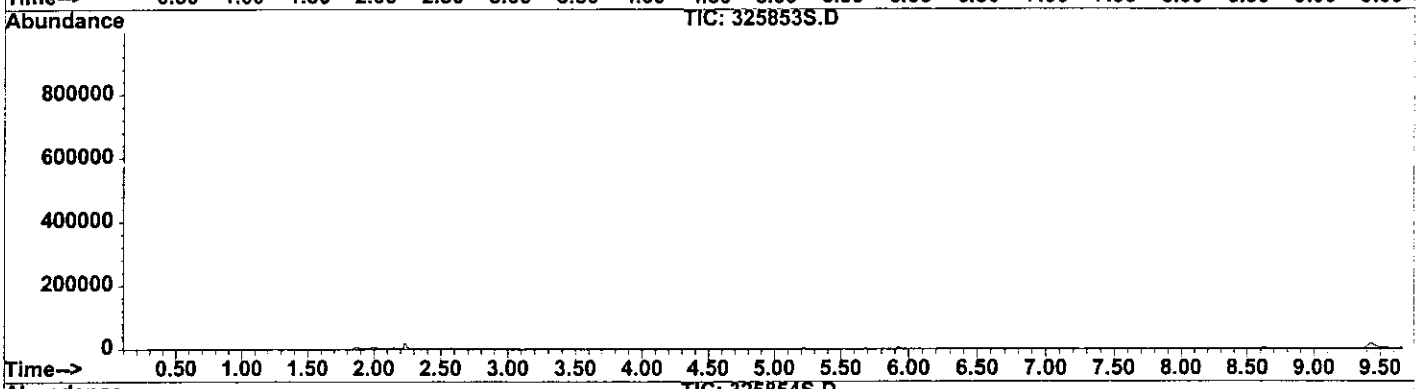

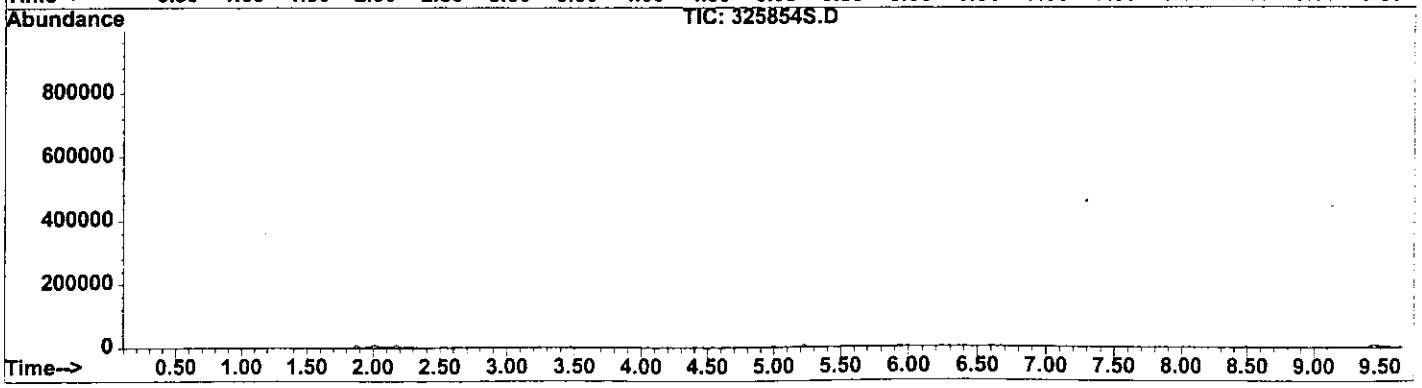

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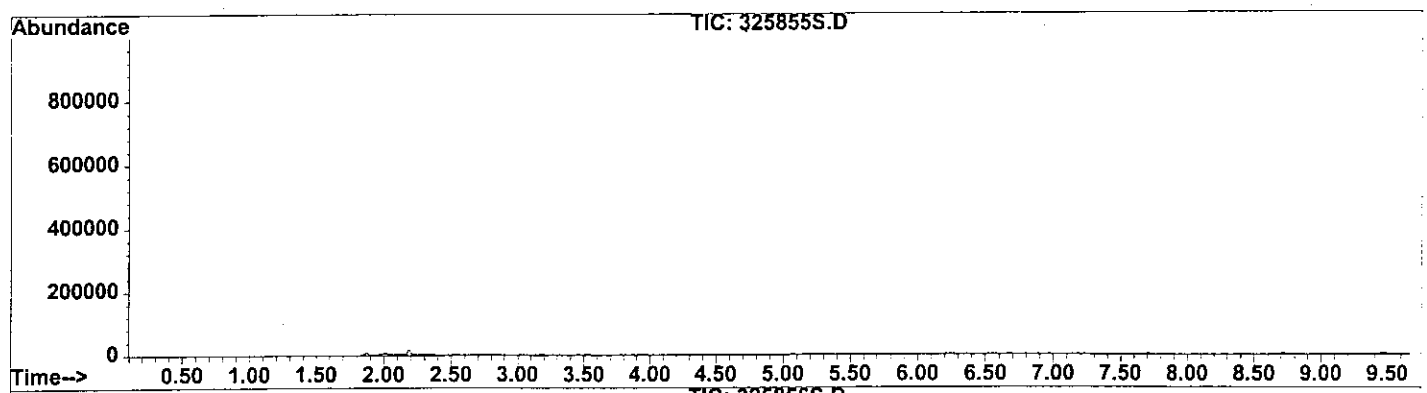

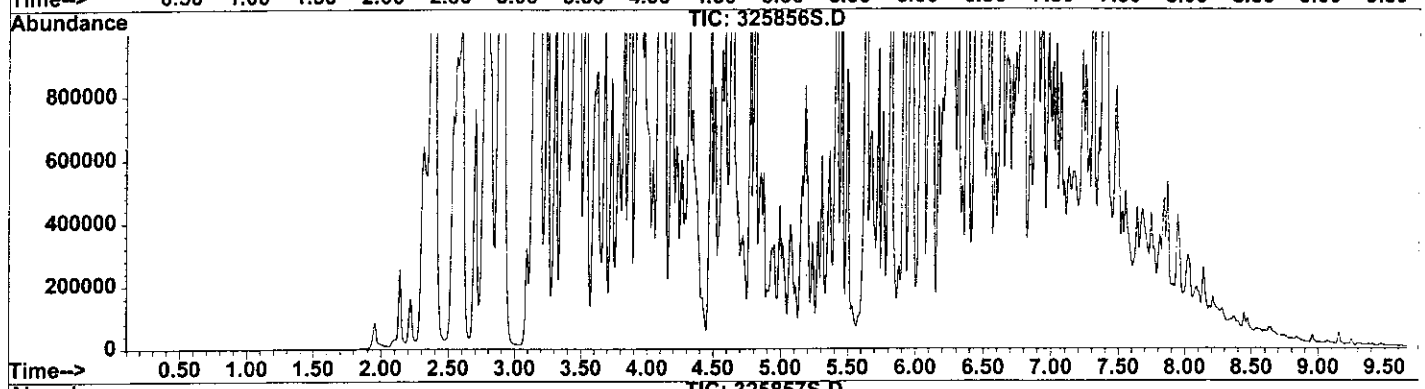

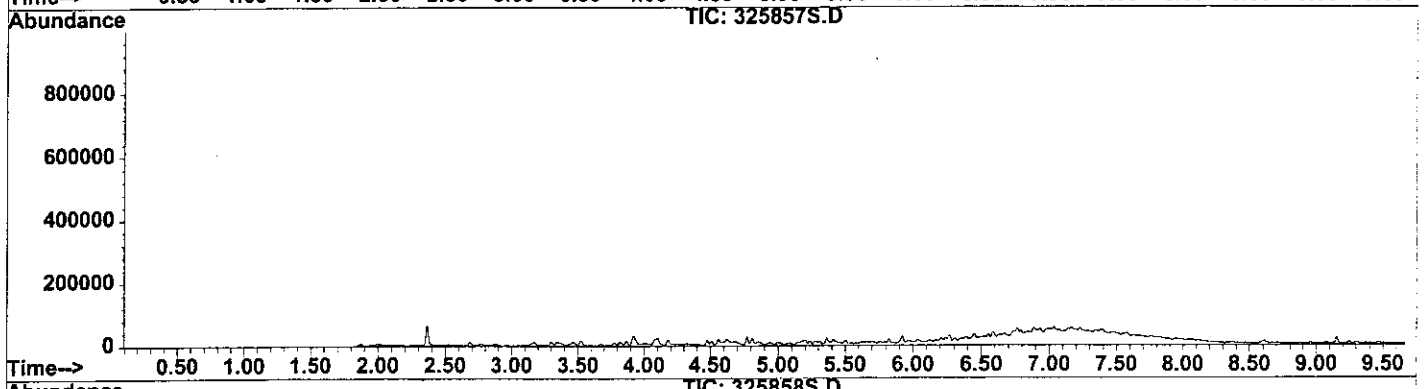

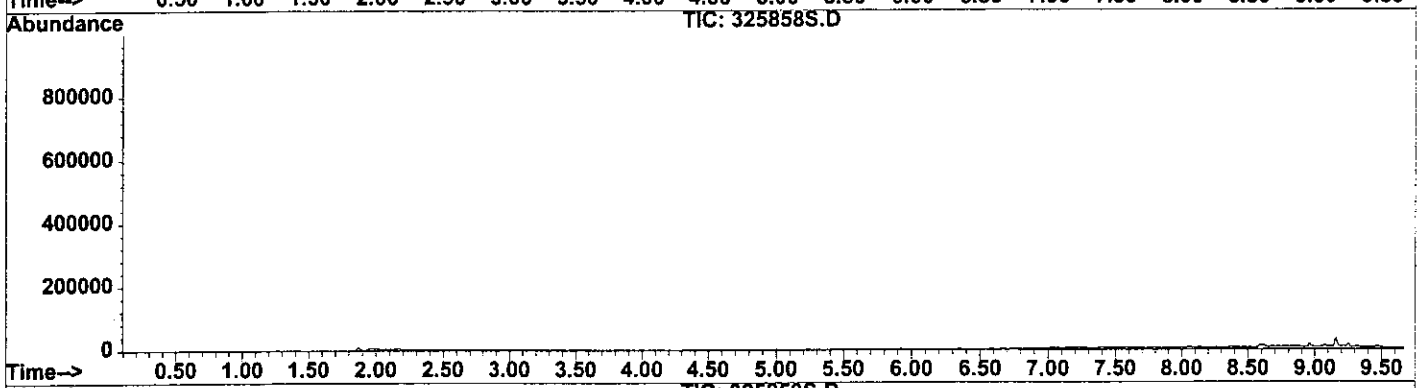

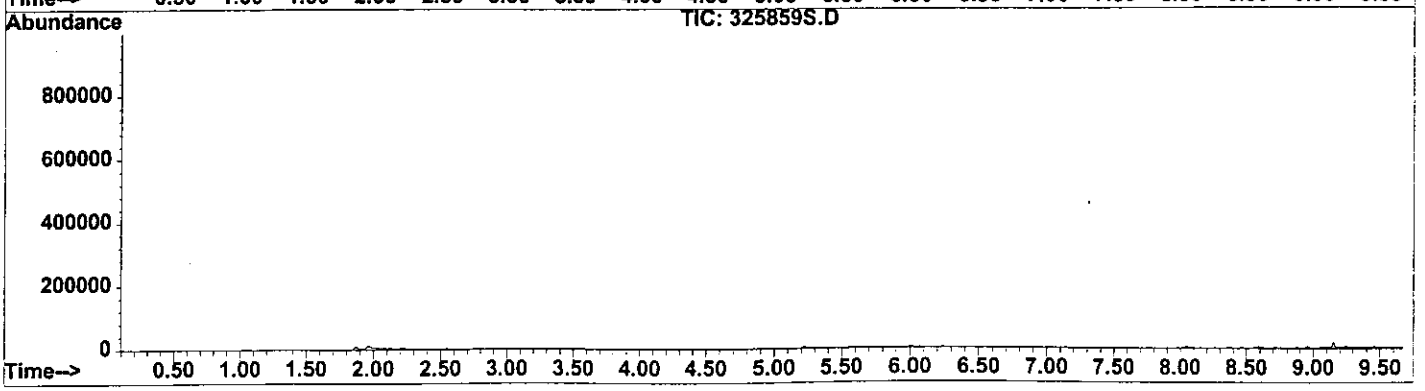

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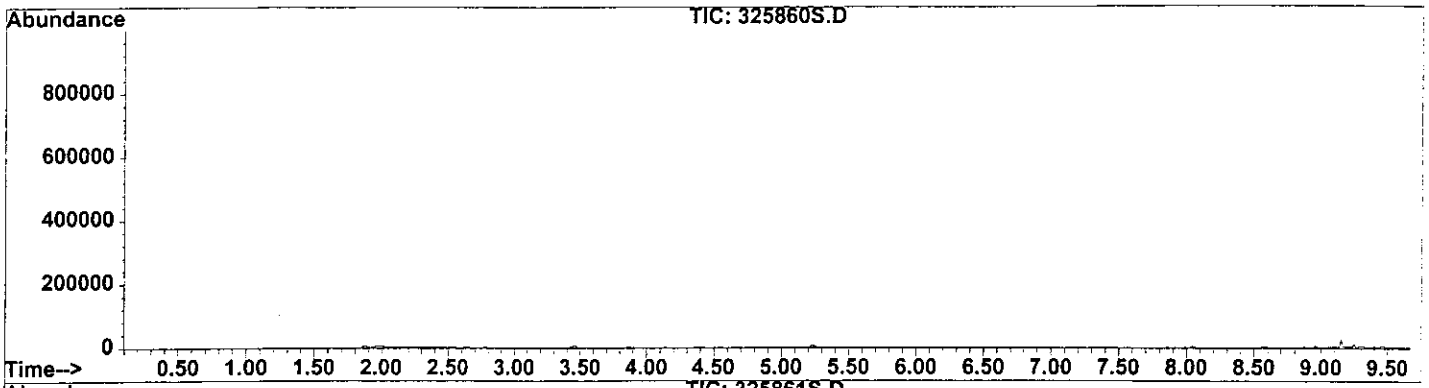

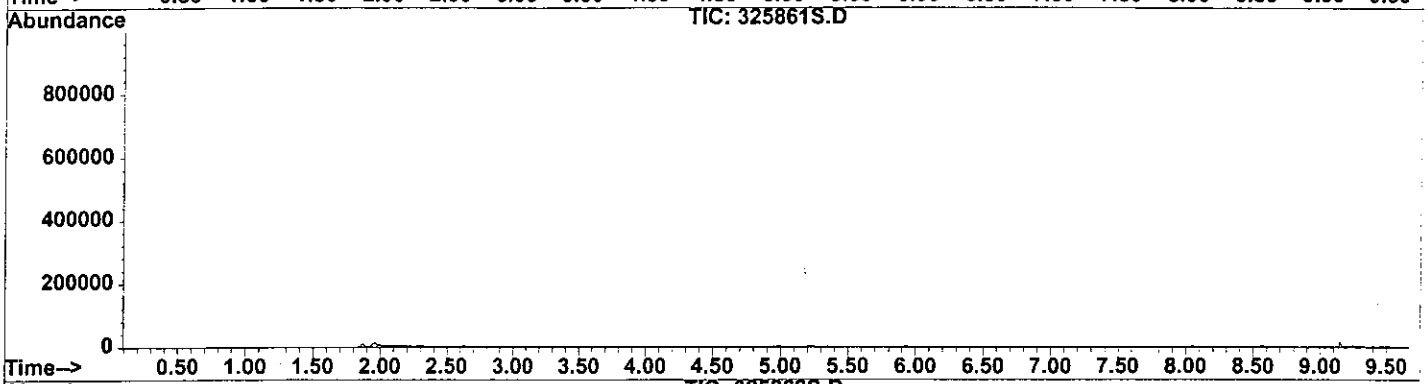

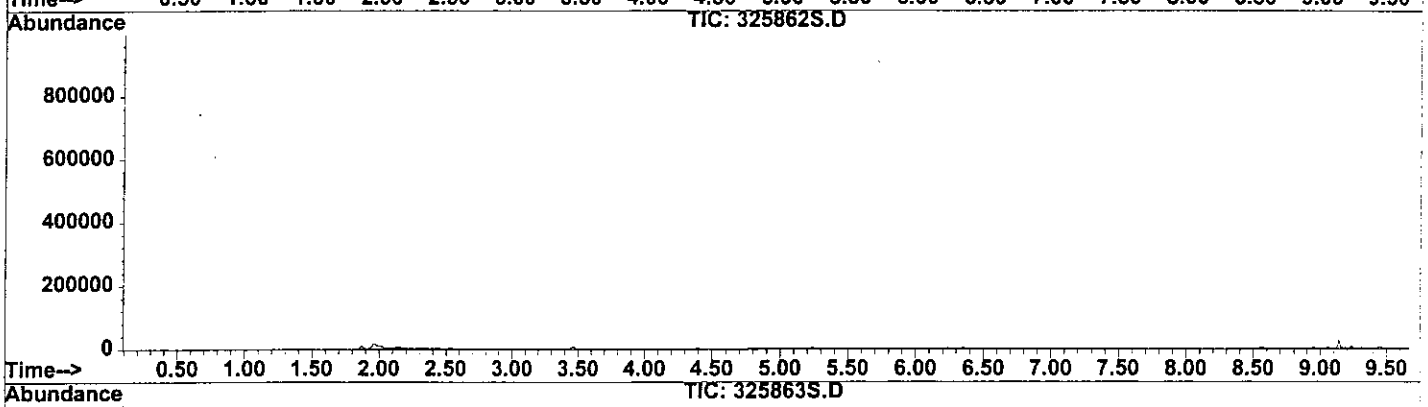

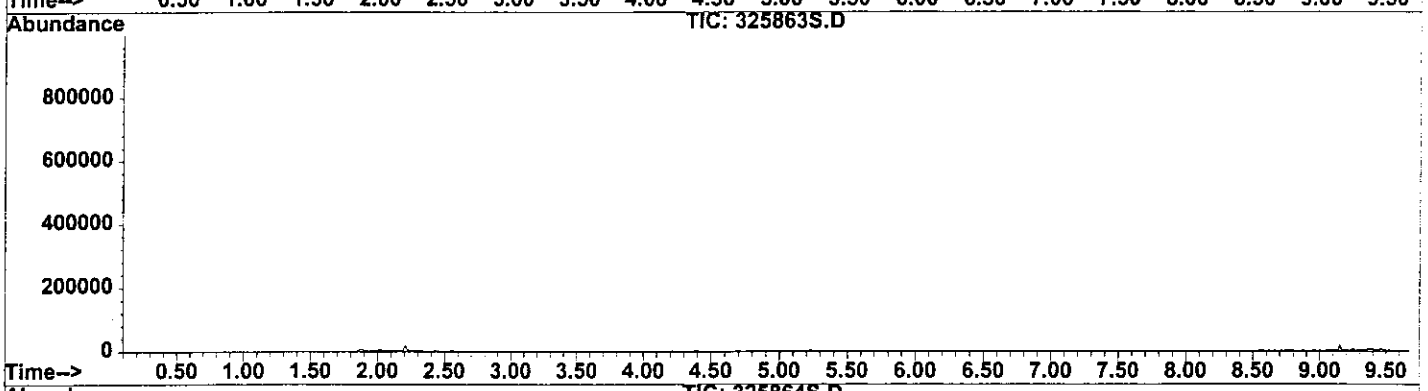

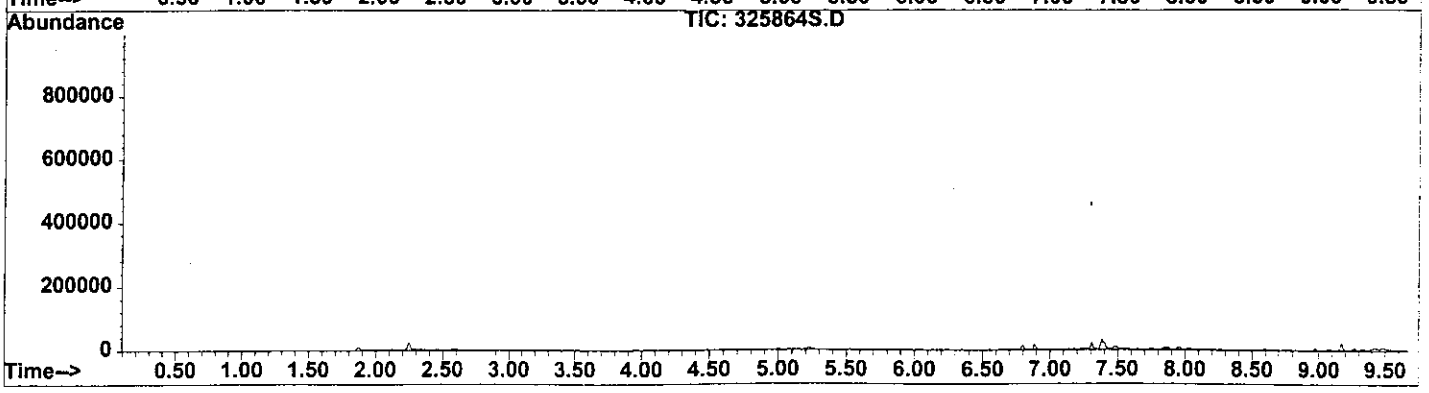

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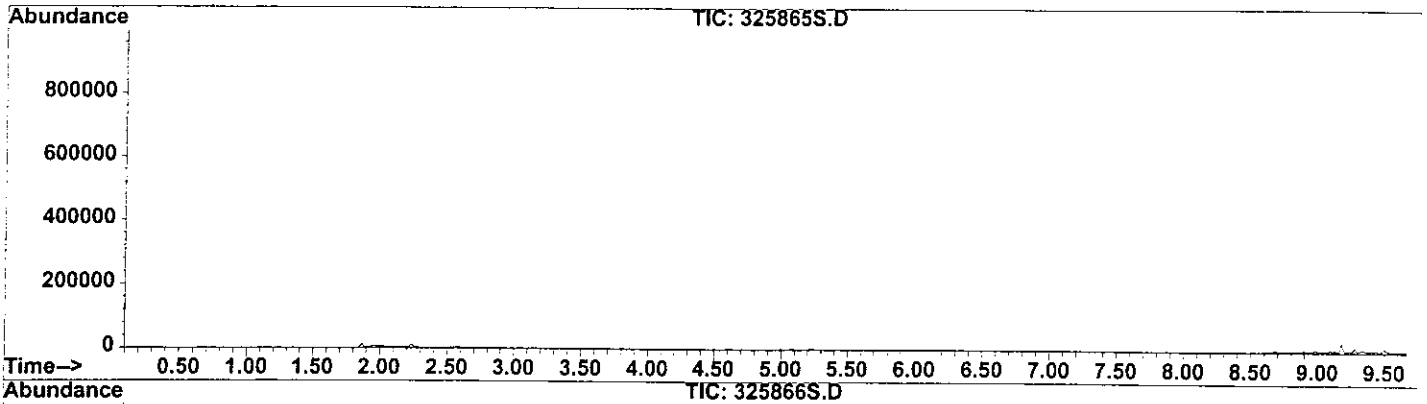

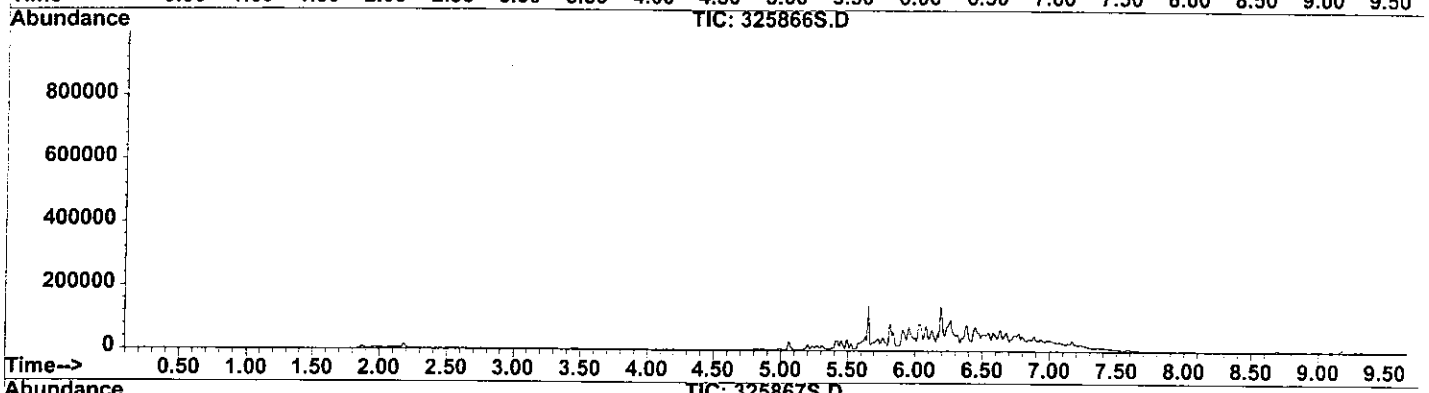

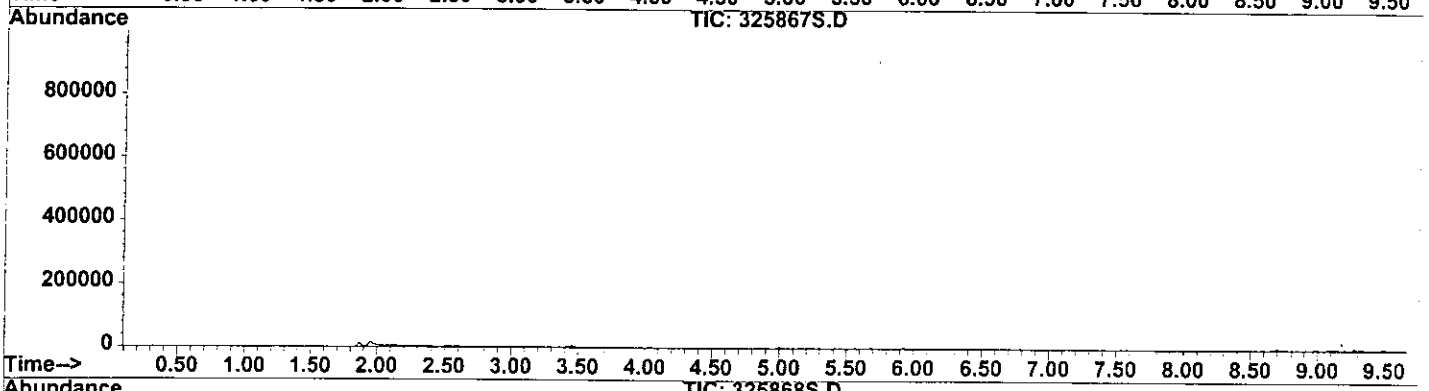

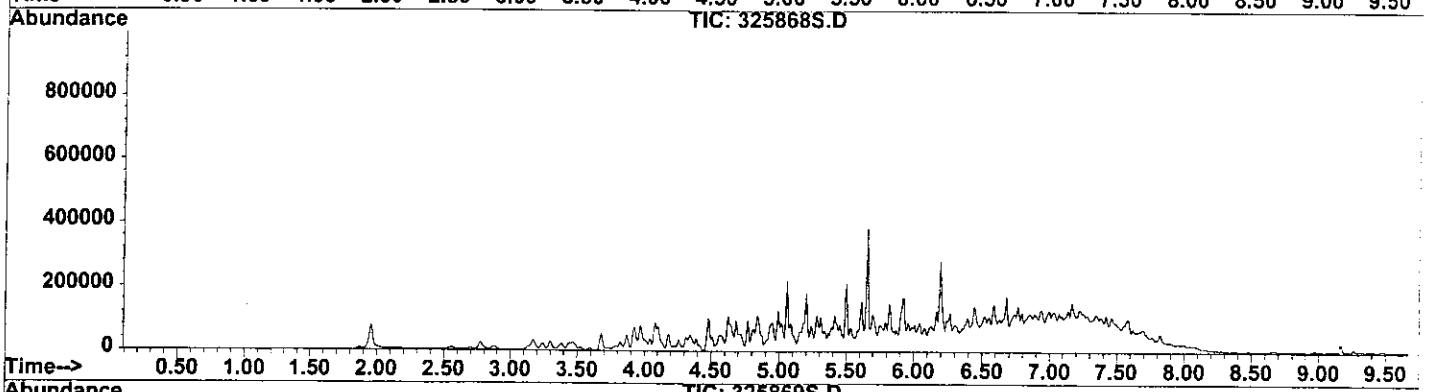

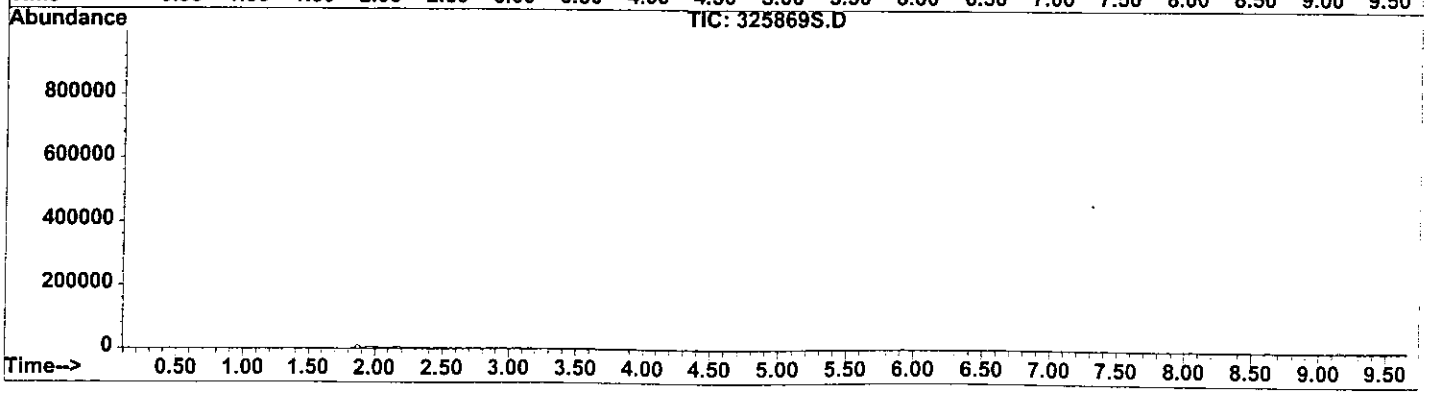

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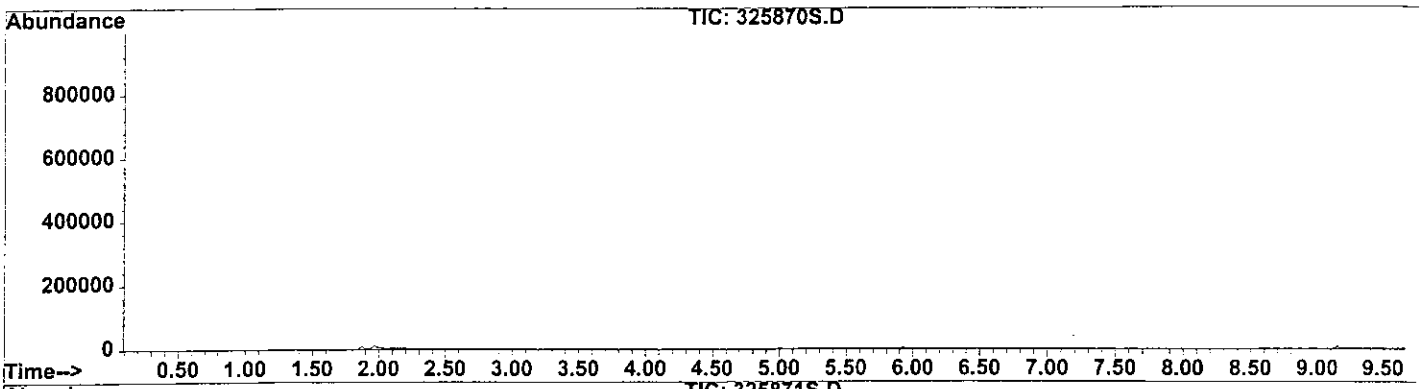

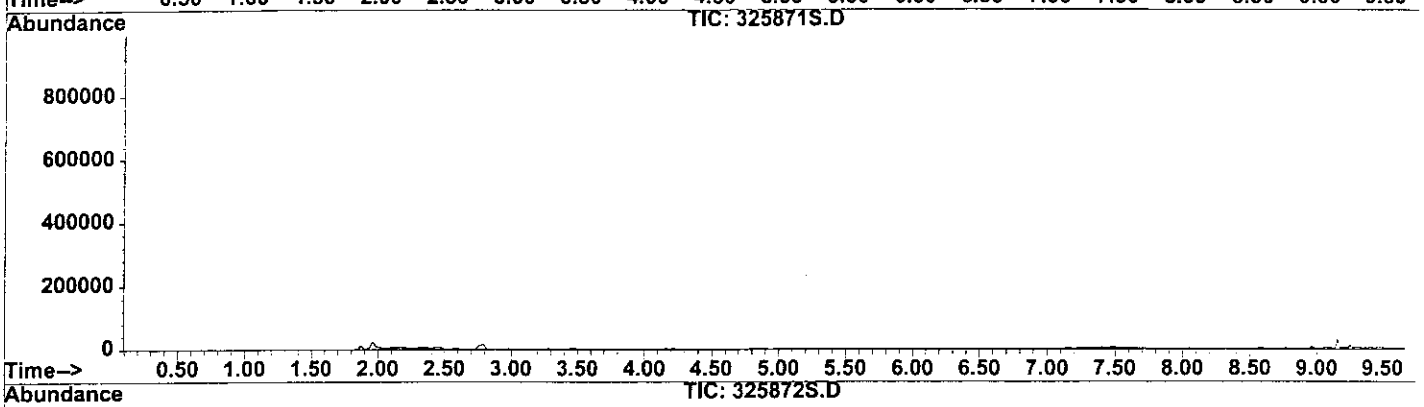

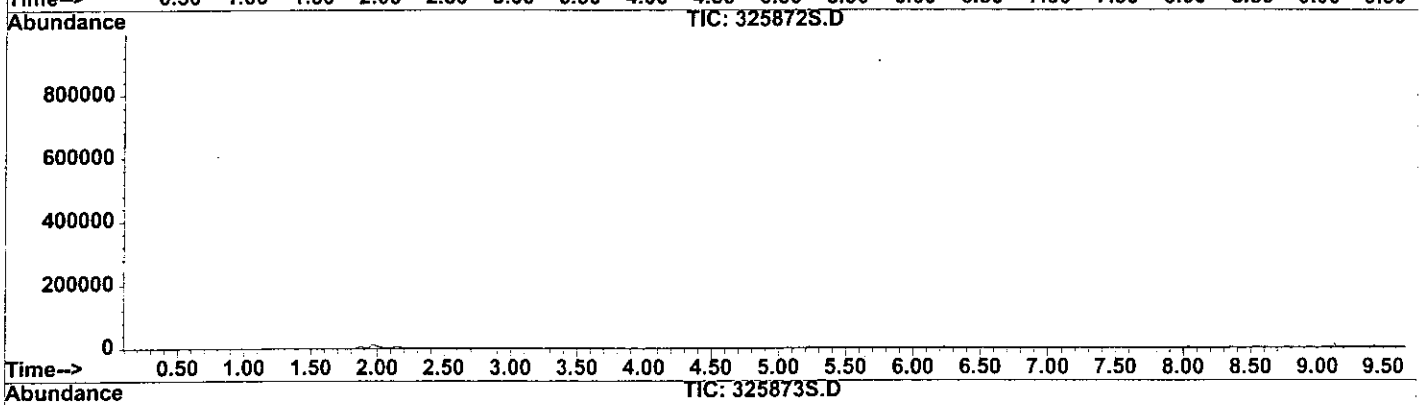

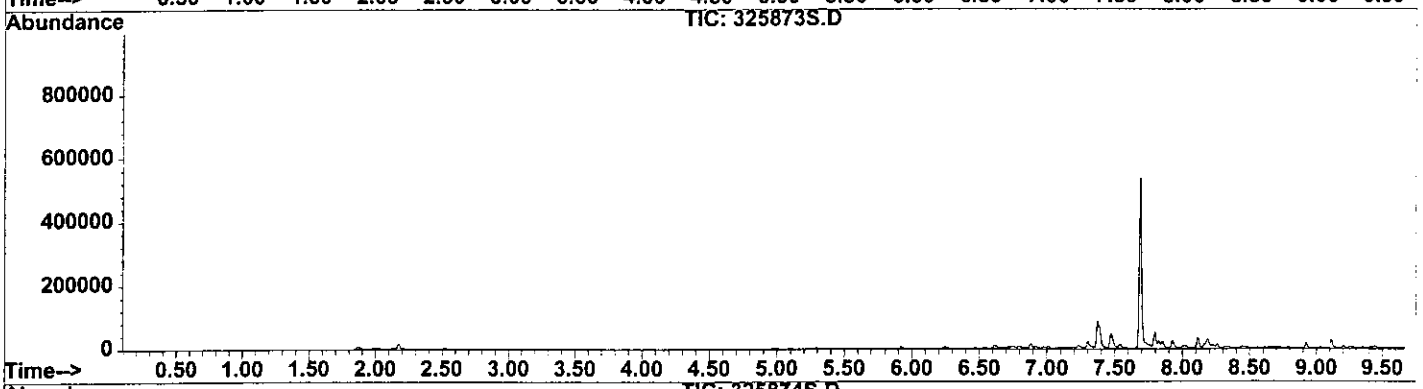

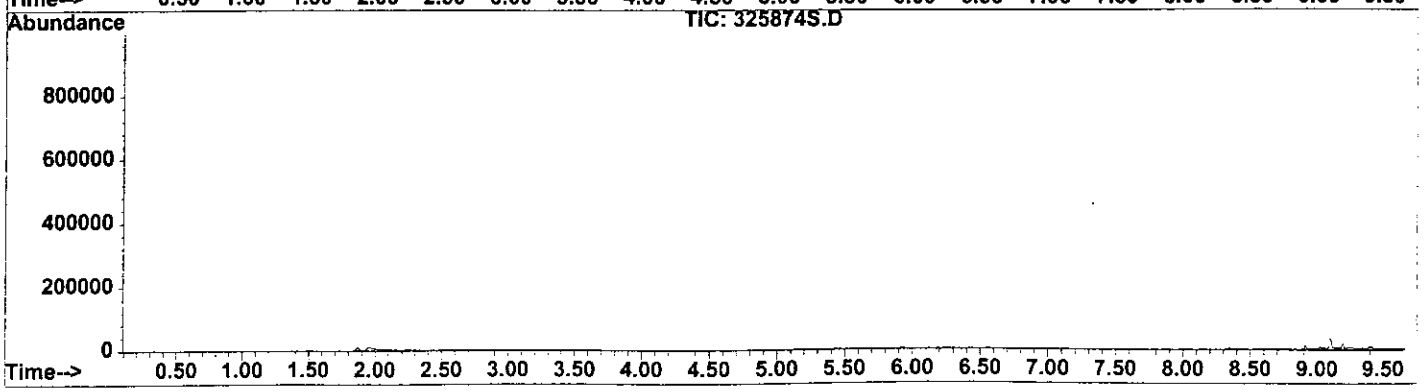

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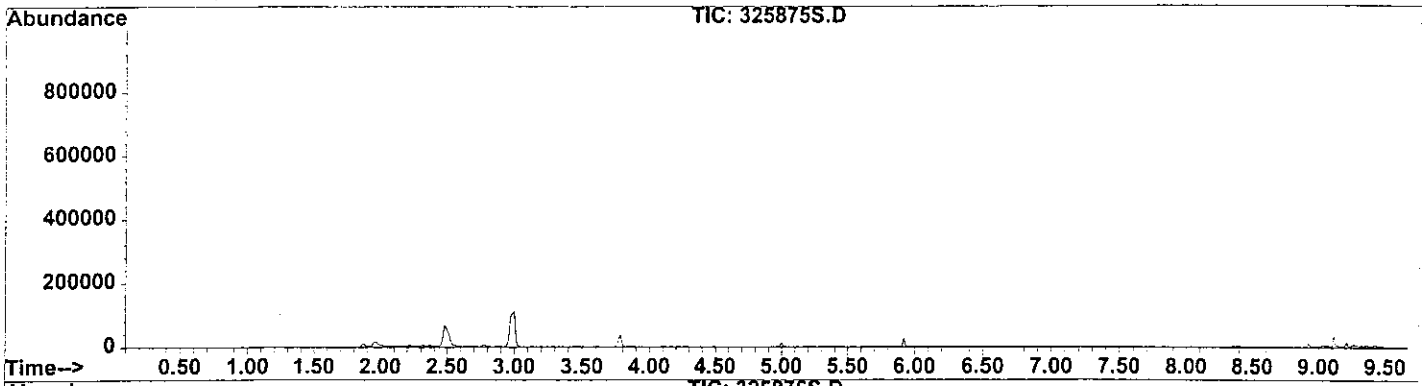

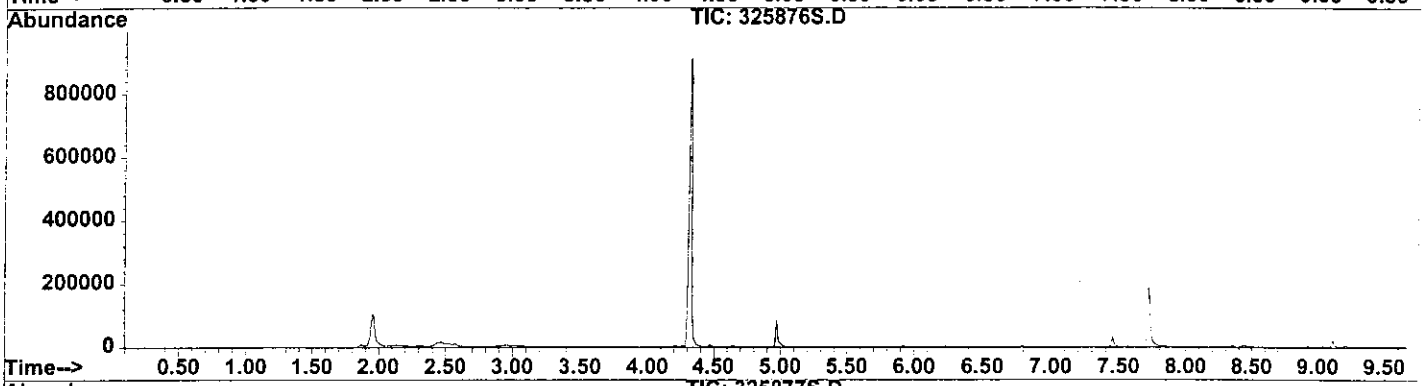

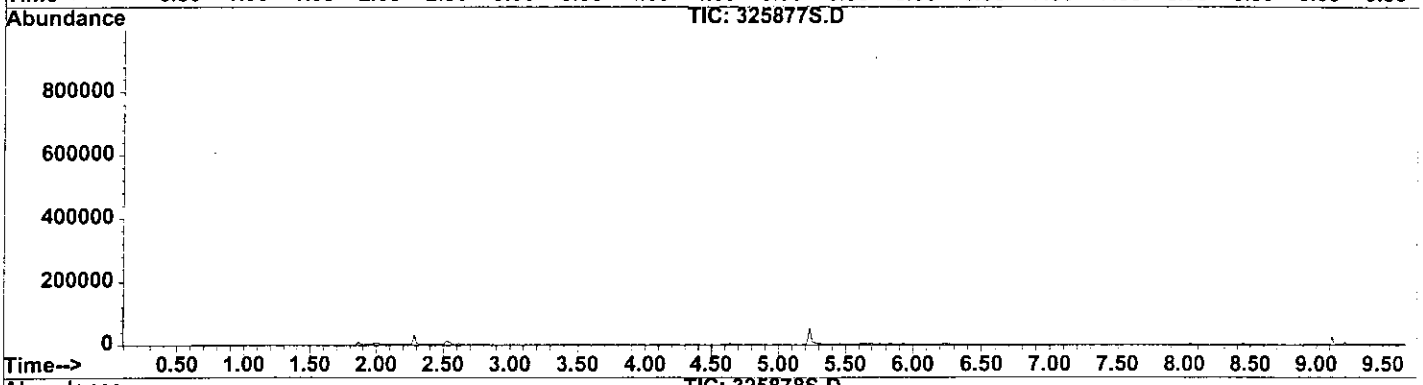

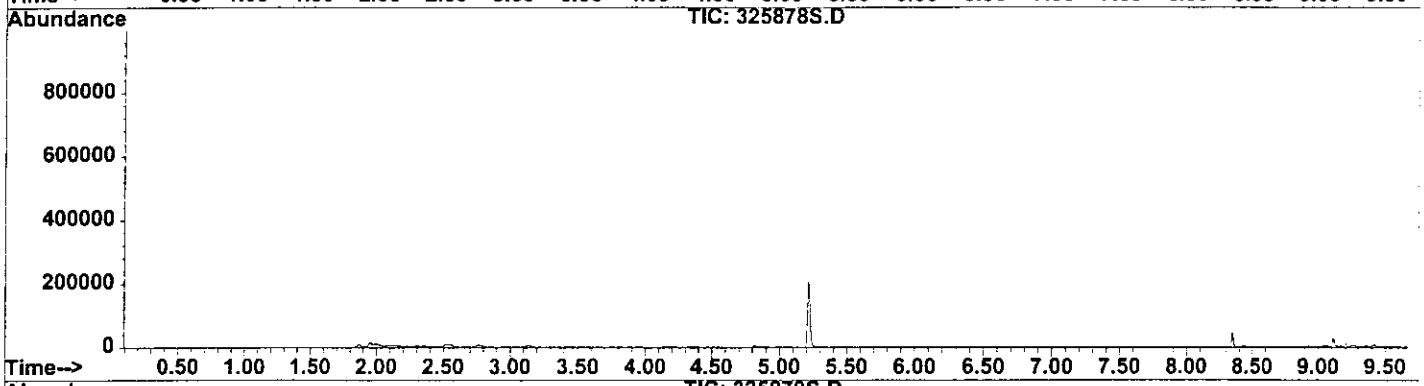

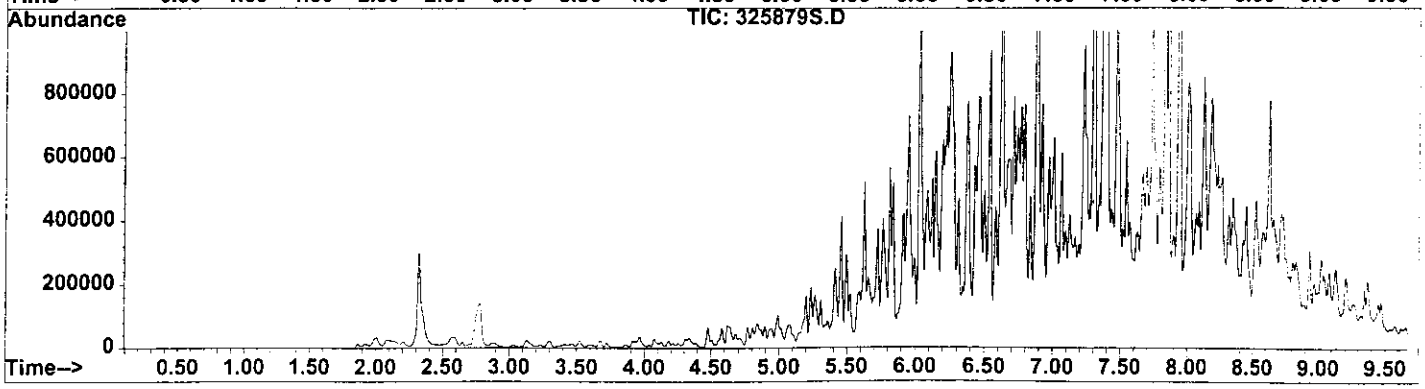

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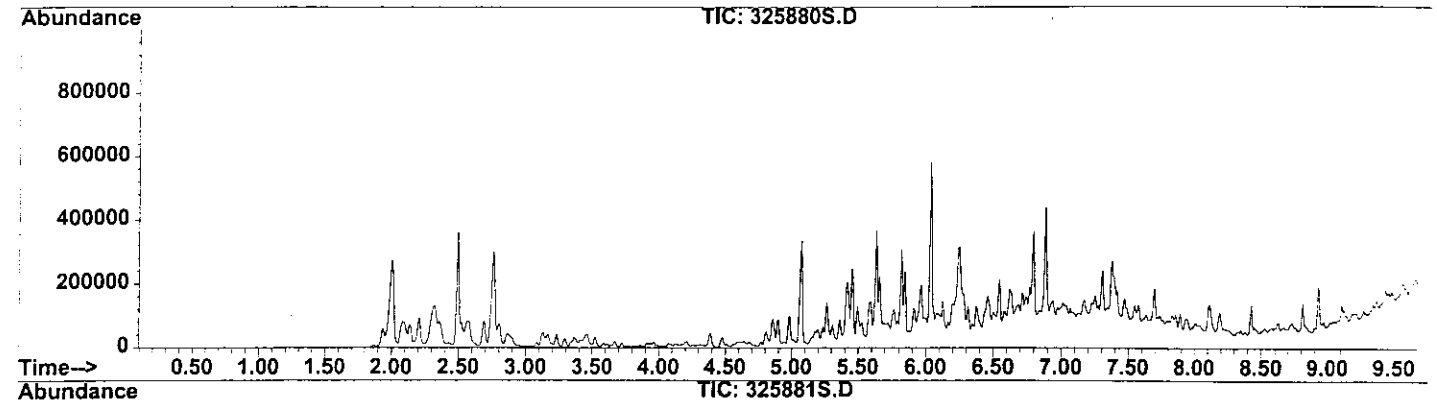

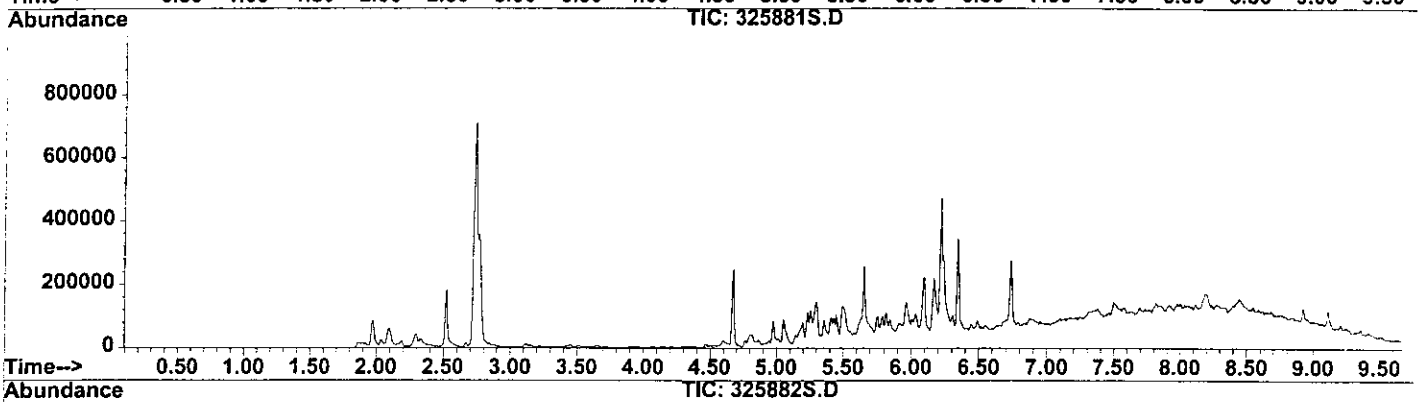

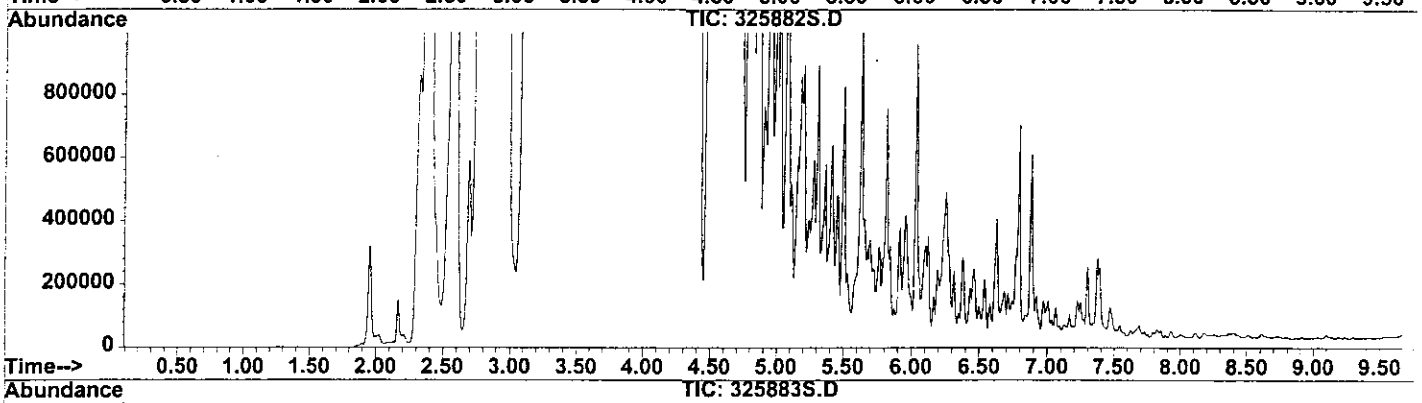

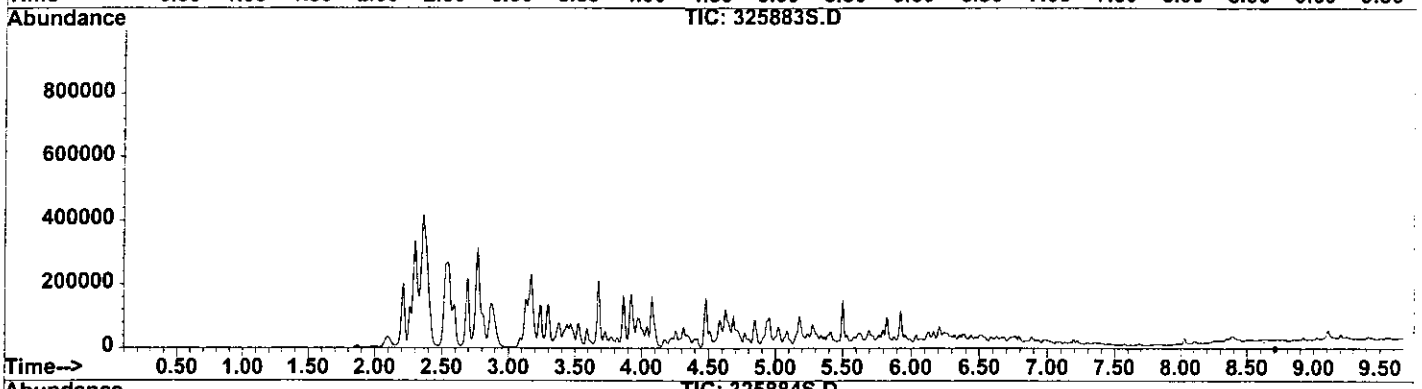

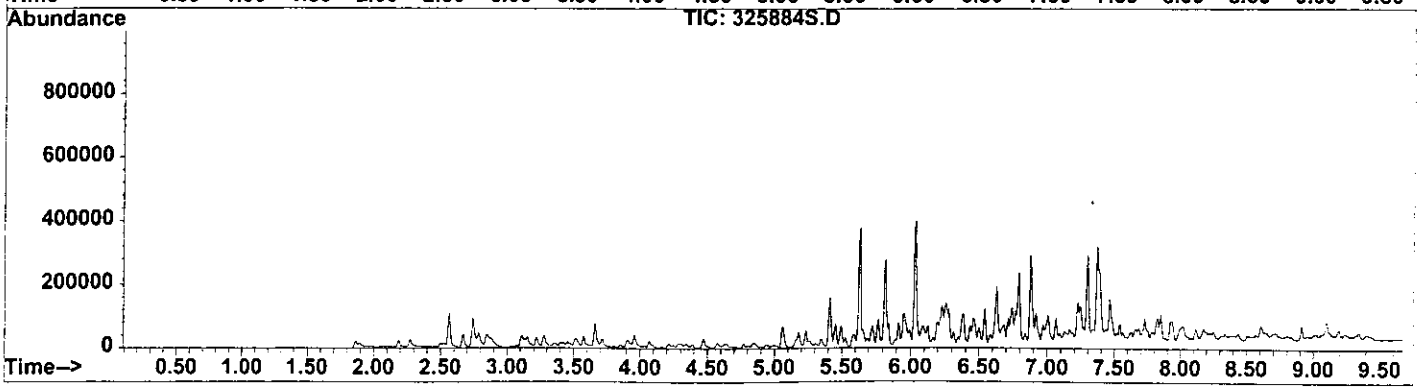

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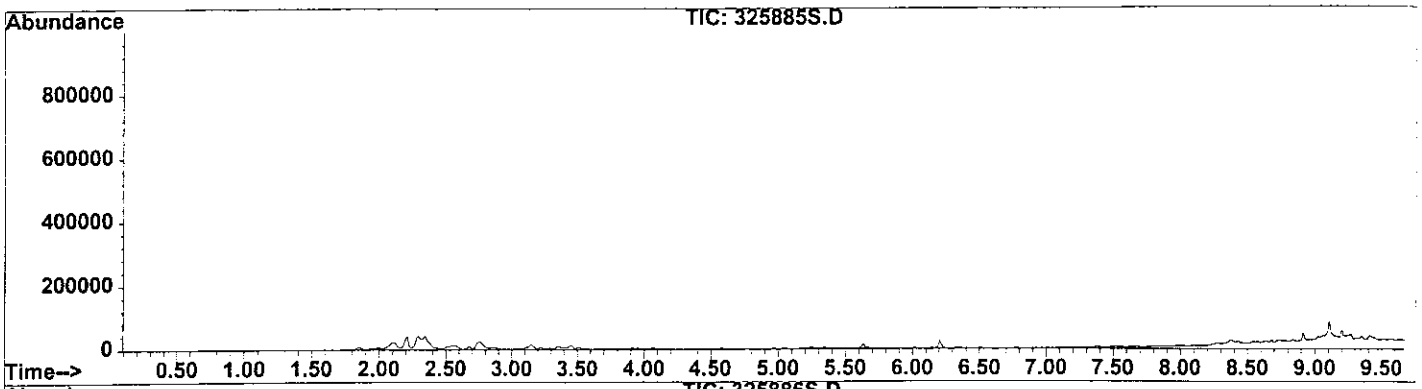

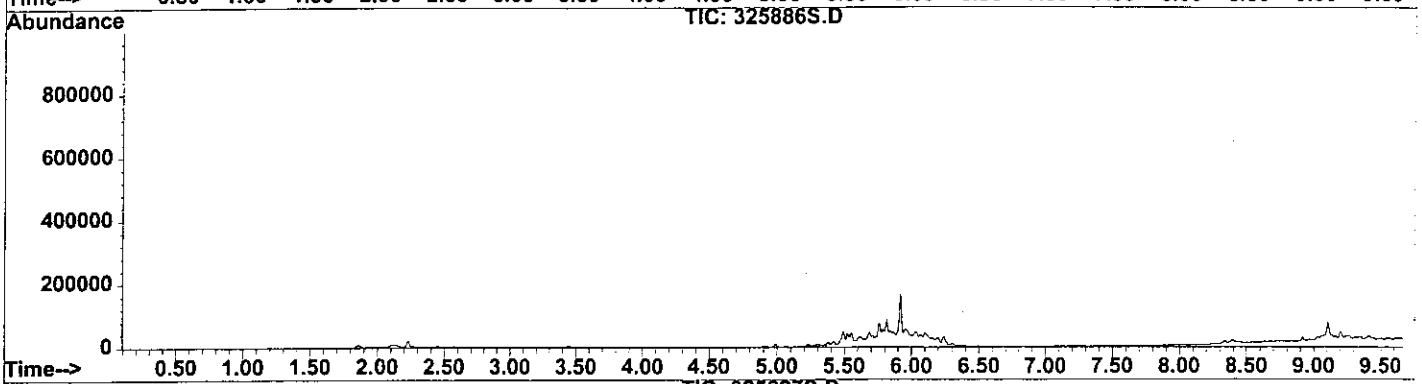

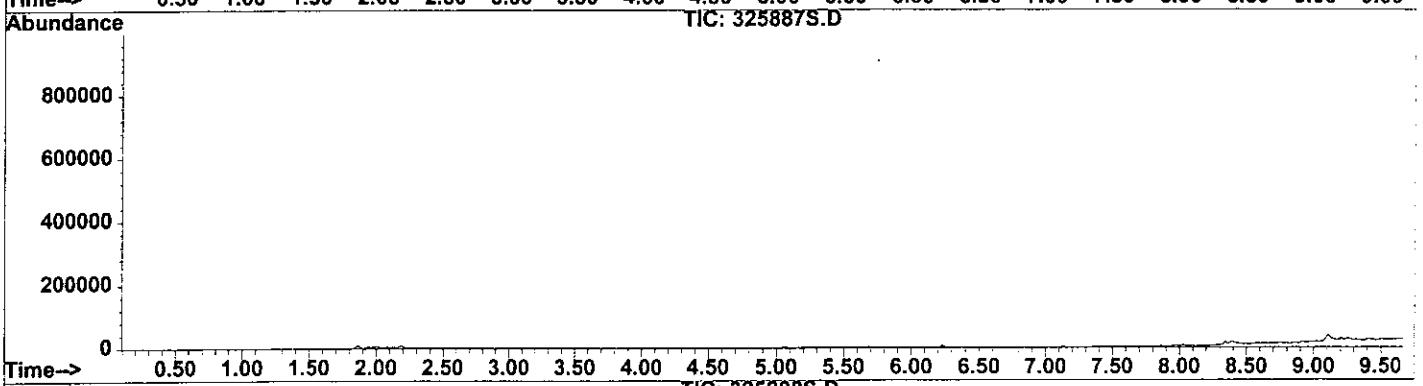

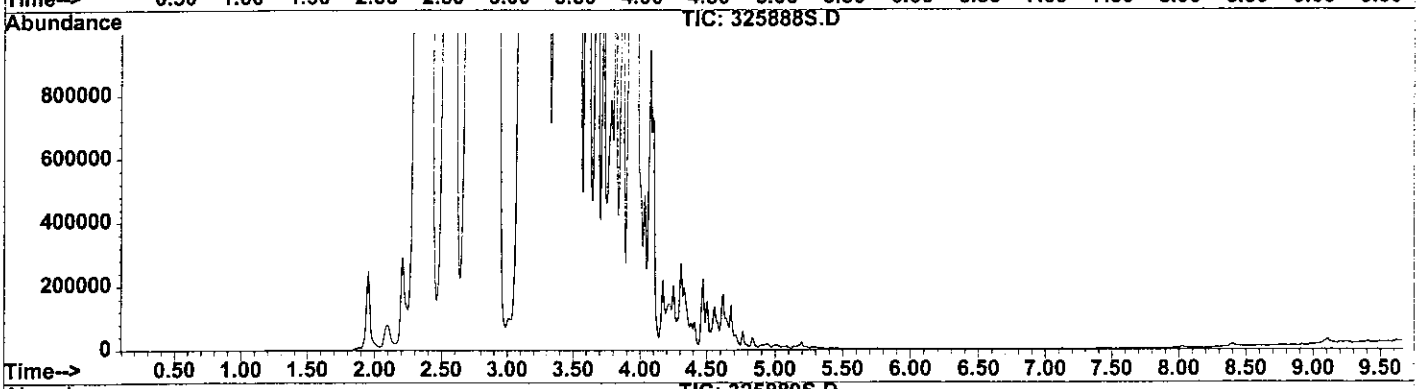

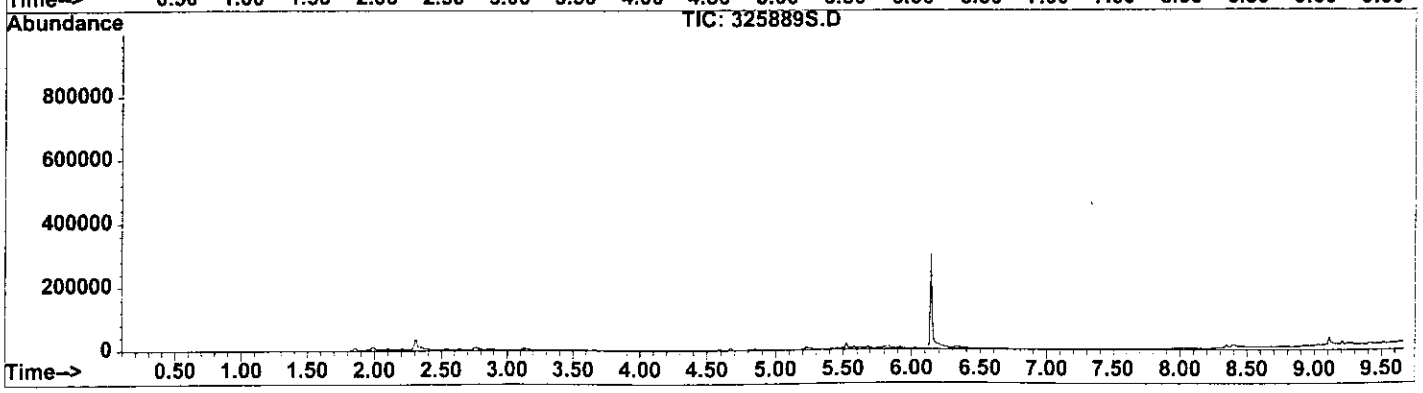

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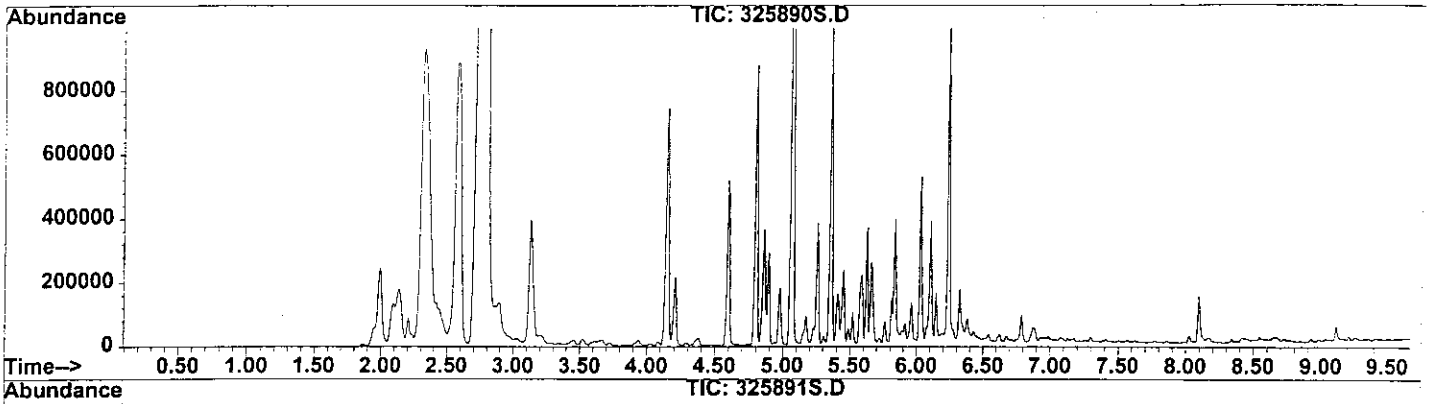

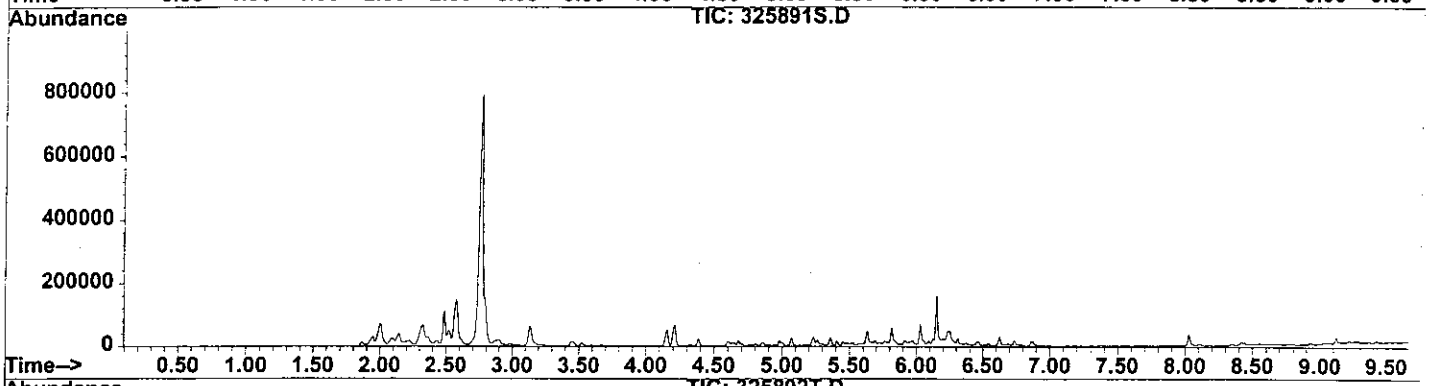

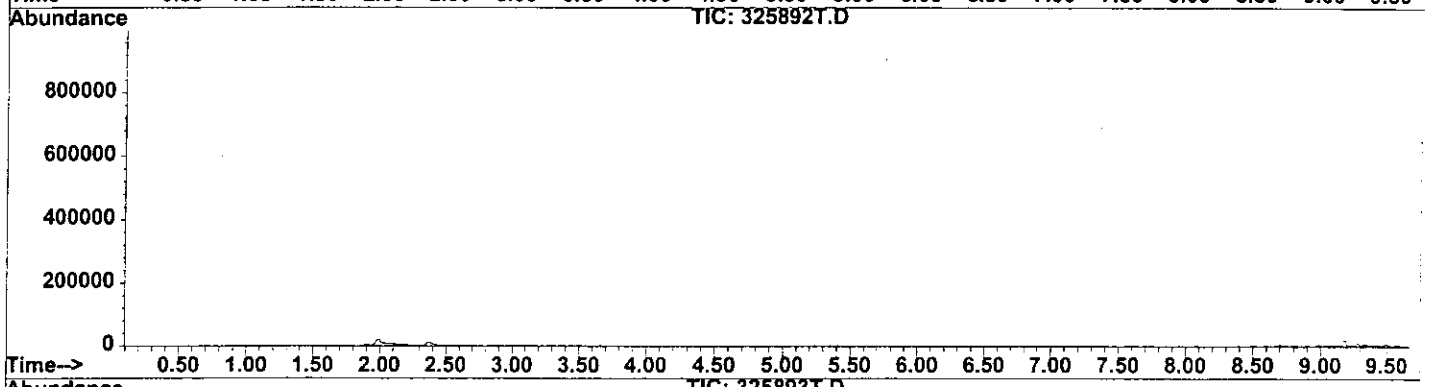

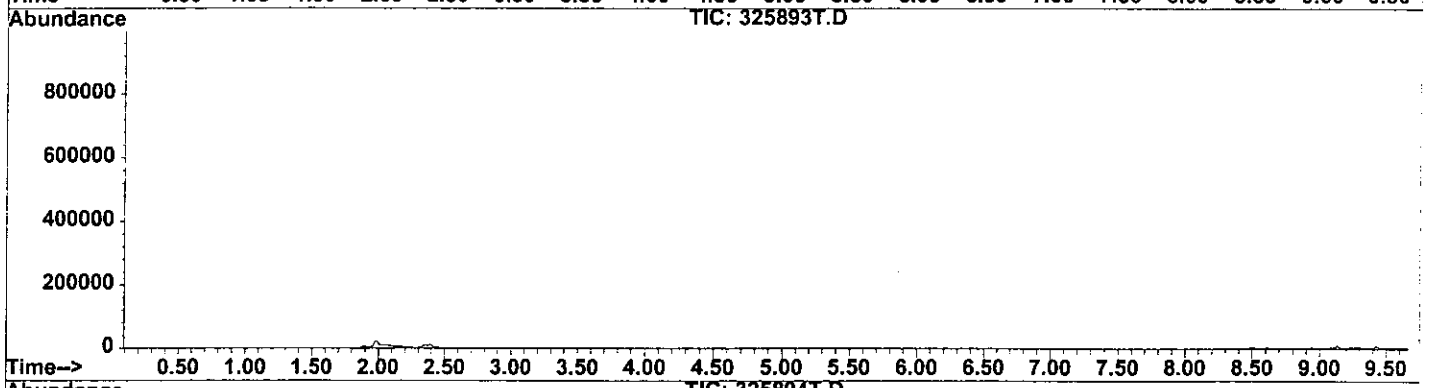

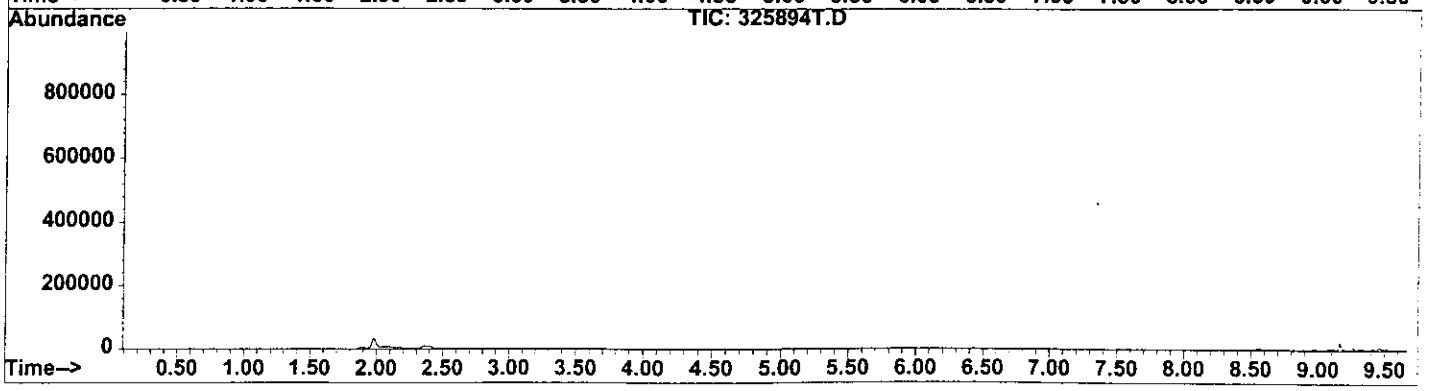

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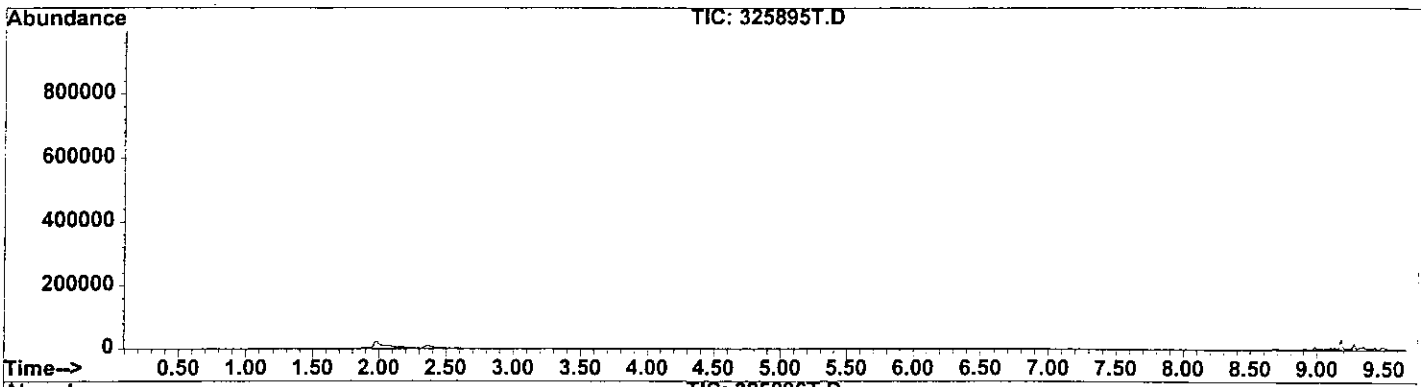

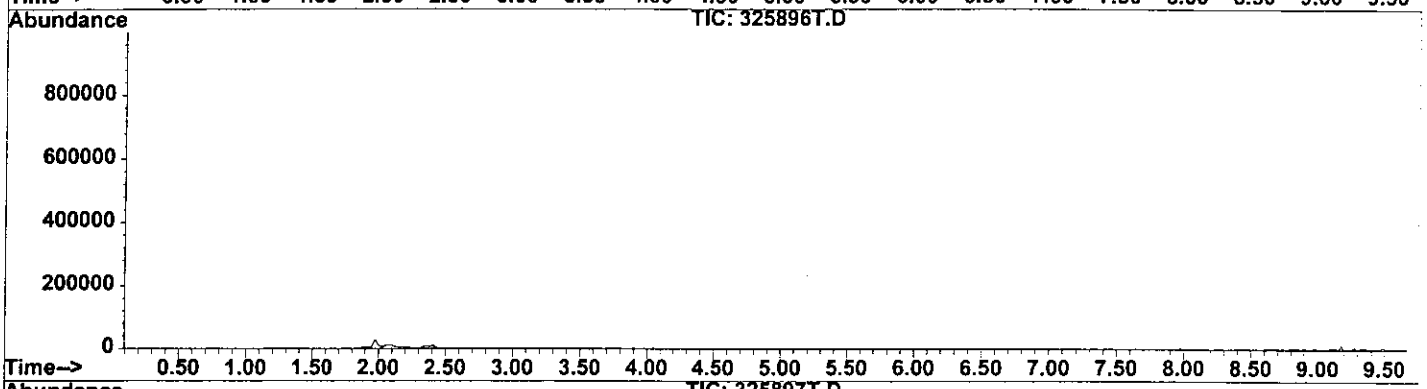

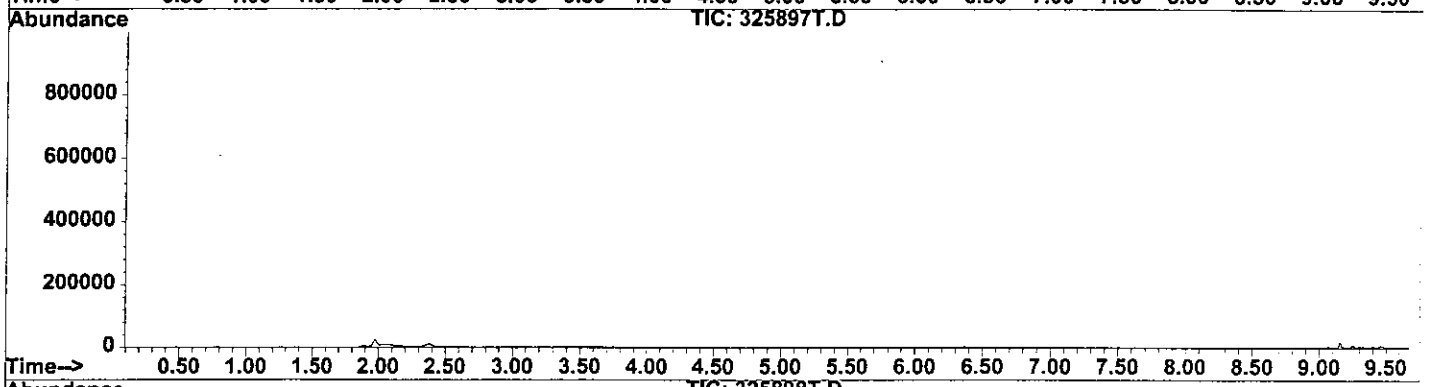

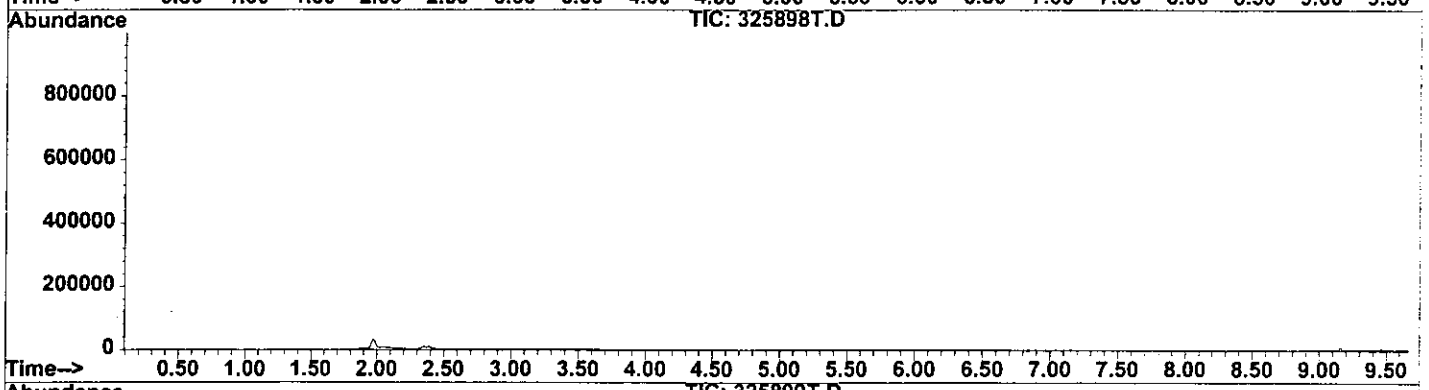

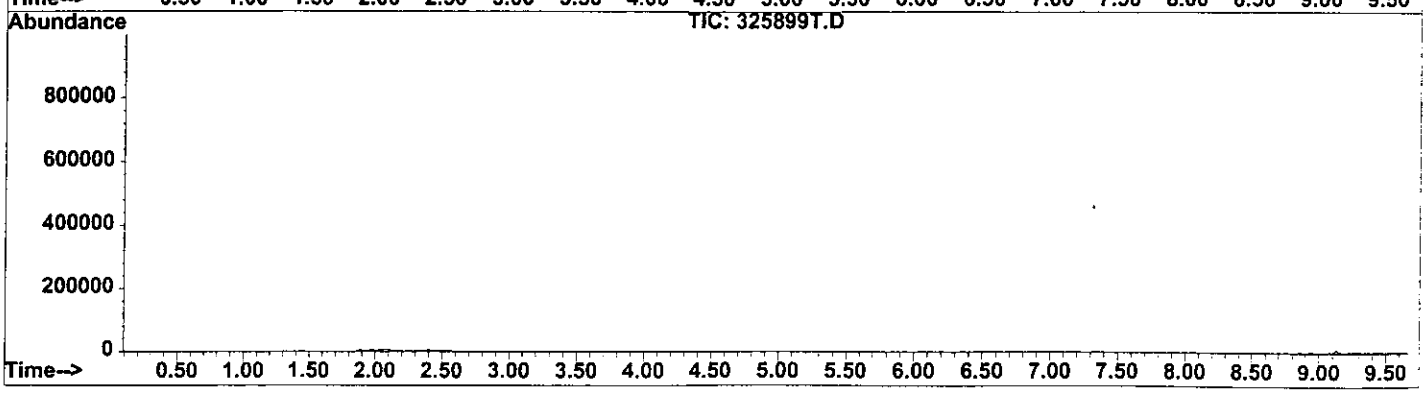

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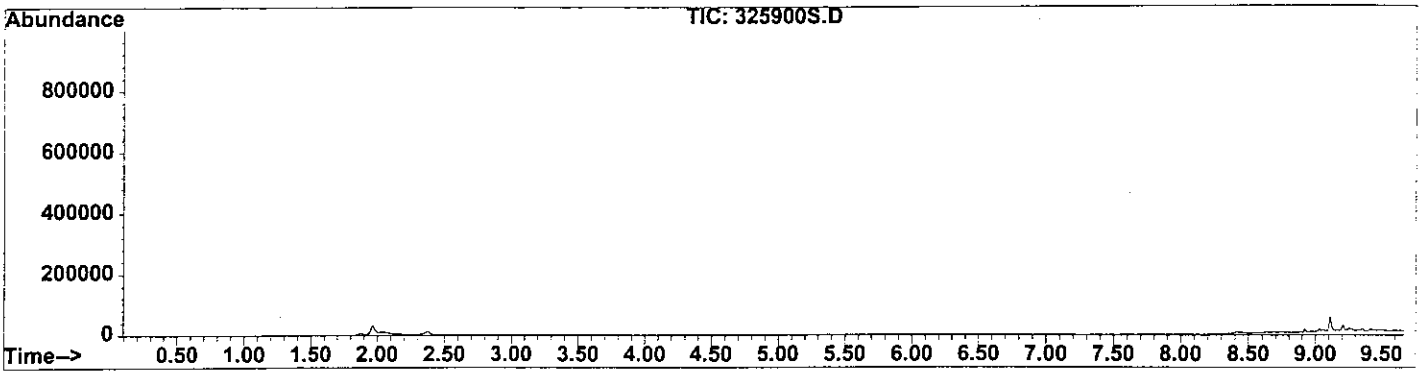

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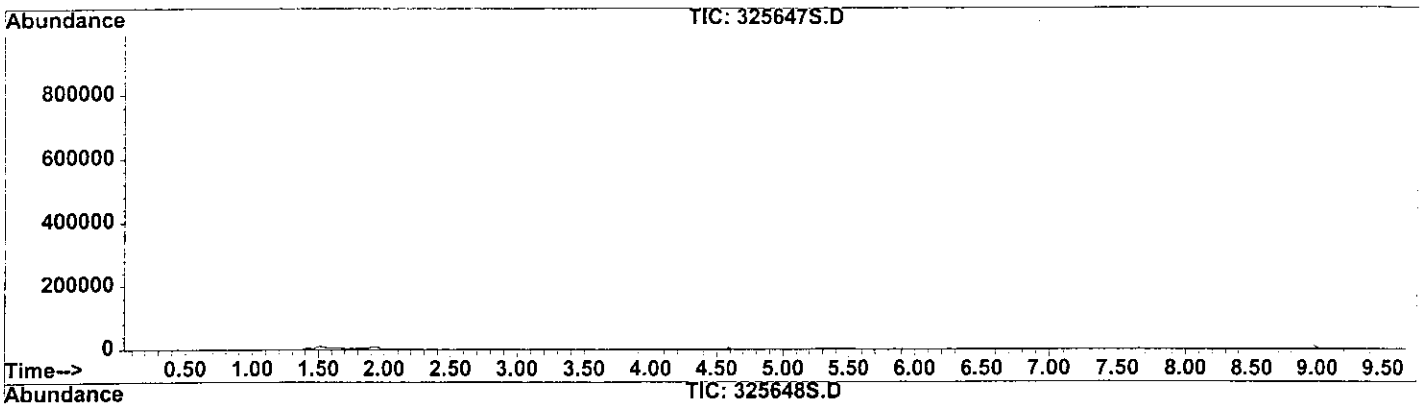

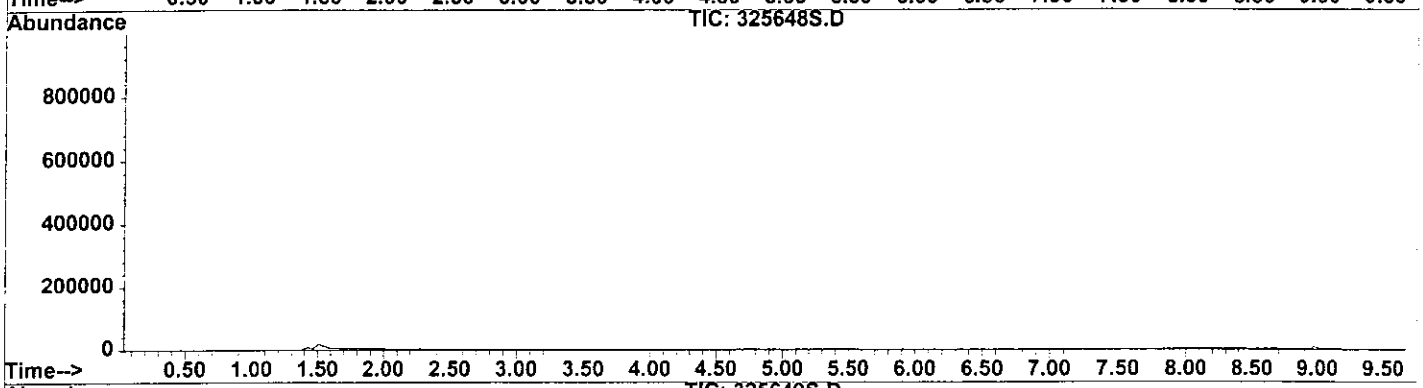

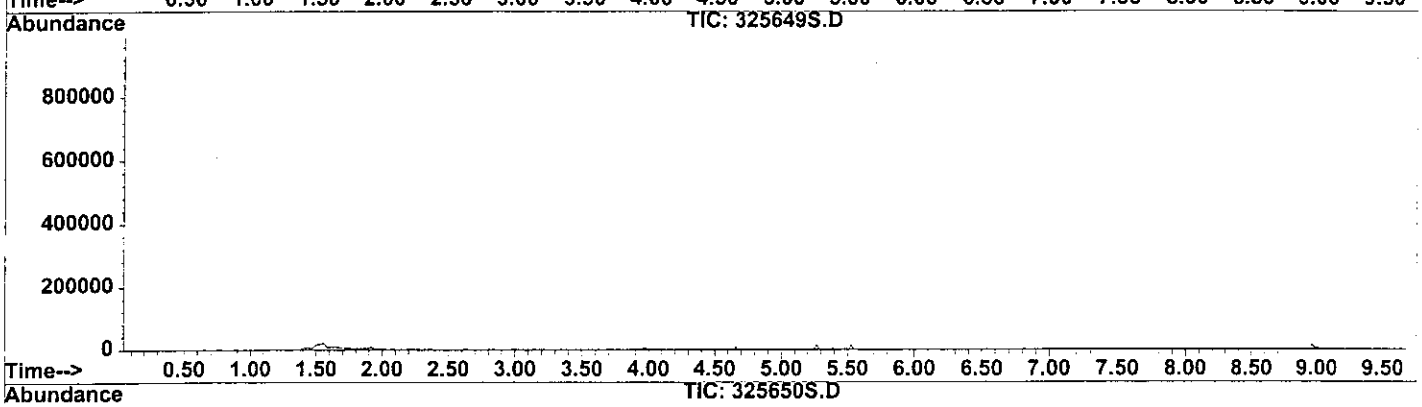

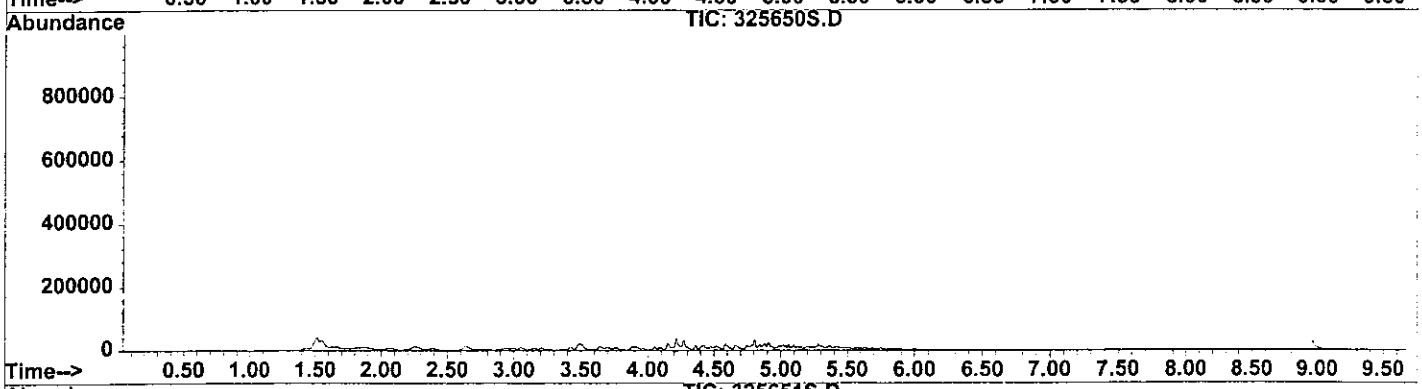

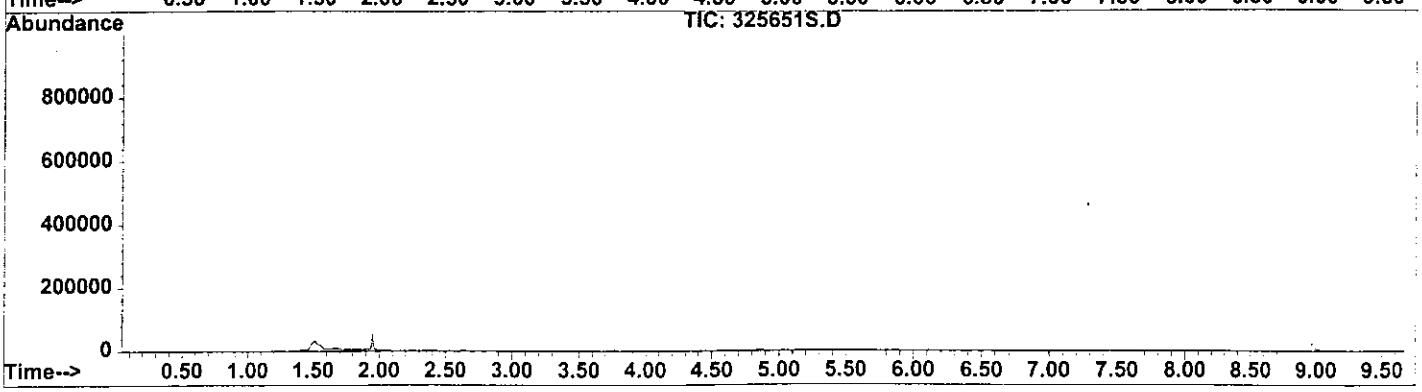

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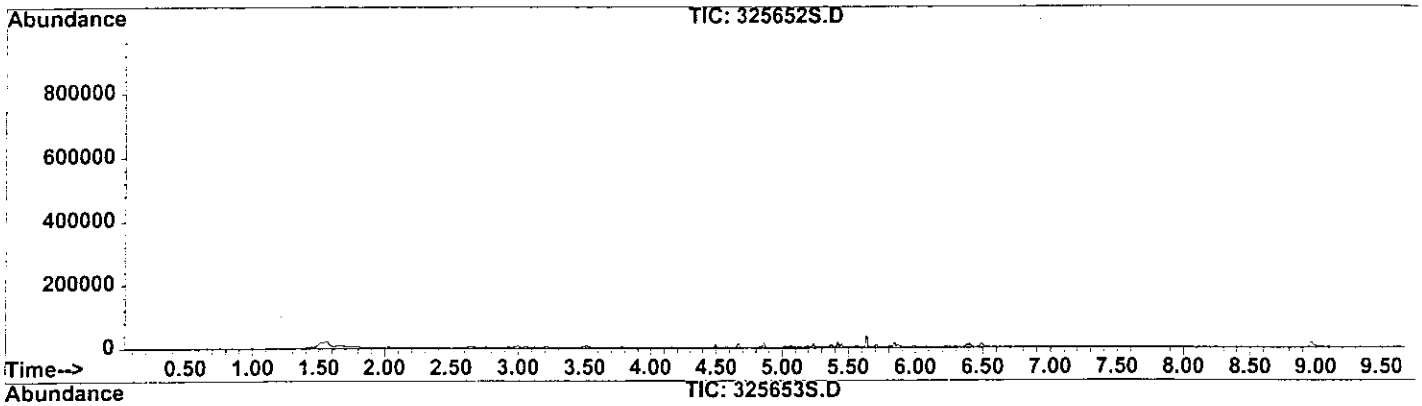

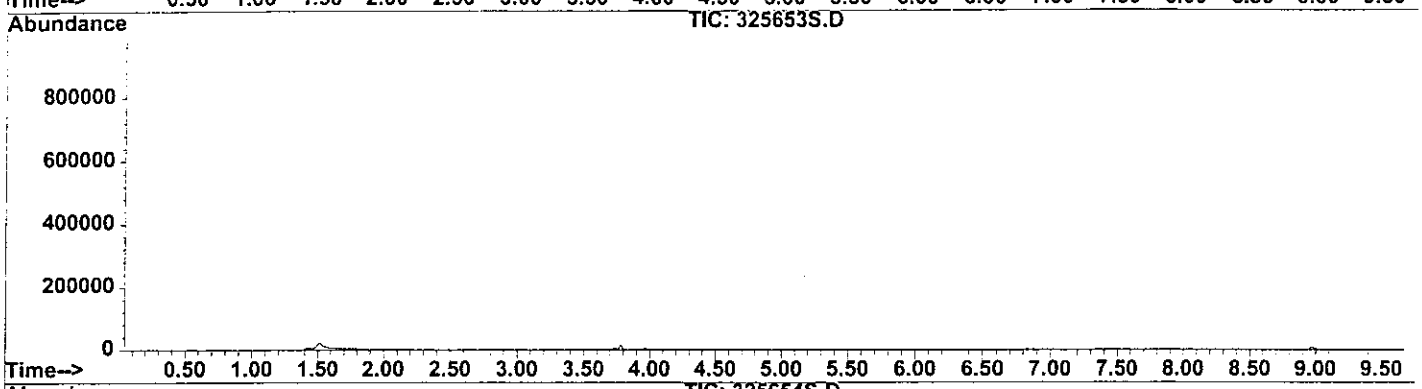

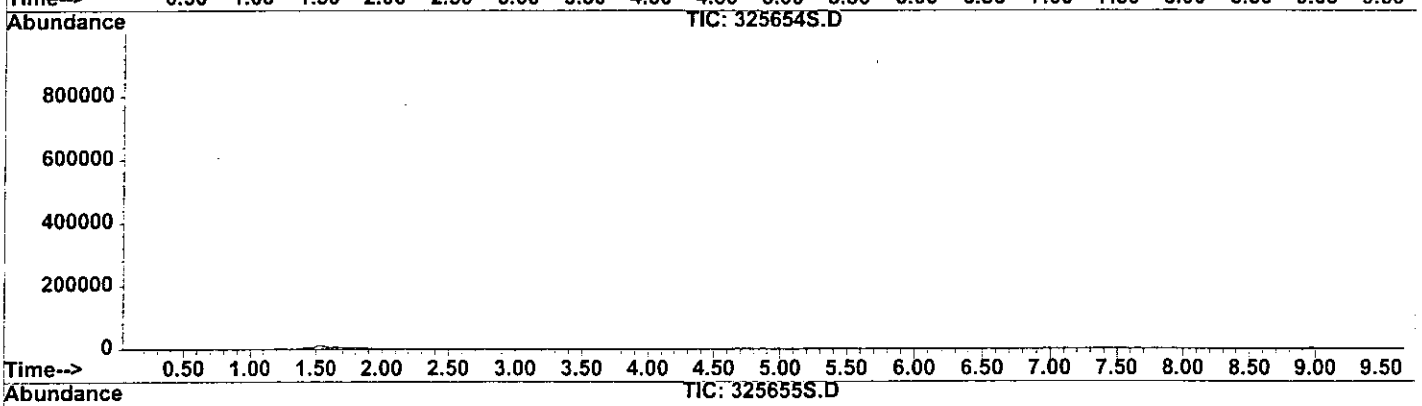

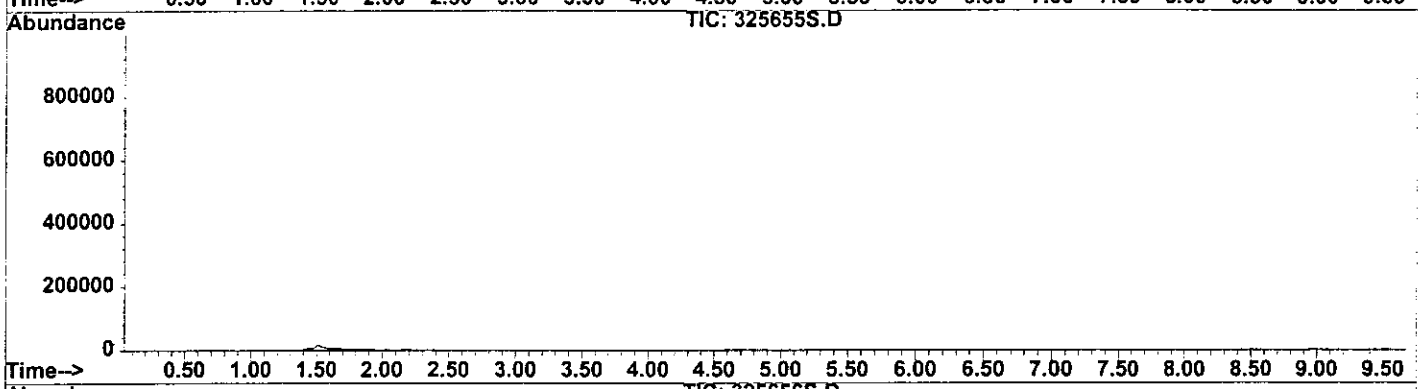

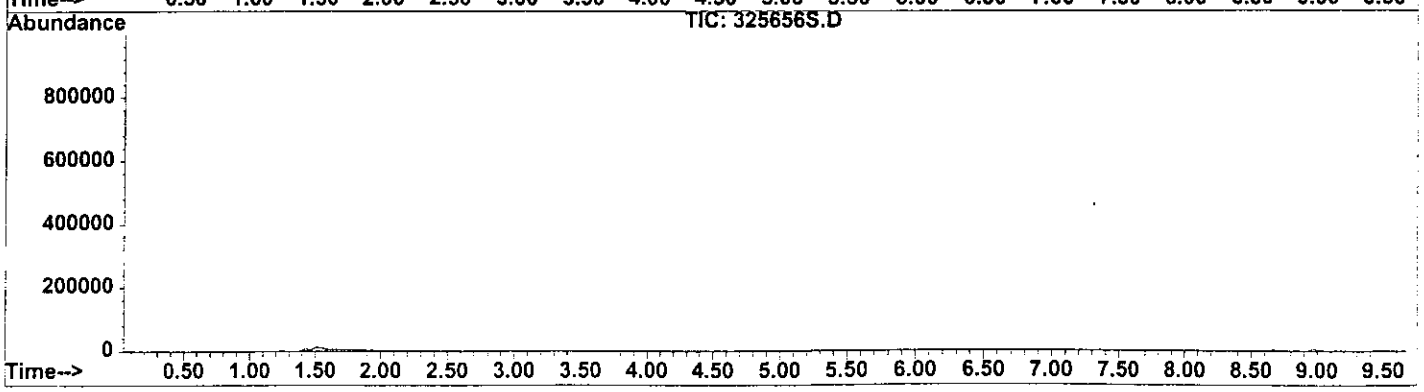

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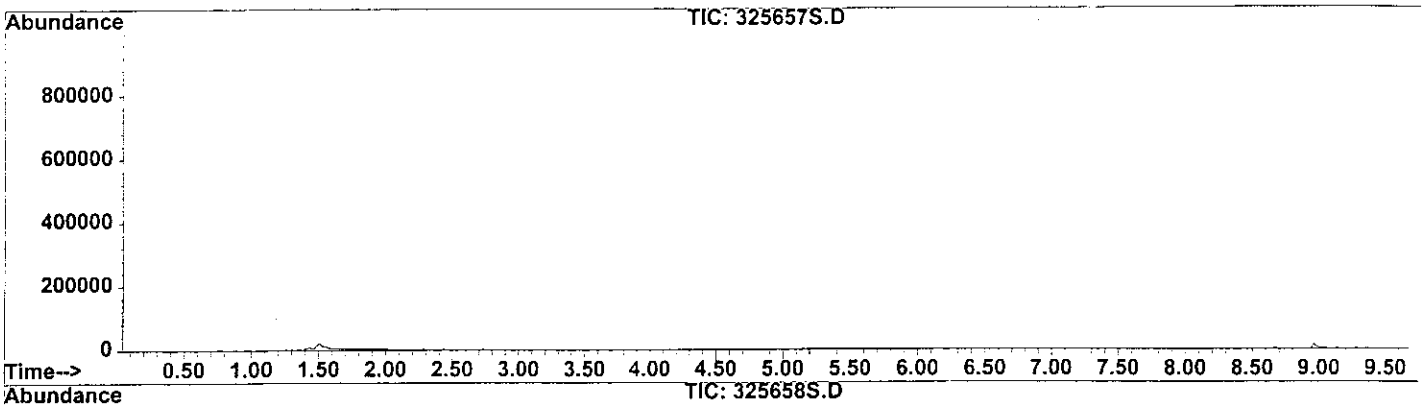

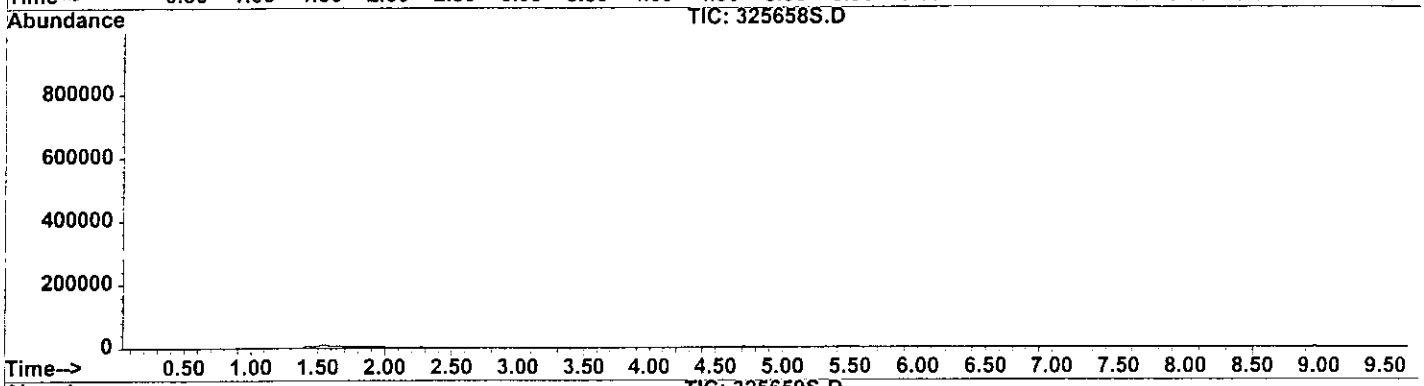

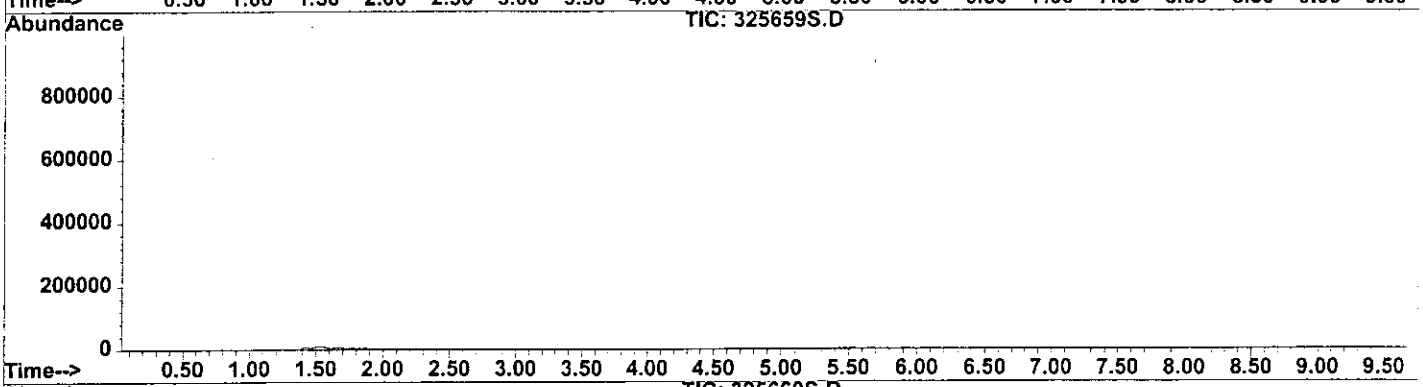

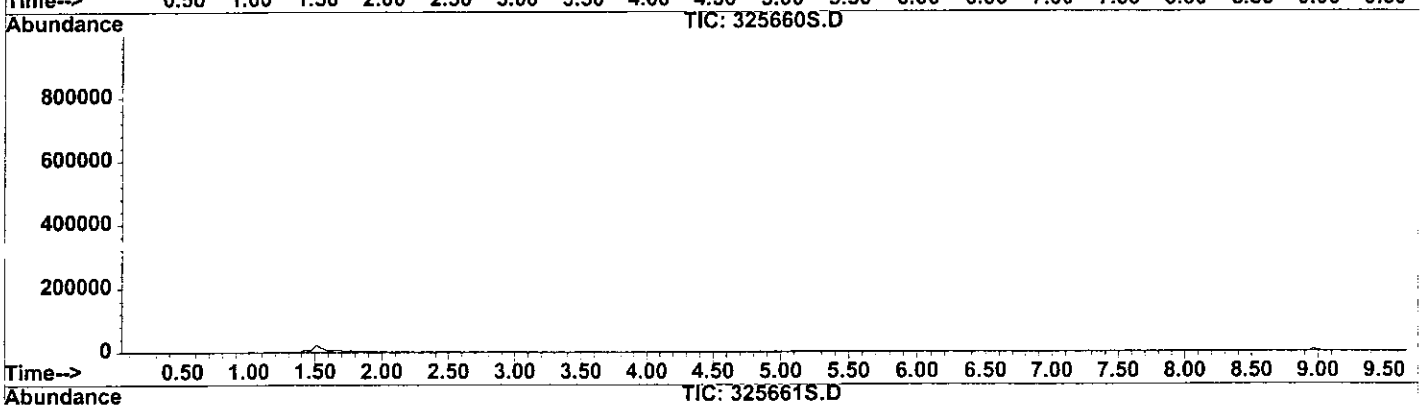

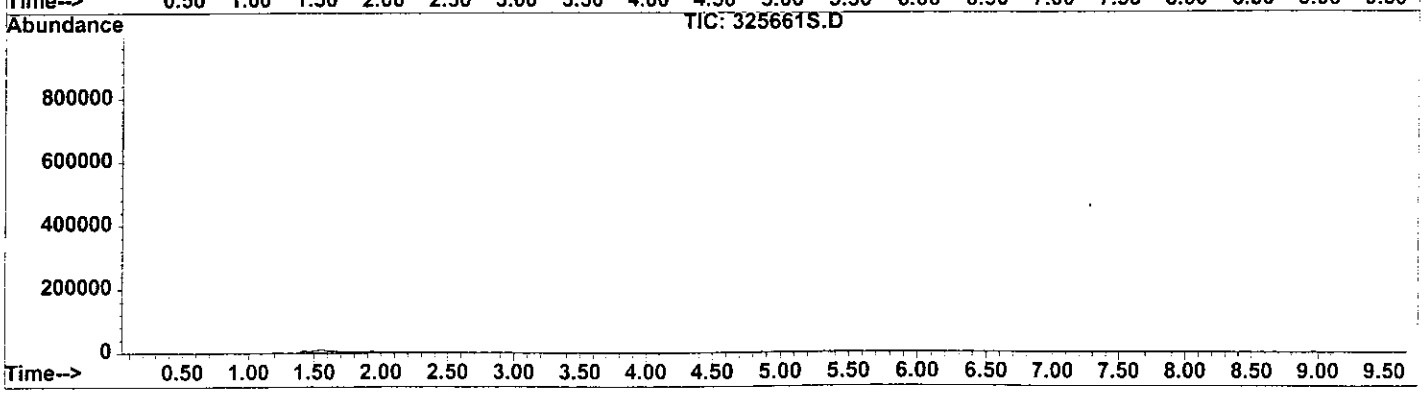

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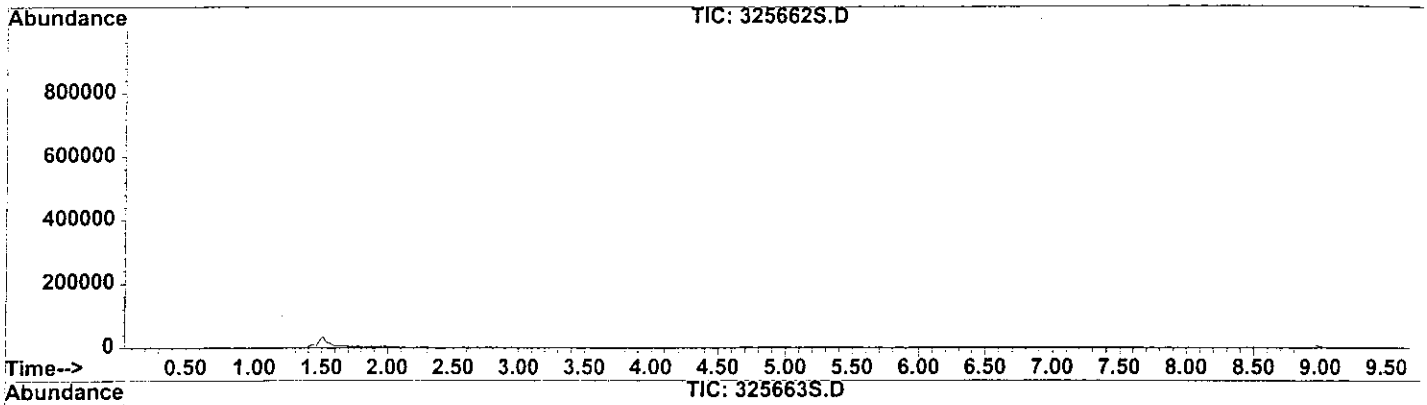

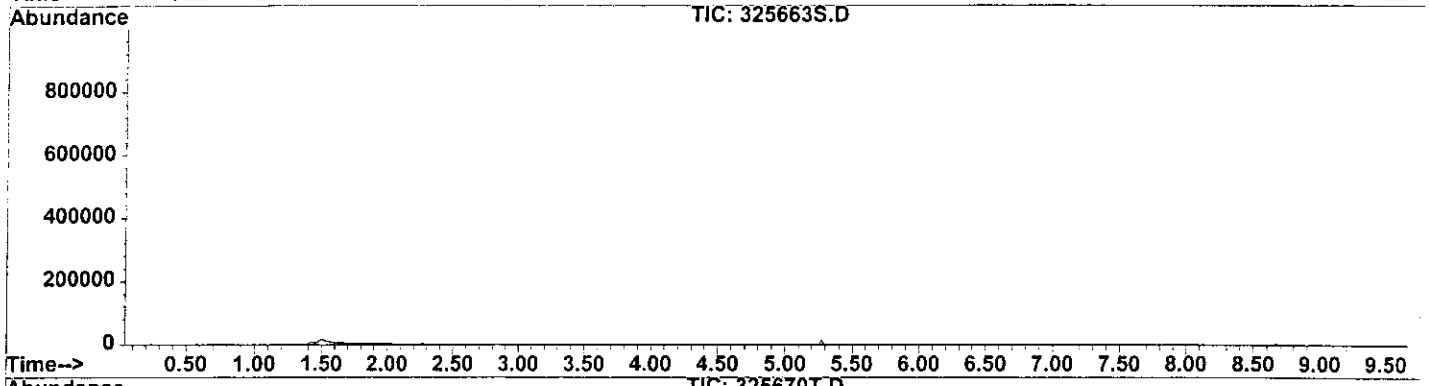

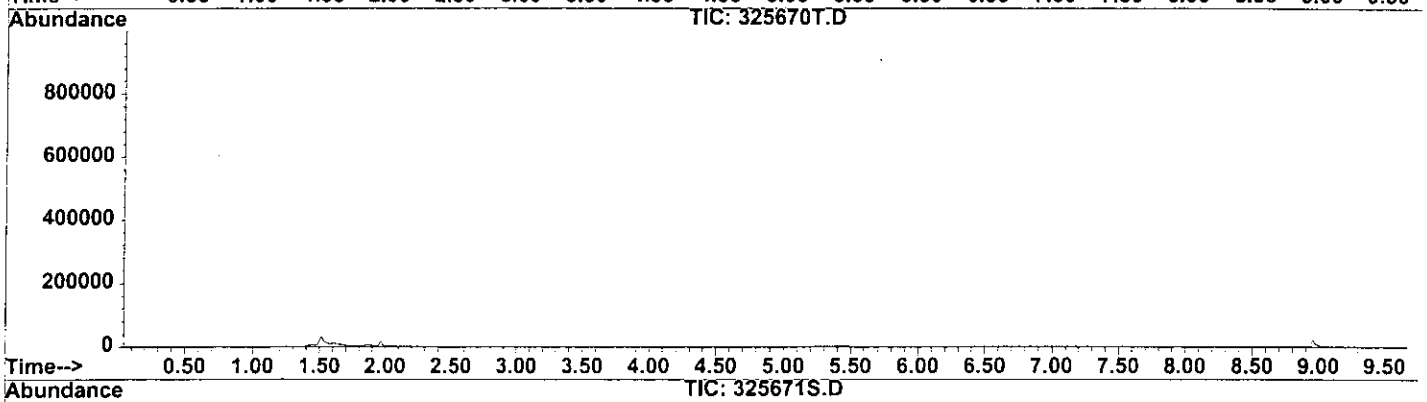

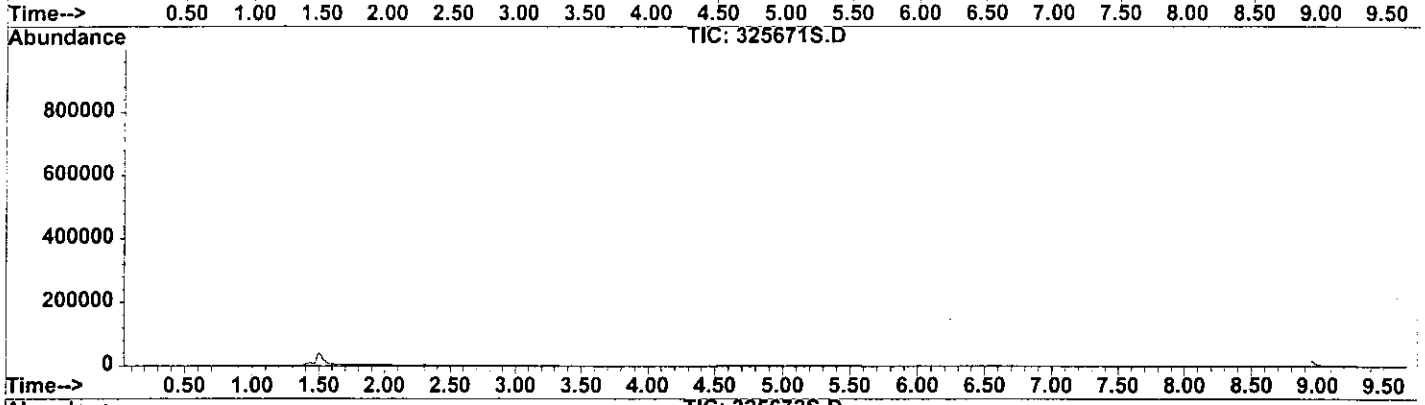

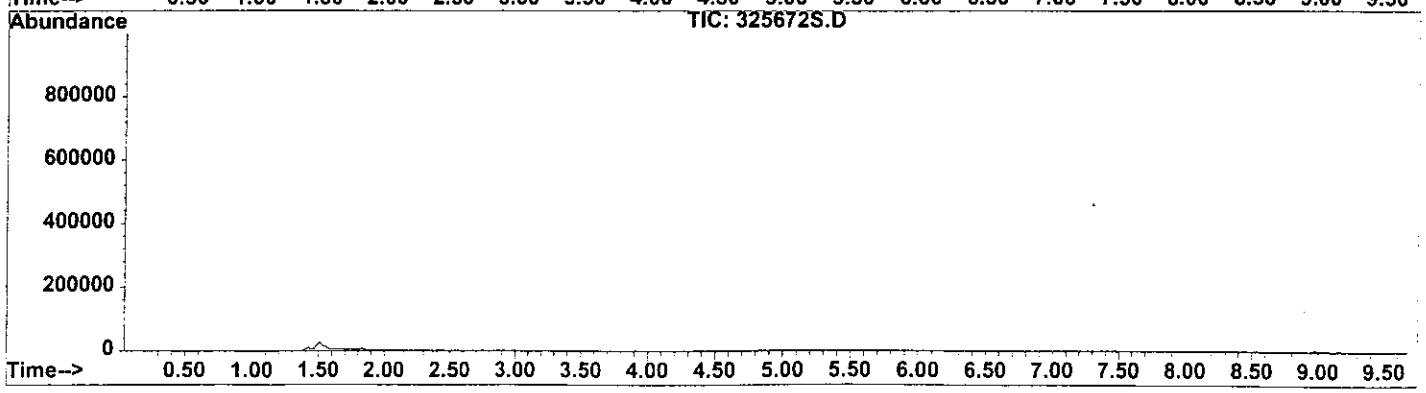

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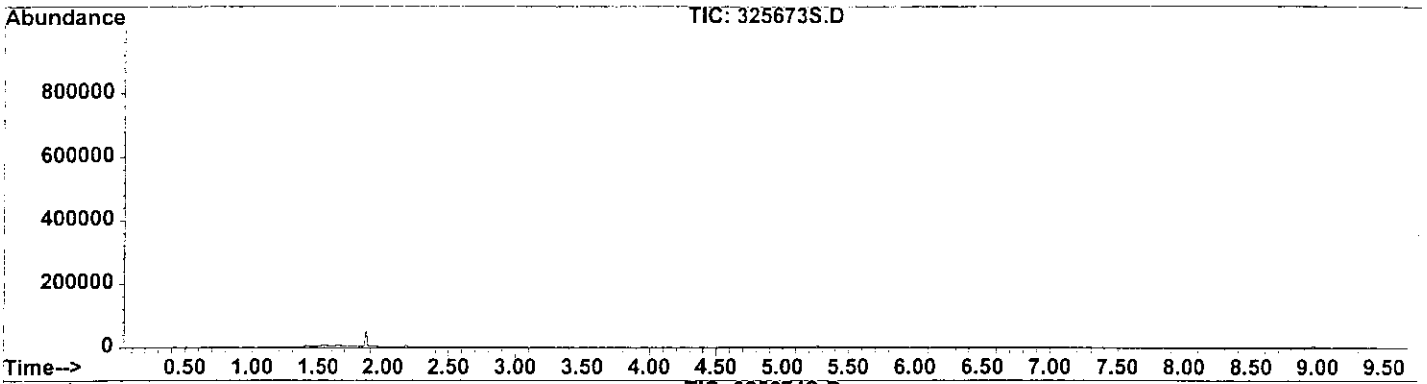

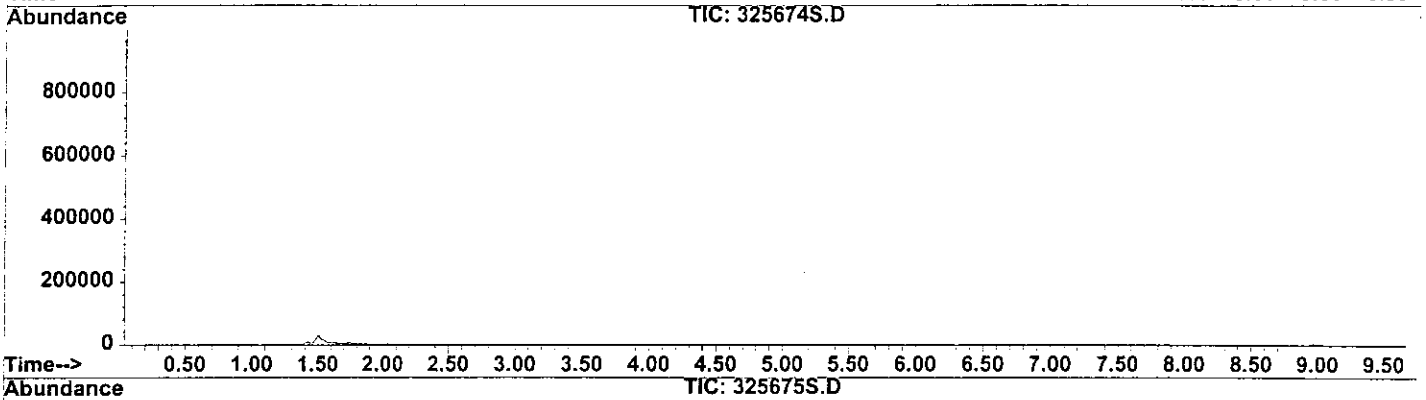

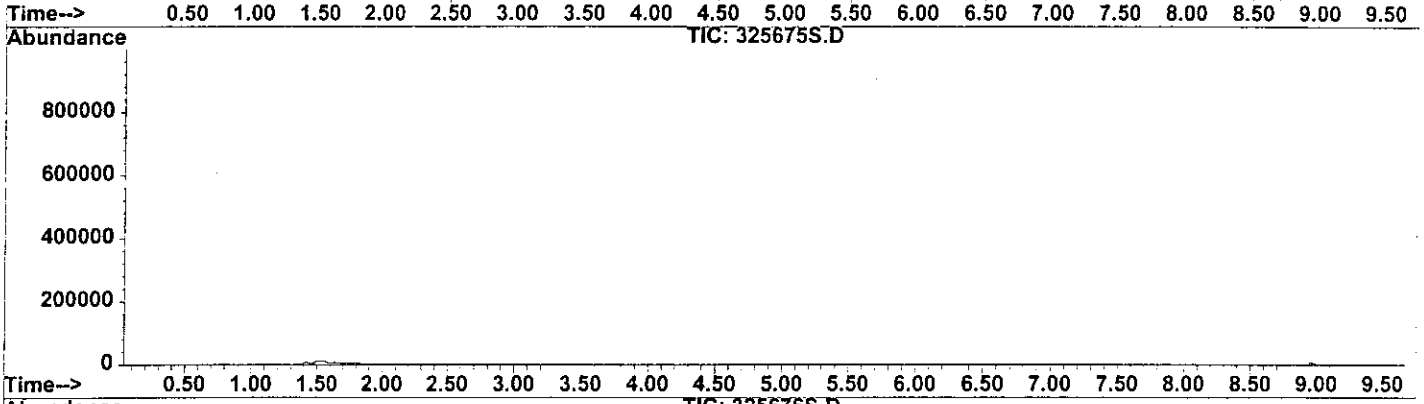

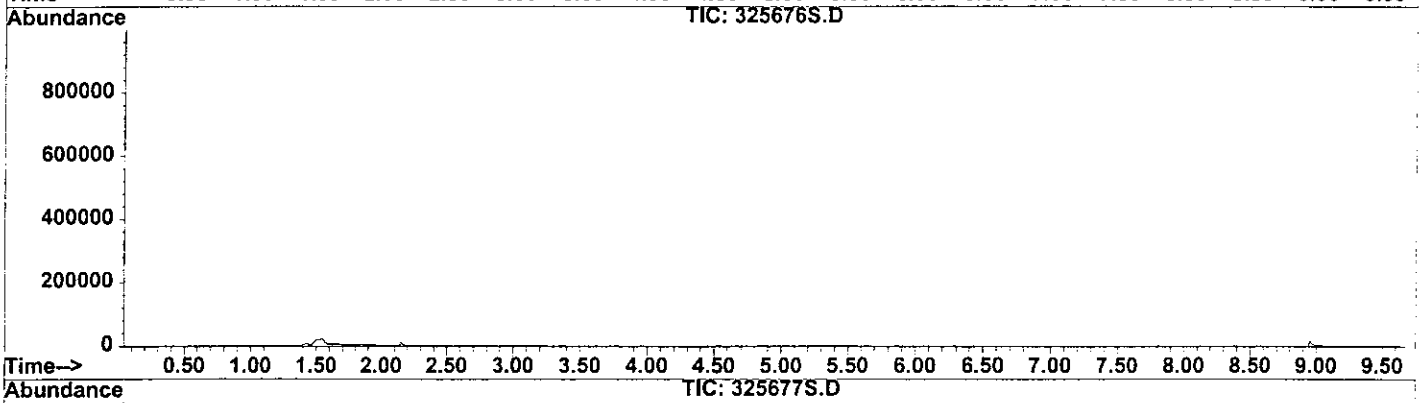

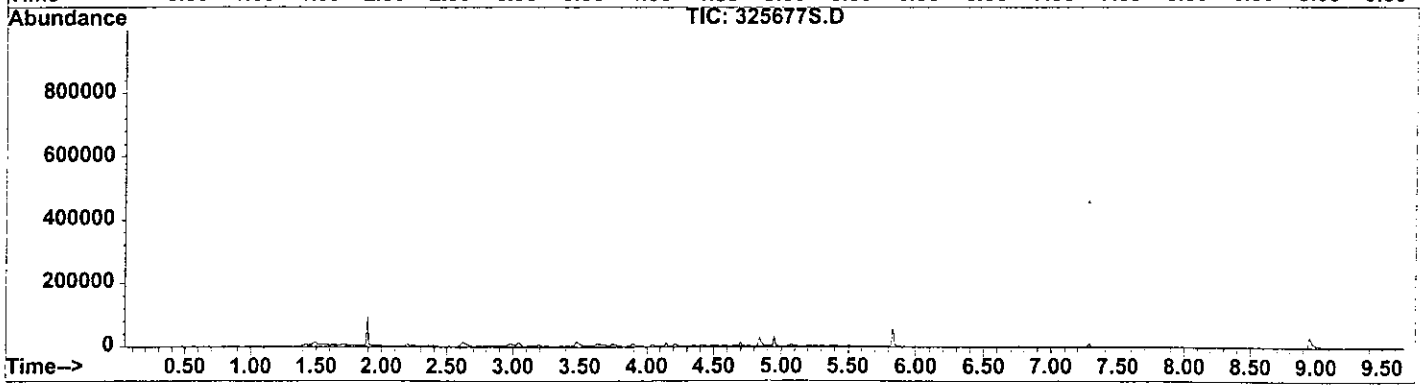
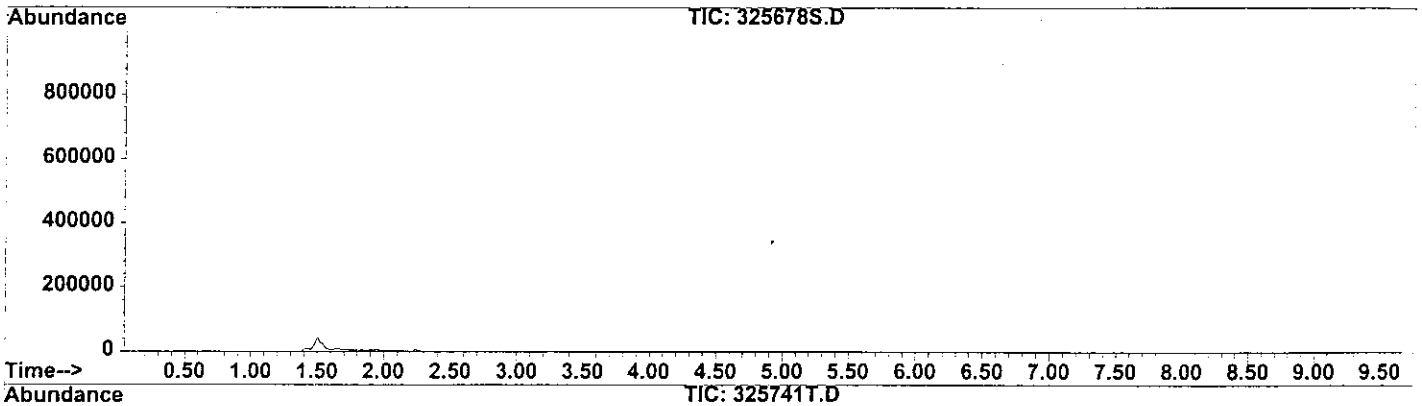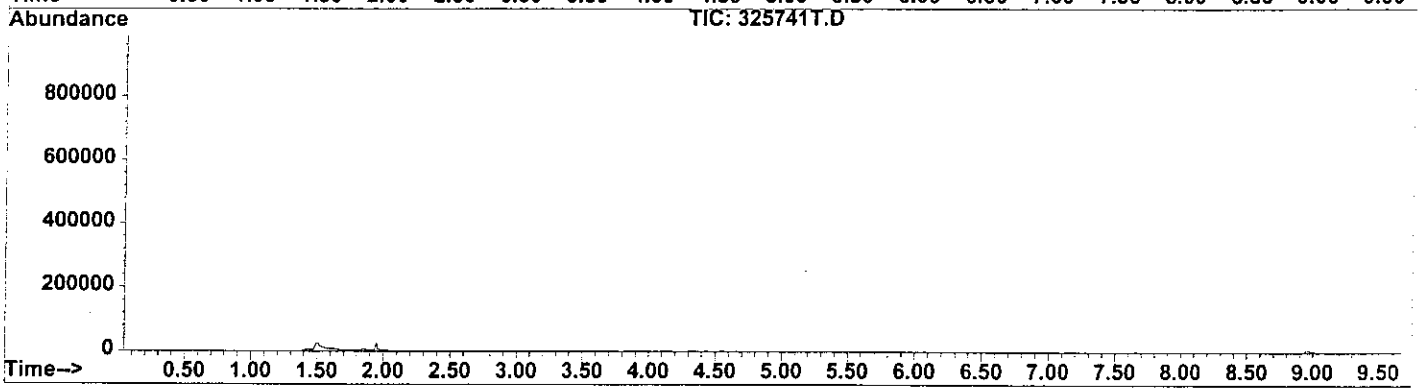
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